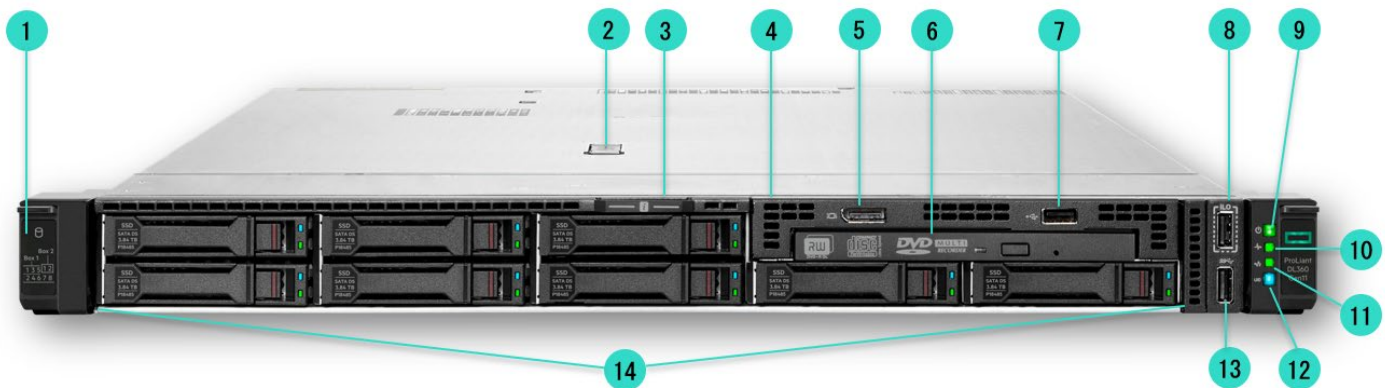## Overview

HPE ProLiant DL360 Gen11

Do you need to efficiently expand or refresh your IT infrastructure to propel the business? Adaptable for diverse workloads and environments, the compact 1U HPE ProLiant DL360 Gen11 delivers enhanced performance with the right balance of expandability and density. Designed for supreme versatility and resiliency while backed by a comprehensive warranty, the HPE ProLiant DL360 Gen11 is ideal for IT infrastructure, either physical, virtual, or containerized.

The HPE ProLiant DL360 Gen11 supports the 4th Generation Intel® Xeon® Scalable Processors with up to 56 cores, plus 4800 MT/s HPE DDR5 SmartMemory up to 4.0 TB per socket. Introducing PCIe Gen5 and Intel® Software Guard Extensions (SGX) support on the dual-socket segment, the HPE ProLiant DL360 Gen11 complements Gen10 Plus reach by delivering premium compute, memory, networking communication, I/O, and security capabilities for customers focused on performance at any cost. DL360 Gen11 server is an execellent choice of daily business and workloads in General Compute, Database Management, Virtual Desktop Infrastructure, Content Delivery Network and Intelligent Video Analytics.
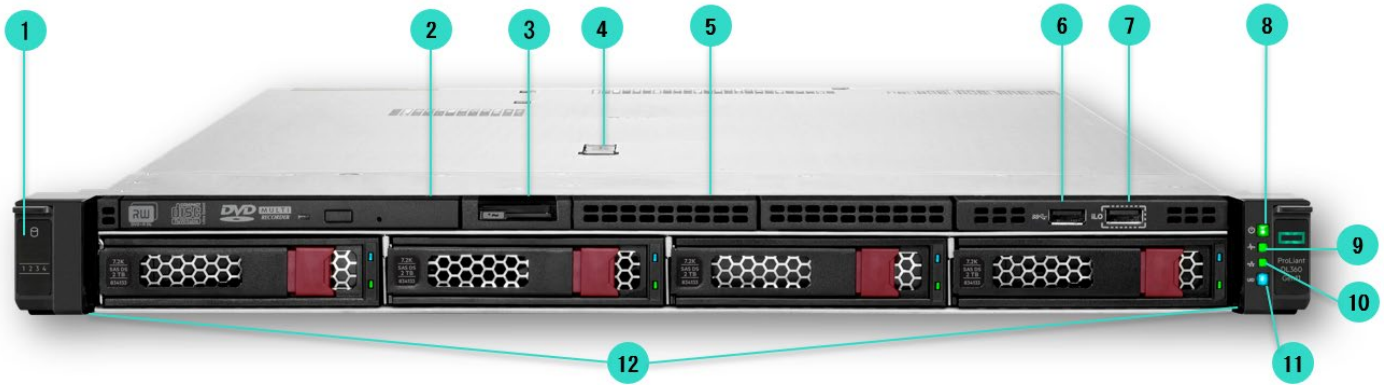

8 SFF Front View – 8 SFF + optional Universal Media Bay, optical drive, Display Port, USB2.0 and SAS drives shown

1. Drive support label
2. Quick removal access panel
3. Serial number/iLO information pull tab (optional - shown)
4. Universal Media Bay (optional):
   - Option: Optical drive bay + Display port & USB 2.0 port kit (shown)
   - Option: 2 SFF 24G x4 Tri-Mode SAS/SATA/U.3 NVMe cage
5. Display Port (optional – shown)
6. Optical drive (optional – shown)
7. USB2.0 port (optional)

8. iLO Service port
9. Power On/Standby button and system power LED
10. Health LED
11. NIC status LED
12. Unit ID button/LED
13. USB 3.2 Gen1 port
14. Drive bays; optional backplanes:

   - Option: 8 SFF x1 24G Tri-Mode SAS/SATA/U.3 NVMe
   - Option: 8 SFF x4 24G Tri-Mode SAS/SATA/U.3 NVMe

Notes: Optional- Systems Insight Display (SID) module is available for 8SFF CTO Server, and will be installed at the left-hand side of iLO Service port and USB 3.2 Gen1 port.

Overview

4 LFF Front View – 4 LFF + optional Optical drive, Display Port, USB2.0 and SAS drives shown

1. Drive support label
2. Optical drive (optional – shown)
3. Serial number/iLO information pull tab
4. Quick removal access panel
5. Option: Display port & USB 2.0 port bundle Kit (blank shown)
6. USB 3.2 Gen1 port
7. iLO Service Port
8. Power On/Standby button and system power LED
9. Health LED
10. NIC status LED
11. Unit ID button/LED
12. SAS/SATA drive bays

Notes: Systems Insight Display (SID) module is not available in 4LFF CTO Server.

Overview
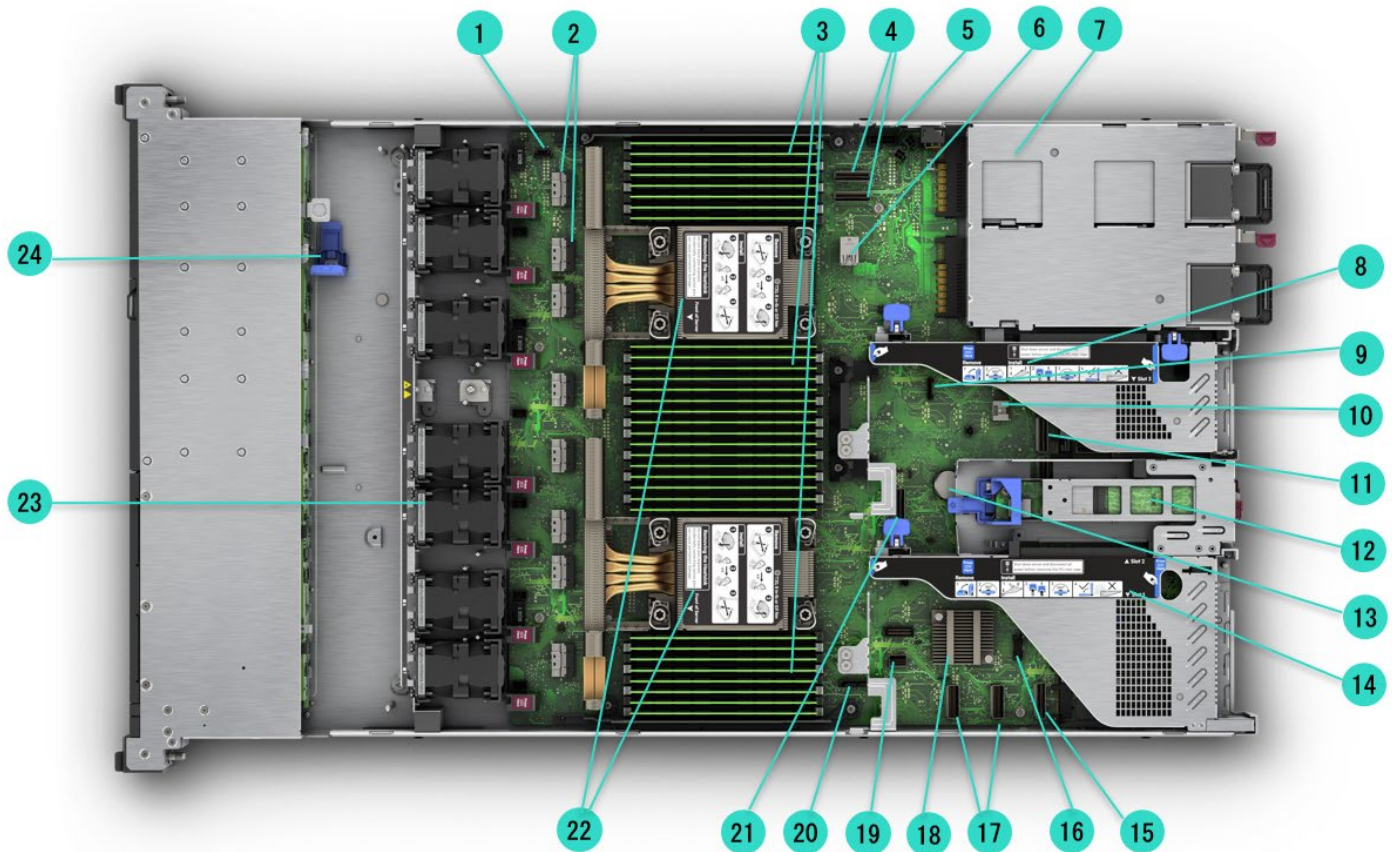
Internal View - Standard for all DL360 Gen11

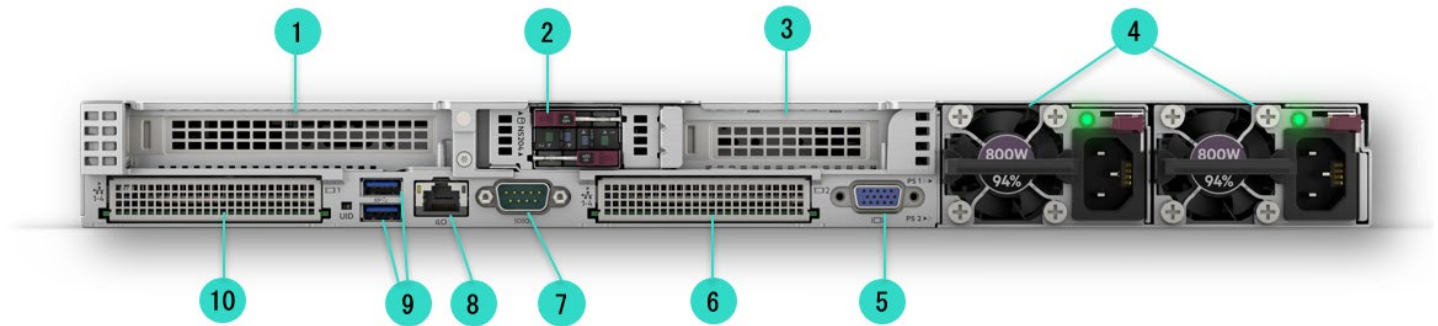1. Liquid Cooling Module connector
2. x8 SlimSAS ports (1A to 4A, 1B to 4B)
3. DDR5 DIMM Slots (fully populated 32 DIMMs shown)
4. Socket 2 MCIO ports (1 & 2)
5. Backplane Power connector
6. Internal USB port (top USB 3.2 Gen1 and bottom USB 2.0)
7. Redudant Power Supply (1 & 2 as shown)
8. Secondary (CPU 2) Riser PCIe 5.0
    - Option: Low Profile x16
    - Option: Full height x16 (lose Slot 2 on Primary Riser)
9. SID connector (optional feature, 8SFF only)
10. Energy Pack connector
11. OCP Slot port
12. HPE NS204i-u NVMe Hot Plug Boot Optimized Storage Device (optional – shown)
13. System Battry
14. Primary (CPU1) Riser PCIe 5.0
    - 1x 16 FH and 1x16 LP slots
15. OCP Slot port
16. Front Display Port and USB 2.0 connector (optional feature)
17. LP SlimSAS ports (1 & 2)
18. Chipset
19. Front I/O and USB 3.2 Gen1 connector
20. SATA Optical port
21. Socket 1 MCIO connector
22. CPU 1 and CPU 2 (shown with High Perfromance Heatsink)
23. Hot plug (dual rotor) High Performance Fan Kit (7 fans)
    - Option: Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit
24. HPE Hybrid Capacitor or HPE Storage Battery holder

Overview

Rear View - Standard for all DL360 Gen11

1.   Slot 1 PCIe 5.0 – Full Height
2.   Slot 2 PCIe 5.0 – Low Profile*
     Notes: *Shown with optional NS204i-u Boot Device
3.   Option: Slot 3 PCIe 5.0 (Requires 2nd processor)
     - Low Profile and Full Height options
4.   Redundant Power Supply (1 & 2 as shown)
5.   Video (VGA) port

6.   OCP 3.0 Slot 2: x16 PCIe 5.0[1,2] (Requires 2nd Processor)
7.   Serial port (optional - shown)
8.   iLO Management Port
9.   USB 3.2 Gen1 Ports
11. OCP 3.0 Slot 1: x16 PCIe 5.0[1]

Notes:
- [1] Supports various NICs, up to 200GbE.
- [2] Or supports each slot with x8 PCIe 5.0 under one processor, with the selection of "P51911-B21, CPU1 to the "OCP2 x8 Enablement Kit".

What's New

- All new DL360 Gen11 server
- New 4th Generation Intel® Xeon® Scalable Processors
- New PCIe 5.0 support
- New HPE DDR5 SmartMemeory – Registered (RDIMM), 4800MT/s
- New HPE Gen11 Storage Controllers
- New HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device
- New HPE Storage SSD and HDD support
- New HPE iLO6 support
- Nvidia A2 GPU support[1]

Notes: [1] GPGPU can be configured, priced, and quoted. However, this server/GPGPU combination is not orderable until Q2 2023.

Platform Information

Form Factor

- 1U rack

Chassis Types

- 8 SFF drive bays: x1 24G SAS/SATA/U.3 NVMe or x4 24G SAS/SATA/U.3 NVMe
  - With options for additional 2 SFF drive bays: x4 24G SAS/SATA/U.3 NVMe
  - With options for additional optical drive, 1x USB3.2 Gen1 and 1x Display Port
- 4 LFF drive bays: x1 12G SAS/SATA
  - With additional options for optical drive, 1x USB3.2 Gen1, and 1x Display Port

Overview

System Fans

- Choice of Standard Fan Kit (to be ordable in Q2 2023), Performnace Fan Kits and Closed-loop Liquid Cooling Heatsink Fan FIO Bundle Kit

Notes:

- Dual rotor hot plug Standard Fan kit (includes 5 fans) for processors below 185W TDP, to be orderable in Q2 2023.
- Dual rotor hot plug High Performance Fan Kit available (includes 7 fans), for one or two processors from 186W to 270W TDP
- The DL360 Gen11 will support up to 7 fans with fan redundancy built in. One fan rotor failure will place server in degraded mode but fully functional. Two fan rotor failures could provide warning and imminent server shutdown
- Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit supports two processors go beyond 271W TDP

Standard Features

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

- The 2nd digit of the processor model number "x4xx" is used to denote the processor generation (i.e. 4 = New 4th Generation Intel® Xeon® Scalable Processors

Notes:

- All information provided here is subject to change without notice. Intel may make changes to specifications and product descriptions at any time, without notice. Please contact your Intel representative to obtain the latest Intel product specifications and roadmaps.
- For more information regarding Intel® Xeon® Scalable Processors, please see the following **http://www.intel.com/xeon**.

New 4th Generation Intel® Xeon® Scalable Processors numbering convention
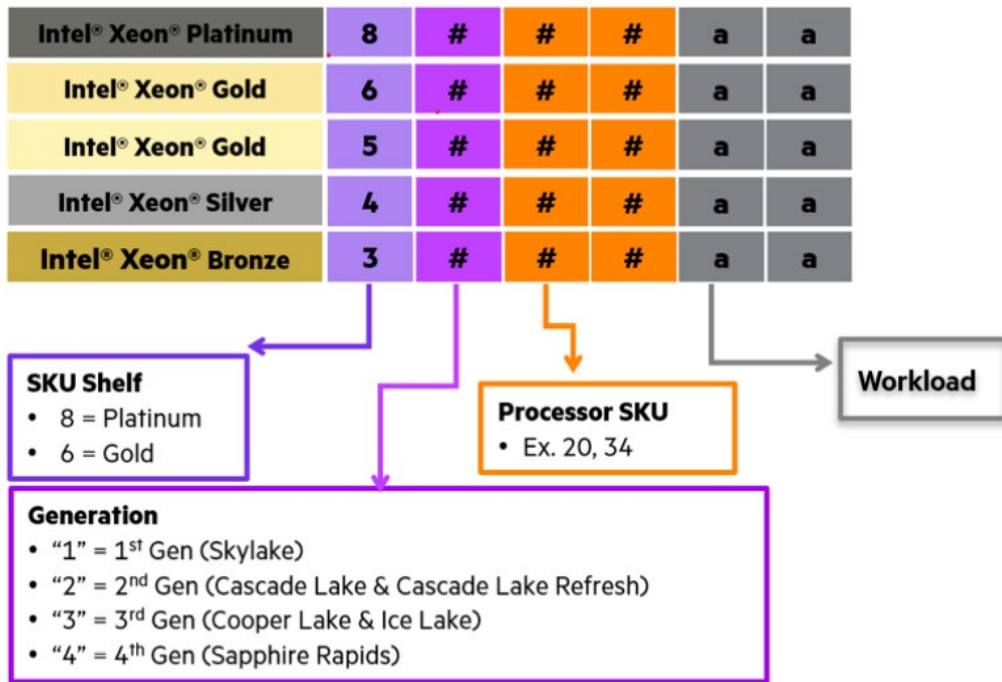
Standard Features

Workload

Workload Optimized		Built-in Accelerators*					Up to	SKU Shelf
		AMX	DLB	DSA	IAA	QAT	Socket/UPI	
P	Cloud-IaaS	v	1	1	1	1	2S/3UPI	P
V	Clous-SaaS	v	1	1	1	1	2S/3UPI, 1S	P
		v		1	1		2S/3UPI	G6
M	Media Transcode	v		1	1			G6
H	DB and Analytics	v	4	4	4	4	8S/4UPI	P
		v	2	1	1	2	4S/3UPI	G6
N	Network /5G /Edge (High TPT /Low latency)	v	4	4	0	4	2S	p
		v	2	1	0	2	2S, 1S	G6, G5
S	Storage & HCI	v	4	4	0	4	2S/4UPI	G6
		v	2	1	0	2	2S/3UPI	G5
T	Long-life use/ Hight Tcase	v		1			2S/2UPI	S
U	1-Socket*	v		1			1S	G6
Q	Liquid Cooling	v		1			2S/3UPI	P, G6
+	Feature +	v	1	1	1	1		

- AMX: Available on all Silver to Platinum SKUs;
- * Not available on 1S Bronze SKUs.
- DSA: 1 device available on all SPR SKUs.
- 1 to 4 Accelerator devices/instances supported on select SPR SKUs
- "Y" designator used for general SKU stack to highlight SST-PP feature enabled. WL optimized SKUs may have SST-PP enabled as well but will not have this designator. Please refer to WL specific details in their respective section. 1S Workload optimized SKUs will have a "1" digit before their respective letter (i.e. XXX1N or XXX1V)

New 4th Generation Intel® Xeon® Scalable Processors		
Processor Suffix	**Description**	**Offering**
H	DB and Analytics	Highest core counts. Database and Analytics usages benefit from DSA and IAA accelerators.
M	Media Transcode	Optimized around AVX frequencies to deliver better performance/watt around Media, AI, and HPC workloads.
N	Network/5G/Edge (Hight TPT/Low latency)	Designed for NFV and networking workloads, such as: L3 forwarding, 5G UPF, OVS DPDK, VPP FIB router, VPP IPsec, web server/NGINX, vEPC, vBNG, and vCMTS.
S	Storage and HCI	Optimized for Storage UMA use cases with increased UPI Bandwidth for vs Mainline SKUs.
P	Cloud - IaaS	Designed for cloud IaaS environments to deliver higher frequencies at constrained TDPs.
Q	Liquid Cooling	Liquid cooled processors with higher frequency and performance at same TDP.
U	One Socket Optimized	Optimized for targeted platforms adequately served by the cores, memory bandwidth and IO capacity. Available from a single processor configuration.
V	Cloud- SaaS	Optimized for orchestration efficiency that delivers higher core counts and VMs per rack.
Y	Speed Select	Intel® SST-PP increases base frequency when fewer cores are enabled. Allows greater flexibility, deployment options and platform longevity.

Notes:

− Covers the Intel public offering only.

− New Built-in Accelerators:

    ο   1 to 8 socket support

Standard Features

- o   Intel® Data Streaming Accelerator (DSA)
- o   Intel® Dynamic Load Balancer (DLB)
- o   Intel® Quick Assist Technology (QAT)
- o   Intel® In-Memory Analytics Accelerator (IAA)
- − Increased memory bandwidth with 8 channels DDR5, up to 4800 MT/s, 4.0TB maximum RAM per socket.
- − Increased I/O bandwidth up to 80 PCIe 5.0 lanes per socket, and new Compute Express Link (CXL).
- − Built-in AI Acceleration: Intel® Advanced Matrix Extension (AMX)
- − Hardware-enhanced Security: Enhanced Intel® Software Guard Extensions (SGX) – with new cryptographic memory integrity
- − Increaed Multi-Socket Bandwidth with new UPI2.0 (up to 16GT/s) with maximum 4 UPI Links
- − New FlexBus I/O Interface PCIe5.0 + CXL

4th Generation Intel® Xeon® Scalable Processor Family (Platinum)							
Intel® Xeon® Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR5**	**SGX Enclave size**
Platinum 8480+ Processor	2.0 GHz	56	105 MB	350W	4	4800 MT/s	512 GB
Platinum 8470 Processor	2.0 GHz	52	105 MB	350W	4	4800 MT/s	512 GB
Platinum 8470Q Processor	2.1 GHz	52	105 MB	350W	4	4800 MT/s	512 GB
Platinum 8470N Processor	1.7 GHz	52	105 MB	300W	4	4800 MT/s	128 GB
Platinum 8468 Processor	2.1 GHz	48	105 MB	350W	4	4800 MT/s	512 GB
Platinum 8468V Processor	2.4 GHz	48	97.5 MB	330W	3	4800 MT/s	128 GB
Platinum 8460Y[1]+[2] Processor	2.0 GHz[4] 2.1 GHz 2.3 GHz	40[4] 36 32	105 MB	300W[4]	4	4800 MT/s	128 GB
Platinum 8458P Processor	2.7 GHz	44	82.5 MB	350W	3	4800 MT/s	512 GB
Platinum 8452Y[1] Processor	2.0 GHz[4] 1.9 GHz 2.1 GHz	36[4] 32 24	47.5 MB	300W[4] 270W 270W	3	4800 MT/s	128GB

Notes:

- − One or two processor(s) with TDP equal to or greater than 186W through 270W require High Performance Heatsink Kit (P48905-B21) and High Performance Fan Kit (P48908-B21)
- − Two processors with TDP equal or greater than 271W require Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit (P48906-B21)
- − [1]Supports Intel® Speed Select Performance Profile (SST-P), even though not being a "Y" processor.
- − [2] +: Feature Plus: Support AMX, DLB, DSA, IAA and QAT additionally

4th Generation Intel® Xeon® Scalable Processor Family (Gold)							
Intel® Xeon® Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**SGX Enclave size**
Gold 6354S Processor	2.2 GHz	32	60 MB	270W	4	4800 MT/s	128 GB
Gold 6430 Processor	2.1 GHz	32	60 MB	270W	3	4400 MT/s	128 GB
Gold 6414U Processor[1]	2.0 GHz	32	60 MB	250W	N/A	4800 MT/s	128 GB

Notes:

- − [1]Single socket capable, no dual socket support
- − One or two processor(s) with TDP equal to or greater than 186W through 270W require High Performance Heatsink Kit (P48905-B21) and High Performance Fan Kit (P48908-B21)
- − Two processors with TDP equal or greater than 271W require Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit (P48906-B21)

Standard Features

Chipset
Intel® C741 Chipset (Code Name: Product formerly Emmitsburg)
Notes: For more information regarding Intel® chipsets, please see the following URL:
https://www.intel.com/content/www/us/en/products/chipsets/server-chipsets.html

System Management Chipset
HPE iLO 6 ASIC
Notes: Read and learn more in the **iLO QuickSpecs**.

Memory

Type	HPE DDR5 SmartMemory	Registered (RDIMM)
DIMM Slots Available	32	16 DIMM slots per processor, 8 channels per processor, 2 DIMMs per channel
Maximum capacity (RDIMM)	8.0 TB	32 x 256 GB RDIMM @ 4800 MT/s

Notes:
- All processors support up to 4TB memory per socket.
- The maximum memory speed is limited by the processor selection.
- To realize the performance memory capabilities listed in this document, HPE DDR5 SmartMemory is required.
- For additional information, please visit the **HPE Memory QuickSpecs and Technical White Papers** or **HPE DDR5 SmartMemory QuickSpecs**.

Memory Protection

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

Online Spare
Memory online spare mode detects a rank that is degrading and switches operation to the spare rank.
Notes: For more information see our **Memory RAS feature technical whitepaper**.

Expansion Slots

Primary GPU Riser					
Expansion Slots #	Technology	Bus Width	Connector Width	Processor	Slot Form Factor
1	PCIe 5.0	x16	x16	CPU 1	Full-height Half-length, up to 9.5" length
2	PCIe 5.0	x16	x16	CPU 1	Low Profile, up to 9.5" length

Notes: The specifications above correspond with the default primary butterfly riser, which comes with CTO chassis

Secondary Riser*					
Expansion Slots #	Technology	Bus Width	Connector Width	Processor	Slot Form Factor
3	PCIe 5.0	x16	x16	CPU 2	Low Profile or Full-height, up to 9.5" length

Notes:
- If Secondary riser is selected, then 2 Processor must be selected.
- If secondary FH riser is installed, then primary PCIe Slot #2 cannot be used, maximum 2 quantity of PCIe cards can be selected.
- If secondary FH riser is not selected, then maximum 1 quantity of FH PCIe cards can be selected.

Standard Features

- If secondary riser is not selected and "NS204i-u Rear Cbl Kit" is not selected, then maximum 2 quantity of PCIe cards can selected.
- If secondary riser is not selected and "NS204i-u Rear Cbl Kit" is selected, then maximum 1 quantity of PCIe cards can selected.
- If Secondary LP riser and "NS204i-u Rear Cbl Kit" are selected, then maximum 2 quantity of PCIe cards can selected.
- If Secondary LP riser is selected and "NS204i-u Rear Cbl Kit" is not selected, then maximum 3 quantity of PCIe cards can selected.

Internal Storage Devices

- **Optical Drive**
  Available on 8 SFF and 4 LFF CTO Servers as an option (DVD-ROM or DVD-RW)
- **Hard Drives**
  None ship standard

Storage Controllers

NVMe Boot Devices
- HPE NS204i-u NVMe Hot Plug Boot Optimized Storage Device (P48183-B21)

Note: For additional information, please see the **HPE OS Boot Device QuickSpecs**

Essential RAID Controllers
- HPE Smart Array E208e-p SR Gen10 Controller

Performance RAID Controllers
- HPE MR216i-p Gen11 x16 Lanes without Cache PCI SPDM Plug-in Storage Controller
- HPE MR216i-o Gen11 x16 Lanes without Cache OCP SPDM Storage Controller
- HPE MR408i-o Gen11 x8 Lanes 4GB Cache OCP SPDM Storage Controller
- HPE MR416i-o Gen11 x16 Lanes 8GB Cache OCP SPDM Storage Controller
- HPE MR416i-p Gen11 x16 Lanes 8GB Cache PCI SPDM Plug-in Storage Controller
- HPE SR932i-p Gen11 x32 Lanes 8GB Wide Cache PCI SPDM Plug-in Storage Controller[1,2]

Notes:
- PE80xx NVMe drives are not supported.
- [1]Requires x16 physical and electrical riser slot
- [2]If second controller is required, must select secondary FH riser
- For additional details, please see: **HPE Compute MR Gen11 Controllers QuickSpecs**

Standard Features

Maximum Storage

Storage	Capacity	Configuration
Hot Plug SFF SAS HDD	24.0 TB	8+2 x 2.4 TB (with optional 2 SFF cage on UMB)
Hot Plug SFF SATA HDD	20.0 TB	8+2 x 2.0 TB (with optional 2 SFF cage on UMB)
Hot Plug SFF SAS SSD	15.3 TB	8+2 x 15.36 TB (with optional 2 SFF cage on UMB)
Hot Plug SFF SATA SSD	76.8 TB	8+2 x 7.68 TB (with optional 2 SFF cage on UMB)
Hot Plug SFF U.3 NVMe PCIe SSD	153.6 TB	8+2 x 15.36 TB (with optional 2 SFF cage on UMB)
Hot Plug LFF SAS HDD	80.0 TB	4 x 20 TB
Hot Plug LFF SATA HDD	80.0 TB	4 x 20 TB
Hot Plug LFF SAS SSD	30.72 TB	4 x 7.68 TB
Hot Plug LFF SATA SSD	3.84 TB	4 x 960 GB
NVMe M.2 SSD	960 GB	2 x 480 GB (shipped with optional PE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device)

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

HPE iLO 6 on system management memory
- 32 MB Flash
- 8 Gbit DDR4 with ECC protection

Power Supply
- HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
    Notes: Available in 94% and 96% efficiency.

- HPE 1000W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit
  Notes: Available in 96% efficiency.

- HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
  Notes:
    - Available in 94% efficiency.
    - 1600W Power supplies only support high line voltage (200 VAC to 240 VAC).

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen11 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

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

To review the power requirements for your selected system, please visit the HPE Power Advisor located at: **HPE Power Advisor**

For information on power specifications and technical content visit **HPE Server power supplies.**

Standard Features

Interfaces

Serial	1 port - Optional
Video	1 Front - Display port (optional) 1 Rear - VGA port (standard on all models) **Note:** Both ports are not active simultaneously.
Network Ports	None. Choice of OCP or stand up card, supporting a wide arrange of NIC adapters. BTO models will come pre-selected with a primary networking card.
HPE iLO Remote Mgmt Port at rear	1 GbE Dedicated
Front iLO Service Port	1 standard
MicroSD Slot	Optional via HPE 32GB microSD RAID1 USB Boot Device **Notes:** MicroSD cards are not hot-pluggable, server must be powered down before removal.
USB	5 standard on all models: 1 front, 2 rear, 2 internal +1 optional at the front - Front: 1 USB 3.2 Gen1 + iLO service port - Rear: 2 USB 3.2 Gen1 - Internal: 1 USB 3.2 Gen1 + 1 USB 2.0 - Optional: 1 Front USB 2.0
Systems Insight Display (SID)	Optional for 8SFF CTO Server model

Operating Systems and Virtualization Software

Certification complete when shipment start
- **Windows Server 2019 (L TSC)**: Standard (S), Datacenter (D), Hyper-V (H), Essentials (E)
- **Windows Server 2022 (L TSC)**: Standard (S), Datacenter (D), Essentials (E)
- **VMware ESXi** 7.0 U3 P06 (minimum*)
- **VMware ESXi** 8.0 EP1 (minimum*)

Certification to be ready later as Post-launch
- **Red Hat Enterprise Linux (RHEL) (64 bit, includes KVM):** 8.6 rebuild
- **Red Hat Enterprise Linux (RHEL) (64 bit, includes KVM):** 9.0 rebuild
- **SUSE Linux Enterprise Server (SLES) (64 bit, includes KVM & Xen) :** 15 SP4
- **Ubuntu minimum* Certification:** 22.04
- **Oracle Linux:** 9.0 (UEK 7)
- **Citrix Hypervisor**: 8.2 + HWE patch (minimum*)

Notes:
- *Minimum Certification: Minimum certification is defined as the Linux OS certified at initial release of the platform. Minor Linux OS updates under test will not require platform recertification.
- (Ex. Minimum Certification: RHEL 8.6/SLES15 SP4 - certified; Test: RHEL 8.7/SLES15 SP5 – no recertification required).
- For Windows Server and Microsoft Hyper-V Server, will be certified when shipment is available
- RHEL, SLES, Oracle Linux and Ubuntu will be certified at a later timeframe.
- 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, please visit **Server Operating Systems and Virtualization Software**

Standard Features

Industry Standard Compliance

- ACPI 6.4 Compliant
- PCIe 5.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- VGA
- Display Port
  Notes: This support is on the optional Universal Media Bay.
- USB 3.2 Gen1 Compliant
- USB 2.0 Compliant (only on optional Universal Media Bay and embedded internal USB)
- Energy Star
- SMBIOS 3.4
- Redfish API
- IPMI 2.0
- Secure Digital 4.0
- Embedded TPM 2.0 support
- Advanced Encryption Standard (AES)
- Triple Data Encryption Standard (3DES)
- SNMP v3
- TLS 1.2
- DMTF Systems Management Architecture for Server Hardware Command Line (SMASH CLP)
- Active Directory v1.0
- ASHRAE A3/A4
  Notes:
  - For additional technical, thermal details regarding ambient temperature, humidity, and feature support, please visit **http://www.hpe.com/servers/ashrae**
  - At Standard Operating Support conditions, there is no time limitation for operating the servers in ASHRAE Class A2 conditions, unless otherwise specified in the applicable product information.
- EU Lot9
  Notes: European Union (EU) eco-design regulations for server and storage products, known as Lot 9, establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen11 servers are compliant with Lot9 requirements.
  Please visit: **https://www.hpe.com/us/en/about/environment/msds-specs-more.html** for more information regarding HPE Lot 9 conformance.
- UEFI (Unified Extensible Firmware Interface Forum) 2.7
  Notes: UEFI is the default for the DL360 Gen11.

HPE Server UEFI

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 Gen11 servers have a UEFI Class 2 implementation to support UEFI 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
- Embedded UEFI Shell
- Operating system specific functionality
- Mass Configuration Deployment Tool using iLO RESTful API that is Redfish API Conformant
- Support for > 2.2 TB (using GPT) boot drives

Standard Features

- PXE boot support for IPv6 networks
- USB 3.0 Stack
- Workload Profiles for simple performance optimization

UEFI Boot Mode only
- TPM 2.0 Support
- iSCSI Software Initiator Support.
- NVMe Boot Support
- HTTP/HTTPs Boot support as a PXE alternative.
- Platform Trust Technology (PTT) can be enabled.
- 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.

HPE GreenLake for Compute Ops Management

HPE is intelligently transforming compute management with a completely new As a Service experience that delivers greater security, simplicity, and efficiency. Discover a completely modernized compute management experience delivered through HPE GreenLake that securely streamlines operations from edge-to-cloud, and automates key lifecycle tasks (onboard, update, manage and monitor HPE servers), bringing the agility and greater efficiencies to wherever compute devices reside via a unified single browser-based interface.

Compute Ops Management is built on a unique cloud-native architecture that abstracts, manages and controls HPE servers regardless of physical location. The management application resides in the HPE GreenLake cloud platform (access via **https://console.greenlake.hpe.com**) and leverages the HPE GreenLake architecture, security, and unified operations.

Each HPE ProLiant Gen11 rack, tower and micro server will include a 3-year subscription to HPE GreenLake for Compute Ops Management - Standard Tier. Upgrades to Standard Tier 5 Year term or to an Enhanced Tier, 3 or 5 Year term, subscription can be made at time of order. Upgrades to Enhanced tier or OneView can also be made at any time.

For more information visit the HPE GreenLake Ops Management QuickSpecs:
https://www.hpe.com/psnow/doc/a50004263enw

Embedded Management

HPE Integrated Lights-Out (HPE iLO)
Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO.
Learn more at **http://www.hpe.com/info/ilo.**

UEFI
Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI).
Learn more at **http://www.hpe.com/servers/uefi**.

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

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

Standard Features

Server Utilities

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

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

Smart Update
Keep your servers up to date with the HPE Smart Update solution by using Smart Update Manager (SUM) to optimize the firmware and driver updates of the Service Pack for ProLiant (SPP).
Learn more at **https://www.hpe.com/us/en/servers/smart-update.html**.

iLO Amplifier Pack
Designed for large enterprise and service provider environments with hundreds of HPE servers, the iLO Amplifier Pack is a free, downloadable open virtual application (OVA) that delivers the power to discover, inventory and update Gen8, Gen9, Gen10 and Gen10 Plus HPE servers at unmatched speed and scale. Use with an iLO Advanced License to unlock full capabilities.
Learn more at **http://www.hpe.com/servers/iLOamplifierpack**.

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

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

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

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

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

Standard Features

Security

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

HPE Trusted Platform Module

HPE Trusted Platform Module 2.0 is included on Pre-Configured models and can be enabled and disabled using the BIOS.
Notes: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates, and encryption keys.

Warranty

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

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

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

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

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**.

Accelerator and GPGPU Information
Hewlett Packard Enterprise supports various accelerators on select HPE Proliant servers to support different workloads. The accelerators enable seamless integration of GPU computing with HPE ProLiant servers for high-performance computing, large data center graphics, deep learning and virtual desktop deployments. These accelerators deliver all of the standard benefits of GPU computing while enabling maximum reliability and tight integration with system monitoring and management tools such as HPE Insight Cluster Management Utility.

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

HPE G2 Advanced and Enterprise Racks are perfect for the server room or today's modern data center with enhanced airflow and thermal management, flexible cable management, and a 10 year Warranty to support higher density computing.
HPE G2 PDUs offer reliable power in flexible form factors that operate at temperatures up to 60°, include color-coded outlets and load segments and a low-profile design for optimal access to the rack and support for dense rack environments.
HPE Uninterruptible Power Systems are cost-effective power protection for any type workload. Some UPSs include options for remote management and extended runtime modules so 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

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

Consume IT on your terms
HPE GreenLake brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake accelerates digital transformation in a distributed, edge-to-cloud world.
- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

Managed services to run your IT operations
HPE GreenLake Management Services provides services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

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

HPE Pointnext Complete Care
HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:
- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

https://www.hpe.com/services/completecare

Service and Support

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://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=5981-9356enw

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 include the installation of one supported operating system type (Windows® or Linux).

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

HPE Factory Express for Servers and storage
HPE Factory Express offers configuration, customization, integration, and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped, and deployed.
Factory Express offers service packages for simple configuration, racking, installation, complex configuration, and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HPE products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAxxxx3PAR suite, XP, rackable tape libraries and configurable network switches.

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

HPE Education Services
Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment. **http://www.hpe.com/ww/learn**

Service and Support

HPE Support Center
The HPE Support Center is a personalized online support portal with access to information, tools, and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers.
Learn more **http://www.hpe.com/support/hpesc**.

The HPE Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.
HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.
Notes: *HPE Support Center Mobile App is subject to local availability.

For more information: **http://www.hpe.com/services**.
Notes: HPE ProLiant DL360 Gen11 Server is covered under the HPE Service Contract applied to the HPE ProLiant Server. No separate HPE support services need to be purchased.

Warranty and Support Services will extend to include HPE options configured with your server or storage device. The price of support service is not impacted by configuration details. HPE sourced options that are compatible with your product will be covered under your server support at the same level of coverage allowing you to upgrade freely. Installation for HPE options is available as needed. To keep support costs low for everyone, some high value options will require additional support. Additional support is only required on select high value workload accelerators, fiber switches, InfiniBand, and UPS batteries over 12KVA. See the specific high value options that require additional support **here**.

Parts and Materials
Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

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

Configuration Information

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

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

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

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

This section lists some of the steps required to configure a Factory Integrated Model.
To ensure valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator.
Contact your local sales representative for information on configurable product offerings and requirements.
Factory Integrated Models must start with a CTO Server.
FIO indicates that this option is only available as a factory installable option.
Some options may not be integrated at the factory. Contact your local sales representative for additional information

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

CTO Server models do not include embedded LOM. To enable networking capability please select a validated alternative NIC   - OCP or PCIe- from the Core Options section.

CTO Server	HPE DL360 Gen11 4LFF CTO Server	HPE DL360 Gen11 8SFF CTO Server
SKU Number	P52498-B21	P52499-B21
TAA SKU*	P52498-B21#GTA	P52499-B21#GTA
HPE Trusted Supply Chain	Optional: P36394-B21	
Processor	Not included as standard	
DIMM Slots	32-DIMM slots	
DIMM Blanks	DIMM Blanks are required, embedded and shipped as default in all CTO Servers	
Storage Controller	Choice of HPE ProLiant Gen11 MR and SR PCIe and OCP plug-in Controller.	
PCIe Slots	PCIe 5.0. One standard primary/butterfly riser: 2 slots as Slot 1 & Slot 2 (1 x16 FH / 1 x16 LP) and 4 x8 front NVMe connectors Optional: Slot 3 in 1 x16 FH or LP slot	
OCP3.0 Slots	PCIe 5.0: 2 slots (1x16/ 1x16)	
Drive Cage - included	4 LFF – default backplane x1 12G SAS/SATA Low Profile (LP) drive support	8SFF – Optional backplanes in choice of: x1 TriMode 24G SAS/SATA/U.3 NVMe or x4 TriMode 24G SAS/SATA/U.3 NVMe,

Configuration Information

		must be selected if internal drives needed Basic carrier (BC) drive support
Network Controller	"BCM 5719 1Gb 4p BASE-T OCP Adptr" to be defaulted in the configurator at OCP Slot 2[1]. Customer is allowed to remove and select other cards (PCIe of OCP) from Networking OR InfiniBand OR Smart IO (HW) OR Storage Offload category. Choice of OCP3.0 or stand-up cards for primary networking selection plus additional/optional stand-up networking adapters. **Notes:** — No embedded networking from motherboard. — [1] In 1 Processor configuration, "CPU1 to OCP2 x8 Enablement Kit" will be selected as default as OCP NIC is pre-selected at OCP Slot 2, to be defaulted in the configurator if 1 Processor is selected. Customer is allowed to remove if OCP NIC is not selected but need to be replaced by a PCIe standup NIC. Meanwhile, the "CPU1 to OCP2 x8 Enablement Kit" will be removed. — [1] "CPU2 to OCP2 x8 Enablement Kit" or "CPU2 to OCP2 x16 Enablement Kit" must be selected if OCP NIC is selected in 2 Processors configuration. "CPU2 to OCP2 x8 Enablement Kit" to be defaulted in the configurator if 2 Processors are selected. User should be allowed to remove "CPU2 to OCP2 x8 Enablement Kit" and should be forced select "CPU2 to OCP2 x16 Enablement Kit" if OCP NIC is selected. Customer is allowed to remove if OCP NIC is not selected but need to be replaced by a PCIe standup NIC. Meanwhile, the "CPU2 to OCP2 x8 Enablement Kit" will be removed.	
Fans	Choice of • 5 Standard Fans for one processor below 185W TDP (shipment available in Q2 2023) • Additional 2 Standard Fans for 2nd Processor, • High Performance Fan Kits and • Closed-loop Liquid Cooling Heat Sink Fan Bundle FIO Kit **Notes**: If Liquid Cooling HeatSink Fan FIO Bundle Kit is selected, then any Fans (Standard Fan Kit or High Perfformane Fan Kit) cannot be selected.	
Management	HPE iLO with Intelligent Provisioning (standard) HPE GreenLake for Compute Ops Management (a 3-year subscription included) Optional: iLO Advanced and OneView	
Video Output	Rear: 1 VGA Optional: • 1 Front Display Port (standalone in 8SFF; USB2.0+ Display Port bundle kit in 4LFF), • 1 Rear Serial Port	
USB	Front: 1 USB 3.2 Gen1 + iLO service port Rear: 2 USB 3.2 Gen1 Internal: 1 USB 3.2 Gen1 + 1 USB2.0 Optional: 1 Front USB 2.0	
Security	TPM2.0 (Trusted Platform Module) embedded **Notes:** Disabled on shipments to China	
Rail Kit	Optional Easy Install rails and CMA **Notes:** Server does not support shelf mounted rail kits ("L" brackets).	
Form Factor	1U Rack	
Warranty	3-year parts, 3-year labor, 3-year onsite support with next business day response.	

Notes:
— All DL360 Gen11 CTO Server models require a networking selection of a network adapters in the "HPE Networking" section.
— HPE Trusted Supply Chain (P36394-B21) is an optional security upgrade intended for agencies and regulated industries needing enhanced security and compliance needs. Applying this option to a DL360 Gen11 CTO server ensures it is built in

Configuration Information

the USA in a secured facility by vetted HPE personnel assigned to the manufacturing processes. A multitude of checkpoints/inspections for malicious microcode and counterfeit parts are performed throughout the server build, and additional safeguards are put in place against cyber-exploits throughout the server lifecycle. The HPE ProLiant DL360 Gen11 is re-branded as a HPE ProLiant DL360T Gen11 to denote the HPE Trusted Supply Chain security enhancements. The DL360T is Trade Agreement Act (TAA) compliant. See "HPE Security" section within this document for more detail and learn more at **http://www.hpe.com/security**

— *HPE offers multiple Trade Agreement Act (TAA) compliant configurations to meet the needs of US Federal Government customers. These products are either manufactured or substantially transformed in a designated country. TAA compliance is only provided when HPE options are included as part of factory integrated orders (CTO).

— All CTO servers are Energy Star compliant, exclude configuration with GPU Must select Processor, Memory and Power Supply in all CTO models. Backplane to be further selecetd in 8SFF CTO Model.

— Minimum One card (PCIe or OCP) must be selected from Networking OR InfiniBand OR Smart IO (HW) OR Storage Offload category.

— "BCM 5719 1Gb 4p BASE-T OCP Adptr" to be defaulted in the configurator. Customer is allowed to remove and select other cards (PCIe of OCP) from Networking OR InfiniBand OR Smart IO (HW) OR Storage Offload category

— If the 8SFF CTO Model is selected with Rack, then " HPE Easy Install Rail 3 Kit" (P52341-B21) must be selected.

— If the 4LFF CTO Model is selected with Rack, then " HPE Easy Install Rail 5 Kit " (P52343-B21) must be selected.

— Supported Rail kit to be defaulted for CTO Model in the configurator. But customer can deselect the Rail kit if the CTO Model is selected without Rack (Standalone server).

Step 2: Choose Core Options

- Mixing of 2 different processor models is not supported.
- CTO server will populate necessary heatsink and fan kits per system thermal requirements and processor models
- DIMM Blanks are pre-selected as default, minium Q'ty 1 of memory need to be selected in 1 Processor configuration, and minium Q'ty 2 of memory need to be selected in 2 Processor configuration
- Choice of storage controllers and OS Boot Device
- 4LFF backplane and cage are pre-selected, in 4LFF CTO Server; choice of backplanes in 8SFF CTO server.
- Choice of ODD drive and storage device
- Factory Configuration Settings
- Choice of riser card for PCIe5.0 slots enablement
- Choice of OS Boot Device
- Choice of Networking solution
- Choice of Power and Cooling solution
- Choice of Security Options
- Software as a Service Management : Choice of HPE GreenLake for Compute Ops Management and Choice of HPE OneView

Step 3: Choose Additional Options

- Choice of Accessories
- Choice of GPGPU (shipment will be available in Q2 2023)
- Choice of Embedded Management
- Choice of Racks
- Choice of PDUs
- Choice of UPS
- Choice of USB and SD Options
- Choice of Enterprise Mainstream Flash Media Kits for Memory Cards

Core Options

Choose Core Options

Processor

Please select one or two matching processors.
For example: for a single Xeon-Platinum 8470 processor configuration select 1x P49606-B21. If dual Xeon-Platinum 8470 processor configuration, select 2x P49606-B21.

Notes:

– Mixing of 2 different processor models is not supported.
– CTO server will populate necessary fan kits per system thermal requirements and processor models, mnimum as 5 standard fans. Dual processor configurations require 7 fans, either standard or high performance.
– Processors with Wattage equal to or greater than 186W require High Performance Heatsink (P48905-B21).
– Processors with Wattage equal to or greater than 186W require High Performance Fan Kit (P48908-B21).
– If Processor Wattage is more than 271W, then Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21).
– If 8470Q Processor is selected, then SAS drive/ NVMe drive cannot be selected in the server. Only 8xSATA HDD can be selected.

4th Generation Intel Xeon-Platinum

Notes: All SKUs below ship with processor only. Adequate fans and heatsinks must be selected.

Intel Xeon-Platinum 8480+ 2.0GHz 56-core 350W Processor for HPE   P49607-B21

Notes:

– Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21).
– If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

Intel Xeon-Platinum 8470 2.0GHz 52-core 350W Processor for HPE   P49606-B21

Notes:

– Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21)
– If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

Intel Xeon-Platinum 8470Q 2.1GHz 52-core 350W Processor for HPE   P49609-B21

Notes:

– Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21).
– If 8470Q Processor is selected, then SAS drive/ NVMe drive cannot be selected in the server. Only 8xSATA drive can be selected.
– If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

Intel Xeon-Platinum 8470N 1.7GHz 52-core 300W Processor for HPE   P49649-B21

Notes:

– Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21).
– If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

Intel Xeon-Platinum 8468 2.1GHz 48-core 350W Processor for HPE   P49605-B21

Notes:

– Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21).
– If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

Core Options

Intel Xeon-Platinum 8468V 2.4GHz 48-core 330W Processor for HPE   P49631-B21
Notes:
- Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21).
- If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

Intel Xeon-Platinum 8460Y+ 2.0GHz 40-core 300W Processor for HPE   P49604-B21
Notes:
- Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21)
- If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

Intel Xeon-Platinum 8458P 2.7GHz 44-core 350W Processor for HPE   P49632-B21
Notes:
- Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21).
- If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

Intel Xeon-Platinum 8452Y 2.0GHz 36-core 300W Processor for HPE   P49616-B21
Notes:
- Requires Closed-loop LC Heat Sink Fan Bundle FIO Kit must be selected (P48906-B21).
- If the Graphics (GPU) Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected with 25C ambient temperature.

4th Generation Intel Xeon-Gold

Notes: All SKUs below ship with processor only. Adequate fans and heatsinks must be selected.

Intel Xeon-Gold 6454S 2.2GHz 32-core 270W Processor for HPE   P49654-B21
Notes: Requires High Performance Heatsink (P48905-B21) and High Performance Fan Kit (P48908-B21).

Intel Xeon-Gold 6430 2.1GHz 32-core 270W Processor for HPE   P49614-B21
Notes: Requires High Performance Heatsink (P48905-B21) and High Performance Fan Kit (P48908-B21)..

Intel Xeon-Gold 6414U 2.0GHz 32-core 250W Processor for HPE   P49619-B21
Notes:
- Max 1.
- Requires High Performance Heatsink (P48905-B21) and High Performance Fan Kit (P48908-B21).

Heatsinks

For more details, plseae refer to the support matrix in Power and Cooling solutions (Additional Option section)

HPE ProLiant DL360 Gen11 High Performance Heat Sink Kit   P48905-B21
Notes:
- If Processor Wattage is more than 185W and less than or equal to 270W, then "Performance Heatsink" and "Performance Fan" must be selected.
- Quantity of Processor and Quantity of Heatsink must match.
- If Liquid Cooling HeatSink is selected, then "High Perf Heat Sink" cannot be selected.

HPE ProLiant DL360 Gen11 Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit   P48906-B21:
Notes:
- Maximum Q'ty as one
- If Processor Wattage is more than 185W and less than or equal to 270W, then "Performance Heatsink" and "Performance Fan" must be selected.
- If Processor Wattage is more than 270W, then LC Heat Sink Kit must be selected.

Core Options

- If Liquid Cooling HeatSink Fan FIO Bundle Kit is selected, then Minimum 2 quantity of Processor must be selected.
- If Liquid Cooling HeatSink Fan FIO Bundle Kit is selected, then any Fans (Standard Fan Kit or High Performane Fan Kit) cannot be selected.
- If Liquid Cooling HeatSink Fan FIO Bundle Kit is selected, then "Standard heat Sink" or "High Perf Heat Sink" cannot be selected.
- The HPE DL360 Gen11 Closed-Loop Liquid Cooling Heat Sink Fan FIO Bundle kit is offerred with Standard (3/3/3) Warranty support along with the server. Customers should be able to purchase support for years (4) and (5). This Cooling Solution is subject to a Maximum Usage Limitation not to exceed (5) years and required to be replaced when this limitation has been reached. Parts and components that Hewlett Packard Enterprise determines have surpassed the standard (3) years warranty* will not be provided, repaired, or replaced under warranty coverage. Contact your local HPE sales representative for additional information.
- * or to the extended (4) or (5) years if warranty contract purcahsed.

Memory

Please select one or more memory DIMMs from below.
For new Gen11 memory population rule whitepaper and optimal memory performance guidelines, please go to:
http://www.hpe.com/docs/memory-population-rules
Server memory population rules for HPE Gen11 servers with 4th Gen Intel Xeon Scalable processors

For more information, please see the **HPE DDR5 SmartMemory QuickSpecs**

Notes:
- The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.
- Quantity of memory DIMMs selected per socket must be 1, 2, 4, 6, 8, 12 or 16.
- x8 and x4 cannot be mixed.
- 3DS and non-3DS Memory cannot be mixed.
- Mixing of different Rank Memory is not allowed if less than 16 quantity of Memory is selected for 1 Processor configuration.
- Mixing of different Rank Memory is not allowed if less than 32 quantity of Memory is selected for 2 Processor configuration.
- If different Rank Memory are mixed, then quantity of each Memory part number must be same.
- If 256GB Memory is selected, will be limited to 1P1D, thus Maximum of 8 can be selected per Processor.
- If 256GB Memory is selected, then high speed Networking/ InfiniBand card (PCIe and OCP), that is 100G or more, cannot be selected.
- Long boot time may be introduced because of DDR5 initialization takes much longer than last generation DDR4, as an industry impact. HPE ProLiant server boot times will go through multiple reboots during POST for default restore.
- If 256GB Memory is selected, will be limited using 7x performance fan or CLC fan (not allow standard fan), and limit at 25C.

Registered DIMMs DDR5 (RDIMMs)

HPE 16GB 1Rx8 PC5-4800B-R Smart Kit	P43222-B21
HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit	P43328-B21
HPE 64GB (1x64GB) Dual Rank x4 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit	P43331-B21
HPE 128GB (1x128GB) Quad Rank x4 DDR5-4800 CAS-46-39-39 EC8 Registered 3DS Smart Memory Kit	P43334-B21
HPE 256GB 8RX4 PC5-4800B-R 3DS Smart Kit	P43377-B21

Core Options

HPE DIMM blanks

HPE DDR4 DIMM Blank Kit	P07818-B21

Notes: Required, embedded and shipped as default in all CTO Servers

Storage Devices

Hardware Storage Controller

HPE SR932i-p Gen11 x32 Lanes 8GB Wide Cache PCI SPDM Plug-in Storage Controller	P47184-B21
HPE MR416i-p Gen11 x16 Lanes 8GB Cache PCI SPDM Plug-in Storage Controller	P47777-B21
HPE MR416i-o Gen11 x16 Lanes 8GB Cache OCP SPDM Storage Controller	P47781-B21
HPE MR216i-p Gen11 x16 Lanes without Cache PCI SPDM Plug-in Storage Controller	P47785-B21
HPE MR216i-o Gen11 x16 Lanes without Cache OCP SPDM Storage Controller	P47789-B21
HPE MR408i-o Gen11 x8 Lanes 4GB Cache OCP SPDM Storage Controller	P58335-B21
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21

Notes:
- Max 1 of PCIe internal controller can be selected per server.
- Max 2 of PCIe and OROC internal controller can be selected per server.
- If any of this controller is selected, then "HPE 96W Smart Stg Li-ion Batt 145mm Kit" or "HPE Smart Hybrid Capacitor w/ 145mm Cbl" must be selected. Vice versa.
- Internal MR-series and Internal SR-series controller cannot be selected together. Below message to be displayed in configurator: "MegaRAID Tools cannot be used to script and configure SmartRAID (formerly known as SmartArray) controllers used on HPE Gen9/10/10 Plus/11 servers".
- Below warning message to be displayed in the configurator if SR external (E208e) is selected with MR Internal (MR216i/MR416i/MR408i) controllers in the configuration: "Notice: When selecting SR RAID controllers for external storage and MR RAID controllers for internal storage please be aware these two products use different RAID configuration tools. Therefore, there will be a RAID configuration tool for the SR external controller and another for the MR internal controller."
- For 8SFF CTO Model: If MR408i-o is the only controller selected, then 8SFF cable kit cannot be selected for 8SFF x4 drive cages.
- Except MR408i-o, all internal controllers are supported with 8SFF CTO Model only.
- If both 4P Networking (Base-T and Full-Height) and Half-Height Internal PCIe controller (MR416i-p and MR216i-p) are selected, then Secondary FH riser cannot be selected.
- For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If MR416i-p/ MR216i-p and MR416i-o/ MR216i-o/ MR408i-o are selected, then both "HPE DL360 Gen11 8SFF PCIe Cbl Ki/ P48909-B21 or HPE DL360 Gen11 OROC TM Cbl Kit/ P52416-B21" and "HPE DL360 Gen11 2SFF TM Cbl Kit/ P48910-B21" must be selected.

Storage Battery

HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21
HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit	P02377-B21
HPE ProLiant DL360 Gen11 Storage Controller Enablement Cable Kit	P48918-B21

Notes:
- If "HPE 96W Smart Stg Li-ion Batt 145mm Kit" or "HPE Smart Hybrid Capacitor w/ 145mm Cbl" is selected, then "HPE DL360 Gen11 Stg Cntrl Enable Cbl Kit" must be selected. Vice versa.
- Max 1 of Storage Battery can be selected per server.

Internal Storage Controller Cables

HPE ProLiant DL360 Gen11 8SFF PCIe Controller Cable Kit	P48909-B21
HPE ProLiant DL360 Gen11 2SFF Tri-Mode Controller Cable Kit	P48910-B21
HPE ProLiant DL360 Gen11 LFF Internal Cable Kit	P48913-B21
HPE ProLiant DL360 Gen11 OROC Tri-Mode Cable Kit	P52416-B21

Core Options

Notes:
- Max 1 of 8SFF cable can be selected per server.
- Max 1 of 2SFF cable can be selected per server.
- Max 1 LFF cable can be selected for 4LFF CTO Model.
- If 8SFF PCIe cable is selected, then any one of 8SFF Drive cage and PCIe form factor internal controller must be selected.
- If 8SFF OROC cable is selected, then any one of 8SFF Drive cage and OCP form factor controller (OROC) must be selected.
- If 2SFF TM cable is selected, then any one of 2SFF Drive cage and any controller (PCIe or OCP form factor) must be selected.
- If 4LFF cable is selected, then MR408i-o must be selected.
- For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If MR416i-p/ MR216i-p and MR416i-o/ MR216i-o/ MR408i-o are selected, then both "HPE DL360 Gen11 8SFF PCIe Cbl Ki/ P48909-B21 or HPE DL360 Gen11 OROC TM Cbl Kit/ P52416-B21" and "HPE DL360 Gen11 2SFF TM Cbl Kit/ P48910-B21" must be selected.

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

Notes:
- General RAID rules:
  - Only a single set of RAID will be offered and will only be applied to all applicable drives installed in a server.
  - RAID requires selection of a Smart Array controller and a specific number of matching drives. (i.e same part number)
  - If RAID is selected, and only SAS OR SATA OR NVMe drives are configured, then all drives must be the same part number. (i.e. matching drives)
  - If RAID is selected and both SAS AND SATA drives are configured, then only the SAS drives will be used in the RAID set. (SAS drives must be the same part number; SATA drives can vary in part numbers)
  - If RAID is selected and NVMe, SAS AND SATA drives are configured, then only the NVMe drives will be used in the RAID set. (NVMe drives must be the same part number; SAS & SATA drives can vary in part numbers)
  - RAID must be selected if both Factory Installed OS and Smart Array controller (embedded or otherwise) are present.
  - RAID 0 requires at least 1 drive.
  - RAID 1 requires at least 2 or even number of drives.
  - RAID 1 with Spare requires at least 3 drives
  - RAID 5 requires at least 3 drives.
  - RAID 5 with Spare requires at least 4 drives.
  - RAID 6 requires at least 4 drives.
- If SR932i-p/ SR416i-o/ MR416i-p/ MR416i-o/ MR408i-o is the Primary controller, then all RAID levels are allowed.
- If MR216i-o/MR216i-p is the primary controller, then only following RAID levels are allowed: 0, 1
- If Direct Attach is the Primary controller, then RAID is NOT allowed.
- If RAID is being selected in a configuration with internal controller, then Customer Defined RAID Setting (389692-B21) must be selected.
- For HPE Customer Defined RAID Setting (389692-B21) only:

Core Options

- o If this part number is selected then the following RAID rules do not apply:
  - Max of 1 RAID level per server.
  - All integrated hard drives must match
  - Minimum drive quantity requirement for each RAID level.
  - RAID level must be selected if Factory Installed OS is present and Smart Array SAS controller (embedded or otherwise) is the primary controller.
    - If this part number is selected, then at least 1 hard drive must be on the order.
    - If this part number is selected, then preinstalled OS must be on the order.
- o A Customer Intent Document must be supplied if this part number is ordered. This Customer Intent Document should include all details about the desired RAID custom configuration. （This includes drive part #s and quantities, RAID levels desired, which drives should be applied to each RAID level, and if a preinstalled OS has been ordered - which RAID set it should be installed on）
- o Warning message to be displayed in the configurators if "HPE Customer Defined RAID Setti ALL" is selected with one Internal controller.
  - HPE Recommends using below standard RAID Settings,
    - 339777-B21 - HPE RAID 0 Drive 1 FIO Setting
    - 339778-B21 - HPE RAID 1 Drive 1 FIO Setting
    - 339779-B21 - HPE RAID 5 Drive 1 FIO Setting
    - 339780-B21 - HPE RAID 5 w/SP Drive 1 FIO Setting
    - 339781-B21 - HPE Raid Adv Data Guarding FIO
- o If RAID is being selected in a configuration with internal controller, then Customer Defined RAID Setting (389692-B21) must be selected.

Drive cage and backplane (8 SFF CTO server only)

User Selection: Min 0 // Max 2 . If front drives are needed in the 8 SFF server, please select one backplane from list below.

Notes: No optional backplanes available for LFF models, 4-bay 12G x1 SAS/SATA already included with server.

HPE DL360 Gen11 Basic Carrier (BC) drive cages and drive backplanes

Notes:
- For all backplanes below:
  - o Supports Basic Carrier Drives.
  - o Includes cabling.

HPE ProLiant DL360 Gen11 8SFF x1 U.3 Tri-Mode Backplane Kit   P48895-B21

Notes:
- Supports SATA, SAS and NVMe Basic Carrier (BC) drives.
- NVMe SSDs must be U.3.
- No NVMe Direct Attach support.
- Not supported with SR932i-p Tri-Mode controller.
- Supports HPE Gen11 SAS/SATA controller if only SAS/SATA drives are installed

HPE ProLiant DL360 Gen11 8SFF x4 U.3 Tri-Mode Backplane Kit   P48896-B21

Notes: For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If MR416i-p/ MR216i-p and MR416i-o/ MR216i-o/ MR408i-o are selected, then both "HPE DL360 Gen11 8SFF PCIe Cbl Kit or HPE DL360 Gen11 OROC TM Cbl Kit" and "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.

Core Options

HPE ProLiant DL360 Gen11 2SFF x4 U.3 BC Tri-Mode Enablement Kit   P48899-B21

Notes:
– Supports SATA, SAS and NVMe Basic Carrier (BC) drives.
– NVMe SSDs must be U.3.
– Supports NVMe Direct Access and slotted Tri-Mode controllers.
– Includes Direct Access cables and backplane power cables
– Mixing SR and MR internal controllers is not allowed
– Requires 8 SFF cables (P48909-B21 HPE ProLiant DL360 Gen11 8SFF PCIe Controller Cable Kit) for Tri-Mode PCIe standup controllers.
– Requires 8 SFF cables (P52416-B21 HPE ProLiant DL360 Gen11 OROC Tri-Mode Cable Kit) for OCP3.0 controllers
– Requires 2 SFF cables (P48910-B21 HPE ProLiant DL360 Gen11 2SFF Tri-Mode Controller Cable Kit) for Tri-Mode PCIe standup and OCP3.0 controllers.
– Max 1 of 8SFF Drive cage can be selected per server.
– If 8SFF drive cage is selected without 2SFF Drive cage, then Max 1 of internal controller can be selected.
– If 2SFF drive cage is selected, then 8SFF Drive cage must be selected.
– Drive cages will be connected to Motherboard (Direct Attach) if no Internal controller is selected. Direct Attach is capable of supporting all the drives (SATA or NVMe).
– If 8SFF x1 drive cage is connected to Direct Attach (without internal controller and 8SFF cable), then only SATA drive can be selected in this drive cage.
– If 8SFF x4 drive cage is connected to Direct Attach (without internal controller and 8SFF cable), then only NVMe drive can be selected in this drive cage.
– If 2SFF U.3 drive cage is connected to Direct Attach (without internal controller and 2SFF cable), then either SATA or NVMe drive can be selected in this drive cage.
– For 2SFF U.3 drive cage selection in 1 Processor configuration: If 2SFF Drive cage is connected to Direct Attach (without Internal controller and 2SFF cable) and NVMe drive is selected, then "CPU1 to OCP2 x8" and "OCP1 x16" OCP upgrade kit cannot be selected.
– For 8SFF x1 U.3 drive cage alone selection without 2SFF Drive cage: If SR932i-p/ MR416i-p/ MR216i-p is selected, then "HPE DL360 Gen11 8SFF PCIe Cbl Kit" must be ordered.
– For 8SFF x1 U.3 drive cage selection with 2SFF Drive cage:
– If SR932i-p/ MR416i-p/ MR216i-p is alone selected, then both "HPE DL360 Gen11 8SFF PCIe Cbl Kit" and "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.
– For 8SFF x1 U.3 drive cage selection with 2SFF Drive cage: If SR416i-o MR416i-o/ MR216i-o is alone selected, then both "HPE DL360 Gen11 OROC TM Cbl Kit" and "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.
– For 8SFF x1 U.3 drive cage selection with 2SFF Drive cage: If 1 quantity of MR408i-o is alone selected, then "HPE DL360 Gen11 OROC TM Cbl Kit" must be selected.
– For 8SFF x1 U.3 drive cage selection with 2SFF Drive cage: If 2 quantity of MR408i-o is selected, then both "HPE DL360 Gen11 OROC TM Cbl Kit" and "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.
– For 8SFF x1 U.3 drive cage selection with 2SFF Drive cage: If 1 quantity of MR408i-o is alone selected, then "HPE DL360 Gen11 2SFF TM Cbl Kit" cannot be selected.
– For 8SFF x1 U.3 drive cage selection with 2SFF Drive cage: If SR932i-p, MR416i-p, MR216i-p, SR416i-o, MR416i-o, MR216i-o controller is selected, then max 1 of the internal controller can be selected per server.
– For 8SFF x4 U.3 drive cage alone selection without 2SFF Drive cage: If SR932i-p/ MR416i-p/ MR216i-p is selected, then "HPE DL360 Gen11 8SFF PCIe Cbl Kit" must be selected.
– For 8SFF x4 U.3 drive cage alone selection without 2SFF Drive cage: If SR416i-o/ MR416i-o/ MR216i-o is selected, then "HPE DL360 Gen11 OROC TM Cbl Kit" must be selected.
– For 8SFF x4 U.3 drive cage alone selection without 2SFF Drive cage: MR408i-o cannot be selected.
– For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage:
– If SR932i-p is alone selected, then "HPE DL360 Gen11 8SFF PCIe Cbl Kit" or both "HPE DL360 Gen11 8SFF PCIe Cbl Kit" and "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.
– For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage:

Core Options

- If one quantity of MR416i-p/ MR216i-p is alone selected, then either "HPE DL360 Gen11 8SFF PCIe Cbl Kit" or "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected. Both the cables cannot be selected.
- For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If 1 quantity of SR416i-o/ MR416i-o/ MR216i-o is selected, then either "HPE DL360 Gen11 OROC TM Cbl Kit" or "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected. Both the cables cannot be selected.
- For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If 2 quantity SR416i-o/ MR416i-o/ MR216i-o is selected, then both "HPE DL360 Gen11 OROC TM Cbl Kit" and "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.
- For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If MR408i-o is alone selected, then "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.
- For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If MR408i-o is alone selected, then 8SFF cable kit cannot be selected.
- For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If MR416i-p/ MR216i-p and MR416i-o/ MR216i-o/ MR408i-o are selected, then both "HPE DL360 Gen11 8SFF PCIe Cbl Kit or HPE DL360 Gen11 OROC TM Cbl Kit" and "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.
- For 8SFF x4 U.3 drive cage selection with 2SFF Drive cage: If 2 quantity of MR416i-o/ MR216i-o/SR416i-o are selected, then both "HPE DL360 Gen11 OROC TM Cbl Kit" and "HPE DL360 Gen11 2SFF TM Cbl Kit" must be selected.
- If 2SFF U.3 drive cage is connected to Direct Attach (without internal controller & 2SFF cable), then SATA drive cannot be selected in 2SFF drive cage when "NS204i-u Gen11 Ht Plg Boot Opt Dev" is selected.

HPE ProLiant DL3X0 Gen11 1U 8SFF Display Port/USB/Optical Drive Blank Kit	P48926-B21

Notes:
- Universal Media Bay.
- For 8SFF CTO Svr only.
- Max 1 of 2SFF Drive cage or ODD cage can be selected per server.
- 8SFF CTO Model: If Optical drive is selected, then ODD Cage " HPE ProLiant DL3X0 Gen11 1U 8SFF Display Port/USB/Optical Drive Blank Kit " must be selected.

Display Port

HPE ProLiant DL3X0 Gen11 1U LFF Display Port/USB Kit	P48928-B21

Notes: Supported with 4LFF CTO Model only.

Optical Cable

HPE ProLiant DL360 Gen11 LFF Optical Cable Kit	P48914-B21

Optical Drive

HPE Mobile USB DVD-RW Optical Drive	701498-B21

Notes: This kit is supported on USB 3.0 ports only.

HPE 9.5mm SATA DVD-ROM Optical Drive	726536-B21

Notes:
- Requires Universal Media Bay Kit (P48926-B21) to install on 8 SFF models.
- Requires cable for optical drive (P48914-B21) to install on 4 LFF models.

HPE 9.5mm SATA DVD-RW Optical Drive	726537-B21

Notes:
- Requires Universal Media Bay Kit (P48926-B21) to install on 8 SFF models.
- Requires cable for optical drive (P48914-B21) to install on 4 LFF models.

HPE ProLiant DL360 Gen10 Plus LFF Optical Cable	P26459-B21

Notes: Max 1

USB Key

HPE 32GB microSD RAID 1 USB Boot Drive	P21868-B21

Core Options

HDD Blank Kit

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

Storage

Notes:
- Maximum limit for SAS/ SATA/ NVMe will vary depending upon the selected drive cage, controller and cable combination.
- User may select any combination of SAS or SATA Hard Drives. However, if RAID is selected and both SAS and SATA Hard Drives have been selected, then only the SAS Drives will be used in the RAID set.
  User may select any combination of SAS or SATA or NVMe Drives on U.3 cage with Tri-Mode controller. However, if RAID is selected with SAS, SATA and NVMe Drives, then only the NVMe Drives will be used in the RAID set.
- Direct Attach supports only SATA or NVMe drives. If SAS drive is selected, then Internal controller must be selected.
- If SAS drive is selected, then 8SFF drive cage must be selected.
- If 8SFFx1 drive cage is connected to Direct Attach (without internal controller and 8SFF cable), then only SATA drive can be selected in this drive cage.
- For SSD selecttion guidance, pls visit: **http://ssd.hpe.com/**

SSD – Read Intensive (max 8)

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

HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD   P49045-B21
HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD   P40509-B21
HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD   P49041-B21
HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD   P40508-B21
HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD   P49035-B21
HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD   P40507-B21
HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD   P49031-B21
HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD   P40506-B21
HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD   P49029-B21

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

HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD   P40501-B21
HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD   P40500-B21
HPE 3.84TB SATA 6G Read Intensive SFF BC S4520 SSD   P47322-B21
HPE 3.84TB SATA 6G Read Intensive SFF BC PM893 SSD   P44010-B21
HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD   P40499-B21
HPE 1.92TB SATA 6G Read Intensive SFF BC S4520 SSD   P47320-B21
HPE 1.92TB SATA 6G Read Intensive SFF BC PM893 SSD   P44009-B21
HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD   P40497-B21
HPE 480GB SATA 6G Read Intensive SFF BC PM893 SSD   P44007-B21
HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD   P40498-B21
HPE 960GB SATA 6G Read Intensive SFF BC PM893 SSD   P44008-B21
HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD   P40496-B21

Core Options

Read Intensive - 12G SAS - LFF –Solid State Drives

HPE 7.68TB SAS 24G Read Intensive LFF LPC Multi Vendor SSD	P49040-B21

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

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

SSD – Mixed Use (max 8)

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

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

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

HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40505-B21
HPE 3.84TB SATA 6G Mixed Use SFF BC S4620 SSD	P47327-B21
HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40504-B21
HPE 1.92TB SATA 6G Mixed Use SFF BC PM897 SSD	P44013-B21
HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40503-B21
HPE 960GB SATA 6G Mixed Use SFF BC PM897 SSD	P44012-B21
HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40502-B21
HPE 480GB SATA 6G Mixed Use SFF BC S4620 SSD	P47324-B21
HPE 480GB SATA 6G Mixed Use SFF BC PM897 SSD	P44011-B21

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

HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	P37009-B21

HDD- Enterprise 15K/10K (max 8)

Mission Critical - 12G SAS - SFF SED Drives

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

Enterprise - 12G SAS - SFF Drives

HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	P28352-B21
HPE 1.8TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	P53562-B21
HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P28586-B21
HPE 1TB SAS 12G Business Critical 7.2K SFF BC 1-year Warranty HDD	P53563-B21
HPE 900GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P40432-B21
HPE 600GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P53560-B21
HPE 600GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P53561-B21
HPE 300GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P28028-B21
HPE 300GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P40430-B21

HDD – Midline – 7.2K (max 8)

Midline - 12G SAS - SFF Drives

HPE 2TB SAS 12G Business Critical 7.2K SFF BC 1-year Warranty 512e HDD	P28505-B21

Midline - 6G SATA - SFF Drives

HPE 2TB SATA 6G Business Critical 7.2K SFF BC 1-year Warranty 512e HDD	P28500-B21
HPE 1TB SATA 6G Business Critical 7.2K SFF BC 1-year Warranty HDD	P28610-B21

Core Options

Midline - 12G SAS - LFF Drives

HPE 20TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P53553-B21
HPE 18TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P37669-B21
HPE 16TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P23608-B21
HPE 14TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	P09155-B21
HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881781-B21
HPE 10TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD	P53556-B21
HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834031-B21
HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861746-B21
HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833928-B21
HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833926-B21

Midline - 6G SATA - LFF Drives

HPE 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P53554-B21
HPE 18TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P37678-B21
HPE 16TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P23449-B21
HPE 14TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	P09165-B21
HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881787-B21
HPE 10TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD	P53557-B21
HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834028-B21
HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861742-B21
HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861683-B21
HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861681-B21
HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861686-B21

NVMe – SSD and AIC – Read Intensive (max 8)

Read Intensive - NVMe - SFF - Solid State Drives

HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50224-B21
HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50222-B21
HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	P47847-B21
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50219-B21
HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	P47846-B21
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50216-B21
HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	P47845-B21
HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	P47844-B21

NVMe – SSD and AIC – Mixed Use (max 8)

Mixed Use - NVMe - SFF - Solid State Drives

HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50233-B21
HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	P47840-B21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50230-B21
HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	P47839-B21
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50227-B21
HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	P47838-B21
HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	P47837-B21

Core Options

Factory Configuration Settings

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

Battery Upgrade Removal Setting

HPE FIO No Smart Storage Battery   P06141-B21

Notes:
–   If "HPE FIO No Smart Storage Battery" is selected, then SR932/ MR416/ SR416/ MR408 controller does
    not require selection of Battery.
–   If "HPE FIO No Smart Storage Battery" is selected, then SR932/ MR416/ SR416/ MR408 controller must
    be selected.
–   If "HPE FIO No Smart Storage Battery" is selected, then Battery cannot be selected.

BIOS Mode

HPE ProLiant DL300 Gen10 Plus Platform RAS OS Control FIO Setting   P27078-B21

Notes: OS First – RAS Setting Trigger.

Cray Compute Node Identifier

HPE Cray Compute Node FIO Configuration   R9H92A

Notes: Can only be selected or configured for a Cray or Slingshot Solution. Not allowed for Non-Cray or Non-
Slingshot Solutions.

Cray User-Defined Non-Compute Node Identifier

HPE Cray EX Service Node 1 FIO Configuration   R4L49A
HPE Cray EX Service Node 2 FIO Configuration   R4L50A
HPE Cray EX Service Node 3 FIO Configuration   R4L51A
HPE Cray EX Service Node 4 FIO Configuration   R4L52A
HPE Cray EX Service Node 5 FIO Configuration   R4L53A
HPE Cray EX Service Node 6 FIO Configuration   R4L54A
HPE Cray EX Service Node 7 FIO Configuration   R4L55A
HPE Cray EX Service Node 8 FIO Configuration   R4L56A
HPE Cray EX Service Node 9 FIO Configuration   R4L57A
HPE Cray EX Service Node 10 FIO Configuration   R4L58A
HPE Cray EX Service Node 11 FIO Configuration   R4L59A
HPE Cray EX Service Node 12 FIO Configuration   R4L60A
HPE Cray EX Service Node 13 FIO Configuration   R4L61A
HPE Cray EX Service Node 14 FIO Configuration   R4L62A
HPE Cray EX Service Node 15 FIO Configuration   R4L63A
HPE Cray EX Service Node 16 FIO Configuration   R4L64A
HPE Cray EX Service Node 17 FIO Configuration   R4L65A
HPE Cray EX Service Node 18 FIO Configuration   R4L66A
HPE Cray EX Service Node 19 FIO Configuration   R4L67A
HPE Cray EX User Access Node FIO Configuration   R4L68A

iLO Common Password

HPE iLO Common Password FIO Setting   P08040-B21

Notes:
–   It is advisable to match the order quantity of this SKU matching the quantity of servers being ordered.
–   Below Warning message to be displayed in the configurators upon the selection of this SKU:

Core Options

- "Use of iLO Common Password SKU sets the initial iLO password to be a well-known string rather than a random password. It is advisable to match the order quantity of this SKU matching the quantity of servers being ordered."
- HPE highly recommends changing this password immediately after the initial onboarding process.
- Customers who want to choose their own custom iLO default password should use the HPE Factory Express Integration Services

Logical Size Settings

HPE 200GB Logical Size FIO Setting   436007-B21

Notes: If "HPE 200GB Logical Size FIO Setting" is selected, then RAID level must be selected.

Memory Setting

HPE Smart Memory Fast Fault Tolerance FIO Setting   875293-B21

Notes:
- If Memory Fast Fault Tolerance kit is selected with 1 Processor and Single Rank memory, then Memory Min = 2 and Max= 16.
- If Memory Fast Fault Tolerance kit is selected with 1 Processor and Dual/Quad/ Octal Rank memory then, Memory Min = 1 and Max= 16.
- If Memory Fast Fault Tolerance kit is selected with 2 Processors and Single Rank memory, then Memory Min = 4 and Max= 32.
- If Memory Fast Fault Tolerance kit is selected with 2 Processors and Dual/Quad/ Octal Rank memory, then Memory Min = 2 and Max= 32

OEM Configuration Setting

HPE OEM FIO Server Unbranding Service   P44105-B21

Trusted Supply Chain

HPE Trusted Supply Chain for HPE ProLiant   P36394-B21

Notes:
- If "HPE Trusted Supply Chain FIO Config" is selected then "Gen11 Intrusion Cbl Kit" must be selected.
- If HPE Trusted Supply Chain FIO Config is selected, then Configurator should default "Gen11 Intrusion Cbl Kit".
- If "HPE Trusted Supply Chain FIO Config" is selected, then "HPE iLO Adv 1-svr Lic 3yr Support" or "HPE OneView for DL 3y 24x7 FIO Phys 1 Svr Lic" or "HPE iLO Adv 1-svr Lic 1yr Support" must be selected.
- If HPE Trusted Supply Chain FIO Config is selected then Configurator should default 1Qty of "HPE iLO Adv 1-svr Lic 3yr Support" and customer will be allowed to deselect. If deselects then either "HPE OneView for DL 3y 24x7 FIO Phys 1 Svr Lic" or "HPE iLO Adv 1-svr Lic 1yr Support" must be selected.
- If HPE Trusted Supply Chain FIO Config is selected, configurator to display the following Warning Message: "Logistics delivery speeds/services are available, please select within NGQ"
- If "HPE Trusted Supply Chain FIO Config" is selected then HPE Trusted Supply Chain E-LTU Software is required per order (not per server).
- If HPE Trusted Supply Chain FIO Config is selected then Configurator should default Trusted Supply Chain E-LTU Software.
- Display the following note for the Trusted Supply Chain section in OCA Menu view: "If Trusted Supply Chain section is selected, only one instance of the following E-LTU software option is required per order (not per server): HPE Trusted Supply Chain E-LTU."

Core Options

Riser Cards

Standard Primary (Butterfly) Riser: (embedded in all CTO adn BTO Server)

- Slot 1 - 1x PCIe 5.0 x16 FHHL
- Slot 2 - 1x PCIe 5.0 x16 LP

Notes: If Hot-plug NS204i-u is installed, the Slot 2 cage need to be removed

HPE ProLiant DL360 Gen11 x16 Full Height Riser Kit   P48901-B21

Notes:

- Referred as Secondary FH riser.
- 2nd Processor is required.
- Slot 3: 1x PCIe5.0 x 16 FHHL
- If both 4P Networking (Base-T and Full-Height) and Half-Height Internal PCIe controller are selected, then Secondary FH riser cannot be selected.

HPE ProLiant DL360 Gen11 x16 LP Riser Kit   P48903-B21

Notes:

- Referred as Secondary LP riser.
- 2nd Processor is required.
- Slot 3: 1xPCIe5.0 x 16 LP

Riser Information [***]

Part number	Description	Riser position		Slot Bus width (Gen5 lanes)			GPU Support	NVMe Direct Connect		M.2 Connec.
		Prim.	Sec.	#1	#2	#3		Connectors	Max SSDs	
N/A	HPE DL360 Gen11 x16/x16 Primary Riser	D	N/A	x16	x16	N/A	Y	N/A	N/A	N/A
P48901-B21	HPE ProLiant DL360 Gen11 x16 Full Height Riser Kit[1]	N/A	O	N/A	N/A[1]	x16	Y	N/A	N/A	N/A
P48903-B21	HPE ProLiant DL360 Gen11 x16 LP Riser Kit	N/A	O	N/A	N/A	x16	Y[2]	N/A	N/A	N/A

Notes:

- D = Default on server; O = Optional; N = not supported or slot/connector not present.
- Quantity of Processor and Quantity of Heatsink must match.
- [1]When secondary full height kit is installed, then primary PCIe Slot 2 cannot be used. Only 2 full height slots are supported.
- [2]GPU max 75W
- If Secondary riser is selected, then 2 Processor must be selected.
- If secondary riser is not selected and "NS204i-u Rear Cbl Kit" is not selected, then maximum 2 quantity of PCIe cards can selected.
- If secondary FH riser is not selected, then maximum 1 quantity of FH PCIe cards can selected.
- If secondary riser is not selected and "NS204i-u Rear Cbl Kit" is selected, then maximum 1 quantity of PCIe cards can selected.
- If Secondary FH riser is selected, then maximum 2 quantity of PCIe cards can be selected.
- If Secondary LP riser is selected and "NS204i-u Rear Cbl Kit" is not selected, then maximum 3 quantity of PCIe cards can selected.
- If Secondary LP riser and "NS204i-u Rear Cbl Kit" are selected, then maximum 2 quantity of PCIe cards can selected.
- 4 ports base-T Low Profile NIC adpaters are not allowed to be installed at Slot 2 (P51178-B21, P21106-B21)

Core Options

OS Boot Device

HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device	P48183-B21
HPE ProLiant DL360 Gen11 NS204i-u Front Cable Kit	P48920-B21
HPE ProLiant DL360 Gen11 NS204i-u Rear Cable Kit	P54702-B21

Notes:
–   If NS204i-u is selected, then either NS204i-u Front or Rear cable must be selected and vice versa.

–   Both NS204i-u Front and Rear cable cannot be selected together.

–   If Secondary FH riser is selected, then "NS204i-u Rear Cbl Kit" cannot be selected.

NS204i-u thermal Information

Part number	Qty	Cooling	Up to 4LFF (14W SAS/SATA)	Up to 10SFF (25W NVMe)	Up to 10SFF (10W SAS/SATA)	Up to 8SFF (25W NVMe)
Internal NS204i-u	1	High Performance Fan Kit (P48908-B21)		Up to 2x270W CPU, 32x 128GB[1] DIMMs		
			30C	30C	30C	30C
	1	Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit, (P48906-B21)		Up to 2x350W CPU, 32x 128[1]GB DIMMs		
			30C	30C	30C	30C
Hot-plug NS204i-u	1	High Performance Fan Kit (P48908-B21)		Up to 2x 270W CPU, 32x 128[1]GB DIMM		
			30C	30C	30C	30C
	1	Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit, (P48906-B21)		Up to 2x 350W CPU, 32x128[1]GB DIMM		
			30C	25C[2]	30C	30C

Notes:
–   [1]If 256GB DIMM is selected, will require limit of ambiant at 25C

–   [2] If 256GB DIMM is selected with up to 10SFF NVMe, will need to operated at 23C. Will not be a festible configuration to support.

–   If NS204i-u is selected, then either NS204i-u Front or Rear cable must be selected and vice versa.

–   Both NS204i-u Front and Rear cable cannot be selected together.

–   If Secondary FH riser is selected, then "NS204i-u Rear Cbl Kit" cannot be selected.

Networking

The thermal conditions variate as a combination of types of Networking PCIe OR OCP adapter in different DL360 Gen11 CTO Servers. In general:
*   Standard Fan Kit cannot be selected when above 100GbE
*   256GB DIMM is not allowed when above 100GbE
*   Ambient limitation will variate in the combination of Networking Adapter OR OCP bandwidth, DIMM capacity and cable type, incl. Direct Attach Copper (AOC) cable and Active Optical Cable (DAC)

A detailed ambient temperature recommendation upon high-speed networking adapters is described in later session.

Default settings in 8SFF CTO Server and 4LFF CTO Server

Core Options

- In 1 Processor configuration, "CPU1 to OCP2 x8 Enablement Kit" will be selected as default as "BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter" is pre-selected at OCP Slot 2, to be defaulted in the configurator if 1 Processor is selected. Customer is allowed to remove if OCP NIC is not selected but need to be replaced by a PCIe standup NIC. Meanwhile, the "CPU1 to OCP2 x8 Enablement Kit" will be removed.
- "CPU2 to OCP2 x8 Enablement Kit" or "CPU2 to OCP2 x16 Enablement Kit" must be selected if OCP NIC is selected in 2 Processors configuration. "CPU2 to OCP2 x8 Enablement Kit" to be defaulted in the configurator if 2 Processors are selected. User should be allowed to remove "CPU2 to OCP2 x8 Enablement Kit" and should be forced select "CPU2 to OCP2 x16 Enablement Kit" if OCP NIC is selected. Customer is allowed to remove if OCP NIC is not selected but need to be replaced by a PCIe standup NIC. Meanwhile, the "CPU2 to OCP2 x8 Enablement Kit" will be removed.

InfiniBand PCIe

HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter	P23664-B21
HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter	P23665-B21
HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter	P23666-B21
HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter	P31324-B21
HPE InfiniBand NDR 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter	P45641-B21

Notes:
- If 256GB Memory is selected, then high speed Networking/ InfiniBand card (PCIe and OCP) that is 100G or more cannot be selected.
- If configured for a Cray or Slingshot Solution, option to be used as the Slingshot 10 networking card.
- With 2xCPU in the range of 186-270 Watt and NVMe storages, Performance Fan Kit and DAC must be selected; if AOC is selected, can only work below 27C ambient temperature
- With 2xCPU go beyond 271 Watt and NVMe storages, Closed-loop Liquid Cooling Heatsink & Fan bundle kit and DAC must be selected; AOC cannot be supported.
- The InfiniBand HDR Adapters are in PCIe 4.0 x16// FH or LP
- InfiniBand NDR Adapter is in PCIe 5.0 x16// HL/ HH
- If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.

Ethernet PCIe

Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P08443-B21

Notes: PCIe 4.0 x8// HH or LP

Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE	P08458-B21

Notes:
- PCIe 4.0 x16// FH/ HL
- If secondary FH riser is not selected, then maximum 1 quantity of FH PCIe cards can be selected.
- If both 4P Networking (Base-T and Full-Height) and Half-Height Internal PCIe controller are selected, then Secondary FH riser cannot be selected.

Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE	P10180-B21

Notes:
- If 256GB Memory is selected, then high speed Networking/ InfiniBand card (PCIe and OCP) that is 100G or more cannot be selected.
- If configured for a Cray or Slingshot Solution, option to be used as the Slingshot 10 networking card.
- PCIe 4.0 x16// HL/ HH/LP
- If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.

Core Options

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

Notes:
- – Max 1 of 4 port card can be selected if secondary riser is not selected. Cannot be installed in Slot# 2.
- – Max 2 of 4 port card can be selected if secondary riser is selected. Cannot be installed in Slot# 2.
- – If both 4P Networking (Base-T and Full-Height) and Half-Height Internal PCIe controller are selected, then Secondary FH riser cannot be selected.
- – PCIe 2.0 x4 // HH /HL/ LP

Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE   P21112-B21

Notes:
- – If 256GB Memory is selected, then high speed Networking/ InfiniBand card (PCIe and OCP) that is 100G or more cannot be selected.
- – PCIe 4.0 x16// HL/ HH
- – If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.

Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE   P2596P20-B21

Notes:
- – If 256GB Memory is selected, then high speed Networking/ InfiniBand card (PCIe and OCP) that is 100G or more cannot be selected.
- – PCIe 4.0 x16// HL/ HH/ LP
- – If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.

Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE   P26253-B21

Notes: PCIe 3.0 x8// HH/ HL/ LP

Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE   P26259-B21

Notes: PCIe 3.0 x8// HH/ HL/ LP

Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE   P26262-B21

Notes: PCIe 3.0 x8// HH/ HL/ LP

Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE   P26264-B21

Notes: PCIe 4.0 x16// HH/ HL/ LP

Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE   P42044-B21

Notes: PCIe 4.0 x8// HH/ HL/ LP

Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T Adapter for HPE   P51178-B21

Notes:
- – Max 1 of 4 port card can be selected if secondary riser is not selected. Cannot be installed in Slot# 2.
- – Max 2 of 4 port card can be selected if secondary riser is selected. Cannot be installed in Slot# 2.
- – If both 4P Networking (Base-T and Full-Height) and Half-Height Internal PCIe controller are selected, then Secondary FH riser cannot be selected.
- – PCIe 2.0 x4// HH/ HL/ LP

HPE Slingshot SA210S Ethernet 200Gb 1-port PCIe NIC   R4K46A

Notes:
- – Can only be selected or configured for a Cray or Slingshot Solution. Not allowed for a Non-Cray or Non-Slingshot Solution
- – Cannot have the following networking options configured within the same server: Slingshot 11 or Slingshot 22.
- – PCIe 4.0 x16// LP
- – If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.

Core Options

HPE Slingshot SA410S Ethernet 400Gb 1-port PCIe NIC	R9Y95A

Notes:
- Can only be selected or configured for a Cray or Slingshot Solution. Not allowed for a Non-Cray or Non-Slingshot Solution
- Cannot have the following networking options configured within the same server: Slingshot 11 or Slingshot 22.
- OCA to keep option visibility only in Pre-Release for Cray & Slingshot Solutions. Option should not be visible in OCA production until NPI / GA Date is achieved.
- PCIe 5.0 x16// FH or LP
- If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.

Ethernet OCP

2 OCP slots in Motherboard. Does not consume PCIe slot.

Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE	P08449-B21
Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE	P10097-B21
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10106-B21
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10115-B21
Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE	P22767-B21

Notes:
- If 256GB Memory is selected, then high speed Networking/ InfiniBand card (PCIe and OCP) that is 100G or more cannot be selected.
- If no OCP enablement kit is selected, then x16 OCP cannot be selected.
- If any one of "CPU1 to OCP1 x16" or "CPU2 to OCP2 x16" is selected, then Max 1 of x16 (>=100G) card can be selected per server.
- If both "CPU1 to OCP1 x16" and "CPU2 to OCP2 x16" are selected, then Maximum 2 of x16 (>=100G) card can be selected per server.
- If selected with 350W Processor with low Tcase (6458Q/ 8470Q), Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit must be selected, only 8x SATA drive can be selected. And limit ambient temperature at 25C is required.
- If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.

Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE	P26256-B21
Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE	P26269-B21

Note: Warning Message has to be displayed in the configurator any time this OCP card is selected:
"CPU1 to OCP1 x16" or "CPU2 to OCP2 x16" OCP Upgrade kit can be selected with this OCP card if customer wants to have OCP x16 connectivity.

Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P42041-B21
Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE	P51181-B21

Notes: "BCM 5719 1Gb 4p BASE-T OCP Adptr" to be defaulted in the configurator. Customer is allowed to remove and select other cards (PCIe of OCP) from Networking OR InfiniBand OR Smart IO (HW) OR Storage Offload category.

Fiber Channel HBA

HPE SN1610Q 32Gb 1-port Fibre Channel Host Bus Adapter	R2E08A
HPE SN1610Q 32Gb 2-port Fibre Channel Host Bus Adapter	R2E09A
HPE SN1610E 32Gb 1-port Fibre Channel Host Bus Adapter	R2J62A
HPE SN1610E 32Gb 2-port Fibre Channel Host Bus Adapter	R2J63A

Notes: PCIe 3.0 x8// FH or LP for SN1610Q/1610E

Core Options

HPE SN1700E 64Gb 1-port Fibre Channel Host Bus Adapter	R7N77A
HPE SN1700E 64Gb 2-port Fibre Channel Host Bus Adapter	R7N78A

Notes: PCIe 4.0 x8// FH or LP for SN1700E

Tranceivers

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 QSFP28 to SFP28 Adapter	845970-B21
HPE 100GbE QSFP28 SR4 100m Transceiver	Q2F19A

Notes:
–   Each storage offload card requires selection of 2 QTY (Min/Max=2 per card) of either "100GbE QSFP28 PSM4 500m XCVR" OR "100GbE QSFP28 SR4 100m XCVR" transceivers.
–   Configurator has to default 2 QTY of "100GbE QSFP28 SR4 100m XCVR" per storage offload card selection. However, customer is allowed to deselect "100GbE QSFP28 SR4 100m XCVR" and must select "100GbE QSFP28 PSM4 500m XCVR"
–   If these transceivers selected, then Storage offload card must be selected.
–   Selection of this transceiver must be in multiples of 2.

HPE 100GbE QSFP28 500m 1310mm PSM4 Transceiver	Q8J73A

Notes:
–   Each storage offload card requires selection of 2 QTY (Min/Max=2 per card) of either "100GbE QSFP28 PSM4 500m XCVR" OR "100GbE QSFP28 SR4 100m XCVR" transceivers.
–   Configurator has to default 2 QTY of "100GbE QSFP28 SR4 100m XCVR" per storage offload card selection. However, customer is allowed to deselect "100GbE QSFP28 SR4 100m XCVR" and must select "100GbE QSFP28 PSM4 500m XCVR"
–   If these transceivers selected, then Storage offload card must be selected.
–   Selection of this transceiver must be in multiples of 2.

HPE 100GbE QSFP28 to QSFP28 5m Active Optical Cable	Q9S71A

Notes:
–   Each storage offload card requires selection of 2 QTY (Min/Max=2 per card) of "HPE 100GbE QSFP28 to QSFP28 5m AOC".
–   Configurator to default 2 QTY of "HPE 100GbE QSFP28 to QSFP28 5m AOC" per storage offload card selection.
–   If these transceivers selected, then Storage offload card must be selected.
–   Category max is not applicable. However, 2 QTY (Min/ Max=2) per storage offload card to be selected.
–   Selection of this AOC cable must be in multiples of 2.

OCP Upgrades

●   In 1 Processor configuration, "CPU1 to OCP2 x8 Enablement Kit" will be selected as default as "BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter" is pre-selected at OCP Slot 2, to be defaulted in the configurator if 1 Processor is selected. Customer is allowed to remove if OCP NIC is not selected but need to be replaced by a PCIe standup NIC. Meanwhile, the "CPU1 to OCP2 x8 Enablement Kit" will be removed.

●   "CPU2 to OCP2 x8 Enablement Kit" or "CPU2 to OCP2 x16 Enablement Kit" must be selected if OCP NIC is selected in 2 Processors configuration. "CPU2 to OCP2 x8 Enablement Kit" to be defaulted in the configurator if 2 Processors are selected. User should be allowed to remove "CPU2 to OCP2 x8 Enablement Kit" and should be forced select "CPU2 to OCP2 x16 Enablement Kit" if OCP NIC is selected. Customer is allowed to remove if OCP NIC is not selected but need to be replaced by a PCIe standup NIC. Meanwhile, the "CPU2 to OCP2 x8 Enablement Kit" will be removed.

Core Options

HPE ProLiant DL300 Gen11 OCP1 x16 Enablement Kit   P48827-B21

Notes:
- For 2SFF U.3 drive cage selection in 1 Processor configuration:
- If 2SFF Drive cage is connected to Direct Attach (without Internal controller and 2SFF cable) and NVMe drive is selected, then "CPU1 to OCP2 x8" and "OCP1 x16" OCP upgrade kit cannot be selected.
- For 2SFF U.2 drive cage selection in 1 Processor configuration:
- If 2SFF Drive cage is connected to Direct Attach (without Internal controller and 2SFF cable), then"CPU1 to OCP2 x8" and "CPU1 to OCP1 x16" OCP upgrade kit cannot be selected.
- If no OCP enablement kit is selected, then x16 OCP cannot be selected.
- If no OCP enablement kit is selected, then Max 1 of OCP/ OROC can be selected.
- "CPU1 to OCP2 x8" and "CPU1 to OCP1 x16" cannot be selected together.
- If any one of "CPU1 to OCP1 x16" or "CPU2 to OCP2 x16" is selected, then Max 1 of x16 (>=100G) card can be selected per server.
- If both "CPU1 to OCP1 x16" and "CPU2 to OCP2 x16" are selected, then Maximum 2 of x16 (>=100G) card can be selected per server.
- If 8SFF x4 and 2SFF Drive cages are selected without controller, then "CPU1 to OCP1 x16" and "CPU1 to OCP2 x8" cannot be selected.
- Warning Message has to be displayed in the configurator any time this OCP card is selected:
- "CPU1 to OCP1 x16" or "CPU2 to OCP2 x16" OCP Upgrade kit can be selected with this OCP card if customer wants to have OCP x16 connectivity.

HPE ProLiant DL360 Gen11 OCP2 x16 Enablement Kit   P48828-B21

Notes:
- If no OCP enablement kit is selected, then x16 OCP cannot be selected.
- If no OCP enablement kit is selected, then Max 1 of OCP/ OROC can be selected.
- "CPU2 to OCP2 x16" and "CPU2 to OCP2 x8" cannot be selected together.
- If "CPU2 to OCP2 x16" or "CPU2 to OCP2 x8" is selected, then 2 Processor must be selected.
- If any one of "CPU1 to OCP1 x16" or "CPU2 to OCP2 x16" is selected, then Max 1 of x16 (>=100G) card can be selected per server.
- If both "CPU1 to OCP1 x16" and "CPU2 to OCP2 x16" are selected, then Maximum 2 of x16 (>=100G) card can be selected per server.
- Warning Message has to be displayed in the configurator any time this OCP card is selected:
- "CPU1 to OCP1 x16" or "CPU2 to OCP2 x16" OCP Upgrade kit can be selected with this OCP card if customer wants to have OCP x16 connectivity.

HPE ProLiant DL300 Gen11 CPU2 to OCP2 x8 Enablement Kit   P48830-B21

Notes:
- To be defaulted in the configurator if 2 Processor is selected. Customer is allowed to remove if OCP card is not selected.
- If no OCP enablement kit is selected, then x16 OCP cannot be selected.
- If no OCP enablement kit is selected, then Max 1 of OCP/ OROC can be selected.
- "CPU2 to OCP2 x16" and "CPU2 to OCP2 x8" cannot be selected together.
- If "CPU2 to OCP2 x16" or "CPU2 to OCP2 x8" is selected, then 2 Processor must be selected.

HPE ProLiant DL360 Gen11 CPU1 to OCP2 x8 Enablement Kit   P51911-B21

Notes:
- For 2SFF U.3 drive cage selection in 1 Processor configuration:
- If 2SFF Drive cage is connected to Direct Attach (without Internal controller and 2SFF cable) and NVMe drive is selected, then "CPU1 to OCP2 x8" and "OCP1 x16" OCP upgrade kit cannot be selected.
- For 2SFF U.2 drive cage selection in 1 Processor configuration:
- If 2SFF Drive cage is connected to Direct Attach (without Internal controller and 2SFF cable), then"CPU1 to OCP2 x8" and "CPU1 to OCP1 x16" OCP upgrade kit cannot be selected.
- To be defaulted in the configurator if 1 Processor is selected. Customer is allowed to remove if OCP card is not selected.
- If no OCP enablement kit is selected, then x16 OCP cannot be selected.

Core Options

- "CPU1 to OCP2 x8" and "CPU1 to OCP1 x16" cannot be selected together.
- "CPU1 to OCP2 x8" cannot be selected if 2 Processor is selected.
- If 8SFF x4 and 2SFF Drive cages are selected without controller, then "CPU1 to OCP1 x16" and "CPU1 to OCP2 x8" cannot be selected.

OCP Infiniband

HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter   P31323-B21

HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter   P31348-B21

Notes:
- If 256GB Memory is selected, then high speed Networking/ InfiniBand card (PCIe and OCP) that is 100G or more cannot be selected.
- If configured for a Cray or Slingshot Solution, option to be used as the Slingshot 10 networking card.
- If selected with 350W Processor with low Tcase (6458Q/ 8470Q), Closed-loop Liquid Cooling Heatsink Fan FIO Bundle Kit must be chosen, and NVMe and SAS drive cannot be selected. Only max 8SFF SATA drive can be supported.
- If no OCP enablement kit is selected, then x16 OCP cannot be selected.
- If any one of "CPU1 to OCP1 x16" or "CPU2 to OCP2 x16" is selected, then Max 1 of x16 (>=100G) card can be selected per server.
- If both "CPU1 to OCP1 x16" and "CPU2 to OCP2 x16" are selected, then Maximum 2 of x16 (>=100G) card can be selected per server.
- If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.
- If the selected processor(s) is/are in the range of 271W to 350W TDP, and AOC cable is also selected, the ambient temperature would be limit at 25C

Storage Offload

HPE NV60100M 100Gb 2-port Storage Offload Adapter   R8M41A

Notes:
- If 256GB Memory is selected, then high speed Networking/ InfiniBand card (PCIe and OCP) that is 100G or more cannot be selected.
- Category max is not applicable. However, 2 QTY (Min/ Max=2) per storage offload card to be selected.
- Each storage offload card requires selection of 2 QTY (Min/Max=2 per card) of either Q8J73A "100GbE QSFP28 PSM4 500m XCVR" OR Q2F19A "100GbE QSFP28 SR4 100m XCVR" transceivers. Configurator has to default 2 QTY of Q2F19A "100GbE QSFP28 SR4 100m XCVR" per storage offload card selection.
- However, customer is allowed to deselect "100GbE QSFP28 SR4 100m XCVR" and must select Q8J73A "100GbE QSFP28 PSM4 500m XCVR"
- Each storage offload card requires selection of 2 QTY (Min/Max=2 per card) of Q9S71A "HPE 100GbE QSFP28 to QSFP28 5m AOC".
- Configurator to default 2 QTY of "HPE 100GbE QSFP28 to QSFP28 5m AOC" per storage offload card selection.
- PCIe 3.0 x16// HL/ HH
- If above 100GbE Networking PCIe adapter or OCP adapter is selected, Standard Fan Kit cannot be configured.
- If the selected processor(s) is/are in the range of 271W to 250W TDP, and AOC cable is also selected, the ambient temperature would be limit at 25C

Core Options

High Speed networking adapter thermal condition

Networking PCIe adapter beyond 100GbE

Part number	Qty	Cooling	Up to 4LFF (14W SAS/SATA)	Up to 10SFF (25W NVMe)	Up to 10SFF (10W SAS/SATA)	Up to 8SFF (25NVMe)
P25960-B21[1], P10180-B21[2], R8M41A[3], P31324-B21[4], P21112-B21[5], P23665-B21[6], P23666-B21[7]	3	High Performance Fan Kit, (P48908-B21)	Up to 2x270W CPU, 32x 128GB DIMMs			
			30C	30C	30C	30C
	3	Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit, (P48906-B21)	Up to 2x350W CPU, 32x 128GB DIMMs			
			30C	30C with DAC[8]; 25C with AOC[9]	30C	30C, **30C with DAC, 25C with AOC[3,4]

Notes:

- [1] Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE
- [2] Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE
- [3] HPE NV60100M 100Gb 2-port Storage Offload Adapter
- [4] HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter
- [5] Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE
- [6] HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter
- [7] HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter
- [8] Direct Attach Copper cable
- [9] Active Optical Cable
- 256GB DIMM cannot be selected if above 100GbE Networking Adapter or OCP Adapter is selected.

Networking PCIe adapter beyond 100GbE

Part number	Qty	Cooling	Up to 4LFF (14W SAS/SATA)	Up to 10SFF (25W NVMe)	Up to 10SFF (10W SAS/SATA)	Up to 8SFF (25NVMe)
P45641-B21[1]	3	High Performance Fan Kit, (P48908-B21)	Up to 2x270W CPU, 32x 128GB DIMMs			
			30C	30C with DAC; 27C with AOC	30C	30C
	3	Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit, (P48906-B21)	Up to 2x350W CPU, 32x 128GB DIMMs			
			30C	30C with DAC; Not support AOC (<20C)	30C	30C with DAC; 22C with AOC

Notes: [1] HPE InfiniBand NDR 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter

Core Options

Networking OCP adapter beyond 100GbE

Part number	Qty	Cooling	Up to 4LFF (14W SAS/SATA)	Up to 10SFF (25W NVMe)	Up to 10SFF (10W SAS/SATA)	Up to 8SFF (25NVMe)
P22767-B21[1]	2	High Performance Fan Kit, (P48908-B21)	Up to 2x270W CPU, 32x 128GB DIMMs			
			30C	30C	30C	30C
	2	Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit, (P48906-B21)	Up to 2x350W CPU, 32x 128GB DIMMs			
			30C	30C with DAC; 22C with AOC	30C	30C

Notes: [1] Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE

Networking OCP adapter beyond 100GbE

Part number	Qty	Cooling	Up to 4LFF (14W SAS/SATA)	Up to 10SFF (25W NVMe)	Up to 10SFF (10W SAS/SATA)	Up to 8SFF (25NVMe)
P31323-B21[1] P31348-B21[2]	2	High Performance Fan Kit, (P48908-B21)		Up to 2x270W CPU, 32x 64GB DIMMs		
			30C	30C	30C	30C
	2	Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit, (P48906-B21)		Up to 2x350W CPU, 32x 64GB DIMMs		
			30C	30C with DAC; Not support AOC (<20C)	30C	30C with DAC; 25C with AOC

Notes:
– [1] HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter
– [2] HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter

Networking OCP adapter 10/25GbE

Part number	Qty	Cooling	4LFF (14W SAS/SATA)	10SFF (25W NVMe)	10SFF (10W SAS/SATA)	8SFF (25NVMe)
P10115-B21[1]	2	High Performance Fan Kit, (P48908-B21)		Up to 2x270W CPU, 32x 128GB DIMMs		
			30C	30C	30C	30C
	2	Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit, (P48906-B21)		Up to 2x350W CPU, 32x 128GB DIMMs		
			30C	30C with DAC; 25C with AOC	30C	30C

Notes: [1] Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE

Core Options

Power and Cooling

Power Supplies
Please select one or two power supplies from below.
Notes: Mixing of 2 different power supplies is NOT supported.

HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	P38995-B21
HPE 1000W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	P03178-B21

Note: For EMEA Region: Commission Regulation (EU) 2019/424 laying down ecodesign requirements for servers and data-storage products applies from 1 March 2020. A more stringent (compared to the currently applicable values) value for the minimum power efficiency at 96% of PSUs will apply latest from, 1 January 2024, after defferal. For more details, please refer to Lot9 enforcement deferral notice "**European Union law Document 52022XC1209 (01)**"

HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	P38997-B21

Notes: Only supports high line voltage (200 VAC to 240 VAC).

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen11 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.

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**

HPE ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). Visit **HPE power cords** for a full list of optional power cords. The standard 6-foot IEC C-13/C-14 jumper cord (A0K02A) is included with each standard AC power supply option kit. If a different power cord is required, please check the **ProLiant Power Cables** web page.
For information on power specifications and technical content visit **HPE Server power supplies**

Power Cooling Options

Heatsinks

HPE ProLiant DL360 Gen11 High Performance Heat Sink Kit	P48905-B21

Notes:
– If Processor Wattage is eaqual to or greater than 186W and less than or equal to 270W, then "Performance Heatsink" and "Performance Fan" must be selected.
– Quantity of Processor and Quantity of Heatsink must match.
– If Liquid Cooling HeatSink is selected, then "High Perf Heat Sink" cannot be selected.

HPE ProLiant DL360 Gen11 Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit	P48906-B21:

Notes:
– Maximum Q'ty as one
– If Processor Wattage is equal to or greater than 186W and less than or equal to 270W, then "Performance Heatsink" and "Performance Fan" must be selected.
– If Processor Wattage is eaqual or greater than 271W, then LC Heat Sink Kit must be selected.
– If Liquid Cooling HeatSink is selected, then Minimum 2 quantity of Processor must be selected.
– If Liquid Cooling HeatSink is selected, then Fan cannot be selected.
– If Liquid Cooling HeatSink is selected, then "High Perf Heat Sink" cannot be selected.
– The HPE DL360 Gen11 Closed-Loop Liquid Cooling Heat Sink Fan FIO Bundle kit is offerred with Standard (3/3/3) Warranty support along with the server. Customers should be able to purchase support for years (4) and (5). This Cooling Solution is subject to a Maximum Usage Limitation not to exceed (5)

Core Options

years and required to be replaced when this limitation has been reached. Parts and components that Hewlett Packard Enterprise determines have surpassed the standard (3) years warranty* will not be provided, repaired, or replaced under warranty coverage. Contact your local HPE sales representative for additional information.
– * or to the extended (4) or (5) years if warranty contract purcahsed.

Fan Kits

HPE ProLiant DL3X0 Gen11 1U High Performance Fan Kit   P48908-B21

Notes:
– Includes 7 fans, required by
– Two processors with a TDP equal or greater than 186W and below 270Watt

Cooling Option selection in 8+2 SFF and 4LFF CTO Servers		
CPU TDP (Watts)	**186W – 270W**[1]	**271W – 350W**[1]
CPU Q'ty	2	2
Heatsink	High Performance[2] (P48905-B21)	Closed-loop LC Heatsink and Fan Kit[3] (P48906-B21)
Fans	High Performance[2] (P48908-B21)	
DIMM blanks	Required, embedded, and shipped as default in all CTO Servers	

Notes:
– [1]Both minimum and maximum limits included (e.g greater or equal to, and up to including).
– [2]Option driven (incl. CPU TDP, DIMM and NIC bandwidth). Options listed below would require Performance Fan kit or Liquid Cooling bundle kit to be implemented.
  o CPU TDP (as above matrix)
  o 256GB DIMM
  o NIC and InfiniBand adapters and OCP cards that go beyond 100GbE/200GbE
  o With GPU
  o With OS Boot Device NS204i-u
– [3]Recommended with
– A bundle kit supports at two processors configuration only. The kit incl. two processors heatsink, coldplates, closed-loop liquid cooling tubes, raditor and dedicated 4028 fan sets (7ea) as Factory Installation only kits.
– Below configuration are required to apply.
  Intel Q CPU (6458Q/ 8470Q) at 25C with Closed-loop Liquid cooling solution, and only 8xSATA storage can be supported
  o 256GB DIMM at 25C
  o When GPU is selected
  o When OS Boot Device NS204i-u is selected

Core Options

Security Options
Seruricty Hardware

HPE Bezel Lock Kit   875519-B21

Notes:
- Maximum 1 of each can be selected
- If Bezel lock is selected, then "HPE DL3XX Gen11 1U Bezel Kit" or "HPE OEM Gen11 1U Bezel KIT" must be selected.

HPE ProLiant DL3XX Gen11 Intrusion Cable Kit   P48922-B21

Notes:
- Maximum 1 of each can be selected.
- If "HPE Trusted Supply Chain FIO Config" is selected then "Gen11 Intrusion Cbl Kit" must be selected.
- If HPE Trusted Supply Chain FIO Config is selected, then Configurator should default "Gen11 Intrusion Cbl Kit".

HPE ProLiant DL3X5 Gen11 1U Common Bezel Kit   P50450-B21

Notes:
- Maximum 1 of each can be selected.
- If Bezel lock is selected, then "HPE DL3XX Gen11 1U Bezel Kit" or "HPE OEM Gen11 1U Bezel KIT" must be selected.
- Both "HPE DL3XX Gen11 1U Bezel Kit" and "HPE OEM Gen11 1U Bezel KIT" cannot be selected together.

Software as a Service Management
HPE GreenLake for Compute Ops Management
Base SKU

HPE GreenLake for Compute Ops Management Standard 3-year Upfront ProLiant SaaS   R6Z89AAE

Upgrade SKUS

HPE GreenLake for Compute Ops Management Standard 1-year Upfront ProLiant SaaS   R6Z88AAE
HPE GreenLake for Compute Ops Management Standard 5-year Upfront ProLiant SaaS   R6Z90AAE
HPE GreenLake for Compute Ops Management Standard 1-year Monthly ProLiant SaaS   R6Z91AAE
HPE GreenLake for Compute Ops Management Standard 3-year Monthly ProLiant SaaS   R6Z92AAE
HPE GreenLake for Compute Ops Management Standard 5-year Monthly ProLiant SaaS   R6Z93AAE
HPE GreenLake for Compute Ops Management Standard 1-year Quarterly ProLiant SaaS   R6Z94AAE
HPE GreenLake for Compute Ops Management Standard 3-year Quarterly ProLiant SaaS   R6Z95AAE
HPE GreenLake for Compute Ops Management Standard 5-year Quarterly ProLiant SaaS   R6Z96AAE
HPE GreenLake for Compute Ops Management Standard 3-year Annual ProLiant SaaS   R6Z97AAE
HPE GreenLake for Compute Ops Management Standard 5-year Annual ProLiant SaaS   R6Z98AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Upfront ProLiant SaaS   R7A10AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS   R7A11AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Upfront ProLiant SaaS   R7A12AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Monthly ProLiant SaaS   R7A13AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Monthly ProLiant SaaS   R7A14AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Monthly ProLiant SaaS   R7A15AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Quarterly ProLiant SaaS   R7A16AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Quarterly ProLiant SaaS   R7A17AAE

Core Options

HPE GreenLake for Compute Ops Management Enhanced 5-year Quarterly ProLiant SaaS	R7A18AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Annual ProLiant SaaS	R7A19AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Annual ProLiant SaaS	R7A20AAE

HPE OneView

HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE
HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE

For more information, visit the HPE GreenLake for Compute Ops Management QuickSpecs:
https://www.hpe.com/psnow/doc/a50004263enw

Document -HPE GreenLake for Compute Ops Management Getting Started Guide | HPE Support

Supported Servers – CTO only. No OEM. – Complete list can be found here: Latest Supported Server List:
https://www.hpe.com/info/com-supported-servers

Choose Additional Options

Accessories

Management Hardware

Maximum 1 of each can be selected.

HPE ProLiant DL36X Gen11 Rear Serial Port Cable Kit	P48921-B21
HPE ProLiant DL360 Gen11 SFF System Insight Display Power Module Kit	P48927-B21

Notes: Supported with 8SFF CTO Model only.

HPE ProLiant DL3X0 Gen11 1U LFF Display Port/USB Kit	P48928-B21

Notes: Supported with 4LFF CTO Model only.

Manufacturing Services

HPE Remove Standard Power Cords	469774-409

Note: If "Remove Standard IEC-IEC Power Cords" is selected, then the following Warning message should be displayed: By selecting this option, you will not receive standard power cords with this server. Please verify that no power cords are needed for this server prior to proceeding with your order. If "Remove Standard Power Cords" is selected by mistake, then please make sure to de-select it.

Rack Options

HPE ProLiant DL3XX Gen11 Easy Install Rail 3 Kit	P52341-B21
HPE Easy Install Rail 5 Kit	P52343-B21
HPE ProLiant DL300 Gen10 Plus 1U Cable Management Arm for Rail Kit	P26489-B21

Notes:
− HPE rail kits contain telescoping rails which allow for in-rack serviceability.
− Hewlett Packard Enterprise recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.
− Maximum 1 of each can be selected.
− If CMA is selected, then Rail kit must be selected.
− [1]Supported with 8SFF CTO Model only.
− [2]Supported with 4LFF CTO Model only.

NVIDIA A2 16GB PCIe Non-CEC Accelerator for HPE	R9H23C

Notes: PCIe 4.0

Core Options

GPGPU

Part number	Qty	Cooling	4LFF (14W SAS/SATA)	10SFF (25W NVMe)	10SFF (10W SAS/SATA)	8SFF (25NVMe)
Nvidia A2 (R9H23C) [1,2]	3	High Performance Fan Kit (P48908-B21)	Up to 2x270W CPU, 32x 128GB DIMMs			
			30C	30C *25C, up to 1x300W CPU, 32x128GB DIMM	30C	30C
	3	Closed-loop Liquid Cooling Heat Sink Fan FIO Bundle Kit (P48906-B21)	Up to 2x350W CPU, 32x 128GB DIMMs			
			25C	N/A[3]	N/A[3]	25C[4]

Notes:
- Requires increased cooling to be selected in BIOS settings
- There is no Energy Star certification with Graphic cards.
- Can support the GPU apapter with Max. length up to 9.5" (full length adapters are not supported)
- [1] Requires high performance fans
- [2] Can be installed at Slot 1, Slot2 and Slot 3 (if 2nd processor is selected).
- [3] Max 2x350W CPU, 32x128GB DIMM, and max 10SFF, will need to operated at 20C. Will not be a festible configuration to support.
- [4] If the Graphics Option is selected with the Processor that is more than 270W excluding (8461V and 8471N), then Maximum of 8 NVMe/ SAS drives can be selected.
- Shipment will be available until Q2 2023

Additional Options

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

Embedded Management

HPE iLO Advanced

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

HPE Converged Infrastructure Management Software

HPE OneView Advanced (with HPE iLO Advanced)

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

HPE OneView Advanced (without HPE iLO Advanced)

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

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

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

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

Core Options

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

HPE USB and SD Options

Notes: In vSphere 7.0, VMware made changes that impact the use of an SD Card/USB media as a standalone boot device and will be removing support for them after version 7.x.
SD Card/USB media can still be used as a standalone boot option through all 7.x releases via published Customer Advisory **Usage of SD Card/USB Devices As Standalone Boot Devices Has Changed Due to System Storage Changes For VMware ESXi 7.0 (Or Later).**
For any major release beyond VMware ESXi 7.x, VMware will require M.2 or another local persistent device as the standalone boot option.

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD RAID 1 USB Boot Drive	P21868-B21

HPE Tape Backup

HPE StoreEver LTO-9 Ultrium 45000 External Tape Drive	BC042A

HPE Support Services

Installation & Start-up Services

HPE Install ProLiant DL3xx Service	U4506E
HPE Installation and Startup DL3xx Service	U4507E

Tech Care

|	
HPE 3 Year Tech Care Essential DL360 Gen11 HW Service	H93B6E
HPE 3 Year Tech Care Essential wDMR DL360 Gen11 HW Service	H93B7E
HPE 5 Year Tech Care Essential DL360 Gen11 HW Service	H93E0E
HPE 5 Year Tech Care Essential wDMR DL360 Gen11 HW Service	H93E1E

Notes: For a full listing of support services available for this server, please visit **http://www.hpe.com/services**.

Memory

Memory Population guidelines

**Front End / HPE ProLiant DL360 Gen11**
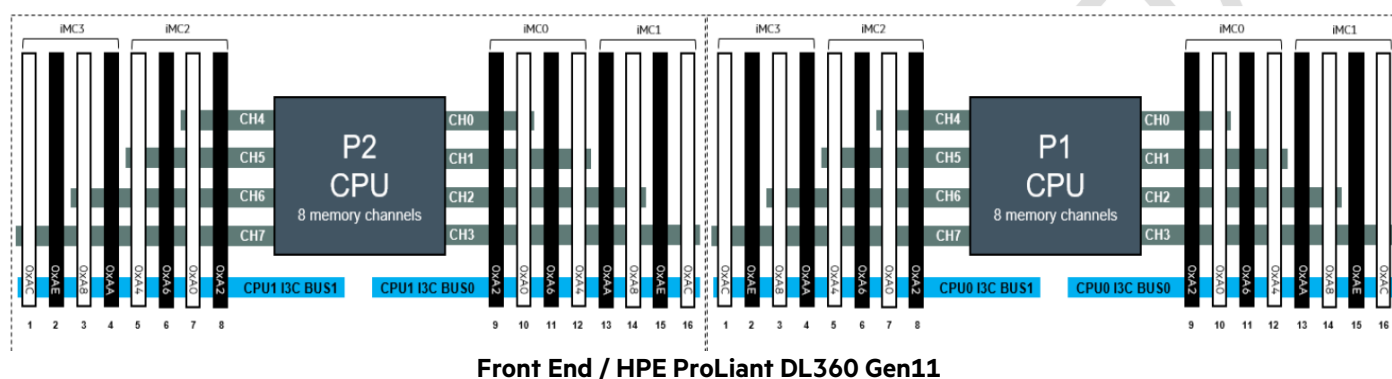
Notes:
- Listed below are general Memory Module Population Rules supported by the processor for reference.
- There is no longer a need to install DIMMs in pairs in non-RAS modes.
- The same information is displayed alternatively by rank, by speed, or by qty. That is, when viewing by rank, selecting a particular rank will then show the DIMM qty vs DIMM speed tradeoff/combinations. All DIMMs must be either all DDR5 DIMMs or DDR5 and Crow Pass DIMMs.
- There should be at least one DDR5 DIMM per socket.
- When one DIMM is used in a channel, it must be populated in DIMM slot farthest away from the CPU (DIMM slot 0) of a given channel.
- For 16 + 0 configuration with 1R + 2R mixed rank population, on each channel always populated the higher electrical load (2R) in DIMM0 followed by single rank DIMM in DIMM1.
- A maximum of 8 logical ranks (ranks seen by the host) per channel is allowed.
- For a DDR5 DIMM and Crow Pass DIMM in a channel, the DDR5 DIMM must be populated in the farthest DIMM slot (0), while CPS has to be in the nearest slot (1).
- All DIMMs in a Processor socket must have the same number of ranks (unless explicitly specified otherwise).
- x8 DIMMs and x4 DIMMs can not be mixed in the same channel or same Processor socket.
- Mixing of non-3DS and 3DS RDIMMs is not allowed in the same channel, across different channels, and across different sockets.
- 9x4 RDIMMs can not be mixed with another DIMM types (Crow Pass 10x4RDIMMs or Non 9x4 RDIMMs).
- All DDR5 DIMMs must operate at the same speed per Processor socket.
- Rank mixing is not allowed on a channel except for Standard RDIMM 1 Rank + 2 Rank combination, when all 16 DIMMs for a Processor socket is populated.
- Mixing vendor is allowed for RDIMMs, but it is not allowed for 3DS RDIMMS

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 additional information, please visit the **HPE Memory QuickSpecs and Technical White Papers** or **HPE DDR5 SmartMemory QuickSpecs.**

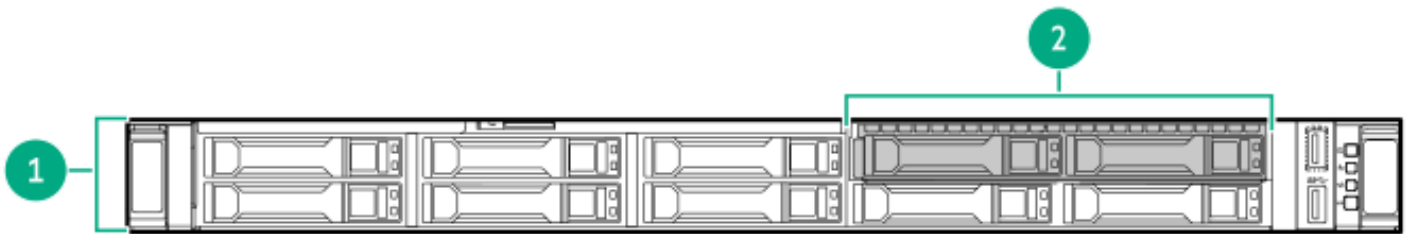**Notes:** The maximum memory speed is a function of the memory type, memory configuration, and processor model.

Storage
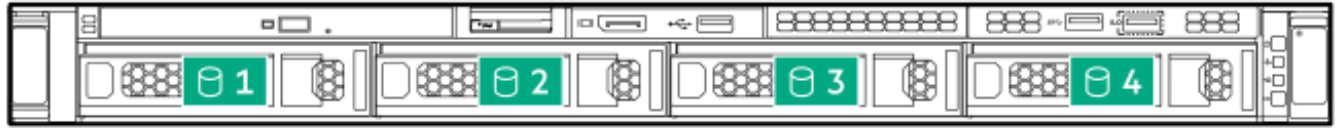
4 LFF device bay numbering

8 SFF + 2 SFF (optional) device bay numbering

8 SFF(as number 1) + ODD device bay (as number 2, optional through Media Bay)

Box	Description
1	Bays 1-8
2	Bays 1 and 2

Technical Specifications

System Unit

Dimensions (Height x Width x Depth)

SFF Drives
- 4.29 x 43.46 x 75.31 cm
  1.69 x 17.11 x 29.65 in

LFF Drives
- 4.29 x 43.46 x 77.31 cm
- **1.69 x 17.11 x 30.43 in**

Weight (approximate)

- **14.56 kg (32.1 lb)**
  - **SFF minimum**: One drive, one processor, one power supply, two heatsinks, one Smart Array controller, and five fans.
- **20.44 kg (45.07 lb)**
  - **SFF maximum:** 10 drives, two processors, two power supplies, two heatsinks, one Smart Array controller and seven fans.
- **14.95 kg (32.96 lb)**
  - **LFF minimum:** one drive, one processor, one power supply, two heatsinks, one Smart Array controller and five fans.
- **21.58 kg (47.58 lb)**
  - **LFF maximum:** Four drives, two processors, two power supplies, two heatsinks, one Smart Array controller and seven fans.

Input Requirements (per power supply)

Rated Line Voltage
- For 1600W (Platinum): 200-240 VAC
- For 1000W (Titanium): 100-240 VAC
- 800W (Platinum): 100-240 VAC

British Thermal Unit (BTU) Rating

Maximum
- For 1600W (Platinum) Power Supply: 5918 BTU/hr (at 200 VAC), 5888 BTU/hr (at 220 VAC), 5884 BTU/hr (at 240 VAC)
- For 1000W (Titanium) Power Supply: 3741 BTU/hr (at 100 VAC), 3596 BTU/hr (at 200 VAC), 3582 BTU/hr (at 240 VAC)
- For 800W (Platinum) Power Supply: 3067 BTU/hr (at 100 VAC), 2958 BTU/hr (at 200 VAC), 2949 BTU/hr (at 240 VAC)

Technical Specifications

Power Supply Output (per power supply)

Rated Steady-State Power

- For 1600W (Platinum) Power Supply: 1600W (at 240 VAC), 1600W (at 240 VDC) input for China only
- For 1000W (Titanium) Power Supply: 1000W (at 100 VAC), 1000W (at 240 VAC), 1000W (at 240 VDC) input for China only
- For 800W (Platinum) Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VDC) input for China only

Maximum Peak Power

- For 1600W (Platinum) Power Supply: 1600W (at 240 VAC), 1600W (at 240 VDC) input for China only
- For 1000W (Titanium) Power Supply: 1000W (at 100 VAC), 1000W (at 240 VAC), 1000W (at 240 VDC) for China only
- For 800W (Platinum) Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VDC) input for China only

Notes: For more information, pls visit <u>HPE Flexible Slot Power Supplies</u>

System Inlet Temperature

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

  System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F) or above 27°C (81°F) at 900M.

  10° to 35°C (50° to 95°F) at 900M with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed.
  System performance during standard operating support may be reduced if operating with a fan fault or above 27°C (81°F) at 900M and 30°C (86°F) at sea level.

  The approved hardware configurations for this system are listed at the URL: **http://www.hpe.com/servers/ashrae**

- **Extended Ambient Operating Support**
  For approved hardware configurations, the supported system inlet range is extended to be: 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).

  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 require the High Performance Fan Kit (P26477-B21) and are listed at the URL: **http://www.hpe.com/servers/ashrae**
  System performance may be reduced if operating in the extended ambient operating range or with a fan fault.

- **Non-operating**
  -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).

Technical Specifications

Relative Humidity (non-condensing)

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

Notes: Configuration with Nvidia A2 GPU would be addressed specifically as below.

- **Operating**
  -12°C DP and 8% Rh to 21°C DP 80% - Relative humidity (Rh), 21°C maximum wet bulb temperature, non-condensing.
- **Non Operating**
  -12°C DP and 8% Rh to 21°C DP 80% - Relative humidity (Rh), 21°C 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).

Emissions Classification (EMC)

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

HPE Smart Array

For latest information on **HPE Smart Array Gen10 Plus Controllers for HPE ProLiant DL, ML and Apollo Servers** please refer to their QuickSpecs.

Acoustic Noise

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

Test case	1	2	3	4	5	6	7	8
Idle								
LWA,m	5.1 B	4.7 B	4.7 B	5.0 B	4.7 B	4.7 B	4.7 B	5.2 B
LpAm	37 dBA	35 dBA	36 dBA	37 dBA	36 dBA	36 dBA	36 dBA	38 dBA
Kv	0.4 B	0.4 B	0.4 B	04 B	0.4 B	0.4 B	0.4 B	0.4 B
Operating								
LW,m	5.3 B	5.0 B	5.2 B	5.3 B	5.1 B	5.4 B	5.5 B	6.0 B
LpAm	40 dBA	37 dBA	39 dBA	41 dBA	37 dBA	41 dBA	41 dBA	49 dBA
Kv	0.4 B	0.4 B	0.4 B	0.4 B	0.4 B	0.4 B	0.4 B	0.4 B

Notes:

- Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.
- The declared mean A-weighted sound power level, LWA,m, is computed as the arithmetic average of the measured.

Technical Specifications

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

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

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

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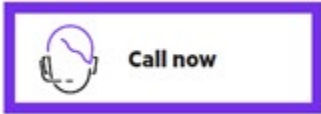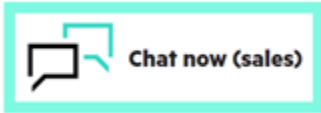
Summary of Changes

Date	Version History	Action	Description of Change
10-Jan-2023	Version 1	New	New QuickSpecs.

Copyright

Make the right purchase decision.
Contact our presales specialists.

Chat now (sales)

Call now

Get updates

Hewlett Packard
Enterprise

a50004306enw - 16910 - Worldwide - V1 - 10-January-2023