

Overview

HPE Apollo 2000 Gen10 Plus System

HPE is bringing the power of supercomputing to datacenters of any size with the Apollo 2000 Gen10 Plus system.

The HPE Apollo 2000 Gen10 Plus System is a dense, multi-server platform that packs incredible performance and workload flexibility into a small datacenter space, while delivering the efficiencies of a shared infrastructure. It is designed to provide a bridge to scale-out architecture for traditional data centers, so enterprise and SME customers can achieve the space-saving value of density-optimized infrastructure in a cost-effective and non-disruptive manner.

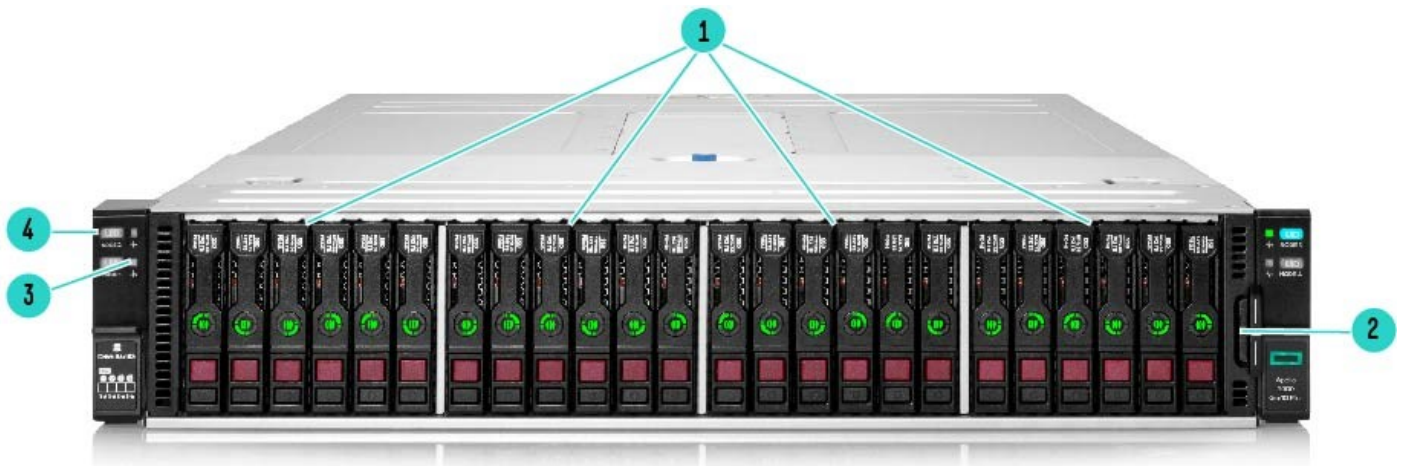
The Apollo 2000 Gen10 Plus offers a density optimized, shared infrastructure with a flexible scale-out architecture to support a variety of workloads from remote site systems to large HPC clusters and everything in between. HPE iLO5 provides built-in firmware-level server security with silicon root of trust. It can be deployed cost-effectively starting with a single 2U, shared infrastructure chassis and configured with a variety of storage options to meet the configuration needs of a wide variety of scale-out workloads.

The Apollo 2000 Gen10 Plus System delivers up to four times the density of a traditional rack mount server with up to four ProLiant Gen10 Plus independent servers per 2U mounted in standard racks with rear-aisle serviceability access. A 42U rack fits up to 20 Apollo n2000 series chassis accommodating up to 80 servers per rack.

What's New

- Enable the entire CPU SKU stack, increase your power density and increase datacenter efficiency with the new Direct Liquid Cooling (DLC) option for the Apollo 2000 Gen10 Plus System that comes ready to plug and play.
 - The HPE Apollo n2400 Gen10 Plus Chassis is a drive-less chassis at an entry level price point that provides power and cooling efficiencies ideal for supporting high power processors with air.
 - Support for 1800-2200W flex slot platinum power supply for more choice
 - New flexible infrastructure offers multiple storage options, 8 memory channels and 3200 MT/s memory, PCIe Gen4 and support for processors over 200W for improved application performance
 - Support for 2nd generation AMD EPYC 7002 Series processors including the 7F#2 CPUs in the HPE ProLiant XL225n Gen10 Plus server
 - Expanded power capability and efficiency with 3000W power supplies that deliver N+N power availability
 - Complete software portfolio for all customer workloads, for node to rack management, including comprehensive integrated cluster management software
 - Secure from the start with firmware anchored into silicon with iLO5 and silicon root of trust for the highest level of system security
 - Only HPE offers the industry standard server with firmware anchored into silicon with iLO5 and silicon root of trust. Tied into the silicon root of trust is the AMD Secure Processor, a dedicated security processor embedded in the AMD EPYC system on a chip (SoC).
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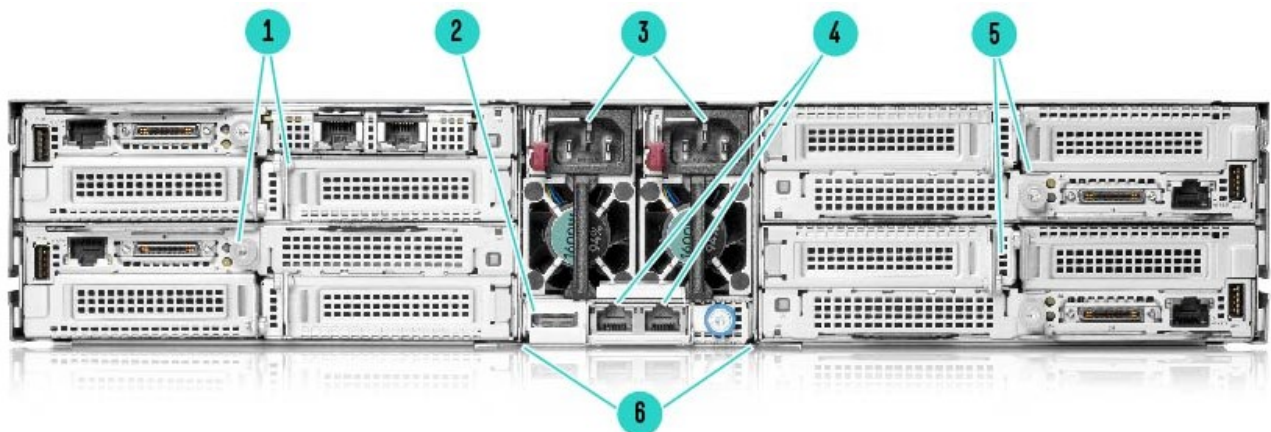
Overview



HPE Apollo n2600 Gen10 Plus SFF CTO Chassis

Backplane selection determines number and type of drives supported

Item	Description	Item	Description
1	SFF hot-plug drives	3	Health LED
2	Serial number/iLO information pull tab	4	UID button LED

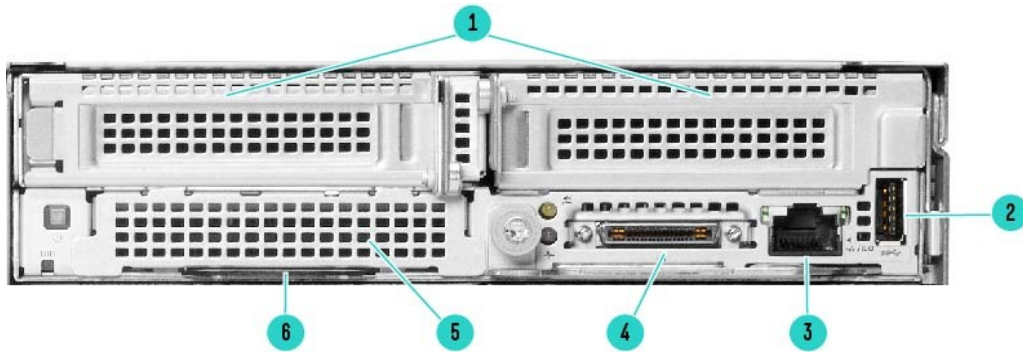


Chassis Rear Panel Components – 4 x 1U nodes

Item	Description	Item	Description
1	Server 3 & 4	4	iLO Ports
2	HPE Apollo Platform Manager (APM) 2.0 port	5	Server 1 & 2
3	Power supply 1 & 2	6	Optional Rack Consolidation Module (RCM)



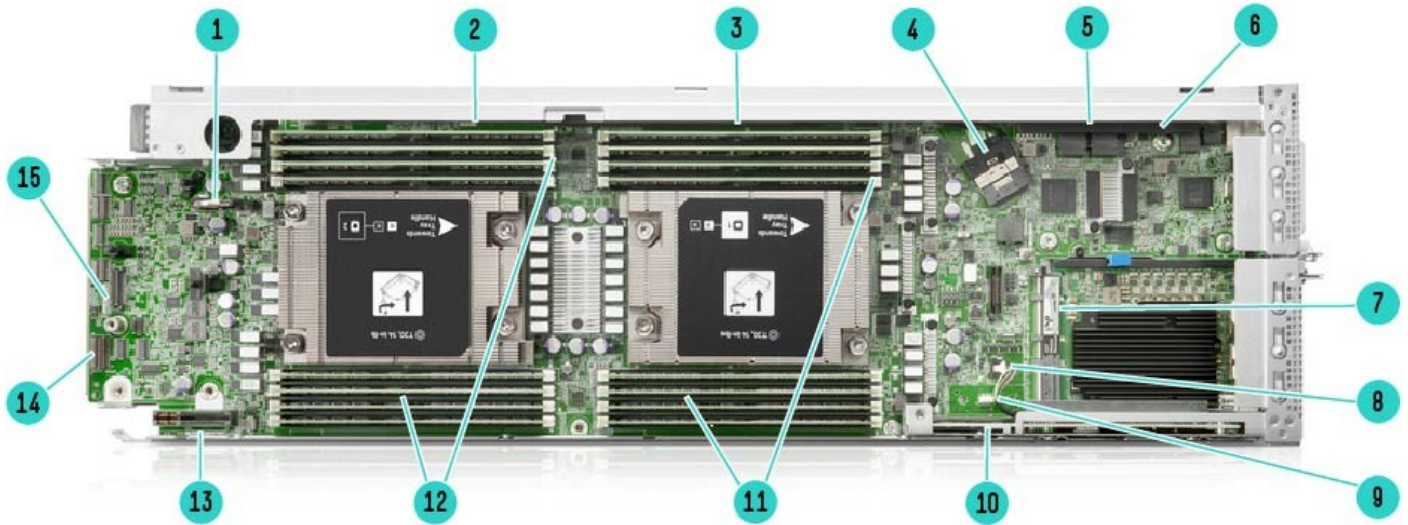
Overview



HPE ProLiant XL225n Gen10 Plus Server Rear Panel Components

Item	Description	Item	Description
1	Slot 1 & 2 PCIe4 x16 (16,8,4,2,1)	4	SUV port
2	USB 3.2Gen 1 Type-A port	5	OCP 3.0 NIC adapter slot
3	NIC/shared iLO network port	6	Server Serial number information pull tab

Notes: if ordering Apollo 2000 Gen10 Plus system with Direct Liquid Cooling, slot 1 is not available for use with PCIe cards

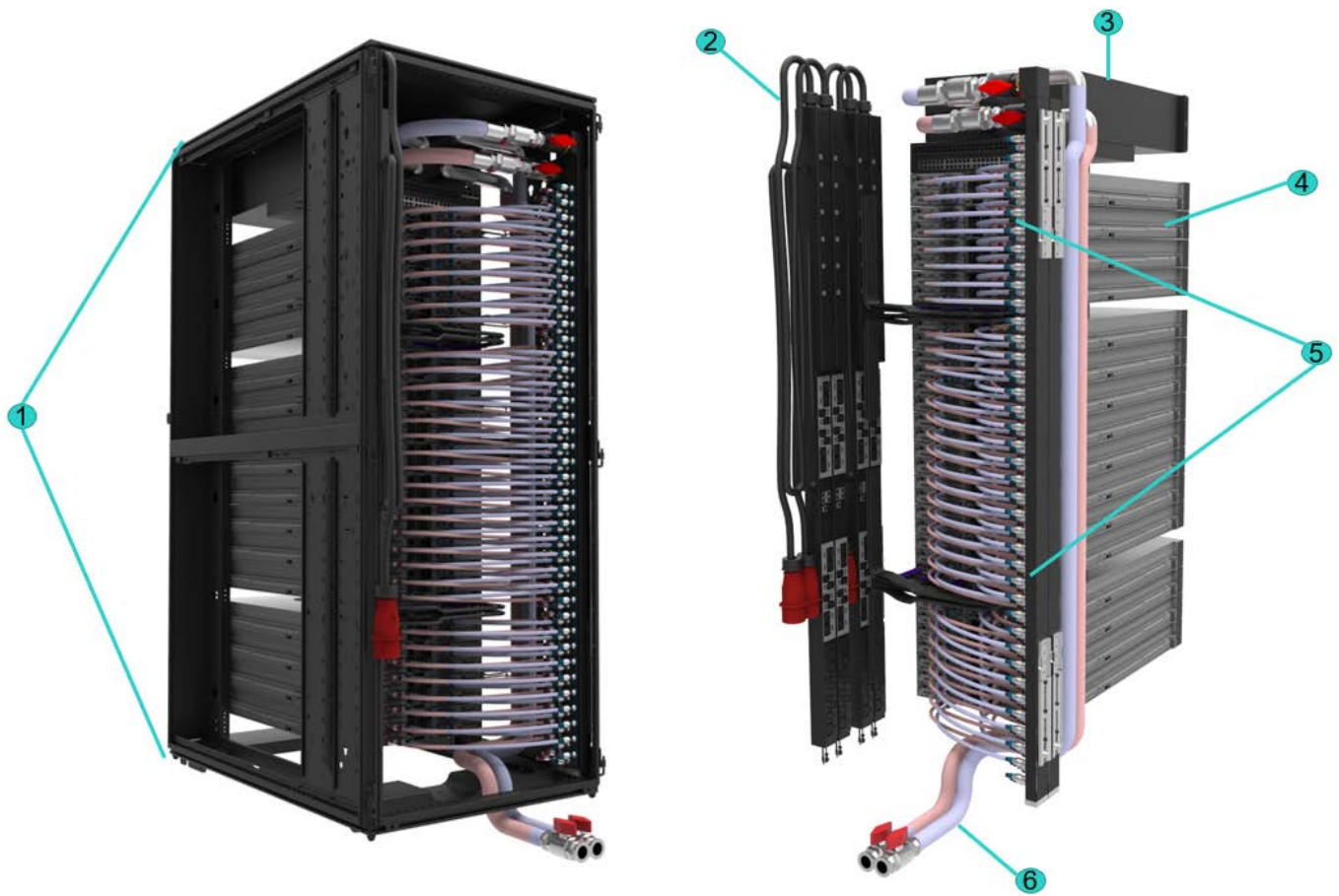


HPE ProLiant XL225n Gen10 Plus Server

Item	Description	Item	Description
1	System battery	9	TPM connector
2	Secondary PCIe4 x16 riser connector 5 (P2)	10	Primary PCIe4 x16 riser connector 1 (P1)
3	Secondary PCIe4 x8 (P1), x16 (P2) riser connector 4	11	DIMM slots for processor 1
4	SATA 6GB/s port	12	DIMM slots for processor 2
5	Secondary riser connector 3	13	Power riser connector
6	Secondary PCIe4 x16 riser connector 2 (P1)	14	System maintenance switch
7	OCP NIC 3.0 slot (P1)	15	Mezzanine card connector
8	Node power button cable connector		



Overview



HPE Apollo 2000 Gen10 Plus system with Direct Liquid Cooling

Item Description

- 1 42U or 48U HPE Standard 800mm x 1200mm rack
- 2 Rack mount Power Distribution Units inside rack
- 3 HPE Apollo Rack Mount CDU

Item Description

- 4 Apollo 2000 Gen10 Plus Chassis with DLC
- 5 DLC Manifold
- 6 Facility water hook up kit (supports top or bottom facility water feed)



Overview

Chassis Information

Form Factor

- 2U

There are two chassis options with different storage configurations

- HPE Apollo n2400 Gen10 Plus CTO chassis – Drive-less chassis at an entry level price point that provides power and cooling efficiencies ideal for supporting high power processors with air
 - 0 drives
- HPE Apollo n2600 Gen10 Plus CTO chassis – allocated equally across server nodes
 - Offers 2 different storage configurations through backplane selection:
 - 8 SFF SAS/SATA/NVME
 - 24 SFF SAS/SATA

Each HPE Apollo 2000 Chassis is built with the following

- Four server slots (1U node)
- Supports up to two (2) power supplies for the chassis (1600W/1800-2200W/3000W)
- Five (5) dual-rotor fans standard and an additional Fan kit (2 fans) can be selected for additional cooling
- Optional integrated Rack Consolidation Module (RCM)
- Optional support for HPE Apollo Platform Manager (HPE APM) a rack level manager

Server Tray Blank Kit

A chassis requires that four (4) server tray slots be populated with an HPE ProLiant XL225n Gen10 Plus or an HPE Apollo 2000 Gen10 Plus Server Node Blank Kit.

Server Tray

HPE ProLiant XL225n Gen10 Plus server

- 2P/1U half width server tray built on the AMD EPYC 7002 processors. With choices from 8-64 cores, up to 3.4Ghz CPU speed and power ratings +200W
- The tray has a 8 memory channels per socket and 3200 MT/s memory, two PCIe Gen4 slots, an OCP3.0 slot and multiple networking options including high speed fabric.
- Optional USB Mezz Riser Kit
- NIC/shared iLO network port
- Up to 4 server trays are supported per chassis

Supported storage options: 0, up to 6 SFF SAS/SATA or 2 SFF SAS/SATA/NVME per node.

Rack Airflow Requirements

HPE Apollo 2000 Gen10 Plus System

The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. For maximum cooling, HPE racks are recommended to allow these racks to be fully loaded with servers using the latest processors. For detail information please see Apollo 2000 Gen10 Plus System User Guide:

<https://www.hpe.com/info/apollo2000gen10plus-docs>

Notes:

- If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment.
- When selecting Direct Liquid Cooling (DLC), HPE racks are required for factory integration.
- Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels will result in improper cooling that can lead to thermal damage.



Overview

Direct Liquid Cooling (DLC) for Apollo 2000 Gen10 Plus

Unlock the entire CPU sku stack, increase your power density, and increase datacenter efficiency with HPE's direct liquid cooling system that comes ready to plug and play into your data center. The DLC system comes pre-filled with liquid and will easily connect to facility water without the need for secondary plumbing to be installed on site. DLC is fully integrated, installed and supported by HPE

DLC system includes:

- 42U or 48U HPE standard 800mm x1200mm rack
 - Facility water hookup kit (top or bottom feed available)
 - Each rack comes with HPE Apollo Rack Mount CDU and manifolds installed
Minimum of one Apollo 2000 Gen10 Plus chassis with Direct Liquid Cooling option - comes pre-filled and ready to plug into rack manifold with no other action needed
-



Standard Features

Standard features

Processors up to 2 of the following depending on the model

Notes:

- For more information regarding AMD EPYC processors visit: <https://www.amd.com/en/products/epyc-server>
- All AMD EPYC processors can support up to 2TB of memory each on the Apollo 2000 Gen10 Plus system
- Certain limitations may apply to select processors, please contact your HPE sales representative
- Please contact your HPE sales representatives for any questions on processor support needed
- 7H12 requires selection of Direct Liquid cooling options (L22 or L23)

AMD EPYC Processor	Cores	Base Frequency	Max Frequency	Max Memory	Wattage	Cache	Memory
EPYC 7H12	64	2.9GHz	3.3GHz	2TB	280	256MB	3200MT/s
EPYC 7742	64	2.25GHz	3.4GHz	2TB	225	256MB	3200MT/s
EPYC 7702	64	2.0GHz	3.35GHz	2TB	200	256MB	3200MT/s
EPYC 7662	64	2.0GHz	3.3GHz	2TB	225	256MB	3200MT/s
EPYC 7642	48	2.3GHz	3.3GHz	2TB	225	256MB	3200MT/s
EPYC 7552	48	2.2GHz	3.3GHz	2TB	200	192MB	3200MT/s
EPYC 7542	32	2.9GHz	3.4GHz	2TB	225	128MB	3200MT/s
EPYC 7532	32	2.4GHz	3.3GHz	2TB	200	256MB	3200MT/s
EPYC 7502	32	2.5GHz	3.35GHz	2TB	180	128MB	3200MT/s
EPYC 7452	32	2.35GHz	3.35GHz	2TB	155	128MB	3200MT/s
EPYC 7F72	24	3.2GHz	3.7GHz	2TB	240	192MB	3200MT/s
EPYC 7402	24	2.8GHz	3.35GHz	2TB	180	128MB	3200MT/s
EPYC 7352	24	2.3GHz	3.2GHz	2TB	155	128MB	3200MT/s
EPYC 7F52	16	3.5GHz	3.9GHz	2TB	240	256MB	3200MT/s
EPYC 7302	16	3.0GHz	3.3GHz	2TB	155	128MB	3200MT/s
EPYC 7282	16	2.8GHz	3.2GHz	2TB	120	64MB	3200MT/s
EPYC 7272	12	2.9GHz	3.2GHz	2TB	120	64MB	3200MT/s
EPYC 7F32	8	3.7GHz	3.9GHz	2TB	180	128MB	3200MT/s
EPYC 7262	8	3.2GHz	3.4GHz	2TB	155	128MB	3200MT/s
EPYC 7252	8	3.1GHz	3.2GHz	2TB	120	64MB	3200MT/s

Chipset

No Chipset – System on Chip (SoC) design

On System Management Chipset

HPE iLO 5 ASIC

Read and learn more in the [iLO quickspecs](#)

NIC/shared iLO network port

Can choose dedicated NIC or shared NIC interface

Notes: For additional information please see the user guide: <https://www.hpe.com/info/apollo2000gen10plus-docs>



Standard Features

Memory

One of the following depending on model

Type	HPE DDR4 SmartMemory, Registered (RDIMM) or Load reduced (LRDIMM)
DIMM slots available	16 slots per server 8 channels per processor, 1 DIMM per channel
Maximum capacity (LRDIMM)	2.0TB 16 x 128 GB @3200 MT/s
Maximum capacity (RDIMM)	1TB 16 x 64 GB @3200 MT/s

Notes:

- LRDIMM and RDIMM are distinct memory technologies and cannot be mixed within a server
- Memory DIMM availability with a server platform is dependent upon completion of certification testing

Expansion slots & riser information for XL225n Gen10 Plus server

Low Profile Left Riser (P20260-B21)					
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Source
1	PCIe 4.0	x16	x16	Low Profile	CPU1
Low Profile CPU1 Right Riser (P20261-B21)					
Slots #	Technology	Bus Width*	Connector Width	Slot Form Factor	Source
2	PCIe 4.0	x16	x16	Low Profile	CPU1
Low Profile CPU2 Right Riser (P20264-B21)					
Slots #	Technology	Bus Width*	Connector Width	Slot Form Factor	Source
2	PCIe 3.0	x16	x16	Low Profile	CPU2
Low Profile CPU1 NVMe Right Riser (P22337-B21)					
Slots #	Technology	Bus Width*	Connector Width	Slot Form Factor	Source
2	PCIe 4.0	x16	x16	Low Profile	CPU1

Notes:

- If choosing Direct Liquid Cooling for the Apollo 2000 Gen10 plus system slot 1 is not available for use with a PCIe card
- Low Profile CPU1 NVMe Right Riser supports 2 NVMe direct CPU2
- Right riser is required to support SATA drives
- Requires 2 CPUs if selected with HPE n2600 Gen10plus 4 SFF U.3 Prem FIO BP Kit
- Bus Width indicates the number of physical electrical lanes running to the connector
- When P20264-B21 riser is installed, PCIe Gen4 devices installed in the riser will only operate at PCIe Gen3 speeds (8 GT/s)

Storage Controllers

For a more detailed breakout of the available Gen10/Gen10 Plus Smart Array controllers visit the

[HPE Smart Array Gen10 Controllers Data Sheet.](#)

Essential RAID Controller

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

Performance RAID Controller

- HPE Smart Array P408i-p SR Gen10 Controller
- HPE Smart Array P408e-p SR Gen10 Controller

Notes: Performance RAID Controllers require the HPE Smart Storage Battery (P01366-B21) which is sold separately



Standard Features

Host Bus Adapter

- HPE SN1100Q 16Gb 1p FC HBA
- HPE SN1100Q 16Gb 2p FC HBA
- HPE SN1600E 32Gb 1p FC HBA
- HPE SN1600E 32Gb 2p FC HBA
- HPE SN1200E 16Gb 1p FC HBA
- HPE SN1200E 16Gb 2p FC HBA
- HPE SN1610Q 32Gb 1p FC HBA
- HPE SN1610Q 32Gb 2p FC HBA

Storage Contoller Cable Kits

- HPE XL22xn Gen10+ E208ip/P408ip Cbl Kit
- HPE XL225n Gen10+ SR100i SATA Cbl Kit

Notes: AHCI mode is default settings

Maximum Internal Storage

Drive	Capacity	Configuration
Hot Plug SFF SATA SSD	46TB	6 x 7.68TB
Hot Plug SFF SAS SSD	91TB	6 x 15.3TB
Hot Plug NVMe SSD	30TB	2x 15.3TB

Internal Storage Devices

Optional USB Mezz Riser Kit

Interfaces

KVM	Serial USB Video Port (SUV)
USB Ports	3 (external via SUV (2 regular USB, 1 USB management); 1 USB 3.2 Gen1 Type A Port (external)
HPE iLO Remote Management Network Port	NIC/Shares iLO network port
Health LED	1
Power	1
UID	1
Do not remove LED	1

Industry Standard Compliance

- ACPI 6.3 Compliant
- PCIe 4.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant (internal); USB 2.0 Compliant (external ports via SUV)
- SMBIOS 3.2
- UEFI 2.8
- Redfish API

Power Specifications

To review typical system power ratings, please use the [HPE Power Advisor Tool](#)

To review additional power cord information check the [ProLiant Power Cables](#) web page

For information on power specifications and technical content visit: <https://www.hpe.com/info/qs>



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 Plus servers have a UEFI Class 2 implementation and support both UEFI Mode (default) and Legacy BIOS Mode.

Notes: The UEFI System Utilities tool is analogous to the HPE ROM-Based Setup Utility (RBSU) of legacy BIOS.

For more information, please visit <http://www.hpe.com/servers/uefi>

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

- Secure Boot and Secure Start enable for enhanced security
- Operating system specific functionality
- Support for > 2.2 TB (using GPT) boot drives
- USB 3.0 Stack
- Embedded UEFI Shell
- Mass Configuration Deployment Tool using iLO RESTful API that is Redfish API Conformant
- PXE boot support for IPv6 networks
- Workload Profiles for simple performance optimization

UEFI Boot Mode only

- Firmware TPM
- NVMe Boot Support
- Platform Trust Technology (PTT) can be enabled.
- iSCSI Software Initiator Support.
- HTTP/HTTPs Boot support as a PXE alternative.
- Boot support for option cards that only support a UEFI option ROM

Notes:

- For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI.
- UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory for your HPE ProLiant XL225n Gen10 Plus Server

UEFI

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

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

Software Portfolio for HPE Apollo 200 Gen10 Plus Systems

Hewlett Packard Enterprise offers customers complete software stack so they can choose the right mix of software solutions to fit their needs – from system software to application and software development tools:

Notes: For more information on software portfolio for APOLLO 2000 Gen10 Plus systems, [visit this page](#)



Standard Features

Operating Systems and Virtualization Software Support for ProLiant Servers

- Windows Server 2016 (Most Recent Version)
- Windows Server 2019 (Most Recent Version)
- VMware ESXi 6.5 U3
- VMware ESXi 6.7 U3
- VMware ESXi 7 (2019)
- Red Hat Enterprise Linux (RHEL) (64 bit)
- SUSE Linux Enterprise Server (SLES) 12 SP4 (64 bit)
- SUSE Linux Enterprise Server (SLES) 15 SP1 (64 bit)
- Ubuntu 20.04 LTS (5.4)
- Citrix XenServer 8.1CR

Notes: For more information on Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server.

<https://www.hpe.com/us/en/servers/server-operating-systems.html>

Fabric software

- Mellanox UFM
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Server Management

HPE iLO 5 Advanced

Embedded, in-depth server-level monitoring and management technology offering system management, service alerting, reporting and remote management as well as enhanced security and power management features for HPE Apollo 2000 systems.

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>

For clustered HPE Apollo 2000 system deployments (for HPC or other emerging workloads such as AI), customers can use the following cluster management software solutions:

HPE Performance Cluster Manager

Fully integrated system management solution offering all the functionalities you need to manage your HPE Linux®-based high performance computing (HPC) clusters, all day everyday.

HPE Performance Cluster Manager aggregates system metrics + remote management from iLO.

The software provides:

- System setup
- Hardware monitoring and management including GPU management
- Image management and software updates
- Power management
- Integration with ISV & open source software solutions

Alternatively, to manage heterogeneous clusters or for customers with additional requirements, HPE also offers:

Bright Cluster Manager

Automates process of building cluster in the datacenter and in the cloud. Ideal for heterogeneous clusters or customers with additional requirements. Learn more here.



Standard Features

Additional HPE system management software (optional)

HPE iLO 5 Advanced - additional enhanced security and power management features for Apollo servers.

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

HPE OneView – integration of Apollo systems into overall enterprise data center structure.

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

Software Development Tools (Programming languages, debuggers, libraries)

HPE Message Passing Interface (MPI) - an MPI development environment designed by HPE to enable optimization of high performance computing (HPC) applications on HPE Apollo 200 Gen10 Plus systems. The HPE Performance Software—MPI leverages a scalable MPI library and boosts performance of existing applications without requiring recompilation.

Additional 3rd party software development tools:

- AMD AOCC
- Intel® Parallel Studio XE (w/Intel® MPI)
- GNU Compiler Collection
- Rogue Wave Software® TotalView®
- Arm® Forge Professional
- Mellanox HPC-X
- OpenHPC

Remote Visualization

- NICE DCV & EnginFrame

Server Utilities

Active Health System

The HPE Active Health System (AHS) is an essential component of 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. Learn more at <http://www.hpe.com/servers/ahsv>

Smart Update

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

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. <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. <http://www.hpe.com/info/ilo/mobileapp>



Standard Features

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

HPE iLO Scale-Out

HPE iLO Scale-Out is the preferred license built for web hosting, cloud service providers, and high performance computing data centers, managing massive scale out environments. This license offers sophisticated scripting tools that provides remote access through Text Console via SSH, Dynamic power capping, Email-based Alerting and proactive notifications.

Scripting tools

Provision 1 to many servers using your own scripts to discover and deploy with Scripting Toolkit (STK) for Windows and Linux or Scripting Tools for Windows PowerShell. <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. www.hpe.com/info/hpesim

Software Licenses

- HPE iLO Standard (embedded in server)
- HPE iLO Advanced (requires license)
- Intelligent Provisioning (embedded in server)
- HPE OneView Standard (requires download)
- HPE OneView Advanced (requires license)

For more information on Server Management – <http://www.hpe.com/info/servermanagement>

For more information on HPE iLO Licensing

https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-c04951959&docLocale=en_US

For more information on HPE OneView – <http://www.hpe.com/info/hpeoneview>

Security

- UEFI Secure Boot and Secure Start support
 - Immutable Silicon Root of Trust
 - Support for Commercial National Security Algorithms (CNSA)
 - iLO Advanced Premium Security Edition
 - Granular control over iLO interfaces
 - Common Access Card (CAC) 2-factor Authentication
 - Tamper-free updates – components digitally signed and verified
 - Secure Recovery – recover critical firmware to known good state on detection of compromised firmware
 - TPM (Trusted Platform Module) Gen10 Plus Module Kit option
 - Runtime Firmware Validation – Periodically scan essential firmware for compromised code during runtime
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Service and Support

Pointnext – Service and Support

The market for density optimized infrastructure has been historically driven by price. Extending into the enterprise and enterprise HPC changes the equation and brings the value of HPE as a company into the overall value picture for these customers. The company size and WW reach, the quality of the products, the experience and commitment to innovation and HPE-specific management products and HPE Pointnext Services all have incredible value to enterprises of all sizes. This enables taking the customer conversation to a higher level than just product features and price..

Achieve maximum return from your IT investment

Get the expertise you need at every step of your IT journey with HPE Pointnext Services. We help you lower your risks and costs using proven best practices, automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. With **Advisory Services**, we focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business.

Free up resources with Operational Services from HPE Pointnext Services

Choose from the recommended services for customers purchasing from Hewlett Packard Enterprise or an authorized reseller. Services are quoted using Hewlett Packard Enterprise order configuration tools.

HPE Datacenter Care

Helps customers modernize and simplify IT operations - addressing address the pressing needs of IT today and smoothly transform to a more agile cloud-like IT operations model. We help run and monitor your IT by offloading the day to day routine tasks, helping customers be more predictive and proactive, and saving time with one place to call with for all of their IT. Datacenter Care is available as both tailored statement of work and as a packaged service for 3, 4, or 5 years.

Partner with an assigned account team backed by local and global experts, access HPE enhanced call experience with priority access, use specialized support for complex technologies, choose hardware and software support for your devices, implement proactive monitoring to help stay ahead of issues, and access HPE IT best practices and IP. HPE Datacenter Care advantage options are available to add to your agreement to give you specialized expertise for performance, security, back up analysis, and much more. <https://www.hpe.com/us/en/services/datacenter-hybrid-services.html>

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.

HPE Proactive Care is available in 3, 4 and 5 year terms with a choice of response levels: Next Business day (NBD), 24x7 with a 4 hour response, and 24x7 with 6 hour call to repair (CTR). This Service combines both reactive support when there is a problem with an enhanced call experience and start to finish case management with proactive reporting and advice. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.).

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

HPE Proactive Care Advanced

Incorporates all the deliverables of HPE Proactive Care plus includes personalized support from a local, assigned Account Support Manager who will share best practice advice and personalized recommendations designed to help improve availability and performance to help increase stability and reduce unplanned downtime. Leverage your system's ability to connect to HPE for pre-failure alerts, automatic call logging and parts dispatch. For business critical incidents, Proactive Care Advanced offers critical event management to help reduce mean time to resolution. HPE Service Credits are included to redeem for technical and operational services. HPE Proactive Care Advanced is offered in 3, 4, and 5 year terms with a choice of response levels: Next Business day (NBD), 24x7 with a 4 hour response, and 24x7 with 6 hour call to repair (CTR).

<https://www.hpe.com/h20195/v2/getdocument.aspx?docname=4AA5-3259ENW>

Notes: 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.



Service and Support

HPE Foundation Care

Choose the response level that meets your needs

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>

Other related services from HPE Pointnext Services

Defective Media Retention is an option available with HPE Datacenter Care, HPE Proactive Care, HPE Proactive Care Advanced, and HPE Foundation Care and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

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.

<http://h20195.www2.hp.com/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 Service Credits

Offers flexible services and technical skills to meet your IT demands as your business evolves. With a menu of services, you can access additional resources and specialist skills to help you maintain peak performance of your IT. HPE Service Credits help you proactively respond to your dynamic IT and business needs.

HPE Education Services

Provides comprehensive training designed to expand the skills of your IT staff and keep them up to speed with the latest technologies.

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

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 HPE MSAXxxx, HPE 3PAR suite, HPE XP, rackable tape libraries and configurable network switches.

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



Service and Support

Warranty

This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners (may vary by region). 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.

Notes: Server Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:

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

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

Notes: FIO indicates that this option is only available as a factory installable option.

Step 1: Choose a Chassis

HPE Apollo n2600 Gen10 Plus Small Form Factor Configure-to-order Chassis	P19878-B21
HPE Apollo n2400 Gen10 Plus Configure-to-order Chassis	P30036-B21

Notes: n2400 chassis does not support any type of drive backplane

Choose a Backplane for n2600 chassis

HPE n2600 Gen10 Plus 6SFF SAS/SATA HDD/SSD FIO Backplane Kit	P20285-B21
HPE n2600 Gen10 Plus 4SFF U3 Premium HDD/SSD FIO Backplane Kit	P20288-B21

Notes:

- Drive backplanes only compatible with n2600 chassis
- When choosing P20285-B21 (HPE n2600 G10+ 6SFF SAS/SATA FIO BP Kit) 4 units must always be selected. This selection results in a total of 24 SFF SAS/SATA drives per chassis or 6 SAS/SATA drives per node.
- When choosing P20288-B21 (HPE n2600 Gen10+ 4SFF U3 Prem FIO BP Kit) 2 units must always be selected. This selection results in a total of 8 SFF SAS/SATA/NVMe drives per chassis or 2 SAS/SATA/NVMe drives per node.

Step 2: Choose air cooling options

HPE air Cooling Options

HPE Apollo 2000 Gen10 Plus Server Node Blank Kit	P20280-B21
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Notes: Required for any non-populated slots in the chassis for designed thermal performance, including system operation and node servicing

HPE n2x00 Gen10 Plus Fan Kit	P20279-B21
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Notes:

- Must select quantity for fan modules: 0 fan kit; 1 fan kit for additional cooling
- One fan kit contains 2 fans; chassis comes with default of 5 fans
- Fan redundancy available with 5 or 7 dual-rotar fans depends on configuration

Step 3: Choose the following rail kit and bracket per chassis

HPE Rail Kits

HPE n2x00 Gen10 Plus 2U Shelf Mount Rail Kit	P25006-B21
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Notes: Hewlett Packard Enterprise recommends that a minimum of two people are required for all rack installations. Please refer to your installation instructions for proper tools and number of people to use for any installation

Step 4: Choose Base configuration

Server Trays

HPE ProLiant XL225n Gen10 Plus 1U Node Configure-to-order Server	P21163-B21
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Notes: Up to 4 single half width server trays (XL25n Gen10 Plus) can be added to the HPE Apollo 2000 Gen10 Plus Chassis



Configuration Information

Power supplies

HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21
HPE 1800W-2200W Flex Slot Platinum Hot Plug Power Supply Kit	876935-B21
HPE 3000W 200-277VAC Platinum Hot Plug Power Supply	P24681-B21
HPE n2x00 Gen10 Plus Flex Slot Power Interface Board	P20283-B21
HPE n2x00 Gen10 Plus 3000W Power Interface Board	P20284-B21

Notes:

- If choosing the 1600W PS or the 1800-2200W PS then P20283-B21 is required
- If choosing the 3000W PS then P20284-B21 is required
- 3000W PS is 95% power efficiency (Platinum 80 Plus certified)
- Power supplies cannot be mixed
- 1800-2200W power supply (876935-B21) requires the selection of one power cord per power supply
- If choosing the 3000W PS then a power cord must be selected from 3000W power cord section; one power cord required per power supply

Power Cords for 3000W PS

HPE SDG300 - C20 250V 16Amp Black 0.5m Jumper Cord	P24672-B21
HPE SDG300 - C20 250V 16Amp Black 1m Jumper Cord	P24675-B21
HPE SDG300 - C20 250V 16Amp Black 2m Jumper Cord	P24678-B21
HPE SDG23A-SDG23B 277V 0.76m Jumper Cord	P9B75A
HPE SDG23A-SDG23B 277V 2.0m Jumper Cord	P9B77A

Notes: 3000W Power Supply (P24681-B21) requires selection of one of above power cords; one power cord required per power supply

Power Cords for 1800-2200W PS

HPE C15 US 125V 15Amp 2.5m Black Power Cord	Q7F42A
HPE C15 EU 250V 10Amp 2.5m Black Power Cord	Q7F45A
HPE C15 UK 250V 10Amp 2.5m Black Power Cord	Q7F46A
HPE C15 CN 250V 10Amp 2.5m Black Power Cord	Q7F53A
HPE C15 US 250V 10Amp 2.5m Black Jumper Cord	Q7F57A
HPE C15 EU 250V 10Amp 2.5m Black Jumper Cord	Q7F58A
HPE C15 US 250V 10Amp 0.76m Black Jumper Cord	Q7F59A
HPE C15 EU 250V 10Amp 0.76m Black Jumper Cord	Q7F60A
HPE C15 US 250V 10Amp 1m Black Jumper Cord	Q7F61A
HPE C15 EU 250V 10Amp 1m Black Jumper Cord	Q7F62A
HPE C15-C14 IN 250V 10Amp 2.5m Black Jumper Cord	R1C67A
HPE C15-C14 IN 250V 10Amp 1m Black Jumper Cord	R1C68A

Notes: 1800-2200W Power Supply (876935-B21) requires selection of one of above power cords; one power cord required per power supply



Configuration Information

Power Cords for 1600W PS

HPE C13 - C14 WW 250V 10Amp 2.0m Jumper Cord	A0K02A
HPE C13 - C14 WW 250V 10A Gray 0.7m Jumper Cord	A0K03A
HPE C13-NEMA 6-15P 10A/250V 3.6m Black Power Cord	A0N33A
HPE C13 - Nema 5-15P US/CA 110V 10Amp 1.83m Power Cord	AF556A
HPE C13 - GB-1002 CN 250V 10Amp 1.83m Power Cord	AF557A
HPE C13 - IRAM -2073 AR 250V 10A 2.5m Power Cord	AF558A
HPE C13 - Nema 5-15P TH/PH 250V 10Amp 1.83m Power Cord	AF559A
HPE C13 - KSC- 8305 KR 250V 10Amp 1.83m Power Cord	AF560A
HPE C13 - CNS-690 TW 110V 13Amp 1.83m Power Cord	AF561A
HPE C13 - IS-1293 IN 240V 6Amp LV 2.0m Power Cord	AF562A
HPE C13 - SI-32 IL 250V 10Amp 1.83m Power Cord	AF564A
HPE C13 - SEV 1011 CH 250V 10Amp 1.83m Power Cord	AF565A
HPE C13 - DK-2.5A DK 250V 10Amp 1.83m Power Cord	AF566A
HPE C13 - SABS-164 ZA 250V 10Amp 2.5m Power Cord	AF567A
HPE C13 - CEE-VII EU 250V 10Amp 1.83m Power Cord	AF568A
HPE C13 - AS3112-3 AU 250V 10Amp 2.5m Power Cord	AF569A
HPE C13 - BS-1363A UK/HK/SG 250V 10Amp 1.83m Power Cord	AF570A
HPE C13 - JIS C8303 JP 100V 12Amp 2.0m Power Cord	AF572A
HPE C13 - C14 WW 250V 10Amp Flint Gray 2.0m Jumper Cord	AF573A
HPE C13 - NBR-14136 BR 250V 10Amp 1.83m Power Cord	AF591A
HPE C13-C14 IN 250V 10Amp 2m Black Jumper Cord	R1C65A
HPE C13 - IS-1293 IN 250V 10Amp HV 2.5m Power Cord	SG579A
HPE 1.83m C13-NEMA 6-15P Power Cord	SK792A

Notes: Above Power cords are compatible with 1600W Power Supply kit (830272-B21) only

Step 5: Choose from chassis options

RCM Module

HPE n2x00 Gen10 Plus Rack Consolidation Module Kit	P20290-B21
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Notes:

- The RCM (Rack Consolidation Management) module kit which allows iLO aggregation at the chassis level and also has the port for the HPE APM is optional on all chassis. The RCM Module consists of 2 iLO ports for redundancy. It can also be daisy chained to connect to a Top of the Rack (TOR) management switch.
- If using the RCM module iLO port to connect to a network, the network must operate at a speed of 1Gbps. On-board shared iLO management port could be ran at 10/100/1000 Gbps network speed.

HPE Apollo 2000 Rack Consolidation Module 2.0-1.0 Adapter Kit	800063-B21
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Notes: 800063-B21 is required if there is one APM in the rack and more then 10 Apollo 2000 Gen10 plus chassis



Configuration Information

HPE Advanced Power Manager

HPE Apollo Platform Manager Kit	741192-B21
HPE Apollo Platform Manager Distribution Module Kit	620002-B21

Notes:

- 741192-B21 is an optional kit. Each HPE APM can connect up to 10 chassis via consolidated chassis management cable
- 620002-B21 is required if there is one APM in the rack and more then 10 Apollo 2000 Gen10 plus chassis. Each APMD can connect up to 10 chassis.
- Refer to HPE APM QuickSpecs for further details at

<https://h20195.www2.hpe.com/v2/GetPDF.aspx/c04111481.pdf>

Step 6: Choose between air cooling or liquid cooling required options (only one from each category unless otherwise noted)

Options required for Direct Liquid Cooling (for air cooled options skip to step 7)

Step 6a: Choose between Direct Liquid Cooling of processor only (L22) or processor plus memory (L23).

Notes: For processor plus memory, skip to step 6b.

DLC kit for processor only

AMD EPYC 7H12 (2.6GHz/64-core/280W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29035-L22
AMD EPYC 7742 (2.25GHz/64-core/225W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29016-L22
AMD EPYC 7702 (2.0GHz/64-core/200W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29017-L22
AMD EPYC 7662 (2.0GHz/64-core/225W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29026-L22
AMD EPYC 7642 (2.3GHz/48-core/225W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29027-L22
AMD EPYC 7552 (2.2GHz/48-core/200W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29018-L22
AMD EPYC 7542 (2.9GHz/32-core/225W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29019-L22
AMD EPYC 7532 (2.4GHz/32-core/200W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29028-L22
AMD EPYC 7502 (2.5GHz/32-core/180W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29020-L22
AMD EPYC 7452 (2.35GHz/32-core/155W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29021-L22
AMD EPYC 7F72 (3.2GHz/24-core/240W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29034-L22
AMD EPYC 7402 (2.8GHz/24-core/180W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29022-L22
AMD EPYC 7352 (2.3GHz/24-core/155W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29023-L22
AMD EPYC 7F52 (3.5GHz/16-core/240W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29033-L22
AMD EPYC 7302 (3.0GHz/16-core/155W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29024-L22
AMD EPYC 7282 (2.8GHz/16-core/120W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29029-L22
AMD EPYC 7272 (2.9GHz/12-core/120W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29030-L22
AMD EPYC 7F32 (3.7GHz/8-core/180W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29032-L22
AMD EPYC 7262 (3.2GHz/8-core/155W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29025-L22
AMD EPYC 7252 (3.1GHz/8-core/120W) FIO DLC Processor Kit for HPE ProLiant XL225n Gen10 Plus	P29031-L22

Notes:

- All DLC Processor kits come with 2 processors and 1 node cooling loop for processors
- Min 2 memory required per DLC processor kit
- If DLC processor kit is chosen slot 1 in the server can no longer be used for the HPE XL2xxn Gen10 Plus LP Left Riser kit (P20260-B21)



Configuration Information

Step 6b: Choose DLC kit for CPU plus memory cooling

AMD EPYC 7H12 (2.6GHz/64-core/280W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29035-L23
AMD EPYC 7742 (2.25GHz/64-core/225W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29016-L23
AMD EPYC 7702 (2.0GHz/64-core/200W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29017-L23
AMD EPYC 7662 (2.0GHz/64-core/225W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29026-L23
AMD EPYC 7642 (2.3GHz/48-core/225W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29027-L23
AMD EPYC 7552 (2.2GHz/48-core/200W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29018-L23
AMD EPYC 7542 (2.9GHz/32-core/225W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29019-L23
AMD EPYC 7532 (2.4GHz/32-core/200W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29028-L23
AMD EPYC 7502 (2.5GHz/32-core/180W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29020-L23
AMD EPYC 7452 (2.35GHz/32-core/155W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29021-L23
AMD EPYC 7F72 (3.2GHz/24-core/240W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29034-L23
AMD EPYC 7402 (2.8GHz/24-core/180W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29022-L23
AMD EPYC 7352 (2.3GHz/24-core/155W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29023-L23
AMD EPYC 7F52 (3.5GHz/16-core/240W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29033-L23
AMD EPYC 7302 (3.0GHz/16-core/155W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29024-L23
AMD EPYC 7282 (2.8GHz/16-core/120W) FIO DLC Processor/Memory Kit for HPE ProLiant XL225n Gen10 Plus	P29029-L23

Notes:

- All DLC Processor kits come with 2 processors and 1 node cooling loop for processors and memory
- For L23 skus all memory slots must be populated
- If DLC processor kit is chosen slot 1 in the server can no longer be used for the HPE XL2xxn Gen10 Plus LP Left Riser kit (P20260-B21)

DLC Tube Set

HPE Apollo FIO Direct Liquid Cooling 36cm Tube Set	R4W78A
HPE Apollo FIO Direct Liquid Cooling 56cm Tube Set	R4W80A
HPE Apollo FIO Direct Liquid Cooling 76cm Tube Set	R4W81A

Notes: 4 Tube sets must be selected per chassis, default will be qty two R4W80A and two R4W81A per chassis



Configuration Information

Rack Manifold

HPE Apollo 42U Direct Liquid Cooling FIO Rack Manifold

R4W83A

HPE Apollo 48U Direct Liquid Cooling FIO Rack Manifold

R4W84A

Notes:

- Manifold selection dependent on type of rack selected 42U or 48U
- One Rack Manifold is needed per rack

Rack Mount CDU

HPE Apollo Rack Mount FIO CDU

R4W85A

Notes:

- One Apollo Rack Mount CDU is needed per rack
- Must be mounted at top of rack

DLC Facility Hookup Kit

HPE Apollo CDU Facility 1.5m Hookup Kit

R4X53A

HPE Apollo CDU Facility 3.5m Hookup Kit

R4X54A

Notes:

- 1 Facility hook up kit is required per rack
- 1.5m normally used for overhead water connection
- 3.5m normally used for below floor water connection

DLC Installation kit

HPE Apollo Direct Liquid Cooling Installation Tool Kit

R6W50A

Notes: 1 installation kit needed per site install

Step 7: Choose required options (only one from each category unless otherwise noted)

Notes:

- Certain limitations may apply to select processors, please contact your HPE sales representative
- All AMD EPYC processors can support up to 2TB of memory each
- Please contact your HPE sales representatives for any questions on processor support needed



Additional Options

HPE Processors

AMD EPYC 7742 (2.25GHz/64-core/225W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24256-L21
AMD EPYC 7702 (2.0GHz/64-core/200W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24257-L21
AMD EPYC 7552 (2.2GHz/48-core/200W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24258-L21
AMD EPYC 7542 (2.9GHz/32-core/225W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24259-L21
AMD EPYC 7502 (2.5GHz/32-core/180W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24260-L21
AMD EPYC 7452 (2.35GHz/32-core/155W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24261-L21
AMD EPYC 7402 (2.8GHz/24-core/180W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24262-L21
AMD EPYC 7352 (2.3GHz/24-core/155W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24263-L21
AMD EPYC 7302 (3.0GHz/16-core/155W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24264-L21
AMD EPYC 7762 (3.2GHz/8-core/155W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24265-L21
AMD EPYC 7702P (2.0GHz/64-core/200W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24266-L21
AMD EPYC 7502P (2.5GHz/32-core/180W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24267-L21
AMD EPYC 7402P (2.8GHz/24-core/180W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24268-L21
AMD EPYC 7302P (3.0GHz/16-core/155W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24269-L21
AMD EPYC 7662 (2.0GHz/64-core/225W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24392-L21
AMD EPYC 7642 (2.3GHz/48-core/225W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24393-L21
AMD EPYC 7532 (2.4GHz/32-core/200W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24394-L21
AMD EPYC 7282 (2.8GHz/16-core/120W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24395-L21
AMD EPYC 7272 (2.9GHz/12-core/120W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24396-L21
AMD EPYC 7252 (3.1GHz/8-core/120W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24397-L21
AMD EPYC 7232P (3.1GHz/8-core/120W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24398-L21
AMD EPYC 7F32 (3.7GHz/8-core/180W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P26686-L21
AMD EPYC 7F52 (3.5GHz/16-core/240W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P26687-L21
AMD EPYC 7F72 (3.2GHz/24-core/240W) FIO Processor Kit for HPE ProLiant XL225n Gen10 Plus	P26688-L21

Notes:

- Must select one xxxxxx-L21 processor. If one processor is desired, select one xxxxxx-L21. If two processors are desired, select one corresponding xxxxxx-B21. Mixing of processor speeds and types is not supported.
- DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. For the maximum supported memory speeds for each processor listed above, please reference the 'Memory Speed by Processor Model' table in the Memory section of the QuickSpecs
- P type processors are 1P socket count ONLY. Cannot be mixed with any other processor.

AMD EPYC 7742 (2.25GHz/64-core/225W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24256-B21
AMD EPYC 7702 (2.0GHz/64-core/200W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24257-B21
AMD EPYC 7552 (2.2GHz/48-core/200W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24258-B21
AMD EPYC 7542 (2.9GHz/32-core/225W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24259-B21
AMD EPYC 7502 (2.5GHz/32-core/180W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24260-B21
AMD EPYC 7452 (2.35GHz/32-core/155W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24261-B21
AMD EPYC 7402 (2.8GHz/24-core/180W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24262-B21
AMD EPYC 7352 (2.3GHz/24-core/155W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24263-B21
AMD EPYC 7302 (3.0GHz/16-core/155W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24264-B21
AMD EPYC 7762 (3.2GHz/8-core/155W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24265-B21
AMD EPYC 7662 (2.0GHz/64-core/225W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24392-B21
AMD EPYC 7642 (2.3GHz/48-core/225W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24393-B21
AMD EPYC 7532 (2.4GHz/32-core/200W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24394-B21

Additional Options

AMD EPYC 7282 (2.8GHz/16-core/120W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24395-B21
AMD EPYC 7272 (2.9GHz/12-core/120W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24396-B21
AMD EPYC 7252 (3.1GHz/8-core/120W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P24397-B21
AMD EPYC 7F32 (3.7GHz/8-core/180W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P26686-B21
AMD EPYC 7F52 (3.5GHz/16-core/240W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P26687-B21
AMD EPYC 7F72 (3.2GHz/24-core/240W) Processor Kit for HPE ProLiant XL225n Gen10 Plus	P26688-B21

Notes:

- DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. For the maximum supported memory speeds for each processor listed above, please reference the 'Memory Speed by Processor Model' table in the Memory section of the QuickSpecs
- P type processors are 1P socket count ONLY. Cannot be mixed with any other processor.

Step 8: Choose Additional Options from Core and Additional Options sections below

HPE Memory

Registered DIMMs (RDIMMs)

HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07638-H21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07640-H21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07642-H21
HPE 32GB (1x32GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07644-H21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07646-H21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07650-H21
HPE 16GB (1x16GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P14398-B21

Load Reduced DIMMs (LRDIMMs) – DDR4-3200

HPE 128GB (1x128GB) Quad Rank x4 DDR4-3200 CAS-22-22-22 Load Reduced Smart Memory Kit	P07652-H21
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Notes:

- Minimum 1 DIMMs are required per server; up to 8 DIMMs per processor.
- A maximum of 16 DIMMs are supported per XL225n server tray (or 8 DIMMs max per processor).
- LRDIMM and RDIMM are distinct memory technologies and cannot be mixed within a server.
- No mixing of x4 and x8 memory allowed
- To maximize performance in a majority of potential applications it is recommended to balance the total memory capacity across all installed processors.. Load the channels similarly whenever possible to enable optimal interleaving.
- HPE memory from previous generation servers is not compatible with this server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen10 Plus. For additional information, please see the HPE SmartMemory QuickSpecs at: <https://www.hpe.com/h20195/v2/GetPDF.aspx/c04355083.pdf>
- Memory Population Table or the Online Memory Configuration Tool can be found at: <http://h22195.www2.hpe.com/MemoryTool/Home/Legal>
<https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=a00038346enw>
<https://www.hpe.com/docs/amd-population-rules-Gen10plus>

HPE PCIe riser kits

HPE XL2xxn Gen10 Plus Low Profile Left Riser Kit	P20260-B21
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Notes:

- To support SATA drives a right riser selection is required
- If DLC option is chosen Left Riser kit cannot be ordered
- HPE XL2xxn Gen10 Plus Low Profile Left Riser Kit total available PCIe slots is one (1x16)
- HPE XL2xxn Gen10 Plus Low Profile Left Riser Kit & HPE XL22xxn G10+ LP CPU1 Right Riser Kit P20261-B21 total available PCIe slots is two (2x16)



Additional Options

- HPE XL2xxn Gen10 Plus Low Profile Left Riser & HPE XL22xn G10+ LP CPU2 Right Riser Kit P20264-B21 total available PCIe slots is two (2x16). When P20264-B21 riser is installed, PCIe Gen4 devices installed in this riser will only operate at PCIe Gen3 speeds (8 GT/s)
- HPE XL2xxn Gen10 Plus Low Profile Left Riser Kit & HPE XL225n Gen10+ LP CPU1 NVMe Riser Kit P22337-B21 total available PCIe slots is two (2x16)

HPE XL22xn Gen10 Plus Low Profile CPU1 Right Riser Kit

P20261-B21

Notes:

- HPE XL22xn G10+ LP CPU1 Right Riser Kit & HPE XL2xxn Gen10 Plus Low Profile Left Riser Kit (P20260-B21) total available PCIe slots is two (2x16)
- This riser can support SAS/SATA drives

HPE XL225n Gen10 Plus Low Profile CPU1 Direct Attach NVMe Right Riser Kit

P22337-B21

Notes:

- This riser must be chosen if HPE n2600 Gen10plus 4 SFF U.3 Prem FIO BP Kit is selected in the chassis and U.3 NVMe drive is selected in this node. Can support two U.3 NVMe drives per node.
- Requires 2 CPUs if selected with HPE n2600 Gen10plus 4 SFF U.3 Prem FIO BP Kit
- HPE XL225n Gen10+ LP CPU1 NVMe Riser Kit & HPE XL2xxn Gen10 Plus Low Profile Left Riser Kit (P20260-B21) total available PCIe slots is two (2x16)

HPE XL22xn Gen10 Plus Low Profile CPU2 Right Riser Kit

P20264-B21

Notes:

- HPE XL22xn G10+ LP CPU2 Right Riser Kit & HPE XL2xxn Gen10 Plus Low Profile Left Riser Kit (P20260-B21) total available PCIe slots is two (2x16)
- This riser can support SAS/SATA drives
- PCIe devices installed in this riser are limited to PCIe Gen3 speeds

HPE XL2xxn Gen10 Plus USB Mezzanine Riser Kit

P20291-B21

HPE Storage Controller

Notes: Required to select one of the following when SAS Drives are installed on the server

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

804394-B21

Notes:

- Supports up to 6 internal SAS/SATA Drives
- Requires the selection of a Right Riser kit
- Requires selection of HPE XL22xn Gen10+ E208ip/P408ip Cbl Kit (P20271-B21)

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

804398-B21

Notes:

- Supports 0 internal SAS/SATA Drives.
- Requires the selection of Left or Right Riser kit
- This controller may support- SAS tape device (external), SAS Storage (external)

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

804405-B21

Notes:

- Supports 0 internal SAS/SATA Drives
- Requires the selection of Left or Right Riser kit
- This controller may support- SAS tape device (external), SAS Storage (external)
- The battery cable kit needs to be selected if the node has the P series controller in the node configuration

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

830824-B21

Notes:

- Supports up to 6 internal SAS/SATA Drives.
- Requires the selection of a Right Riser kit.
- Requires selection of HPE XL22xn Gen10+ E208ip/P408ip Cbl Kit (P20271-B21)
- The battery cable kit needs to be selected if the node has the P series controller in the node configuration



Additional Options

HPE Storage Cables

HPE XL225n Gen10 Plus SATA Cable Kit P24055-B21

Notes: Required when AHCI is the primary controller; supports to connect to SATA drives; select 1 cable kit/node

HPE XL22xn Gen10 Plus Smart Array E208ip/P408ip Cable P20271-B21

Notes: Required to be selected when E208i-p or P408i-p is selected with HPE n2600 G10+ 6SFF SAS/SATA FIO BP Kit or with "HPE n2600 Gen10+ 4SFF U3 Prem FIO BP Kit" and no NVMe drive is selected for this drive cage

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

Notes: The battery cable kit needs to be selected if the node has the P series controller in the node configuration

Step 9: Choose Additional Factory Integrated Options (only one from each category unless otherwise noted)

BIOS Model

HPE Legacy FIO Mode Setting 758959-B22

Notes: The system BIOS provides two different Boot Modes: UEFI (Standard) and Legacy BIOS (optional) 758959-B22. When this option is selected, then BIOS need to be switched from default UEFI Mode to Legacy Mode

HPE Security Hardware

HPE Gen10 TPM 1.2 FIO Setting 872108-B21

Notes:

- This can be selected only when HPE Gen10 Plus TPM WR Module Kit (P17413-B21) is selected
- HPE Gen10 Plus TPM WR Module Kit (P17413-B21) UEFI Mode (default) can support either TPM 1.2 or TPM 2.0. The default mode is the TPM 2.0 mode.
- For more information on TPM mode settings visit UEFI system utilities user guide:

https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=emr_na-a00016407en_us

Raid Settings

HPE RAID 0 Drive 1 FIO Setting 339777-B21

HPE RAID 1 Drive 1 FIO Setting 339778-B21

HPE RAID 5 Drive 1 FIO Setting 339779-B21

HPE Raid 5 w/SP Drive 1 FIO Setting 339780-B21

HPE RAID FIO Advanced Data Guarding Option 339781-B21

HPE Customer Defined RAID Setting Service 389692-B21

HPE Networking

Ethernet Options

Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter for HPE P08437-B21

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

Marvell QL41132HQCU Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE P08452-B21

Marvell QL41134HLCU Ethernet 10Gb 4-port SFP+ Adapter for HPE P10094-B21

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

Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE P10112-B21

Marvell QL41232HQCU Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE P10118-B21

HPE Ethernet 10/25Gb 2-port SFP+ MCX4621A-ACAB OCP3 Adapter P11341-B21

Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE P13188-B21

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

Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE P21109-B21



Additional Options

HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter	P21927-B21
HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCHT Adapter	P21930-B21
Marvell QL41132HLCU Ethernet 10Gb 2-port SFP+ Adapter for HPE	P21933-B21
Marvell QL41232HLCU Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P22702-B21

Notes:

- For 1U, total Slots available for PCIe is 2, total Slots available for OCP3.0 is 1. This is a total selection from anything in the following categories: InfiniBand, Networking, Controllers, PCI Accelerator
- Requires the selection of Left or Right Riser kit

InfiniBand Options

HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter	P23664-H21
HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter	P23665-H21
HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter	P23666-H21

Notes:

- Requires the selection of Left or Right Riser kit. Maximum PCIe card limit is depending on the selection of Left and/ or Right riser kit
- Please see the QuickSpecs for Technical Specifications and additional information: <https://www.hpe.com/us/en/product-catalog/servers/server-adapters.hits-12.html>

HPE Drives

Notes: SATA drive support requires the selection of the right riser kit

Enterprise – 12G SAS – SFF – Hard Disk Drives

HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-H21
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-H21
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-H21
HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-H21
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-H21
HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-H21
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-H21
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870759-H21

Midline – 12G SAS – SFF – Hard Disk Drives

HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765466-H21
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	832514-H21

Midline – 6G SATA – SFF – Hard Disk Drives

HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765455-H21
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	655710-H21

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

HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS RM5 SSD	P10460-H21
HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS RM5 SSD	P10454-H21
HPE 960GB SAS 12G Mixed Use SFF SC Value SAS RM5 SSD	P10448-H21
HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04525-H21
HPE 800GB SAS 12G Mixed Use SFF SC PM5 SSD	P04527-H21
HPE 1.6TB SAS 12G Mixed Use SFF SC PM5 SSD	P04533-H21
HPE 3.2TB SAS 12G Mixed Use SFF SC PM5 SSD	P04537-H21
HPE 6.4TB SAS 12G Mixed Use SFF SC PM5 SSD	P04539-H21
HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09088-H21
HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09090-H21

Additional Options

HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09092-H21
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09094-H21
HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09096-H21
HPE 800GB SAS 12G Mixed Use SFF SC PM1645a SSD	P19913-H21
HPE 6.4TB SAS 12G Mixed Use SFF SC PM1645a SSD	P19919-H21
HPE 1.6TB SAS 12G Mixed Use SFF SC PM1645a SSD	P19915-H21
HPE 3.2TB SAS 12G Mixed Use SFF SC PM1645a SSD	P19917-H21
Write Intensive – 12G SAS – SFF – Solid State Drives	
HPE 400GB SAS 12G Write Intensive SFF SC PM5 SSD	P04541-H21
HPE 800GB SAS 12G Write Intensive SFF SC PM5 SSD	P04543-H21
HPE 1.6TB SAS 12G Write Intensive SFF SC PM5 SSD	P04545-H21
HPE 3.2TB SAS 12G Write Intensive SFF SC PM5 SSD	P04547-H21
HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09098-H21
HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09100-H21
HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09102-H21
Read Intensive – 12G SAS – SFF – Solid State Drives	
HPE 7.68TB SAS 12G Read Intensive SFF SC Value SAS RM5 SSD	P10446-H21
HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS RM5 SSD	P10444-H21
HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS RM5 SSD	P10442-H21
HPE 960GB SAS 12G Read Intensive SFF SC Value SAS RM5 SSD	P10440-H21
HPE 960GB SAS 12G Read Intensive SFF SC PM5 SSD	P04517-H21
HPE 1.92TB SAS 12G Read Intensive SFF SC PM5 SSD	P04519-H21
HPE 3.84TB SAS 12G Read Intensive SFF SC PM5 SSD	P04521-H21
HPE 7.68TB SAS 12G Read Intensive SFF SC PM5 SSD	P04523-H21
HPE 3.84TB SAS 12G Read Intensive SFF SC PM1643a SSD	P19907-H21
HPE 960GB SAS 12G Read Intensive SFF SC PM1643a SSD	P19903-H21
HPE 1.92TB SAS 12G Read Intensive SFF SC PM1643a SSD	P19905-H21
HPE 15.36TB SAS 12G Read Intensive SFF SC PM1643a SSD	P19911-H21
HPE 7.68TB SAS 12G Read Intensive SFF SC PM1643a SSD	P19909-H21
Read Intensive – 6G SATA – SFF – Solid State Drives	
HPE 3.84TB SATA 6G Read Intensive SFF SC S4510 SSD	P05946-H21
HPE 1.92TB SATA 6G Read Intensive SFF SC S4510 SSD	P05938-H21
HPE 960GB SATA 6G Read Intensive SFF SC S4510 SSD	P05932-H21
HPE 480GB SATA 6G Read Intensive SFF SC S4510 SSD	P05928-H21
HPE 240GB SATA 6G Read Intensive SFF SC S4510 SSD	P05924-H21
HPE 480GB SATA 6G Read Intensive SFF SC PM883 SSD	P04560-H21
HPE 480GB SATA 6G Read Intensive SFF SC SE4011 SSD	P06194-H21
HPE 960GB SATA 6G Read Intensive SFF SC SE4011 SSD	P06196-H21
HPE 1.92TB SATA 6G Read Intensive SFF SC SE4011 SSD	P06198-H21
HPE 3.84TB SATA 6G Read Intensive SFF SC SE4011 SSD	P06200-H21
HPE 240GB SATA 6G Read Intensive SFF SC PM883 SSD	P04556-H21
HPE 960GB SATA 6G Read Intensive SFF SC PM883 SSD	P04564-H21
HPE 1.92TB SATA 6G Read Intensive SFF SC PM883 SSD	P04566-H21



Additional Options

HPE 3.84TB SATA 6G Read Intensive SFF SC PM883 SSD	P04570-H21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18420-H21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18422-H21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18424-H21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18426-H21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18428-H21
HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18430-H21
HPE 240GB SATA 6G Read Intensive SFF SC 5300P SSD	P19935-H21
HPE 480GB SATA 6G Read Intensive SFF SC 5300P SSD	P19937-H21
HPE 960GB SATA 6G Read Intensive SFF SC 5300P SSD	P19939-H21
HPE 1.92TB SATA 6G Read Intensive SFF SC 5300P SSD	P19941-H21
HPE 3.84TB SATA 6G Read Intensive SFF SC 5300P SSD	P19943-H21
HPE 7.68TB SATA 6G Read Intensive SFF SC 5300P SSD	P19945-H21
Very Read Optimized - 6G SATA - SFF - Solid State Drives	
HPE 1.92TB SATA 6G Very Read Optimized SFF SC 5210 SSD	P23487-H21
HPE 3.84TB SATA 6G Very Read Optimized SFF SC 5210 SSD	P23489-H21
HPE 7.68TB SATA 6G Very Read Optimized SFF SC 5210 SSD	P23493-H21
Mixed Use - 6G SATA - SFF - Solid State Drives	
HPE 3.84TB SATA 6G Mixed Use SFF SC S4610 SSD	P05994-H21
HPE 1.92TB SATA 6G Mixed Use SFF SC S4610 SSD	P05986-H21
HPE 960GB SATA 6G Mixed Use SFF SC S4610 SSD	P05980-H21
HPE 480GB SATA 6G Mixed Use SFF SC S4610 SSD	P05976-H21
HPE 480GB SATA 6G Mixed Use SFF SC SM883 SSD	P09712-H21
HPE 960GB SATA 6G Mixed Use SFF SC SM883 SSD	P09716-H21
HPE 1.92TB SATA 6G Mixed Use SFF SC SM883 SSD	P09722-H21
HPE 480GB SATA 6G Mixed Use SFF SC 5300M SSD	P19947-H21
HPE 960GB SATA 6G Mixed Use SFF SC 5300M SSD	P19949-H21
HPE 1.92TB SATA 6G Mixed Use SFF SC 5300M SSD	P19951-H21
HPE 3.84TB SATA 6G Mixed Use SFF SC 5300M SSD	P19953-H21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18432-H21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18434-H21
HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18438-H21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18436-H21
HPE 960GB SATA 6G Mixed Use SFF SC SE5031 SSD	P13660-H21
HPE 480GB SATA 6G Mixed Use SFF SC SE5031 SSD	P13658-H21
HPE 3.84TB SATA 6G Mixed Use SFF RW SE5031 SSD	P13664-H21
HPE 1.92TB SATA 6G Mixed Use SFF SC SE5031 SSD	P13662-H21
HPE 3.84TB SATA 6G Mixed Use SFF SC SM883 SSD	P21517-H21



Additional Options

Read Intensive - NVMe - SFF - Solid State Drives

HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	P16501-H21
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	P16503-H21

Mixed Use - NVMe - SFF - Solid State Drives

HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	P16497-H21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	P16499-H21

HBA Storage Controllers

HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	Q0L11A
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A
HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	Q0L13A
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A
HPE SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter	P9D93A
HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A
HPE SN1610Q 32Gb 1-port Fibre Channel Host Bus Adapter	R2E08A
HPE SN1610Q 32Gb 2-port Fibre Channel Host Bus Adapter	R2E09A

HPE Integrated Light-Out (iLO)

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

Notes:

- For additional license options please see the QuickSpecs at: <http://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04154343>
- For more information, visit: <http://www.hpe.com/info/ilo>

HPE Performance Cluster Manager

For additional information please visit HPE Performance Cluster Manager quickspecs [here](#)

HPE Performance Cluster Manager 1 Node 3yr 24x7 Support Perpetual E-LTU

Notes:

- One license per node
- Includes three years of support
- This is an electronic license
- This is a perpetual license. The Software will continue working even when the support term ends

HPE Performance Cluster Manager 1 Node 3yr 24x7 Support Perpetual LTU

Notes:

- One license per node.
- Includes three years of support.
- This is a perpetual license. The software will continue working even when the support term ends.



Additional Options

HPE Performance Cluster Manager FIO Software

Notes:

- For factory installation only with HPE SGI 8600. This SKU does not include the license. Please order with Q9V60AAE.
- Order one per node

HPE Performance Cluster Manager Media Kit

Notes: One media kit per solution.

USB Flash Kit

HPE 8GB Dual microSD Flash USB Drive	741279-B21
HPE XL2xxn Gen10 Plus 36-pin Serial/USB/VGA Cable	P24887-B21

Security Hardware

Trusted Platform Module

HPE Gen10 Plus TPM WR Module Kit	P17413-B21
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Notes: HPE Gen10 Plus TPM WR Module Kit (P17413-B21) UEFI Mode (default) can support either TPM 1.2 or TPM 2.0. The default mode is the TPM 2.0 mode. For more information visit [TPM](#)

QS: <https://h20195.www2.hpe.com/v2/GetPDF.aspx/c04939549.pdf>

Transceivers

HPE BladeSystem c-Class Virtual Connect 1G SFP SX Transceiver	453151-B21
HPE BladeSystem CClass Virtual Connect 1G SFP RJ45 Transceiver	453154-B21
HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver	455883-B21
HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver	455886-B21
HPE 25Gb SFP28 SR 100m Transceiver	845398-B21
HPE 100Gb QSFP28 MPO SR4 100m Transceiver	845966-B21

HPE Smart Array SmartCache License

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

USB and SD Options

HPE USB US Keyboard/Mouse Kit	631341-B21
HPE USB UK Keyboard/Mouse Kit	631344-B21
HPE USB FR Keyboard/Mouse Kit	631346-B21
HPE USB ES Keyboard/Mouse Kit	631348-B21
HPE USB DE Keyboard/Mouse Kit	631358-B21
HPE USB JP Keyboard/Mouse Kit	631360-B21
HPE USB IT Keyboard/Mouse Kit	631362-B21
HPE USB CN Keyboard/Mouse Kit	631364-B21
HPE USB AE Keyboard/Mouse Kit	638212-B21
HPE USB RU Keyboard/Mouse Kit	638214-B21
HPE USB IN Keyboard/Mouse Kit	672097-D63
HPE USB AP/INTL Keyboard/Mouse Kit	672097-373
HPE USB INTL Keyboard/Mouse Kit	672097-B33
HPE USB PT Keyboard/Mouse Kit	672097-133
HPE USB TR Keyboard/Mouse Kit	672097-143



Additional Options

HPE USB CZ Keyboard/Mouse Kit	672097-223
HPE USB FI Keyboard/Mouse Kit	672097-353
HPE USB SE Keyboard/Mouse Kit	672097-103
HPE USB CH Keyboard/Mouse Kit	672097-113
HPE USB KR Keyboard/Mouse Kit	672097-KD3

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

<https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=c04168349>

HPE XL2xxn Gen10 Plus 36-pin Serial/USB/VGA Cable	P24887-B21
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HPE Tape Backup

Notes: For the complete range of tape drives, autoloaders, libraries and media see: <http://www.hpe.com/storage/storeever>.

For hardware and software compatibility of Hewlett Packard Enterprise tape backup

products <http://www.hpe.com/storage/BURACompatibility>

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 MSL LTO-7 Ultrium 15000 SAS Drive Upgrade Kit	N7P37A
HPE StoreEver MSL LTO-7 Ultrium 15000 FC Drive Upgrade Kit	N7P36A
HPE StoreEver MSL LTO-6 Ultrium 6250 SAS Drive Upgrade Kit	COH27A
HPE StoreEver MSL LTO-6 Ultrium 6250 Fibre Channel Drive Upgrade Kit	COH28A
HPE StoreEver MSL LTO-5 Ultrium 3000 SAS Drive Upgrade Kit	BL540B



Technical Specifications

HPE Apollo n2600 Gen10 Plus Chassis

Dimensions	Height	3.44 in (8.75 cm)
	Width	17.32 in (44 cm)
	Depth	36.38 in (92.4cm)
Shipping Dimensions	Height	12.5 in (31.75 cm)
	Width	23.63 in (60.02 cm)
	Depth	39.37 in (100.01 cm)
Chassis Weight	Empty (no drives, power supplies, RCM, server nodes and server blanks)	29.03 lb (13.7 kg)
Max Enclosure Weight	Approximate – 24 SFF drive configuration	103.02 lb (46.73 kg)

HPE Proliant XL225n Gen10 Plus

Server Dimensions (H x W x D)	(1.63 x 6.94 x 24.28 in (4.13 x 17.615 x 61.663 cm))	
Weight (approximate)	Minimum	10.16 lb (4.61 kg)
Weight (approximate)	Maximum	11.63 lb (5.27 kg)

Apollo 2000 Gen10 Plus System with Direct Liquid Cooling

CDU	Weight (filled)	137 lb (62.14 kg)
Manifold	Weight (filled)	35 lb (15.88 kg)
Chassis (filled)	Weight (filled) - Approximate	103.02 lb (46.73 kg)

HPE Proliant XL225n Gen10 Plus

System Inlet Temperature	10° to 35°C	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.
Standard Operating Support	(50° to 95°F)	



Technical Specifications

Extended Ambient Operating Support	10° to 5°C (50° to 41°F) and 35° to 40°C (95° to 104°F)	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
Relative Humidity (non-condensing) Operating	-30° to 60°C (-22° to 140°F). 8% to 90%	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. Maximum rate of change is 20°C/hr (36°F/hr). 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).

Thermal limitations

For a full list of thermal limitations please see the HPE ProLiant XL225n Gen 10 Plus Server User Guide.

<https://www.hpe.com/info/apollo2000gen10plus-docs>

Environmental-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 (2012/19/EU) 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
10-Aug-2020	Version 6	Changed	Additional Options section was updated.
03-Aug-2020	Version 5	Changed	Overview, Standard Features, Configuration Information and Technical Specifications sections were updated
13-Jul-2020	Version 4	Changed	Standard Features, Configuration Information and Technical Specifications sections were updated
29-Jun-2020	Version 3	Changed	Overview, Standard Features, Configuration Information and Technical Specifications sections were updated
04-May-2020	Version 2	Changed	Overview, Standard Features, Configuration Information and Technical Specifications sections were updated
06-Apr-2020	Version 1	New	New QuickSpecs



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