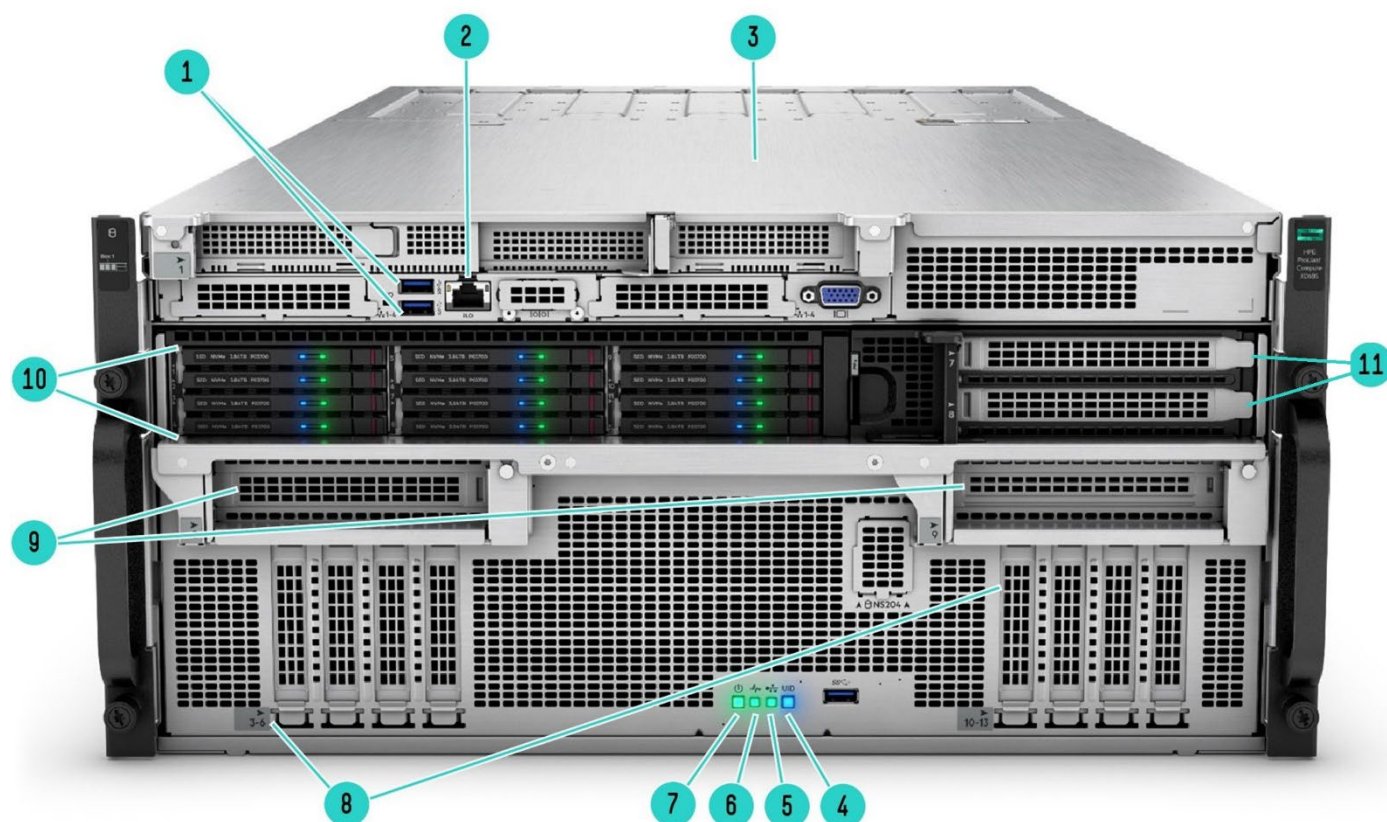


### Overview

Shape the Future of QuickSpecs – Your Input Matters

### HPE ProLiant Compute XD685

The HPE ProLiant Compute XD685 is an 8-way GPU server built for the growing demands of enterprise AI. It supports NVIDIA & AMD GPU accelerators in a standard 6U form factor for Air and 5U for DLC. Powered by 5<sup>th</sup> Generation AMD EPYC™ Processors and cutting-edge GPUs, the HPE ProLiant Compute XD685 server offers a complete, scalable solution for AI & HPC customers everywhere, with flexibility of fabric, memory, storage and operating system. HPE ProLiant Compute XD685 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 XD685 systems enable customers to innovate and prepare for tomorrow's challenges.



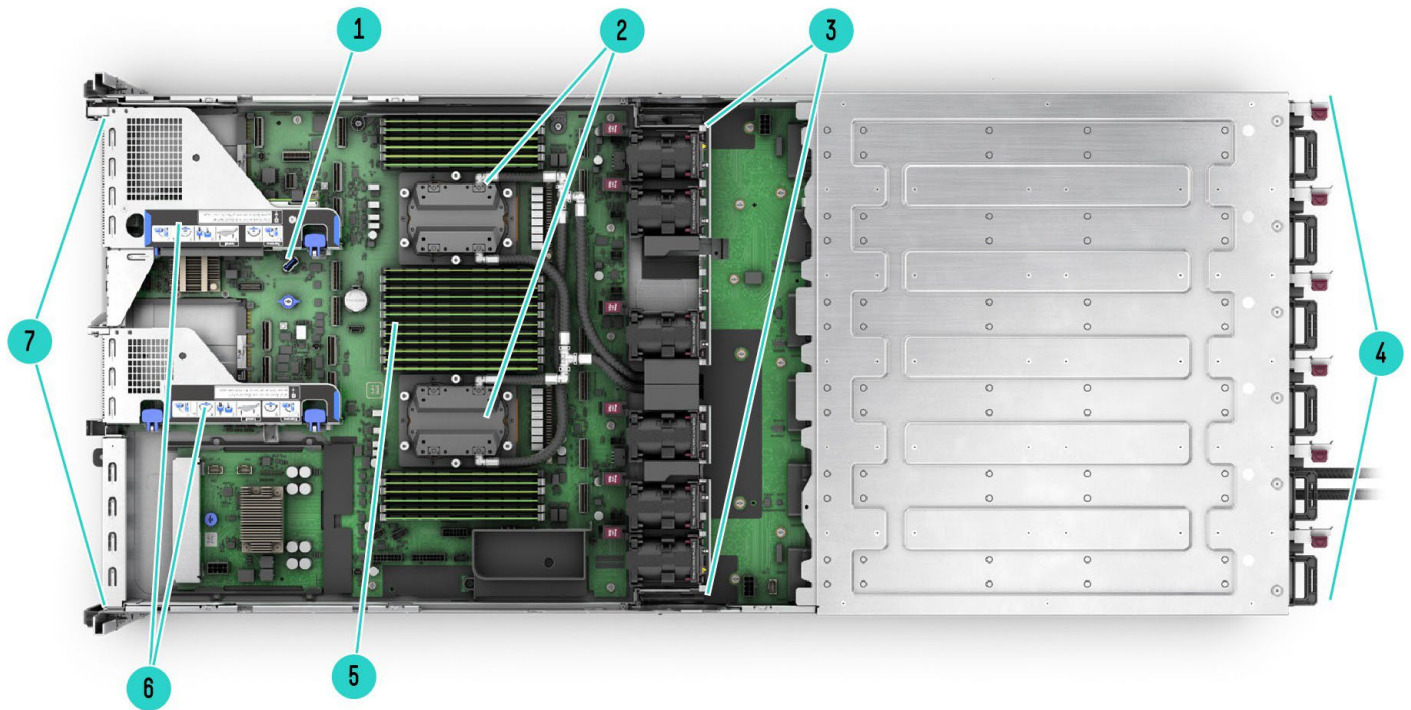
#### Front View\*

- |    |                             |     |  |
|----|-----------------------------|-----|--|
| 1. | USB 3.0 port                | 7.  | Power On/Standby button and system power LED |
| 2. | mLAN port                   | 8.  | Half-Height Half Length PCIe Slots           |
| 3. | Quick removal access panel  | 9.  | Full Height Half Length PCIe Slots           |
| 4. | UID button/LED              | 10. | Drive Box 1 (EDSFF drives)                   |
| 5. | NIC status LED <sup>1</sup> | 11. | Full Height Half Length PCIe Slots           |
| 6. | Health LED                  |     |  |

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

\*DLC Chassis Shown

## Overview



### Internal View\*

- |                                       |   |
|---------------------------------------|---|
| 1. Internal USB 3.0 port              | 5. DDR5 DIMM slots (support up to 24 DIMMs) |
| 2. 2 processors (cold plates showing) | 6. PCIe Retimers (non-configurable)         |
| 3. System Fans                        | 7. EDSFF drive bay                          |
| 4. Hot-plug power supplies            |   |

\*DLC Chassis Shown

## What's New

- Supports NVIDIA & AMD GPUs.
- Launching the 5th Generation AMD EPYC™ Series Processors
- Launching the 6400 MT/s memory DIMMs to support the new 5th Generation AMD EPYC™ Series Processors
- Supports iLO6
- Offered in Air and Direct Liquid Cooling



Standard Features

Platform Information

Form Factor

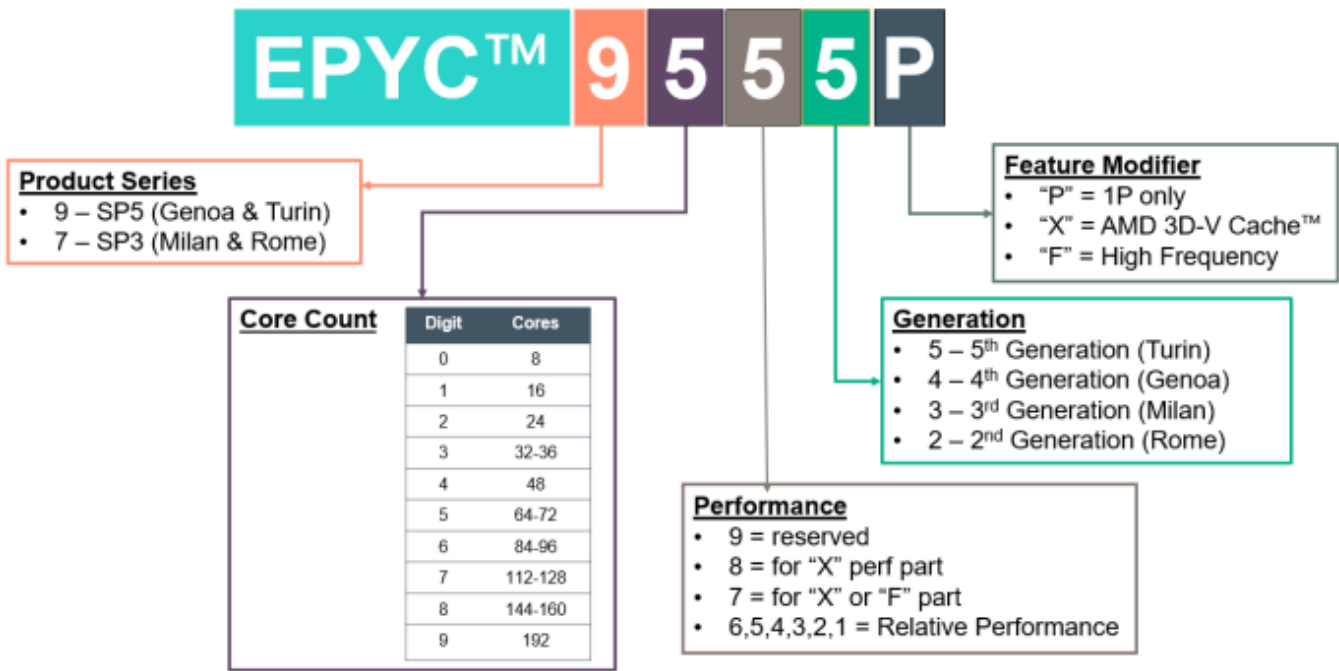
- 6U Chassis Platform for Air and 5U for DLC

System

- PCIe Expansion: 8x HHHL PCIe x16 Gen 5.0 slots, 4x FHHL PCIe x16,
- Storage: 8x EDSFF NVME E3.S Read-Intensive and Mixed-Use SSDs and RAID M.2 Boot Drives, additional (4) EDSFF NVME E3.S SSD slots available when storage controller is installed
- 1-port MLAN (1GbE), 1x VGA, 3x USB3.0, PWR Button/Reset/ID Button/Status LEDs.

**Processors** – Two-processor AMD compute motherboard, models listed below

**Notes:** For more information regarding AMD EPYC processors, please see the following:  
<https://www.amd.com/en/products/processors/server/epyc.html>



| 5th Generation AMD EPYC Processor Family |               |       |            |       |           |
|--|---------------|-------|------------|-------|-----------|
|  | CPU Frequency | Cores | Cache (MB) | Power | DDR5      |
| AMD EPYC 9645                            | 2.0-2.2 GHz   | 96    | 256MB      | 320W  | 6400 MT/s |
| AMD EPYC 9655                            | 2.6 GHz       | 96    | 384MB      | 400W  | 6400 MT/s |
| AMD EPYC 9565                            | 3.0-3.2 GHz   | 72    | 384MB      | 400W  | 6400 MT/s |
| AMD EPYC 9535                            | 2.1-2.3GHz    | 64    | 256MB      | 300W  | 6400 MT/s |
| AMD EPYC 9555                            | 3.2 GHz       | 64    | 256MB      | 360W  | 6400 MT/s |
| AMD EPYC 9455                            | 2.9-3.1GHz    | 48    | 256MB      | 300W  | 6400 MT/s |
| AMD EPYC 9365                            | 3.2-3.4GHz    | 36    | 192MB      | 300W  | 6400 MT/s |
| AMD EPYC 9355                            | 3.2-3.4GHz    | 32    | 128MB      | 210W  | 6400 MT/s |
| AMD EPYC 9575F                           | 3.3GHz        | 64    | 512MB      | 400W  | 6400 MT/s |



## Standard Features

### On System Management Chipset

HPE iLO6 ASIC

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

### Memory

One of the following depending on model:

|   |  |
|---|--|
| <b>Type</b>   | HPE DDR5 Smart Memory, Registered (RDIMM)  |
| <b>DIMM Slots Available</b>                                     | 24 DIMM slots (12 DIMM slots per processor),<br>12 channels per processor (6 channels with 2 DIMM slots) |
| <b>Maximum capacity (RDIMM)<br/>for EPYC 5<sup>th</sup> Gen</b> | 6.0 TB (24 x 256 GB RDIMM @6400 MT/s, 1DPC)  |

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

### Graphics

#### Integrated Video Standard

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

#### HPE iLO 6 on system management memory

- 64 MB Flash
- 8 Gbit DDR 4 with ECC protection

### Maximum Internal Storage

| Drive  | Capacity  | Configuration                          |
|--|-----------|--|
| Hot Plug EDSFF NVMe PCIe SSD   | 122.88 TB | 8 x 15.36 TB                           |
| Hot Plug EDSFF NVMe PCIe SSD with Storage Controller                                     | 184.32TB  | 12 x 15.36TB                           |
| Hot Plug EDSFF NVMe PCIe SSD with Storage Controller and Highest capacity M.2 Boot drive | 185.2TB   | 12 x 15.36TB + 2 x 960GB M.2 in RAID 1 |

### Power Supply

- HPE 3000W CRPS Titanium Hot Plug Power Supply Kit

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

### 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 480GB M.2 NVMe SSDs or Two 960GB M.2 NVMe SSDs are included for RAID 1 OS boot.
- Configured to be front accessible.
- Does not occupy PCIe slots on the HPE ProLiant Compute XD685 server

#### Software RAID - NO software RAID is supported on AMD GEN 11 Servers

##### Tri-Mode Controller

- HPE MR416i-p Gen11 12G Controller
- HPE SR932i-P Controller

### Interfaces

|  |  |
|--|--|
| VGA Port                               | 1 standard (front)                         |
| Network Ports                          | 8x HHHL PCIe Gen 5.0, 4x FHHL PCIe Gen 5.0 |
| HPE iLO Remote Management Network Port | 1 Gb dedicated (front)                     |
| USB 3.0                                | 3 (front)                                  |

### Accelerators

- NVIDIA H200
- NVIDIA B200 DLC

### 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](#)**

### 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



## Standard Features

### 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.

---

### Industry Standard Compliance

- ACPI 6.3 Compliant
  - Advanced Encryption Standard (AES)
  - Active Directory v1.0
  - DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)
  - 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>.

### 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>

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## 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>.

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### 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
- Support for Commercial National Security Algorithms (CNSA)
- Secure Recovery – recover critical firmware to known good state on detection of compromised firmware

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### 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>

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## 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.

#### Cooling Options

These optional cooling technologies are compatible with both air cooled and liquid cooled HPE servers.

#### HPE Adaptive Rack Cooling System (ARCS)

This cooling solution supports up to 4 full racks (servers, networking or storage) and manages 100% of the server heat in a completely enclosed cluster. It provides cool air for inlet side and manages exhaust heat, transferring it to facility water cooling. When servers with DLC are added to ARCS, the highest rack density is possible, with 100% heat transfer to facility water.

Learn more at <http://www.hpe.com/psnow/doc/a00051240enw>

#### HPE Rear Door Heat Exchanger (RDHX)

This cooling solution attaches to the back of a single rack (servers, networking or storage) and neutralizes the hot air existing the rack by transferring the heat to facility water cooling. When servers with DLC are added to RDHX, the highest rack density is possible, with 100% heat transfer to facility water.

Learn more at <http://www.hpe.com/psnow/doc/a00039574enw>

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### 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>

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### 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](#).

#### HPE Rack Information

- S4H39A is required for 48U racks
- S4H40A is required for 42 racks





## Optional Features

If non-HPE racks are used, please be aware that cable bend radius requires the following to close the door of the rack:

- 150mm space in front of the rack
  - 100mm space in the rear of the rack
  - Consideration of additional space required for PDUs and a DLC solution that will include manifolds
- 



## 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>

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### 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>

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### 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](#)

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### 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>

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### 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>

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### 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>

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## 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](#)

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### 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>

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### 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>

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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 XD685 Server   |
| SKU Number                    | S4Q28A or S4R96A (DLC)  |
| TAA SKU*                      | S4Q28A#GTA or S4R96A#GTA (DLC)  |
| Processor                     | Not included as standard  |
| DIMM Slots                    | 24 DIMM slots   |
| Storage Controller            | Choice of PCIe plug-in controller   |
| PCIe                          | 8x HHHL Slots, 4x FHHL Slots (x16 PCIe Gen 5.0)   |
| Drive Cage                    | Not included as standard  |
| Network Controller            |   |
| Fans                          | 6 dual-rotor redundant system fans  |
| Management                    | HPE iLO with Intelligent Provisioning (standard), iLO Advanced<br>HPE iLO Advanced (may require licenses) |
| USB                           | 3 USB 3.0 (front)   |
| 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).

Step 2: Choose Accelerator

Please select one accelerator from below.

**Notes:**

- H200 DLC Accelerator must be selected with XD685 DLC Chassis(S4R96A)
- When selecting a DLC Accelerator, the matching DLC Cooling Kit must also be selected

| Description   | SKU    |
|---|--------|
| NVIDIA HGX H200 141GB 8-GPU FIO Accelerator for HPE Cray XD                               | S3P89A |
| NVIDIA HGX H200 141GB 8-GPU Direct Liquid Cooling FIO Accelerator for HPE Cray XD685      | S4X53A |
| NVIDIA B200 192GB 8-GPU Direct Liquid Cooling FIO Accelerator for HPE ProLiant Compute XD | S3W20A |

Step 2a: Choose Processors

Please select two processors from below.

**Notes:**

- HPE ProLiant Compute XD685 only supports dual processor configurations, not single processor configurations.
- Mixing of 2 different processor models is NOT supported.
- 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

| Description  | SKU        |
|--|------------|
| AMD EPYC 9645 2.3GHz 96-core 320W Processor for HPE  | P73356-B21 |
| AMD EPYC 9655 2.6GHz 96-core 400W Processor for HPE  | P73357-B21 |
| AMD EPYC 9565 3.15GHz 72-core 400W Processor for HPE | P73358-B21 |
| AMD EPYC 9535 2.4GHz 64-core 300W Processor for HPE  | P73359-B21 |
| AMD EPYC 9555 3.2GHz 64-core 360W Processor for HPE  | P73360-B21 |
| AMD EPYC 9455 3.15GHz 48-core 300W Processor for HPE | P73361-B21 |
| AMD EPYC 9365 3.4GHz 36-core 300W Processor for HPE  | P73362-B21 |
| AMD EPYC 9355 3.6GHz 32-core 280W Processor for HPE  | P73364-B21 |
| AMD EPYC 9575F 3.0GHz 64-core 320W Processor for HPE | P73377-B21 |

### Step 3: 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 XD685, select 2, 4, 8, 12, 16, or 24 DIMMs.
- Rank mixing is not allowed.
- No x4 mixing with x8 across a socket.
- 6400 MT/s memory SKUs offer a transfer rate of up to 6400 MT/s at 1 DIMM per channel and The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.
- 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)  | SKU        |
|--|------------|
| HPE 64GB (1x64GB) Dual Rank x4 DDR5-6400 CAS-52-52-52 EC8 Registered Smart Memory Kit              | P64986-H21 |
| HPE 96GB (1x96GB) Dual Rank x4 DDR5-6400 CAS-52-52-52 EC8 Registered Smart Memory Kit              | P64987-H21 |
| HPE 128GB (1x128GB) Dual Rank x4 DDR5-6400 CAS-52-52-52 EC8 Registered Smart Memory Kit            | P64988-H21 |
| HPE ProLiant Compute XD 256GB (1x256GB) Quad Rank x4 DDR5-6400 CAS-60-52-52 R 3DS Smart Memory Kit | S5F74A     |





Configuration Information

Step 4: Choose Storage Options

Notes: Mixing of storage controllers is not supported. Maximum of 8 NVME drives unless controller is selected.

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.
- Mixing of storage controllers is not supported.

|   |            |
|---|------------|
| HPE MR416i-p Gen11 x16 Lanes 8GB Cache PCI SPDM Plug-in Storage Controller      | P47777-B21 |
| HPE SR932i-p Gen11 x32 Lanes 8GB Wide Cache PCI SPDM Plug-in Storage Controller | P47184-B21 |

Notes: Maximum quantity = 1

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 |

HPE Boot Controller

|   |        |
|---|--------|
| HPE ProLiant Compute XD NS204i-u 960GB Boot Device    | S4R99A |
| HPE ProLiant Compute XD NS204i-u 2x 960GB Boot Device | S6A36A |

Notes:

- S4R99A contains two 480GB M.2 NVMe SSDs, included for RAID 1 OS boot. S6A36A contains two 960GB M.2 NVMe SSDs, included for RAID 1 OS boot.
- Maximum quantity = 1
- Does not occupy PCIe slots.

Step 5: Choose Power Supplies

Notes:

- Select 6 power supplies for compatibility with 3-phase power delivery units
- 6 Supplies: N+1 Redundancy

|  |        |
|--|--------|
| HPE ProLiant Compute XD 3000W 54VDC Power Supply | S4R02A |
|--|--------|

Step 6: Choose additional options for Factory Integration from Core and Additional Options sections below



## Core Options

### HPE Solid State Drives

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

#### Read Intensive - NVMe - EDSFF - Solid State Drives

|   |        |
|---|--------|
| HPE ProLiant Compute XD685 1.92TB NVMe Read Intensive E3.S EC1 CD8P SSD     | S4X28A |
| HPE ProLiant Compute XD685 3.84TB NVMe Read Intensive E3.S EC1 CD8P SSD     | S4X30A |
| HPE ProLiant Compute XD685 7.68TB NVMe Read Intensive E3.S EC1 CD8P SSD     | S4X32A |
| HPE ProLiant Compute XD685 15.36TB NVMe Read Intensive E3.S EC1 CD8P SSD    | S4X33A |
| HPE ProLiant Compute XD685 7.68TB NVMe Read Intensive E3.S EC1 FIPS CM7 SSD | S4X36A |

#### Mixed Use - NVMe - EDSFF - Solid State Drives

|   |        |
|---|--------|
| HPE ProLiant Compute XD685 3.2TB NVMe Mixed Use E3.S EC1 FIPS CM7 SSD | S4X34A |
| HPE ProLiant Compute XD685 6.4TB NVMe Mixed Use E3.S EC1 FIPS CM7 SSD | S4X35A |
| HPE 1.6TB NVMe MU E3S EC1 CD8P SSD                                    | S4X27A |
| HPE 3.2TB NVMe MU E3S EC1 CD8P SSD                                    | S4X29A |
| HPE 6.4TB NVMe MU E3S EC1 CD8P SSD                                    | S4X31A |

#### 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, ) 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.

## HPE Networking

### Console Networking

#### 1 Gigabit Ethernet adapters

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

#### 10/25 Gigabit Ethernet adapters

|   |            |
|---|------------|
| Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE           | P26253-B21 |
| Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE         | P08443-B21 |
| Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE         | P26262-B21 |
| Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | P42044-B21 |

#### 100 Gigabit Ethernet Adapters

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

### High Speed Networking

#### 400 Gigabit Ethernet Adapters

|  |            |
|--|------------|
| Broadcom 57608 Ethernet 400Gb 1-port QSFP-DD Adapter for HPE | P74287-H21 |
|--|------------|

### HPE Data Processing Units

|   |            |
|---|------------|
| HPE Data Processing Unit InfiniBand NDR200/Ethernet 200Gb 2-port QSFP112 FHHL B3220 Adapter | P66386-H21 |
| HPE Data Processing Unit InfiniBand NDR/Ethernet 400Gb 1-port QSFP112 HHHL B3140H Adapter   | P66387-H21 |



Core Options

HPE NDR/NDR200 InfiniBand/Ethernet Adapters

|   |            |
|---|------------|
| HPE InfiniBand NDR/Ethernet 400Gb 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter        | P45641-H23 |
| HPE InfiniBand NDR200/Ethernet 200Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter     | P45642-H22 |
| HPE InfiniBand NDR200/Ethernet 200GbE 2-port QSFP112 PCIe5 x16 MCX755106AC-HEAT Adapter | P65333-H21 |



## 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.

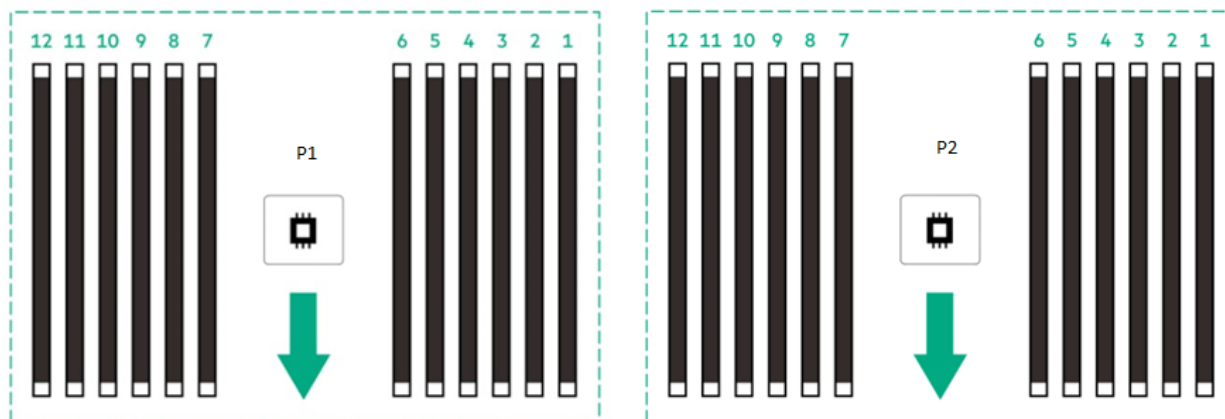
### HPE Rack Options

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



## Memory

### Memory Population guidelines



----- Front side of the server -----

**ProLiant Compute XD685**

**HPE**

### General Memory Population Rules and Guidelines:

- 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.
- 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.
- 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
- For General Server Memory Population Rules and Guidelines and HPE Server Memory speed, see details here: <http://www.hpe.com/docs/memory-population-rules>

## Memory

| HPE SKU P/N              | P64986-H21  | P64987-H21  | P64988-H21  | S5F74A  |
|--------------------------|---|---|---|---|
| <b>SKU Description</b>   | HPE 64GB (1x64GB) Dual Rank x4 DDR5-6400 CAS-46-45-45 EC8 Registered Smart Memory Kit | HPE 96GB (1x96GB) Dual Rank x4 DDR5-6400 CAS-46-45-45 EC8 Registered Smart Memory Kit | H HPE 128GB (1x128GB) Dual Rank x4 DDR5-6400 CAS-46-45-45 EC8 Registered Smart Memory Kit | HPE 256GB (1x256GB) Quad Rank x4 DDR5-6400 CAS-60-52-52 EC8 Registered 3DS Smart Memory Kit |
| <b>DIMM Capacity</b>     | 64GB  | 96GB  | 32GB  | 32GB  |
| <b>DIMM Rank</b>         | Dual Rank (2R)  | Dual Rank (2R)  | Dual Rank (2R)  | Dual Rank (2R)  |
| <b>Voltage</b>           | 1.1V  | 1.1V  | 1.1V  | 1.1V  |
| <b>DRAM Depth [bit]</b>  | 4G  | 6G  | 8G  | 8G  |
| <b>DRAM Width [bit]</b>  | x4  | x4  | x4  | x4  |
| <b>DRAM Density</b>      | 16Gb  | 24Gb  | 32Gb  | 32Gb  |
| <b>CAS Latency</b>       | 46-45-45  | 46-45-45  | 46-45-45  | 60-52-52  |
| <b>DIMM Native Speed</b> | 6400 MT/s   | 6400 MT/s   | 6400 MT/s   | 6400 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 = 131,072 MB
  - o 256GB = 262,144 MB

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

### Memory Speed Table for HPE ProLiant Compute XD685

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**  
1016 (L) x 448 (W) x 218.9 (H) DLC  
1016 (L) x 448 (W) x 261 (H) Air

#### Weight (approximate)

- **Empty:**  
46.95 kg
- **Fully Loaded:**  
109.8 kg

---

#### Input Requirements (per power supply)

##### Rated Line Voltage

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

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#### 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),

---

#### Relative Humidity (non-condensing)

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

---

#### Altitude

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

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#### 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>

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#### 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   |
|-------------|-------------------------|---------|---|
| 04-Aug-2025 | <b><u>Version 9</u></b> | Added   | This SKU was added in Configuration Information on page 15 S4R99A and these in Core Options section on page 16: S4X27A S4X29A, S4X31A   |
|             |                         | Removed | This SKU P48183-B21 was removed in Configuration Information on page 15   |
| 07-Jul-2025 | <b><u>Version 8</u></b> | Changed | Note was removed in the Standard Features section, under Power Supply on page 5."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". |
| 12-Jun-2025 | <b><u>Version 7</u></b> | Changed | Core Options section was updated  |
| 02-Jun-2025 | <b><u>Version 6</u></b> | Changed | Core Options section was updated  |
| 12-May-2025 | <b><u>Version 5</u></b> | Changed | Overview, Optional Features Configuration Information and Technical Specifications sections were updated.   |
| 03-Mar-2025 | <b><u>Version 4</u></b> | Changed | Overview, Standard Features Configuration Information and Technical Specifications sections were updated.   |
| 19-Feb-2025 | <b><u>Version 3</u></b> | Changed | Core Options and Technical Specifications sections were updated   |
| 03-Feb-2025 | <b><u>Version 2</u></b> | Changed | Standard Features section was updated.  |
| 06-Jan-2025 | <b><u>Version 1</u></b> | New     | New QuickSpecs  |



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