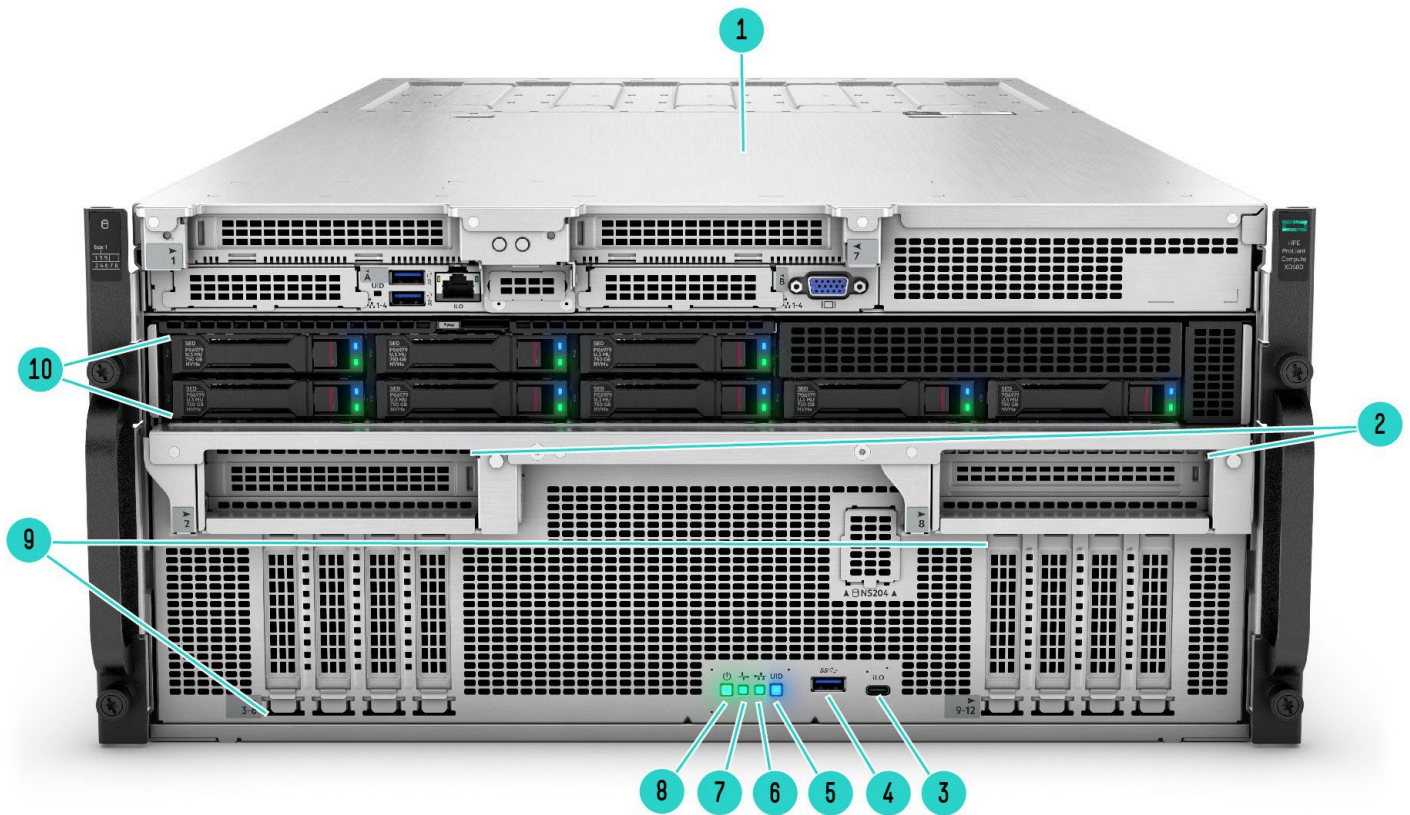


Overview

HPE ProLiant Compute XD680

The HPE ProLiant Compute XD680 server is a GPU server built for the growing demands of enterprise AI, with the support for Intel Gaudi 3 OAM GPU accelerators in a standard 5U 2P form factor. Powered by 5th Generation Intel® Xeon® Scalable Processors and cutting-edge GPUs, the HPE ProLiant Compute XD680 server offers a complete, scalable solution for AI & HPC customers everywhere, with flexibility of fabric, memory, storage and operating system. HPE ProLiant Compute XD680 provides maximum performance for Large Model AI Training and Deep Learning. Built with high-speed networking technologies, integrated storage, a robust software portfolio and management tools, HPE ProLiant Compute XD680 systems can enable customers to innovate and prepare for tomorrow's challenges.

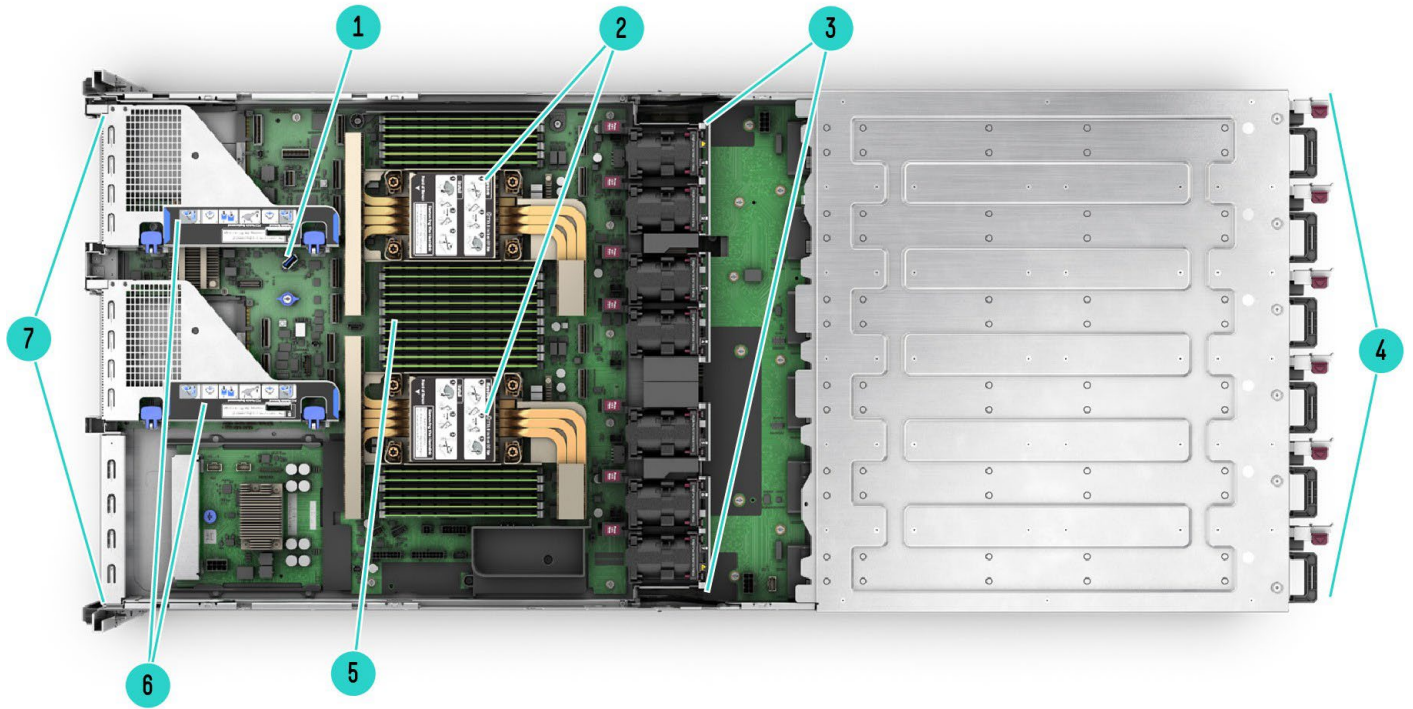


Front View – 8SFF drive bay shown

- | | |
|-------------------------------|---|
| 1. Quick removal access panel | 6. NIC status LED ¹ |
| 2. GHalf-Height PCIe Slot | 7. Health LED |
| 3. iLO front service port | 8. Power On/Standby button and system power LED |
| 4. USB 3.0 port | 9. Half-Height PCIe Slot |
| 5. UID button/LED | 10. Drive Box 1 (8 SFF) |

Notes: ¹Front NIC LED display doesn't support NIC LED ACT/LINK indication from ALOM/PCIE/FLOM NIC's

Overview

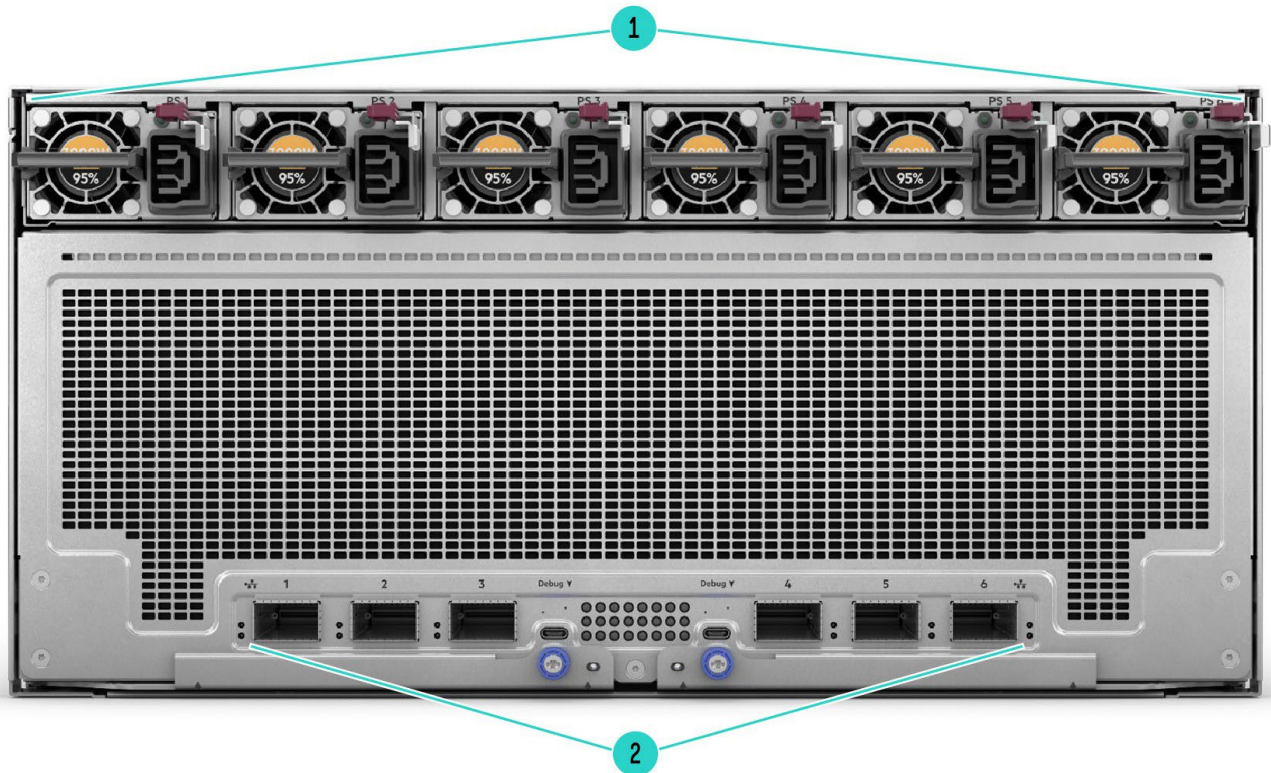


Internal View

- 1. Internal USB 3.0 port
- 2. 2 Processors (heatsinks showing)
- 3. System Fans
- 4. 6 hot-plug power supplies
- 5. DDR5 DIMM slots (support up to 24)
- 6. PCIe Riser Half-Height
- 7. 8 SFF NVMe drive bay



Overview



Rear View

1. Power Supplies 1-6
2. 6 x QSFP Ports

What's New

- Supports Intel® Gaudi 3 OAM GPUs.
- Supports 5th Generation Intel® Xeon® Scalable Processors.

Platform Information

Form Factor

- Flexible 5U Chassis Platform with up to 6x 3000W capacity CPRS supplies with 200-270V Titanium

System

- PCIe Expansion: 8x HHHL PCIe Gen 5.0 slots, 4x FHHL PCIe, 2x OCP3 slots
- Storage up to 8x SFF NVME U.3 Read-Intensive and Mixed-Use SSDs and RAID M.2 Boot Drives
- Embedded 2-port 10G Base-T (RJ45), 1-port MLAN (1GbE), 1x VGA, 2x USB3.0, PWR Button/Reset/ID Button/Status LEDs.



Standard Features

Processors – 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=4th generation Intel Scalable Series Processors)

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

This table covers the public Intel offering only.

Intel Xeon processors		
Processor Suffix	Description	Offering
P	IaaS Optimized	Optimized for high performance IaaS for orchestration efficiency. Higher frequency for VM environments.
S	Storage Workload Optimized	Designed to provide maximum inter-socket bandwidth with lower core counts and TDPs. Data Movement and Transformation Operations Offload with DSA, free up CPU cycles to enable efficient core utilization.
V	VM Optimized	Fosters enhanced VM density, allowing to support more/larger virtual machines per host and lower power VM environment.
Y	Speed Select	Intel® SST-PP increases base frequency when fewer cores are enabled. Allows greater flexibility, deployment options and platform longevity.

5th Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	CPU Frequency	Cores	L3 Cache (MB)	Power	UPI	DDR5	SGX Enclave size
Gold 6548Y+ Processor	2.5 GHz	32	60	250W	3 @ 20 GT/s	5200 MT/s	128GB
Gold 6544Y Processor	3.6 GHz	16	45	270W	3 @ 20 GT/s	5200 MT/s	128GB
Platinum 8558 Processor	2.1 GHz	48	260	330W	4 @ 20 GT/s	5200 MT/s	512GB
Platinum 8562Y+ Processor	2.8 GHz	32	60	300W	3 @ 20 GT/s	5600 MT/s	512GB
Platinum 8568Y+ Processor	2.3 GHz	48	300	350W	4 @ 20 GT/s	5600 MT/s	512GB
Platinum 8570 Processor	2.1 GHz	56	300	350W	4 @ 20 GT/s	5600 MT/s	512GB
Platinum 8580 Processor	2.0 GHz	60	300	350W	4 @ 20 GT/s	5600 MT/s	512GB
Platinum 8592+ Processor	1.9 GHz	64	320	350W	4 @ 20 GT/s	5600 MT/s	512GB

On System Management Chipset

HPE iLO 6 ASIC

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

Memory

One of the following depending on model.

Type	HPE DDR5 Smart Memory, Registered (RDIMM)
DIMM Slots Available	24 DIMM slots (12 DIMM slots per processor), 8 channels per processor (4 channels with 2 DIMM slots and 4 channels with 1 DIMM slot)
Maximum capacity (RDIMM) for SPR CPUs	3.0 TB (24 x 128 GB RDIMM @4400 MT/s, 2DPC) 2.0 TB (16 x 128 GB RDIMM @4800 MT/s, 1DPC)
Maximum capacity (RDIMM) for EMR CPUs	3.0 TB (24 x 128 GB RDIMM @4400 MT/s, 2DPC) 2.0 TB (16 x 128 GB RDIMM @5600 MT/s, 1DPC)

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



Standard Features

Expansion Slots

Primary Riser

Notes: Bus width indicates the number of physical electrical lanes running to the connector.

Primary Riser					
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Notes
1	N/A	N/A	N/A	N/A	N/A
2*	PCIe 5.0	x16	x16	Full height, half length	Processor 1
3	PCIe 5.0	x16	x16	Full height, half length	Processor 1

Notes: * Default slot 2 on the Primary Riser is empty and not available. It requires the Stacking Riser (P54305-B21) to enable x16 PCIe 5.0 in slot 2.

Secondary Riser

Notes: Bus Width Indicates the number of physical electrical lanes running to the connector.

Secondary Riser					
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Notes
4	N/A	N/A	N/A	N/A	N/A
5*	PCIe 5.0	x16	x16	Full height, half length	Processor 2
6	PCIe 5.0	x16	x16	Full height, half length	Processor 2

Notes: * Default slot 5 on the Primary Riser is empty and not available. It requires the Stacking Riser (P54305-B21) to enable x16 PCIe 5.0 in slot 5.

Graphics

Integrated Video Standard

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

HPE iLO 6 on system management memory

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

Maximum Internal Storage

Drive	Capacity	Configuration
Hot Plug SFF NVMe PCIe SSD	122.88 TB	8 x 15.36 TB

Power Supply

- HPE 3000W CRPS Titanium Hot Plug Power Supply Kit
Notes: 1 available in 96% efficiency.

The standard 6-foot IEC C-13/C-14 jumper cord (AOKO2A) 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.

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

For information on power specifications and technical content visit <https://www.hpe.com/psnow/doc/4AA6-6836ENW>.



Standard Features

European Union Erp Lot 9 Regulation

Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE 3000W CRPS titanium power supplies are single-output (54V), and part numbers S4R02A are 96% efficient, thus meeting requirements.

Storage Controllers

NVMe Boot Devices

- HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device
 - Notes:**
 - Bus Width Indicates the number of physical electrical lanes running to the connector.
 - Two 960GB M.2 NVMe SSDs are included for RAID 1 OS boot.
 - Can be configured to be rear accessible or internal accessible.
 - Does not occupy PCIe slots on the HPE ProLiant Compute XD680 server

Software RAID

- Intel® Virtual RAID on CPU (Intel® VROC)
 - Notes:**
 - Supports up to 8 direct attach NVMe bays on the HPE ProLiant Compute XD680 server.
 - Intel VROC NVMe is off by default and requires licensing, see options for details.
 - RAID support – 0/1/5/10, depending on licensing options.
 - Intel VROC for HPE ProLiant Gen10 Plus is an enterprise, hybrid Software RAID solution specifically designed for NVMe SSDs connected directly to the CPU. Intel VROC is a software-based solution utilizing Intel CPU to RAID or HBA direct connected drives and supports both Intel® SFF SSDs and HPE SFF SSDs.

Tri-Mode Controller

- HPE MR416i-p Gen11 12G Controller
- HPE MR416i-o Gen11 12G Controller

Interfaces

Serial Port	1 standard (front)
VGA Port	1 standard (front)
Network Ports	8x HHHL PCIe Gen 5.0, 4x FHHL PCIe Gen 5.0, 6x OSFP 4x200Gbps Ethernet (rear)
HPE iLO Remote Management Network Port	1 Gb dedicated (front)
Front iLO Service Port	1 (front)
USB 3.0	3 (front)

Operating Systems and Virtualization Software Support for HPE Servers

HPE servers are designed for seamless integration with partner Operating Systems and Virtualization Software. By collaborating closely with our partners, we ensure that their products are optimized, certified, and fully supported within your HPE server environment.

- Access the certified and supported servers for each of the OS and Virtualization software: [HPE Servers Support & Certification Matrices](#)



Standard Features

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 3 implementation and support UEFI Mode only.

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
- 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 an intuitive cloud operating experience through HPE GreenLake cloud platform to streamline and secure operations from edge-to-cloud. Automated key lifecycle tasks, for onboarding, updating, managing, and monitoring HPE servers, brings agility and greater efficiencies to wherever compute devices reside via a unified single browser-based interface. Manage single locations or multiple, distributed sites. Keep tens to thousands of servers secure with batch policy controls and automated updates.

Compute Ops Management is cloud-native software that is continually updated with new services, features, patches, and fixes. 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.

A 3-year subscription to HPE GreenLake for Compute Ops Management is added by default when ordering an HPE ProLiant Compute XD680 server.

For more information, visit the HPE GreenLake for Compute Ops Management QuickSpecs:

<https://www.hpe.com/psnow/doc/a50004263enw>

Industry Standard Compliance

- ACPI 6.3 Compliant
- Advanced Encryption Standard (AES)
- Active Directory v1.0
- ASHRAE A3/A4

Notes: For additional technical, thermal details regarding ambient temperature, humidity, and feature support, please visit <https://www.hpe.com/support/ASHRAEGen11>

- DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)
- Energy Star



Standard Features

- EU Lot9

Notes:

- Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.
- HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.
- Please visit: <https://www.hpe.com/us/en/about/environment/msds-specs-more.html> for more information regarding HPE Lot 9 conformance.

- IPMI 2.0
- PCIe 3.0 Compliant
- PCIe 4.0 Compliant
- PCIe 5.0 Compliant
- PXE Support
- Redfish API
- Secure Digital 4.0
- SMBIOS 3.2
- SNMP v3
- TLS 1.2
- TPM 2.0 Support
- Triple Data Encryption Standard (3DES)
- UEFI (Unified Extensible Firmware Interface Forum) 2.6
- USB 2.0 Compliant
- USB 3.0 Compliant
- VGA Port

Embedded Management

HPE Integrated Lights-Out (HPE iLO)

Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO. Learn more at <http://www.hpe.com/info/ilo>.

UEFI

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

Intelligent Provisioning

Hassle free server and OS provisioning for 1 or more servers with Intelligent Provisioning. Learn more at <http://www.hpe.com/servers/intelligentprovisioning>

iLO RESTful API

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



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).

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 (iLO REST) 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 Systems Insight Manager (HPE SIM)

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

Security

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



Standard Features

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 Services 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 using 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:

<https://www.hpe.com/support/ProLiantServers-Warranties>



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 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>.

One Config Simple (OCS/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>

Rack and Power Infrastructure

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

HPE G2 Advanced and Enterprise Racks are perfect for the server room or today's modern data center with enhanced airflow and thermal management, flexible cable management, and a 10 year Warranty to support higher density computing.

HPE G2 PDUs offer reliable power in flexible form factors that operate at temperatures up to 60°C, include color-coded outlets and load segments and a low-profile design for optimal access to the rack and support for dense rack environments.

HPE Uninterruptible Power Systems are cost-effective power protection for any type of workload. Some UPSs include options for remote management and extended runtime modules so your critical dense data center is covered in power outages.

HPE KVM Solutions include a console and switches designed to work with your server and IT equipment reliably. We've got a cost-effective KVM switch for your first rack and multiple connection IP switches with remote management and security capabilities to keep your data center rack up and running.

Learn more about HPE Racks, KVM, PDUs and UPSs at [HPE Rack and Power Infrastructure](#).



Service and Support

HPE Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

<https://www.hpe.com/services>

Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.

<https://www.hpe.com/services/consulting>

HPE Managed Services

HPE runs your IT operations, providing 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.

[HPE Managed Services | HPE](#)

Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.

<https://www.hpe.com/services/operational>

HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

<https://www.hpe.com/services/completecure>

HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service 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 Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service 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>



Service and Support

HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

Notes: To review the list of Lifecycle Services available for your product go to:

<https://www.hpe.com/services/lifecycle>

For a list of the most frequently purchased services using service credits, see the [HPE Service Credits Menu](#)

Other Related Services from HPE Services:

HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.

<https://www.hpe.com/services/training>

Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

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

Parts and Materials

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

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

How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at <https://ssc.hpe.com/portal/site/ssc/>



Service and Support

AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.

<https://support.hpe.com/hpesc/public/home/signin>

Consume IT On Your Terms

HPE GreenLake edge-to-cloud platform 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 edge-to-cloud platform 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

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE"

<https://www.hpe.com/us/en/contact-hpe.html>

For more information

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



Configuration Information

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of 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.
- All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.
- Some options may not be integrated at the factory. Contact your local sales representative for additional information.

Step 1: Base Configuration

CTO Server Models	HPE ProLiant Compute XD680 Server
SKU Number	S3W15A
TAA SKU*	P54903-B21#GTA
Processor	Not included as standard
DIMM Slots	24 DIMM slots
Storage Controller	Embedded Intel VROC NVMe RAID (requires licenses for non-Intel NVMe SSDs), choice of HPE Tri-Mode controllers
PCIe	8x HHHL Slots, 4x FHHL Slots (x16 PCIe Gen 5.0)
Drive Cage	Not included as standard
Network Controller	Choice of OCP 3.0 or stand-up network adapters for primary networking selection plus additional/optional stand-up network adapters Choice of OCP 3.0 or stand-up network adapters Notes: No embedded networking
Fans	6 dual-rotor redundant system fans
Management	HPE iLO with Intelligent Provisioning (standard), iLO Advanced HPE iLO Standard with Intelligent Provisioning (embedded), HPE iLO Advanced, HPE iLO Advanced Premium Security Edition, and HPE OneView Advanced (require licenses)
USB	3 USB 3.0 (front) plus iLO front service port
Trusted Platform Module (TPM)	Embedded TPM

Notes:

- *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 3.0 compliant. After January 11, 2024, Energy Star 3.0 compliance is no longer valid. Energy Star 4.0 certification will be valid upon publication.

Step 2: Choose Processors

Please select two processors from below.

Notes:

- HPE ProLiant Compute XD680 only supports dual processor configurations, not single processor configurations.
- Mixing of 2 different processor models is NOT supported.
- All SKUs below ship with processor only. Adequate heatsinks must be selected.
- Processors with TDP equal to or greater than 270W require High Performance Heatsink (P51832-B21).
- DDR5 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.



Configuration Information

E-Star Certified 5th Generation Intel Xeon Emerald Rapids (Platinum, Gold, and Silver)

SKU

Notes: Emerald Rapids processors supports only PC5-5600B / PC5-5200B memory.

Yes	Intel Xeon-Gold 6548Y+ 2.5GHz 32-core 250W Processor for HPE	P67082-B21
-----	--	------------

Notes: Above processors (below 270W) are defaulted to Standard Heatsink (P51833-B21). However, customer may select High Performance Heatsink (P51832-B21) instead.

No	Intel Xeon-Gold 6544Y 3.6GHz 16-core 270W Processor for HPE	P67084-B21
Yes	Intel Xeon-Platinum 8558 2.1GHz 48-core 330W Processor for HPE	P67097-B21
Yes	Intel Xeon-Platinum 8562Y+ 2.8GHz 32-core 300W Processor for HPE	P67085-B21
Yes	Intel Xeon-Platinum 8568Y+ 2.3GHz 48-core 350W Processor for HPE	P67086-B21
Yes	Intel Xeon-Platinum 8570 2.1GHz 56-core 350W Processor for HPE	P67087-B21
Yes	Intel Xeon-Platinum 8580 2.0GHz 60-core 350W Processor for HPE	P67088-B21
Yes	Intel Xeon-Platinum 8592+ 1.9GHz 64-core 350W Processor for HPE	P67089-B21

Notes: Above processors (270W or greater) require High Performance Heatsink (P51832-B21).

Step 3: GPUs

Only the Intel® Gaudi 3 OAM GPU is available for selection with the HPE ProLiant Compute XD680

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

HPE Memory Population Rules

Notes: 2TB System memory capacity is recommended (2x GPU aggregate memory)

GPU Information

Part Number	GPU	TDP
S3W16A	HPE Cray XD Intel Gaudi 3 FIO GPU	850W

Step 4: Choose Memory Options

Please select two or more memory kits from below.

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

HPE Memory Population Rules

Notes:

- Quantity of memory DIMMs selected per socket must be 1, 2, 4, 6, 8, or 12. For XD680, select 2, 4, 8, 12, 16, or 24 DIMMs.
- Rank mixing is not allowed.
- No x4 mixing with x8 across a socket.
- 4800 MT/s memory SKUs offer a transfer rate of up to 4800 MT/s at 1 DIMM per channel and up to 4400 MT/s at 2 DIMMs per channel, depending on CPU selection. The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.
- If 96GB PC5-4800 memory is selected then Qty 16 of 96GB DIMM must be selected. No other quantities of this memory is supported.
- If 96GB PC5-5600 memory is selected then only Qty 2, 12, 16, 24 allowed for selection. No other quantities of this memory is supported.



Configuration Information

- HPE Server Memory compatibility for a specific server platform may vary or be limited within a server platform depending upon the specific configuration being requested. Because each server environment and requirements can vary, memory compatibility is based not only upon the server family but may also be affected by the amount and type of additional hardware options installed within a specific server configuration. For this reason, some HPE memory DIMMs may be qualified for an HPE server model or family and yet occasionally not be supported with some configurations within that server family.

Registered DIMMs (RDIMMs)

HPE 64GB (1x64GB) Dual Rank x4 DDR5-5600 CAS-46-45-45 EC8 Registered Smart Memory Kit	P64707-B21
HPE 96GB (1x96GB) Dual Rank x4 DDR5-5600 CAS-46-45-45 EC8 Registered Smart Memory Kit	P64708-B21
HPE 128GB (1x128GB) Dual Rank x4 DDR5-5600 CAS-46-45-45 EC8 Registered Smart Memory Kit	P69976-H21

Step 5: Choose Storage Options

Notes: Mixing of storage controllers is not supported.

HPE Tri-Mode Controllers

Notes:

- All tri-mode controllers require the selection of either the Smart Storage Battery (P01367-B21) or Smart Hybrid Capacitor (P02381-B21), which support multiple devices and are sold separately.
- MegaRAID tools cannot be used to script and configure SmartRAID controllers.
- No tri-mode controllers can be selected with the 8EDSFF drive cage (P54304-B21)
- Mixing of storage controllers is not supported.

HPE MR416i-o Gen11 x16 Lanes 8GB Cache OCP SPDM Storage Controller	P47781-B21
--	------------

Notes:

- Maximum quantity = 2
- 1pc of MR416i-o can support up to 4 NVMe Gen4x4 with unbalanced I/O performance from one processor:
 - o Must select 1pc of OROC Prim TM Cbl Kit (P55708-B21).
- To achieve balanced I/O performance across two processors and support up to 8 NVMe drives, select 2pcs of MR416i-o:
 - o Must select OCP2 Upgrade Cbl Kit (P51943-B21).
 - o Must select 1 pc of OROC Prim TM Cbl Kit (P55708-B21) and 1pc of OROC Sec TM Cbl Kit (P58715-B21).
- Both OCP slots will be occupied.

HPE MR416i-p Gen11 x16 Lanes 8GB Cache PCI SPDM Plug-in Storage Controller	P47777-B21
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Notes:

- Maximum quantity = 2
- 1pc of MR416i-p can support up to 4 NVMe Gen4x4 with unbalanced I/O performance from one processor:
 - o Must select 1pc of Type-p Prim TM Cbl Kit (P55706-B21).
- To achieve balanced I/O performance across two processors and support up to 8 NVMe drives, select 2pcs of MR416i-p:
 - o Installed on PCIe slot 2 and 5, or slot 3 and 6.
 - o When installed on slot 2 and 5, 2pcs of Stacking Riser (P54305-B21) are required.
- Must select 1 pc of Type-p Prim TM Cbl Kit (P55706-B21) and 1pc of Type-p Sec TM Cbl Kit (P56362-B21).

HPE Energy Packs

HPE 96W Smart Storage Lithium-ion Battery with 260mm Cable Kit	P01367-B21
HPE Smart Storage Hybrid Capacitor with 260mm Cable Kit	P02381-B21

Software RAID Controllers

Intel Virtual RAID on CPU Premium FIO Software for HPE	R7J57A
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Configuration Information

HPE Boot Controller

HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device

P48183-B21

Notes:

- Two 480GB M.2 NVMe SSDs are included for RAID 1 OS boot.
 - Maximum quantity = 1
 - Does not occupy PCIe slots.
-

Step 6: Choose Power Supplies

Notes:

- Select 6 power supplies for compatibility with 3-phase power delivery units
- 6 Supplies: N+1 Redundancy
- 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:
<https://poweradvisorexternal.it.hpe.com/>.

HPE ProLiant Compute XD 3000W 54VDC Power Supply

S4R02A

Step 7: Choose additional options for Factory Integration from Core and Additional Options sections below



Core Options

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

Software as a Service Management

HPE GreenLake for Compute Ops Management

Base SKU

HPE Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS R7A11AAE

Upgrade SKUS

HPE Compute Ops Management Enhanced 1-year Upfront ProLiant SaaS R7A10AAE

HPE Compute Ops Management Enhanced 5-year Upfront ProLiant SaaS R7A12AAE

For more information, visit the HPE GreenLake for Compute Ops Management QuickSpecs:

<https://www.hpe.com/psnow/doc/a50004263enw>

Supported Servers – CTO only. No OEM. – Complete list can be found here: Latest Supported Server List:

<https://www.hpe.com/info/com-supported-servers>

HPE Cooling Options

HPE Alletra Storage Server 4120 Standard Heat Sink Kit P51833-B21

HPE Alletra Storage Server 4120 High Performance Heat Sink Kit P51832-B21

Notes: High performance heat sink required for processors with TDP equal to or greater than 270W.

HPE Solid State Drives

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

Read Intensive - NVMe - SFF - Solid State Drives

HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD P63829-B21

HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD P63833-B21

HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD P63837-B21

HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD P63841-B21

Mixed Use - NVMe - SFF - Solid State Drives

HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD P63845-B21

HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD P63849-B21

HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD P63853-B21

Notes:

- With CM7 FIPS drives: If any of the NVMe SED drive is selected then either direct NVMe or any MR series tri mode controller (MR416i-p, MR416i-o) must be selected.
- iLO Advanced is required for Remote Key Management. Key is stored in remote key manager.
- With direct connected SED drives, TPM 2.0 (embedded in the server) is required for Local Key Management. Keys will be encrypted locally by TPM and stored locally.
- With MR controller SED drives, TPM is not required for Local Key Management as Key is stored in controller.

Hard Drive Blank Kits

HPE Small Form Factor Hard Drive Blank Kit 666987-B21



Core Options

HPE Networking

1 Gigabit Ethernet adapters

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

10 Gigabit Ethernet adapters

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

25 Gigabit Ethernet adapters

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

100 Gigabit Ethernet Adapters

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

200 Gigabit Ethernet Adapters

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

OCP 3.0 Adapters

Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE P10106-B21

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

HPE InfiniBand

HPE InfiniBand NDR/Ethernet 400Gb 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter P45641-B23

HPE InfiniBand NDR200/Ethernet 200Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter P45642-B22

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 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter P23664-B21

HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter P31324-B21

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

HPE InfiniBand NDR 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter P45641-B21



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 an HPE approved configurator. Contact your local sales representative for additional information.

Embedded Management

HPE iLO Common Password FIO Setting

HPE iLO Common Password FIO Setting

P08040-B21

Notes:

- Replaces iLO default randomized password by an HPE defined common password. 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

HPE iLO Advanced

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

HPE Racks

- Please see the HPE Advanced Series Racks QuickSpecs for information on additional racks options and rack specifications. [HPE G2 Advanced Series Racks](#)
- Please see the HPE Enterprise Series Racks QuickSpecs for information on additional racks options and rack specifications. [HPE G2 Enterprise Series Racks](#)

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.

HPE Uninterruptible Power Systems (UPS)

- To learn more, please visit the [HPE Uninterruptible Power Systems \(UPS\)](#) web page.
- Please see the [HPE Direct Flow 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 Rack Options

Please see the [HPE KVM Switches web page](#) for information on these products and their specifications.



Additional Options

HPE Support Services

Installation & Start-up Services

HPE ProLiant DL/ML Install Service	U4554E
HPE ProLiant DL/ML Startup Service	U4555E

Tech Care

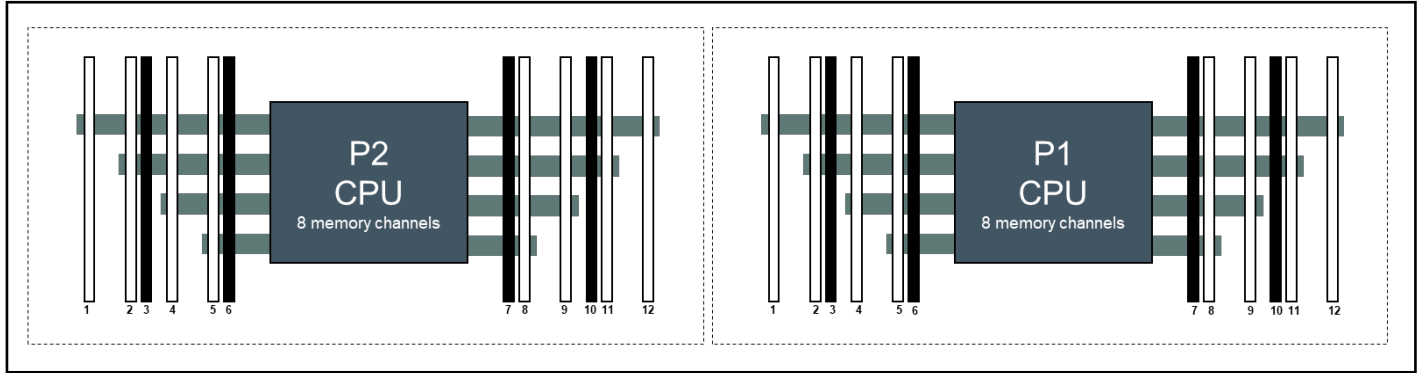
HPE 3 Year Tech Care Essential DL380a Gen11 HW Service	H38YKE
HPE 3 Year Tech Care Essential wDMR DL380a Gen11 HW Service	H38YLE
HPE 5 Year Tech Care Essential DL380a Gen11 HW Service	H38ZQE
HPE 5 Year Tech Care Essential wDMR DL380a Gen11 HW Service	H38ZRE

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



Memory

Memory Population guidelines



Front of Server
HPE ProLiant Compute XD680

HPE ProLiant Compute XD680 per CPU DIMM population order												
DIMM population order												
DIMM slot	1	2	3	4	5	6	7	8	9	10	11	12
1 DIMM								8				
2 DIMMs ²		2						8				
4 DIMMs ²		2			5			8			11	
6 DIMMs		2		4	5			8			11	12
8 DIMMs ^{1,2}	1	2		4	5			8	9		11	12
12 DIMMs	1	2	3	4	5	6	7	8	9	10	11	12

Notes:

- Cells without entries represent configurations not supported, and if populated, the server may result in non-optimal memory performance or other unexpected behavior.
- ¹ Support SGX (Software Guard Extensions).
- ² Support Hemi (hemisphere mode).

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 RDIMM types 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, and the number and model of installed processors qualified on the platform.
- For details on the HPE Server Memory Options Population Rules, visit: <https://hpe.seismic.com/Link/Content/DCjjRTHfP6C8HGFRbjWJ7B37H43d>
- To realize the performance memory capabilities listed in this document, HPE DDR5 Smart Memory is required.
- For additional information, please see the [HPE DDR5 Smart Memory QuickSpecs](#).



Memory

HPE SKU P/N	P64708-B21	P64708-B21	P69976-B21
SKU Description	HPE 96GB 2Rx4 PC5-5600B-R Smart Kit	HPE 96GB 2Rx4 PC5-5600B-R Smart Kit	HPE 128GB (1x128GB) Dual Rank x4 DDR5-5600 CAS-46-45-45 EC8 Registered Smart Memory Kit
DIMM Capacity	64GB	96GB	32GB
DIMM Rank	Dual Rank (2R)	Dual Rank (2R)	Dual Rank (2R)
Voltage	1.1V	1.1V	1.1V
DRAM Depth [bit]	4G	6G	8G
DRAM Width [bit]	x4	x4	x4
DRAM Density	16Gb	24Gb	32Gb
CAS Latency	46-45-45	46-45-45	46-45-45
DIMM Native Speed	5600 MT/s	5600 MT/s	5600 MT/s

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

For details on the HPE Server Memory speed, visit: <https://hpe.seismic.com/Link/Content/DCjjRTHfP6C8HGFRbjWJ7B37H43d>

DDR5 memory options part number decoder

Notes:

- Capacity references are rounded to the common gigabyte (GB) values.
 - o 64GB = 65,536 MB
 - o 96GB = 98,304 MB
 - o 128GB = 131072 MB

For more information on memory, please see the Memory Quickspecs: [HPE DDR5 Smart Memory](#)

Memory Speed Table for HPE ProLiant Compute XD680

For details on the HPE Server Memory speed, please visit:

<https://hpe.seismic.com/Link/Content/DCjjRTHfP6C8HGFRbjWJ7B37H43d>



Technical Specifications

System Unit

Dimensions (Height x Width x Depth)

- **Server**
94.5 (L) x 44.7 (W) x 22.225 (H) cm
37.2 (L) x 17.59 (W) x 8.75(H) in
- **Package**
27.3 x 60 x 106 cm
10.75 x 23.6 x 41.73 in

Weight (approximate)

- **Server**
35.96 kg (79.11 lb)¹
- **With Package:**
48.33 kg (106.33 lb)²

Notes:

- ¹ 2x processors and heatsinks, 1x OAM GPU, 24x DIMMs, 8x SSDs, 6x power supplies, 1x NS204i-u, 9x PCIe cards, 1x OCP cards, 1x storage battery.
- ² Server plus rail kit, CMA, power cords.

Input Requirements (per power supply)

Rated Line Voltage

- For 3000W (Titanium) Power Supply: 200-277 VAC

BTU Rating

Maximum

- For 3000W Power Supply: 6497 BTU/hr (at 200 VAC), 7230 BTU/hr (at 220 VAC), 7962 BTU/hr (at 240 VAC), xxxxx BTU/hr (at 277VAC)

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..

System Inlet Temperature

- **Standard Operating Temperature**
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).

- **Extended Ambient Operating Temperature**
For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: <https://www.hpe.com/support/ASHRAEGen11>



Technical Specifications

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

<https://www.hpe.com/support/ASHRAEGen11>

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).

Altitude

- **Operating**
3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
- **Non-operating**
9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared 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.

Acoustic Noise	
Idle	
LWA,m	6.3 B Entry 6.3 B Base 6.2 B Perf
LpAm	49 dBA Entry 48 dBA Base 48 dBA Perf
Kv	0.4 B Entry 0.4 B Base 0.4 B Perf
Operating	
LWA,m	6.9 B Entry 7.2 B Base 6.9 B Perf
LpAm	52 dBA Entry 58 dBA Base 53 dBA Perf
Kv	0.4 B Entry 0.4 B Base 0.4 B Perf

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.
- Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.



Technical Specifications

- The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.
- The declared mean A-weighted sound power level, LWA,m, is computed as the arithmetic average of the measured.
- 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.

Emissions Classification (EMC) – Regulatory Information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

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

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

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.



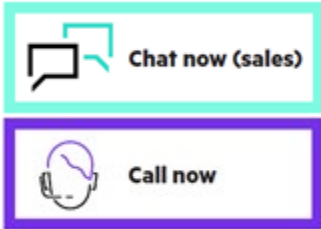
Summary of Changes

Date	Version History	Action	Description of Change
02-Dec-2024	Version 1	New	New QuickSpecs



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