

Overview

HPE ProLiant DL380a Gen11

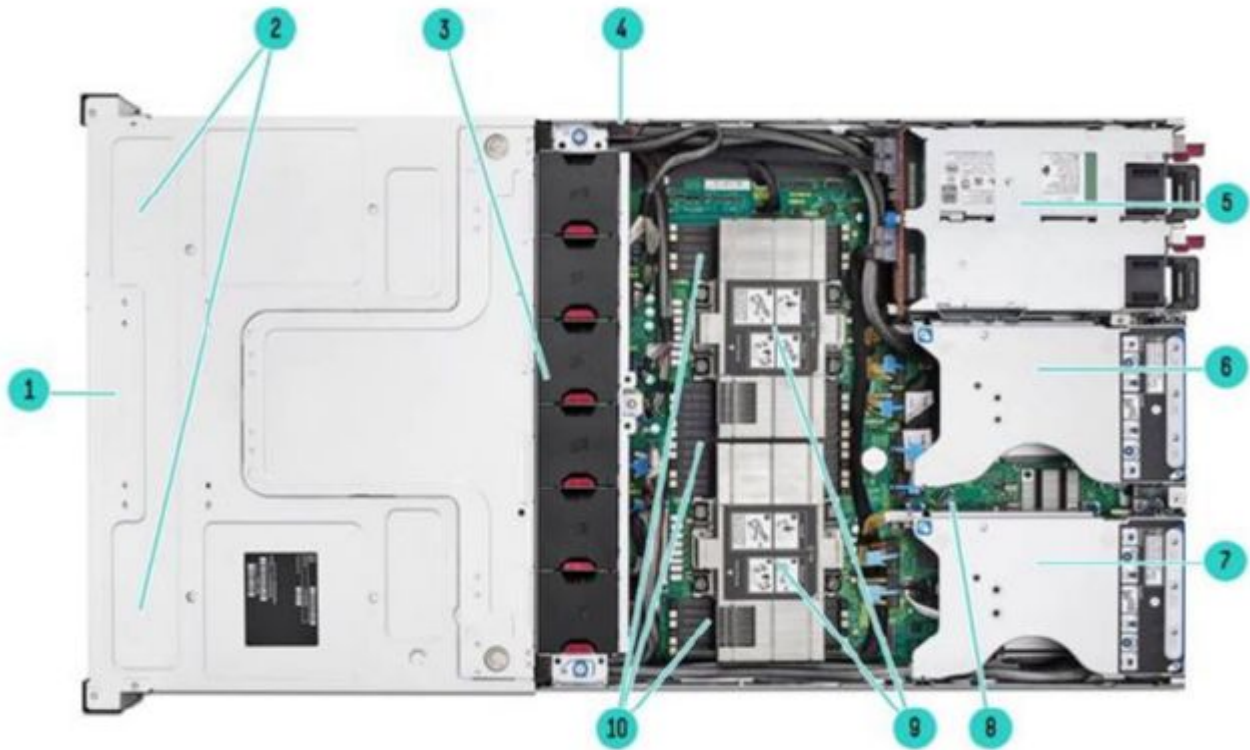
The HPE ProLiant DL380a Gen11 server is a GPU server built for the growing demands of enterprise AI, with the support for 4 double-wide accelerators in a standard 2U 2P form factor. The "a" stands for accelerator optimized, which provides excellent cooling performance for dense GPUs. Powered by the 4th Generation Intel® Xeon® Scalable Processors and cutting-edge GPUs, the HPE ProLiant DL380a Gen11 server can accelerate machine learning, deep learning, AI training and inference workloads, as well as advanced engineering applications or graphic intensive workloads.



Front View - 8SFF drive bay shown

- | | |
|---|--|
| 1. Quick removal access panel | 7. UID button/LED |
| 2. Power On/Standby button and system power LED | 8. GPU cage 2 (2 DW or 4 SW GPUs) |
| 3. Health LED | 9. Drive Box 1 (8 SFF or EDSFF drives) |
| 4. iLO front service port | 10. GPU cage 1 (2 DW or 4 SW GPUs) |
| 5. USB 3.0 port | 11. Serial number label pull tab |
| 6. NIC status LED | |

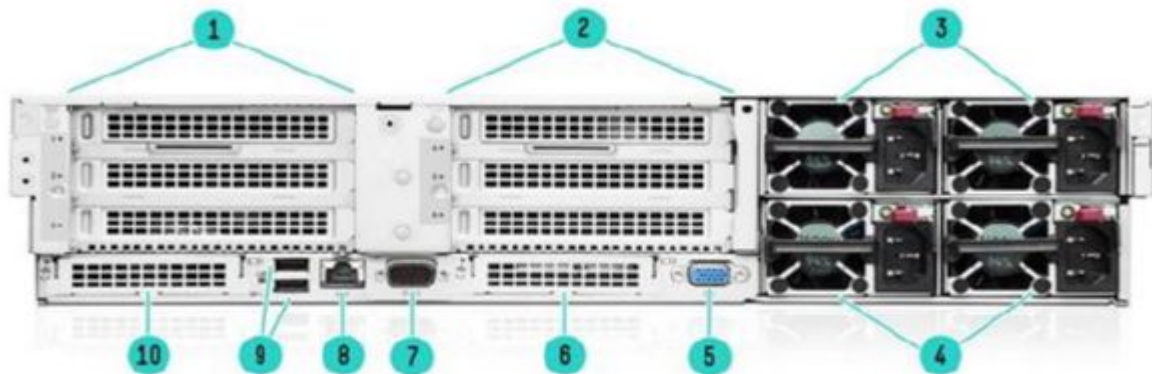
Overview



Internal View

- | | |
|---|--|
| 1. 8 SFF NVMe or EDSFF drive bay | 6. Secondary Riser |
| 2. GPU cages for 4 double-wide or 8 single-wide GPUs ¹ | 7. Primary Riser |
| 3. 6 hot-plug fans with N+1 redundancy | 8. Internal USB 3.0 port |
| 4. Chassis intrusion detection (optional) | 9. 2 processors (heatsinks showing) |
| 5. Up to 4 hot-plug, redundant power supplies | 10. DDR5 DIMM slots (support up to 24 DIMMs) |

Notes: ¹8 single-wide GPUs support will be available in mid-2023.



Rear View

- | | |
|---|------------------------------------|
| 1. Primary Riser. PCIe 5.0 slots (slots 2 & 3) | 6. OCP 3.0 slot 18/OCP2 (optional) |
| 2. Secondary Riser. PCIe 5.0 slots (slots 5 & 6) | 7. Optional serial port |
| 3. Power supply 3 and 4 (for GPU auxiliary power) | 8. Dedicated iLO management port |
| 4. Power supply 1 and 2 (for the system board) | 9. 2 USB 3.0 ports |

Overview

5. VGA connector
 10. OCP 3.0 slot 17/OCP1 (PCIe 5.0 x8, upgradable to x16)
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What's New

- Supports 4th Generation Intel® Xeon® Scalable Processors.
 - Support for 4 double wide GPUs in a 2U server for intensive compute acceleration.
 - Support for PCIe 5.0 for improved bandwidth and throughput.
 - Support for well-balanced I/O performance across processors.
 - Support for HPE DDR5 SmartMemory.
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Platform Information

Form Factor

- 2U rack

Chassis Types

- 4DW (double-wide GPU) chassis with one drive bay for drive cage options.
Notes: [The DL380a Gen11 comes with an 8SFF x4 U.3 NVMe drive bay by default.](#)

System Fans

- 6 dual-rotor hot-plug fans with N+1 redundancy by default
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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.

4th Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	CPU Frequency	Cores	L3 Cache (MB)	Power	UPI	DDR5	SGX Enclave size
Platinum 8480+ Processor	2.0 GHz	56	105	350W	4 @ 16 GT/s	4800 MT/s	512GB
Platinum 8470 Processor	2.0 GHz	52	105	350W	4 @ 16 GT/s	4800 MT/s	512GB
Platinum 8468 Processor	2.1 GHz	48	105	350W	4 @ 16 GT/s	4800 MT/s	512GB
Platinum 8468V Processor ²	2.4 GHz ^{1, 3} 2.1 GHz ¹ 1.8 GHz ¹	48 ³ 48 48	97.5	330W ³ 300W 270W	3 @ 16 GT/s	4800 MT/s	128GB
Platinum 8460Y+ Processor	2.0 GHz 2.1 GHz 2.3 GHz	40 ³ 36 32	105	300W ³ 300W 300W	4 @ 16 GT/s	4800 MT/s	128GB
Platinum 8458P Processor ²	2.7 GHz ^{1, 3} 2.7 GHz ¹ 3.0 GHz ¹	44 ³ 40 32	82.5	350W ³ 330W 330W	3 @ 16 GT/s	4800 MT/s	512GB
Platinum 8452Y Processor	2.0 GHz ³ 1.9 GHz 2.1 GHz	36 ³ 32 24	67.5	300W ³ 270W 250W	4 @ 16 GT/s	4800 MT/s	128GB
Gold 6454S Processor ²	2.2 GHz ³ 2.4 GHz 2.6 GHz	32 ³ 24 16	60	270W ³ 250W 225W	4 @ 16 GT/s	4800 MT/s	128GB
Gold 6430 Processor	2.1 GHz	32	60	270W	3 @ 16 GT/s	4400 MT/s	128GB
Gold 6426Y Processor	2.5 GHz	16	37.5	185W	3 @ 16 GT/s	4800 MT/s	128GB
Gold 6442Y Processor	2.6 GHz	24	60	225W	3 @ 16 GT/s	4800 MT/s	128GB

Standard Features

Gold 6448Y Processor	2.1 GHz	32	60	225W	3 @ 16 GT/s	4800 MT/s	128GB
Gold 6434 Processor	3.7 GHz	8	22.5	195W	3 @ 16 GT/s	4800 MT/s	128GB
Gold 6444Y Processor	3.6 GHz	16	45	270W	3 @ 16 GT/s	4800 MT/s	128GB
Platinum 8462Y+ Processor	2.8 GHz	32	60	300W	3 @ 16 GT/s	4800 MT/s	128GB

Intel Xeon Models	CPU Frequency	Cores	L3 Cache (MB)	Power	UPI	DDR5	SGX Enclave size
Silver 4416+ Processor	2 GHz	20	37.5	165W	2 @ 16 GT/s	4000 MT/s	64GB
Gold 5418Y Processor	2 GHz	24	45	185W	3 @ 16 GT/s	4400 MT/s	128GB
Gold 5420+ Processor	2 GHz	28	52.5	205W	3 @ 16 GT/s	4400 MT/s	128GB
Gold 6438Y+ Processor	2 GHz	32	60	205W	3 @ 16 GT/s	4800 MT/s	128GB
Gold 6438M Processor	2.2 GHz	32	60	205W	3 @ 16 GT/s	4800 MT/s	128GB

Notes:

- ¹Deterministic base frequency rating only applicable to VM workloads. Other workloads may see throttling.
- ²Supports Intel® Speed Select Performance Profile (SST-P), even though not being a "Y" processor.
- ³Default Speed Select Performance Profile value.

Chipset

Intel C741 Chipset

Notes: For more information regarding Intel® chipsets, please see the following URL:

<https://www.intel.com/content/www/us/en/products/chipsets/server-chipsets.html>

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 SmartMemory, 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)	3.0 TB (24 x 128 GB RDIMM @4400 MT/s, 2DPC) 2.0 TB (16 x 128 GB RDIMM @4800 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
Hot Plug E3.S NVMe PCIe SSD	61.44 TB	8 x 7.68 TB

Notes: EDSFF drives will be available 2H2023 .

Power Supply

- HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
Notes: 1 available in 94% efficiency.
- HPE 1800W-2200W Flex Slot Titanium Hot Plug Power Supply Kit

Standard Features

Notes: 1 available in 96% efficiency.

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

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.

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

For information on power specifications and technical content visit [HPE Server power supplies](#).

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 are included for RAID 1 OS boot.
- Can be configured to be rear accessible or internal accessible.
- Does not occupy PCIe slots on the DL380a Gen11 server

Software RAID

- Intel® Virtual RAID on CPU (Intel® VROC)

Notes:

- Supports up to 8 direct attach NVMe bays on the DL380a Gen11 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
 - HPE SR932i-p Gen11 24G Controller
-

Interfaces

Standard Features

Serial Port	1 optional (rear)
VGA Port	1 standard (rear)
Network Ports	None standard. Choice of OCP networking card or stand-up networking card required.
HPE iLO Remote Management Network Port	1 Gb dedicated (rear)
Front iLO Service Port	1 standard (front)
USB 3.0	4 (1 front, 2 rear, 1 internal)

Operating Systems and Virtualization Software Support for ProLiant Servers

See [HPE Servers Support & Certification Matrices](#)

- [Microsoft Windows Server](#)
- [VMware ESXi](#)
- [Red Hat Enterprise Linux \(RHEL\)](#)
- [SUSE Linux Enterprise Server \(SLES\)](#)
- [Canonical Ubuntu](#)

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 a completely new As a Service experience that delivers greater security, simplicity, and efficiency. Discover a completely modernized compute management experience delivered through HPE GreenLake that securely streamlines operations from edge-to-cloud, and automates key lifecycle tasks (onboard, update, manage and monitor HPE servers), bringing the agility and

Standard Features

greater efficiencies to wherever compute devices reside via a unified single browser-based interface. Compute Ops Management is built on a unique cloud-native architecture that abstracts, manages and controls HPE servers regardless of physical location. The management application resides in the HPE GreenLake cloud platform (access via <https://console.greenlake.hpe.com>) and leverages the HPE GreenLake architecture, security, and unified operations.

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

For more information visit the HPE GreenLake Ops Management QuickSpecs:

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

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
- EU Lot9

Notes: European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen11 servers are compliant with Lot9 requirements.

Please visit: <https://www.hpe.com/us/en/about/environment/msds-specs-more.html> for more information regarding HPE Lot 9 conformance.

- IPMI 2.0
 - Microsoft® Logo certifications
 - 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.

Standard Features

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

UEFI

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

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

Intelligent Provisioning

Hassle free server and OS provisioning for 1 or more servers with Intelligent Provisioning.

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

iLO RESTful API

iLO RESTful API is Redfish API conformance and offers simplified server management automation such as configuration and maintenance tasks based on modern industry standards. Learn more at

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

Server Utilities

Active Health System

The HPE Active Health System (AHS) is an essential component of the iLO management portfolio that provides continuous, proactive health monitoring of HPE servers. Learn more at

<http://www.hpe.com/servers/ahs>.

Active Health System Viewer

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

Smart Update

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

iLO Amplifier Pack

Designed for large enterprise and service provider environments with hundreds of HPE servers, the iLO Amplifier Pack is a free, downloadable open virtual application (OVA) that delivers the power to discover, inventory and update HPE servers at unmatched speed and scale. Use with an iLO Advanced License to unlock full capabilities.

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

HPE iLO Mobile Application

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

RESTful Interface Tool

RESTful Interface tool (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 OneView Standard

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

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

HPE Systems Insight Manager (HPE SIM)

Standard Features

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
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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 Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

Notes: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished 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/us/en/search-results.html?page=1&q=servers%20warranty&autocomplete=0>

Optional Features

Server Management HPE iLO Advanced

HPE iLO Advanced licenses offer smart remote functionality without compromise, for all HPE ProLiant servers. The license includes the full integrated remote console, virtual keyboard, video, and mouse (KVM), multi-user collaboration, console record and replay, and GUI-based and scripted virtual media and virtual folders. You can also activate the enhanced security and power management functionality.

HPE OneView Advanced

HPE OneView brings a new level of automation to infrastructure management by taking a template driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. It provides full-featured licenses which can be purchased for managing multiple HPE server.

To learn more visit <http://www.hpe.com/info/oneview>.

HPE InfoSight for Servers

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

Learn more at <https://www.hpe.com/servers/infosight>

HPE Insight Cluster Management Utility (CMU)

HPE Insight Cluster Management Utility is a HyperScale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at <http://www.hpe.com/info/cmu>.

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](#).

Optional Features

Service and Support

HPE Pointnext - Service and Support

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

Consume IT on your terms

HPE GreenLake brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

Managed services to run your IT operations

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

Recommended Services

HPE Pointnext Tech Care.

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

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

HPE Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:

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

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

Service and Support

Other related Services

HPE Server Hardware Installation

Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

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

HPE Installation and Startup Service

Provides for the installation of your HPE hardware according to product specifications including options. The HPE service delivery technician will connect the product to a LAN as appropriate and enable remote support to allow for automatic case creation for hardware failures. Installation and start up services also include the installation of one supported operating system type (Windows® or Linux).

DC for Hyperscale

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

HPE Factory Express for Servers and storage

HPE Factory Express offers configuration, customization, integration, and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped, and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration, and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HPE products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAXxxx3PAR suite, XP, rackable tape libraries and configurable network switches.

HPE Service Credits

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

HPE Education Services

Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment.

<http://www.hpe.com/ww/learn>

Service and Support

HPE Support Center

The HPE Support Center is a personalized online support portal with access to information, tools, and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers.

Learn more <http://www.hpe.com/support/hpesc>.

The HPE Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

Notes: *HPE Support Center Mobile App is subject to local availability.

For more information: <http://www.hpe.com/services>.

Notes: HPE ProLiant DL380a Gen11 Server is covered under the HPE Service Contract applied to the HPE ProLiant Server. No separate HPE support services need to be purchased.

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

Parts and Materials

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

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

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

Configuration Information

Smart Templates from HPE

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

Workload Solutions Templates from HPE

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

Mainstream SKUs

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

Mainstream Configurations

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

This section lists some of the steps required to configure a Factory Integrated Model. To ensure 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

Configuration Information

CTO Server Models	HPE ProLiant DL380a Gen11 4 Double Wide Configure-to-order Server
SKU Number	P54903-B21
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	Two standard and two optional
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 and OneView (optional) HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download), HPE iLO Advanced, HPE iLO Advanced Premium Security Edition, and HPE OneView Advanced (require licenses)
USB	4 USB 3.0 (1 front, 2 rear, 1 internal) plus iLO front service port
Trusted Platform Module (TPM)	Embedded TPM Notes: Disabled on shipments to China

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.

Step 2: Choose Processors

Please select two processors from below.

Notes:

- DL380a Gen11 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.
- Each processor feeds 2 x8 front NVMe connectors, supporting up to 4 drives. Sockets must be populated for NVMe connectors to be usable.

Configuration Information

4th Generation Intel Xeon-Platinum

	SKU
Intel Xeon-Platinum 8480+ 2.0GHz 56-core 350W Processor for HPE	P49607-B21
Intel Xeon-Platinum 8470 2.0GHz 52-core 350W Processor for HPE	P49606-B21
Intel Xeon-Platinum 8468 2.1GHz 48-core 350W Processor for HPE	P49605-B21
Intel Xeon-Platinum 8468V 2.4GHz 48-core 330W Processor for HPE	P49631-B21
Intel Xeon-Platinum 8460Y+ 2.0GHz 40-core 300W Processor for HPE	P49604-B21
Intel Xeon-Platinum 8458P 2.7GHz 44-core 350W Processor for HPE	P49632-B21
Intel Xeon-Platinum 8452Y 2.0GHz 36-core 300W Processor for HPE	P49616-B21
Intel Xeon-Gold 6454S 2.2GHz 32-core 270W Processor for HPE	P49654-B21
Intel Xeon-Gold 6430 2.1GHz 32-core 270W Processor for HPE	P49614-B21
Intel Xeon-Gold 6444Y 3.6GHz 16-core 270W Processor for HPE	P49602-B21

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

Intel Xeon-Gold 6426Y 2.5GHz 16-core 185W Processor for HPE	P49598-B21
Intel Xeon-Gold 6442Y 2.6GHz 24-core 225W Processor for HPE	P49599-B21
Intel Xeon-Gold 6448Y 2.1GHz 32-core 225W Processor for HPE	P49600-B21
Intel Xeon-Gold 6434 3.7GHz 8-core 195W Processor for HPE	P49601-B21
Intel Xeon-Platinum 8462Y+ 2.8GHz 32-core 300W Processor for HPE	P49603-B21
Intel Xeon-Silver 4416+ 2.0GHz 20-core 165W Processor for HPE	P49611-B21
Intel Xeon-Gold 5418Y 2.0GHz 24-core 185W Processor for HPE	P49612-B21
Intel Xeon-Gold 5420+ 2.0GHz 28-core 205W Processor for HPE	P49613-B21
Intel Xeon-Gold 6438Y+ 2.0GHz 32-core 205W Processor for HPE	P49615-B21
Intel Xeon-Gold 6438M 2.2GHz 32-core 205W Processor for HPE	P49648-B21

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

Step 3: Choose GPUs

Please select the GPU from the options below.

For new Gen11 memory population rule whitepaper and optimal memory performance guidelines, please go to:

HPE Memory Population Rules

Notes:

- DL380a Gen11 only supports fully loaded GPU configurations, i.e. 4 double-wide GPUs.
- Mixing of different GPU models is not supported.
- System memory capacity is recommended to be 1.5x GPU memory capacity.

Computation and Graphics Accelerators

NVIDIA H100 80GB PCIe Accelerator for HPE	R9S41C
NVIDIA L40 48GB PCIe Accelerator for HPE	S0K90C

Notes:

- Supported in the front GPU cages of DL380a Gen11 4 Double Wide CTO Server (P54903-B21) only.
- Must select 4 pcs.
- Requires one DL380a Gen11 GPU 16p FIO Pwr Cbl Kit (P59578-B21).

NVIDIA A100 80GB PCIe Non-CEC Accelerator for HPE	R9P49C
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Notes:

- Supported in the front GPU cages of DL380a Gen11 4 Double Wide CTO Server (P54903-B21) only.
- Must select 4 pcs.
- Requires one DL380a Gen11 GPU 8p FIO Pwr Cbl Kit (P59579-B21).

NVIDIA Ampere 2-way 2-slot Bridge for HPE	R6V66A
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Configuration Information

Notes: Select 3 pcs for every pair of H100 or A100 GPUs.

HPE ProLiant DL380a Gen11 GPU 16-pin FIO Power Cable Kit P59578-B21

Notes: This GPU power cable kit is used to support four (4) pcs of NVIDIA H100.

HPE ProLiant DL380a Gen11 GPU 8-pin FIO Power Cable Kit P59579-B21

Notes: This GPU power cable kit is used to support four (4) pcs of NVIDIA A100.

GPU Information

Part Number	Card	TDP	PCIe Speed	Qty. Support	DL380a Gen11 Configuration	
					Intel XCC	Intel MCC
R9S41C	NVIDIA H100 80GB PCIe Accelerator for HPE	350 W	Gen5	4	PCIe or OCP cards, QSFP28 or lower (DAC cables only): 25C	PCIe or OCP cards, QSFP28 or lower (DAC cables only): 25C
R9P49C	NVIDIA A100 80GB PCIe Non-CEC Accelerator for HPE	300 W	Gen4	4	PCIe or OCP cards, QSFP28 or lower: 25C	PCIe or OCP cards, QSFP28 or lower: QuickSpec Compliant
S0K90C	NVIDIA L40 48GB PCIe Accelerator for HPE	300 W	Gen4	4	PCIe or OCP cards, QSFP28 or lower: 25C	PCIe or OCP cards, QSFP28 or lower: QuickSpec Compliant

Step 4: Choose Memory Options

Please select two or more memory kits from below.

For new Gen11 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 DL380a Gen11, select 2, 4, 8, 12, 16, or 24 DIMMs.
- Mixing of 3DS memory and non-3DS memory is not supported.
- 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.
- 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 16GB (1x16GB) Single Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit P43322-B21

HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit P43328-B21

HPE 64GB (1x64GB) Dual Rank x4 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit P43331-B21

HPE 128GB (1x128GB) Quad Rank x4 DDR5-4800 CAS-46-39-39 EC8 Registered 3DS Smart Memory Kit P43334-B21

Configuration Information

Step 5: Choose Storage Options

Please select one drive cage from below.

DL380a Gen11 supports balanced storage configuration via direct connection or dual controllers, delivering consistent high performance across two processors

Notes:

- DL380a Gen11 CTO Servers do not include drive cages.
- DL380a Gen11 only supports NVMe SSDs - U.3, E3.S
- Mixing of storage controllers is not supported.

Drive Cage

HPE ProLiant DL380a Gen11 8SFF x4 U.3 NVMe BC Drive Cage Kit

P54302-B21

Notes:

- Supports up to 8 U.3 NVMe drives balanced across two processors.
- Maximum quantity = 1
- Balanced direct NVMe config: Requires selection of Direct Connected Cable Kit (P55704-B21) to support 8 drives balanced across two processors.
- Balanced NVMe with type-p controllers: Requires selection of Type-p Prim TM Cbl Kit (P55706-B21) and Type-p Sec TM Cbl Kit (P56362-B21) to support 8 drives balanced across two processors via two type-p tri-mode controllers.
- Balanced NVMe with OROC controllers: Requires selection of OROC Prim TM Cbl Kit (P55708-B21) and OROC Sec TM Cbl Kit (P58715-B21) to support 8 drives balanced across two processors via two OROC tri-mode controllers.
- Unbalanced NVMe with single SR932i-p controller: Requires selection of 2 Type-p Prim TM Cbl Kit (P55706-B21).
- Unbalanced NVMe with single MR416i-p controller: Requires selection of 1 Type-p Prim TM Cbl Kit (P55706-B21) to support 4 drives.
- Unbalanced NVMe with single OROC (MR416i-o or SR416i-o): Requires selection of OROC Prim TM Cbl Kit (P55708-B21) to install on OCP1 to support 4 drives.

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.
- All tri-mode controllers cannot 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

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).

Configuration Information

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

Notes:

- Maximum quantity = 1
- 1pc of MR416i-p can support up to 8 NVMe Gen4x4 with unbalanced I/O performance from one processor.
 - o Must select 2 pcs of Type-p Prim TM Cbl Kit (P55706-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

Intel Virtual RAID on CPU Standard FIO Software for HPE S0E37A

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
- Requires either DL380a Gen11 NS204i-u Rear Enable Kit (P55710-B21) or HPE DL380a G11 NS204i-u Int Enable Kit (P58716-B21).
- Can be configured to be rear accessible by selecting P55710-B21 for better serviceability.
- Can be configured to be internal accessible by selecting P58716-B21 for better security.
- Does not occupy PCIe slots.

HPE DL380a Gen11 Storage Cables

HPE ProLiant DL380a Gen11 Direct Connected NVMe Cable Kit P55704-B21

Notes:

- Qty 1 is used to support 8 NVMe drives directly from the system board to drive backplanes.
- Supports 8SFF U.3 (P54302-B21), and 8EDSFF (P54304-B21) drive cage kits.
- When this cable kit is selected, Stacking Riser Kit (P54305-B21) cannot be selected, and PCIe slot 2 and 5 will not be available.

HPE ProLiant DL380a Gen11 Type-p Controller Primary Tri-Mode Cable Kit P55706-B21

Notes: Qty 1 is used to connect 8SFF U.3to tri-mode controller on Primary Riser to support 4 x4 NVMe SSDs.

HPE ProLiant DL380a Gen11 Type-p Controller Secondary Tri-Mode Cable Kit P56362-B21

Notes: Qty 1 is used to connect 8SFF U.3 to tri-mode controller on Secondary Riser to support 4 x4 NVMe SSDs.

HPE ProLiant DL380a Gen11 OROC Primary Tri-Mode Cable Kit P55708-B21

Notes: Qty 1 is used to connect 8SFF U.3 to tri-mode controller on OCP1 to support 4 x4 NVMe SSDs.

HPE ProLiant DL380a Gen11 OROC Secondary Tri-Mode Cable Kit P58715-B21

Notes: Qty 1 is used to connect 8SFF U.3 to tri-mode controller on OCP2 to support 4 x4 NVMe SSDs.

Step 6: Choose Power Supplies

Select four power supplies from below.

Notes:

- DL380a Gen11 4DW CTO Server requires 4 power supplies to be selected.
- Select 2 identical power supplies for power domain 1 (PSU 1 & 2).
- Select 2 identical power supplies for power domain 2 (PSU 3 & 4).
- Mixing of 2 different power supplies in the same power domain is not supported.
- Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to

Configuration Information

determine the right size power supply for your server configuration. The HPE Power Advisor is located at:

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

HPE Flex Slot Power Supplies

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

P38997-B21

HPE 1800W-2200W Flex Slot Titanium Hot Plug Power Supply Kit

P44712-B21

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

HPE GreenLake for Compute Ops Management Standard 1-year Upfront ProLiant SaaS	R6Z88AAE
HPE GreenLake for Compute Ops Management Standard 5-year Upfront ProLiant SaaS	R6Z90AAE
HPE GreenLake for Compute Ops Management Standard 1-year Monthly ProLiant SaaS	R6Z91AAE
HPE GreenLake for Compute Ops Management Standard 3-year Monthly ProLiant SaaS	R6Z92AAE
HPE GreenLake for Compute Ops Management Standard 5-year Monthly ProLiant SaaS	R6Z93AAE
HPE GreenLake for Compute Ops Management Standard 1-year Quarterly ProLiant SaaS	R6Z94AAE
HPE GreenLake for Compute Ops Management Standard 3-year Quarterly ProLiant SaaS	R6Z95AAE
HPE GreenLake for Compute Ops Management Standard 5-year Quarterly ProLiant SaaS	R6Z96AAE
HPE GreenLake for Compute Ops Management Standard 3-year Annual ProLiant SaaS	R6Z97AAE
HPE GreenLake for Compute Ops Management Standard 5-year Annual ProLiant SaaS	R6Z98AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Upfront ProLiant SaaS	R7A10AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS	R7A11AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Upfront ProLiant SaaS	R7A12AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Monthly ProLiant SaaS	R7A13AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Monthly ProLiant SaaS	R7A14AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Monthly ProLiant SaaS	R7A15AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Quarterly ProLiant SaaS	R7A16AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Quarterly ProLiant SaaS	R7A17AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Quarterly ProLiant SaaS	R7A18AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Annual ProLiant SaaS	R7A19AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Annual ProLiant SaaS	R7A20AAE

HPE OneView

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

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

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

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

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

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

HPE Cooling Options

HPE Alletra 4120 Standard Heat Sink Kit	P51833-B21
HPE Alletra 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 I/O Expansion Options

Notes: The Primary Riser with PCIe slot 3 and the Secondary Riser with PCIe slot 6 are included in the server by default.

HPE ProLiant DL380a Gen11 Stacking Riser Kit	P54305-B21
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Core Options

Notes:

- Qty 1 is used to enable either PCIe slot 2 or PCIe slot 5.
- Maximum quantity = 2

OCP 3.0 Enablement

HPE Alletra 4120 OCP1 Upgrade Cable Kit P51942-B21

Notes: Qty 1 is used to upgrade OCP1 from PCIe 5.0 x8 to x16.

HPE Alletra 4120 OCP2 Upgrade Cable Kit P51943-B21

Notes: Qty 1 is used to enable OCP2 PCIe 5.0 x16.

HPE Optical Drives

HPE Mobile USB DVD-RW Optical Drive 701498-B21

HPE Solid State Drives

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

Read Intensive - NVMe - SFF - Solid State Drives

HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD P50224-B21

HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD P50222-B21

HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD P47847-B21

HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD P50219-B21

HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD P47846-B21

HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD P50216-B21

HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD P47845-B21

HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD P47844-B21

Mixed Use - NVMe - SFF - Solid State Drives

HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD P50233-B21

HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD P47840-B21

HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD P50230-B21

HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD P47839-B21

HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD P50227-B21

HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD P47838-B21

HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD P47837-B21

Mixed Use - NVMe - SFF - FIPS Solid State Drives

HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD P41405-B21

HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD P41404-B21

Read Intensive - NVMe - SFF - FIPS Solid State Drives

HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD P41403-B21

HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD P41402-B21

Notes:

Core Options

- With CM6 FIPS drives: If any of the NVMe SED drive is selected then either direct NVMe config (with Direct Connected Cable Kit) 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

HPE Networking

The DL380a Gen11 CTO server does not come with embedded networking, hence the requirement to configure with either a PCIe or OCP networking adapter.

1 Gigabit Ethernet adapters

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

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

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

25 Gigabit Ethernet adapters

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

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

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

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

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

100 Gigabit Ethernet Adapters

Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE P25960-B21

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

Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE P51181-B21

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

Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE P10097-B21

Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE P26256-B21

Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE P26269-B21

Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE P10115-B21

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

Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE P42041-B21

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

HPE InfiniBand

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

Core Options

HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter	P31324-B21
HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter	P31323-B21
HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter	P31348-B21
HPE InfiniBand NDR 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter	P45641-B21
HPE InfiniBand NDR200 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter	P45642-B21

HPE Omni-Path

HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21
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Notes: Following Message to be displayed as warning message in OCA and CLIC: "Ambient Temp to be 25deg C. Please refer to Quickspecs for more details on Ambient Temperature requirements."

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

HPE Converged Infrastructure Management Software

HPE OneView Advanced (with HPE iLO Advanced)

HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
HPE OneView for ProLiant DL Server including 3yr 24x7 Support Bundle Track 1-server LTU	E5Y44A
HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A
HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE

HPE OneView Advanced (without HPE iLO Advanced)

HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A
HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A
HPE OneView w/o iLO including 3yr 24x7 Support Track 1-server LTU	P8B25A
HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE

Notes: Licenses ship without media. The HPE OneView Media Kit can be ordered separately or can be [downloaded](#).

HPE Security

HPE Gen11 2U Bezel Kit	P50400-B21
HPE Bezel Lock Kit	875519-B21

Notes: Requires the bezel kit

HPE ProLiant DL385 Gen11 Intrusion Cable Kit	P55713-B21
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Additional Options

Notes: This provides a physical connection from the chassis board and hood and detects any physical intrusion into the chassis, providing security during the entire supply chain process of shipping, receiving, distribution, and operation.

HPE Cable Options

HPE ProLiant DL3X5 Serial Port Enablement Kit

P50887-B21

HPE Racks

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

HPE Power Distribution Units (PDUs)

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

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.

HPE Rail Kits

Ball bearing rail kits contain telescoping rails which allow for in-rack serviceability.

To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative.

Notes: Hewlett Packard Enterprise recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

HPE Ball Bearing Rail 8 Kit

P52345-B21

Notes: This rail kit does not include the cable management arm (P28726-B21).

HPE Apollo 4200 Gen10 Plus Cable Management Arm

P28726-B21

Additional Options

HPE Support Services

Installation & Start-up Services

HPE Install ProLiant DL3xx Service U4506E

HPE Installation and Startup DL3xx Service U4507E

Tech Care

HPE 3 Year Tech Care Essential 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

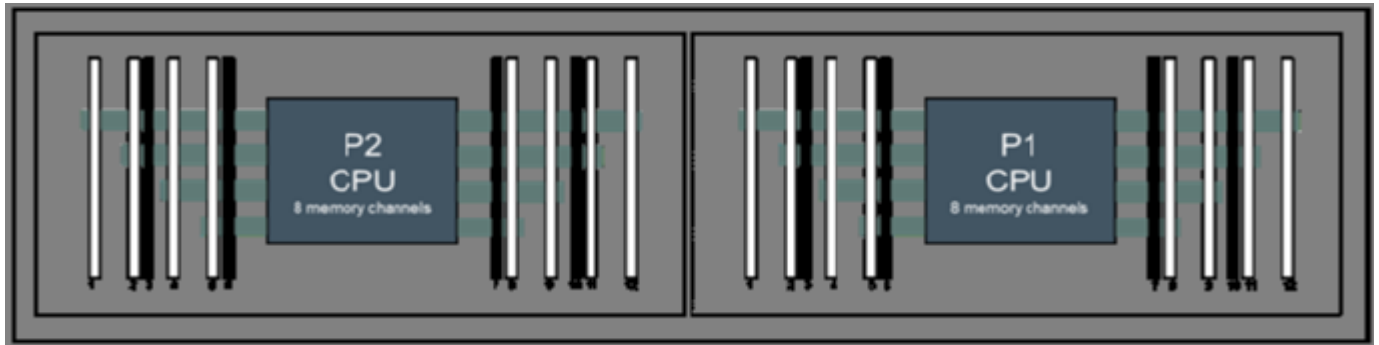
HPE 5 Year Tech Care Essential wDMR DL380a Gen11 HW Service H38ZRE

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 DL380a Gen11

HPE ProLiant DL380a Gen11 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 SmartMemory is

Memory

required.

- For additional information, please see the [HPE DDR5 SmartMemory QuickSpecs](#).

Registered DIMM (RDIMM)				
HPE SKU P/N	P43322-B21	P43328-B21	P43331-B21	P43334-B21
SKU Description	HPE 16GB 1Rx8 PC5-4800B-R Smart Kit	HPE 32GB 2Rx8 PC5-4800B-R Smart Kit	HPE 64GB 2Rx4 PC5-4800B-R Smart Kit	HPE 128GB 4Rx4 PC5-4800B-R 3DS Smart Kit
DIMM Capacity	16GB	32GB	64GB	128GB
DIMM Rank	Single Rank (1R)	Dual Rank (2R)	Dual Rank (2R)	Quad Rank (4R)
Voltage	1.1V	1.1V	1.1V	1.1V
DRAM Depth [bit]	2G	2G	4G	4G
DRAM Width [bit]	x8	x8	x4	x4
DRAM Density	16Gb	16Gb	16Gb	16Gb
CAS Latency	40-39-39	40-39-39	40-39-39	46-39-39
DIMM Native Speed	4800 MT/s	4800 MT/s	4800 MT/s	4800 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 16GB = 16,384 MB
- o 32GB = 32,768 MB
- o 64GB = 65,536 MB
- o 128GB = 131072 MB

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

Memory Speed Table for HPE ProLiantDL380a Gen11

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

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

Storage



4DW chassis with 8 SFF drive cage



4DW chassis with 8 EDSFF drive cage

Technical Specifications

System Unit

Dimensions (Height x Width x Depth)

- **Server**

8.75 x 44.8 x 81.6 cm

3.44 x 17.64 x 32.13 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 4 Double Wide chassis with 1x drive cage, 4x double-wide GPUs, 2x processors and heatsinks, 24x DIMMs, 8x SSDs, 4x power supplies, 1x NS204i-u, 2x Stacking Risers, 4x PCIe cards, 2x OCP cards, 1x storage battery.

–² Server plus rail kit, CMA, power cords.

Input Requirements (per power supply)

Rated Line Voltage

- For 1600W (Platinum) Power Supply: 200-240 VAC
- For 1800W-2200W (Titanium) Power Supply: 200-240 VAC

BTU Rating

Maximum

- For 1600W Power Supply: 5918 BTU/hr (at 200 VAC), 5888 BTU/hr (at 220 VAC), 5884 BTU/hr (at 240 VAC)
- For 1800W-2200W 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..

Power Supply Output (per power supply)

Rated Steady-State Power

- For 1600W (Platinum) Power Supply: 1600W (at 240 VAC), 1600W (at 240 VDC) for China only
- For 1800W-2200W (Titanium) Power Supply: 1800W-2200W (at 200-240 VAC), 2200W (at 240 VDC) for China only

Maximum Peak Power

Technical Specifications

- For 1600W(Platinum) Power Supply: 1600W (at 240 VAC), 1600W (at 240 VDC) for China only
 - For 1800W-2200W (Titanium) Power Supply: 1800W-2200W (at 200-240 VAC), 2200W (at 240 VDC) for China only
-

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>

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.

Technical Specifications

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.
- 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.

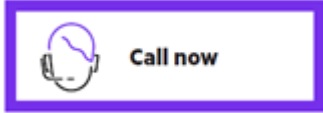
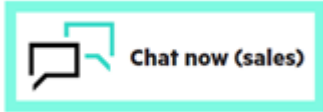
The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other 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
03-Apr-2023	Version 2	Changed	Standard Features, Configuration Information and Core Options sections were updated.
06-Mar-2023	Version 1	New	New QuickSpecs

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

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