## Overview

HPE ProLiant DX380a Gen11

The HPE ProLiant DX380a Gen11 server is a GPU server built for the growing demands of enterprise AI, with the support for 4 double-wide or 8 single-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 DX380a Gen11 server can accelerate machine learning, deep learning, AI training and inference workloads, as well as advanced engineering applications or graphic intensive workloads.
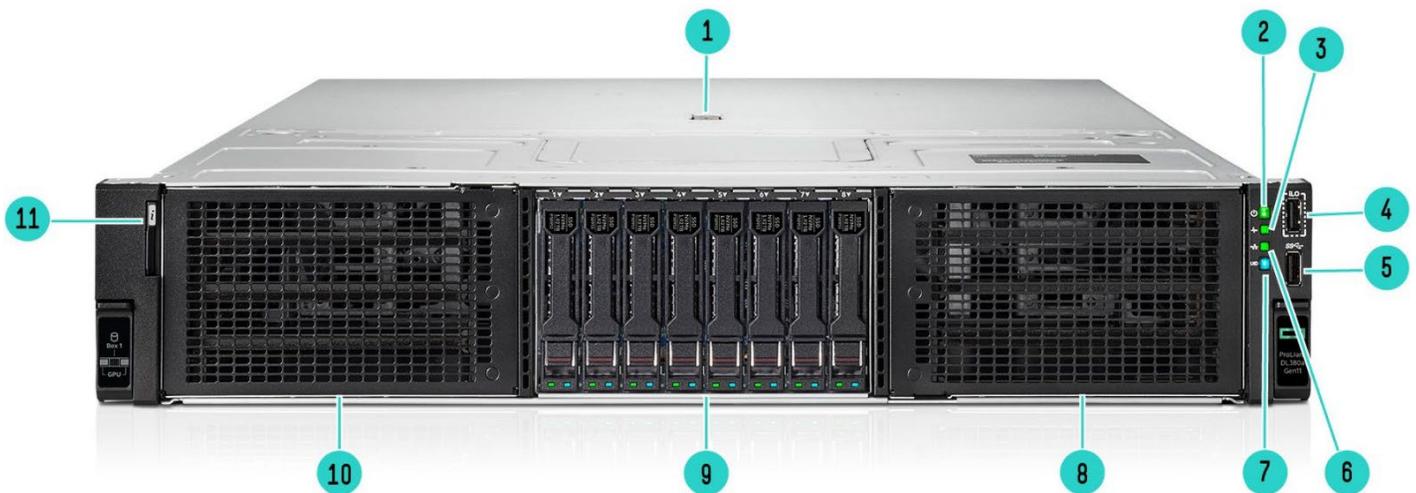
Front View – 8SFF drive bay shown

1. Quick removal access panel
2. Power On/Standby button and system power LED
3. Health LED
4. iLO front service port
5. USB 3.0 port
6. NIC status LED
7. UID button/LED
8. GPU cage 2 (1 or 2 DW or 4 SW GPUs)
9. Drive Box 1 (8 SFF or EDSFF drives)
10. GPU cage 1 (1 or2 DW or 4 SW GPUs)
11. Serial number label pull tab
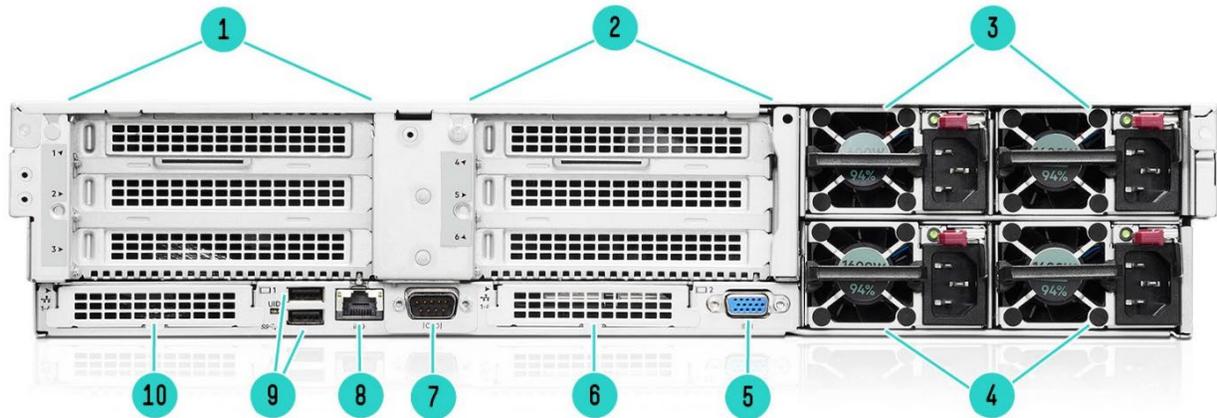
Overview
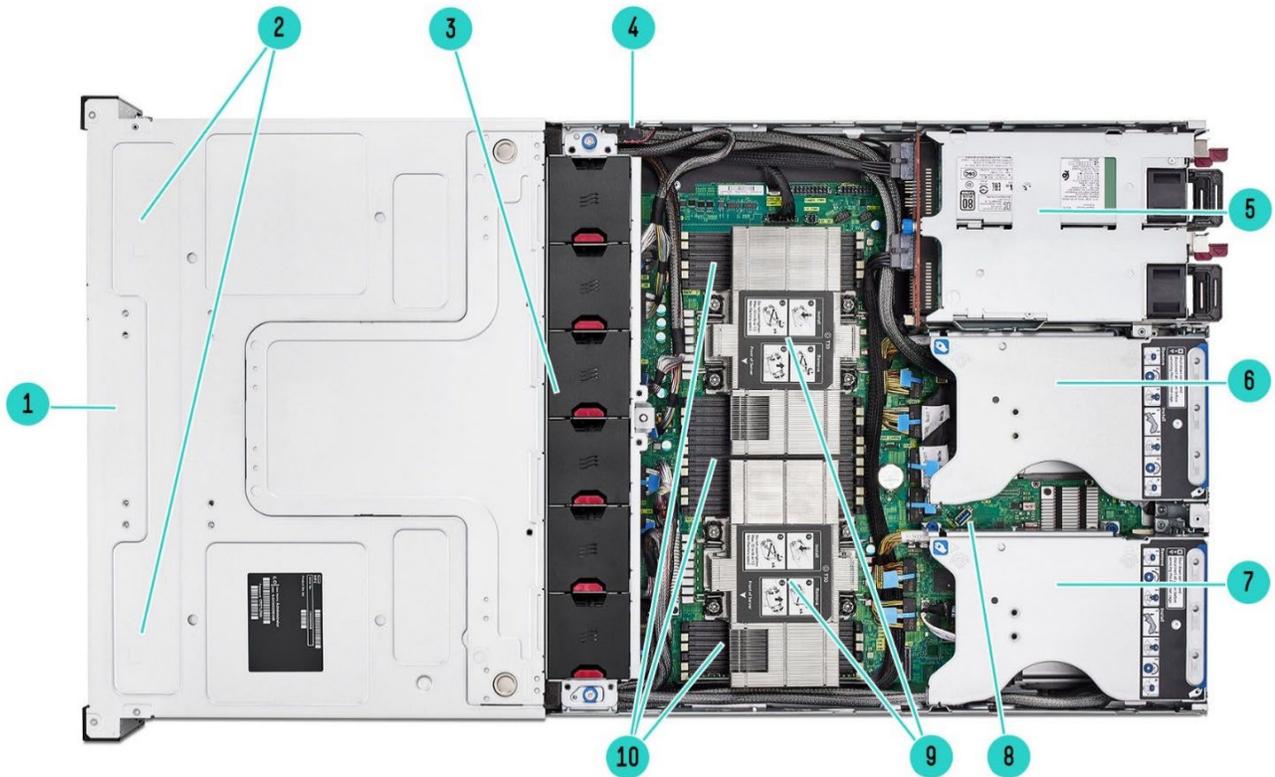
Internal View

1. 8 SFF NVMe drive bay
2. GPU cages for 4 double-wide or 8 single-wide GPUs[1]
3. 6 hot-plug fans with N+1 redundancy
4. Chassis intrusion detection (optional)
5. Up to 4 hot-plug, redundant power supplies

6. Secondary Riser
7. Primary Riser
8. Internal USB 3.0 port
9. 2 processors (heatsinks showing)
10. DDR5 DIMM slots (support up to 24 DIMMs)

Overview

Rear View

1. Primary Riser. PCIe 5.0 slots (slots 2 & 3)
2. Secondary Riser. PCIe 5.0 slots (slots 5 & 6)
3.. Power supply 3 and 4 (for DW GPU auxiliary power)
4. Power supply 1 and 2 (for the system board)
5. VGA connector

6. OCP 3.0 slot 18/OCP2 (optional)
7. Optional serial port
8. Dedicated iLO management port
9. 2 USB 3.0 ports
10. OCP 3.0 slot 17/OCP1 (PCIe 5.0 x8, upgradable to x16)

What's New

- New DX GPU based platform
- Supports 4th Generation Intel® Xeon® Scalable Processors.
- Support for up to 4 double-wide or 8 single-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 Smart Memory.

Platform Information

Form Factor

- 2U rack

Chassis Types

- 4DW (double-wide GPU) chassis with one drive bay for drive cage options.
  Notes: The DX380a 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

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
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

Standard Features

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:

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

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 Smart Memory, Registered (RDIMM)
DIMM Slots Available	24 DIMM slots (12 DIMM slots per processor), 8 channels per processor (4 channels with 2 DIMM slots and 4 channels with 1 DIMM slot)
Maximum capacity (RDIMM)	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.

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.

Standard Features

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

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
  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**.

European Union Erp Lot 9 Regulation
Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.

Standard Features

HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.

Storage Controllers

NVMe Boot Devices
- HPE DX 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 DX380a Gen11 server

Interfaces

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**
  - **VMware ESXi: 7.0 U3, 8.0**

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.

Standard Features

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

Industry Standard Compliance

- ACPI 6.3 Compliant
- Advanced Encryption Standard (AES)
- Active Directory v1.0
- ASHRAE A3/A4
  Notes: For additional technical, thermal details regarding ambient temperature, humidity, and feature support, please visit **https://www.hpe.com/support/ASHRAEGen11**
- DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)
- EU Lot9
  Notes:
  - Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.
  - HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.
  - Please visit: **https://www.hpe.com/us/en/about/environment/msds-specs-more.html** for more information regarding HPE Lot 9 conformance.
- IPMI 2.0
- 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.
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**.

Standard Features

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**

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**.

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

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

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

Optional Features

Server Management

HPE iLO Advanced: Standard
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.

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**

Service and Support

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

Consulting Services
No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.
https://www.hpe.com/services/consulting

HPE Managed Services
HPE runs your IT operations, providing services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation**.**
HPE Managed Services | HPE

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

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

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

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

Service and Support

HPE Lifecycle Services

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

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

Notes: To review the list of Lifecycle Services available for your product go to:
https://www.hpe.com/services/lifecycle

For a list of the most frequently purchased services using service credits, see the **HPE Service Credits Menu**

Other Related Services from HPE Services:
HPE Education Services

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

Defective Media Retention

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

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

Parts and Materials

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

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

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

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

Service and Support

AI Powered and Digitally Enabled Support Experience

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

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

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

Consume IT On Your Terms

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

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

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

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

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

Configuration Information

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

- Factory Integrated Models must start with a CTO Server.
- FIO indicates that this option is only available as a factory installable option.
- All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.
- Some options may not be integrated at the factory. Contact your local sales representative for additional information.

Step 1: Base Configuration

CTO Server Models	HPE ProLiant DX380a Gen11 4 Double Wide Configure-to-order Server
SKU Number	P68997-B21
Processor	Not included as standard
DIMM Slots	24 DIMM slots
Storage Controller	N/A
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	HPEiLO Advanced (standard)
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).
- HPE DX ProLiant platforms are a Server Appliance: and Energy Star except.Server Appliance:
  A computer server that is bundled with a pre-installed OS and applicationsoftware that is used to perform a dedicated function or set of tightly coupled functions. Server appliances deliver services through one or more networks (e.g., IP or SAN), and aretypically managed through a web or command line interface. Server appliance hardware andsoftware configurations are customized by the vendor to perform a specific task (e.g., nameservices, firewall services, authentication services, encryption services, and voice-over-IP(VoIP) services), and are not intended to execute user-supplied software.

Step 2: Choose Processors
Please select two processors from below.

Notes:

- DX380a 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.
  o Processors with TDP equal to or greater than 270W require High Performance Heatsink (P68977-B21).
- DDR5 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

Configuration Information

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

4th Generation Intel Xeon (Platinum, Gold, and Silver)	**SKU**
Intel Xeon-Platinum 8480+ 2.0GHz 56-core 350W FIO Processor for HPE DX	P62396-B21
Intel Xeon-Platinum 8470 2.0GHz 52-core 350W FIO Processor for HPE DX	P62395-B21
Intel Xeon-Platinum 8468 2.1GHz 48-core 350W FIO Processor for HPE DX	P62394-B21
Intel Xeon-Platinum 8468V 2.4GHz 48-core 330W FIO Processor for HPE DX	P62402-B21
Intel Xeon-Platinum 8460Y+ 2.0GHz 40-core 300W FIO Processor for HPE DX	P62393-B21
Intel Xeon-Platinum 8458P 2.7GHz 44-core 350W FIO Processor for HPE DX	P62403-B21
Intel Xeon-Platinum 8452Y 2.0GHz 36-core 300W FIO Processor for HPE DX	P62398-B21
Intel Xeon-Gold 6454S 2.2GHz 32-core 270W FIO Processor for HPE DX	P62404-B21
Intel Xeon-Gold 6430 2.1GHz 32-core 270W FIO Processor for HPE DX	P62397-B21
Intel Xeon-Gold 6444Y 3.6GHz 16-core 270W FIO Processor for HPE DX	P62410-B21

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

Intel Xeon-Gold 6426Y 2.5GHz 16-core 185W FIO Processor for HPE DX	P62406-B21
Intel Xeon-Gold 6442Y 2.6GHz 24-core 225W FIO Processor for HPE DX	P62407-B21
Intel Xeon-Gold 6448Y 2.1GHz 32-core 225W FIO Processor for HPE DX	P62408-B21
Intel Xeon-Gold 6434 3.7GHz 8-core 195W FIO Processor for HPE DX	P62409-B21
Intel Xeon-Silver 4416+ 2.0GHz 20-core 165W FIO Processor for HPE DX	P62413-B21
Intel Xeon-Gold 5418Y 2.0GHz 24-core 185W FIO Processor for HPE DX	P62414-B21
Intel Xeon-Gold 5420+ 2.0GHz 28-core 205W FIO Processor for HPE DX	P62415-B21
Intel Xeon-Gold 6438Y+ 2.0GHz 32-core 205W FIO Processor for HPE DX	P62416-B21
Intel Xeon-Gold 6438M 2.0GHz 32-core 205W FIO Processor for HPE DX	P62425-B21

Notes: Above processors (below 270W) are defaulted to High Performance Heatsink (P68977-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:
— Double Wide GPU can be selected in multiples of 2 only (i.e. Qty2 or Qty4).
— Mixing of different GPU models is not supported.
— System memory capacity is recommended to be 2x GPU memory capacity.

Computation and Graphics Accelerators

DX NVIDIA H100 80GB PCIe FIO Accelerator	P62021-B21
DX NVIDIA L40 48GB PCIe FIOAccelerator for HPE	P61598-B21
NVIDIA L40S 48GB PCIe FIO Accelerator DX	P68953-B21

Notes: Standalone: S2L70C

HPE ProLiant DX380a Gen11 GPU 16-pin FIO Power Cable Kit	P59578-B21

Notes:
— This GPU power cable kit is used to support up to four (4) pcs of NVIDA H100 or L40(s) GPU.
— If Graphics option is selected then HPE DL380a Gen11 GPU 16p FIO Pwr Cbl Kit must be selected and defaulted.
— Mixing of Graphics Power Cable is not allowed.

Configuration Information

GPU Information

Part Number	Card	TDP	PCIe Speed	Qty. Support	DL380a Gen11 Configuration	
					Intel XCC	Intel MCC
P62021-B21	NVIDIA H100 80GB PCIe Accelerator for HPE	350W	Gen5	2 or 4	PCIe or OCP cards, QSFP28 or lower (DAC cables only): 25C	PCIe or OCP cards, QSFP28 or lower (DAC cables only): 25C
P61598-B21	NVIDIA L40 48GB PCIe Accelerator for HPE	300W	Gen4	2 or 4	PCIe or OCP cards, QSFP28 or lower: 25C	PCIe or OCP cards, QSFP28 or lower: QuickSpec Compliant
S2L70C	NVIDIA L40S 48GB PCIe Accelerator for HPE	350W	Gen4	2 or 4	PCIe or OCP cards, QSFP28 or lower (DAC cables only): 25C	PCIe or OCP cards, QSFP28 or lower (DAC cables only): 25C

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 DX 16GB (1x16GB) Single Rank x8 DDR5-5200 CAS-42-42-42 EC8 Registered Smart FIO Memory Kit	P62601-B21
HPE DX 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart FIO Memory Kit	P62603-B21
HPE DX 64GB (1x64GB) Dual Rank x4 DDR5-4800 CAS-40-39-39 EC8 Registered Smart FIO Memory Kit	P62604-B21
HPE 96GB (1x96GB) Dual Rank x4 DDR5-4800 CAS-46-45-45 EC8 Registered Smart Memory Kit	P66675-B21
HPE DX 128GB (1x128GB) Quad Rank x4 DDR5-4800 CAS-40-39-39 EC8 Registered 3DS Smart FIO Memory Kit	P62605-B21

Configuration Information

Step 5: Choose Storage Options
Please select one drive cage from below.

DX380a Gen11 supports balanced storage configuration via direct connection or dual controllers, delivering consistent high performance across two processors

Notes:
–   DX380a Gen11 only supports NVMe SSDs – U.3, E3.S
–   Mixing of storage controllers is not supported.

Drive Cage

HPE ProLiant DX380a Gen11 8SFF x4 U.3 NVMe BC Drive Cage Kit   **P68998-B21**

Notes:
–   Requires selection of Direct Attach Cable
–   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.

HPE Boot Controller

HPE ProLiant DL380a Gen11 NS204i-u Internal Enablement Kit   **P58716-B21**

Step 6: Choose Power Supplies
Notes:
–   DX380a 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 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 DX 1600W Flex Slot Platinum Hot Plug Low Halogen FIO Power Supply Kit   **P18222-B21**
HPE DX 1800W-2200W Flex Slot Titanium Hot Plug Power Supply FIO Kit   **P56724-B21**

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

Core Options

HPE Cooling Options

HPE Alletra Storage Server 4120 Standard Heat Sink Kit	P51833-B21
HPE Alletra Storage Server 4120 High Performance Heat Sink Kit	P51832-B21

Notes: High performance heak 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

Notes:

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

OCP 3.0 Enablement

HPE Alletra Storage Server 4120 OCP1 Upgrade Cable Kit	P51942-B21

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

HPE Alletra Storage Server 4120 OCP2 Upgrade Cable Kit	P51943-B21

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

HPE Solid State Drives

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

Read Intensive - NVMe - SFF - Solid State Drives

HPE DX 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a FIO SSD	P57771-B21
HPE DX 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor FIO SSD	P57759-B21
HPE DX 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor FIO SSD	P57758-B21
HPE DX 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor FIO SSD	P57757-B21

Mixed Use - NVMe - SFF - Solid State Drives

HPE DX 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a FIO SSD	P57764-B21
HPE DX 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a FIO SSD	P57762-B21

HPE Networking

The DX380a Gen11 CTO server does not come with embedded networking, hence the requirement to configure with either a PCIe or OCP networking adapter.

10 Gigabit Ethernet adapters

Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T FIO Adapter for HPE DX	P43271-B21

25 Gigabit Ethernet adapters

Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 FIO Adapter for HPE DX	P53862-B21
Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 FIO Adapter for HPE DX	P60340-B21

100 Gigabit Ethernet Adapters

Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 FIO Adapter for HPE DX	P43273-B21

OCP 3.0 Adapters

Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 FIO Adapter for HPE DX	P43272-B21
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 FIO Adapter for HPE DX	P53861-B21
Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 FIO Adapter for HPE DX	P60339-B21

Additional Options

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

Embedded Management

HPE iLO Common Password FIO Setting

HPE iLO Common Password FIO Setting   P08040-B21

Notes:

- − Replaces iLO default randomized password by an HPE defined common password. HPE highly recommends changing this password immediately after the initial onboarding process.
- − Customers who want to choose their own custom iLO default password should use the HPE Factory Express Integration Services

HPE iLO Advanced

HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features   BD505A

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 rail kits are designed to work with HPE racks in compliance with industry standard EIA-310-E. In the event a customer elects to purchase a third-party rack for use with an HPE rail kit, any such use is at customer's own risk. HPE makes no express or implied warranties with respect to such third-party racks and specifically disclaims any implied warranties of merchantability and fitness for a particular purpose. Furthermore, HPE has no obligation and assumes no liability for the materials, design, specifications, installation, safety, and compatibility of any such third-party racks with any rail kits, including HPE rail kits.

HPE ProLiant DX Gen11 Ball Bearing Rail 8 Kit   P68994-B21

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

HPE Apollo 4200 Gen10 Plus Cable Management Arm   P28726-B21

HPE Support Services

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
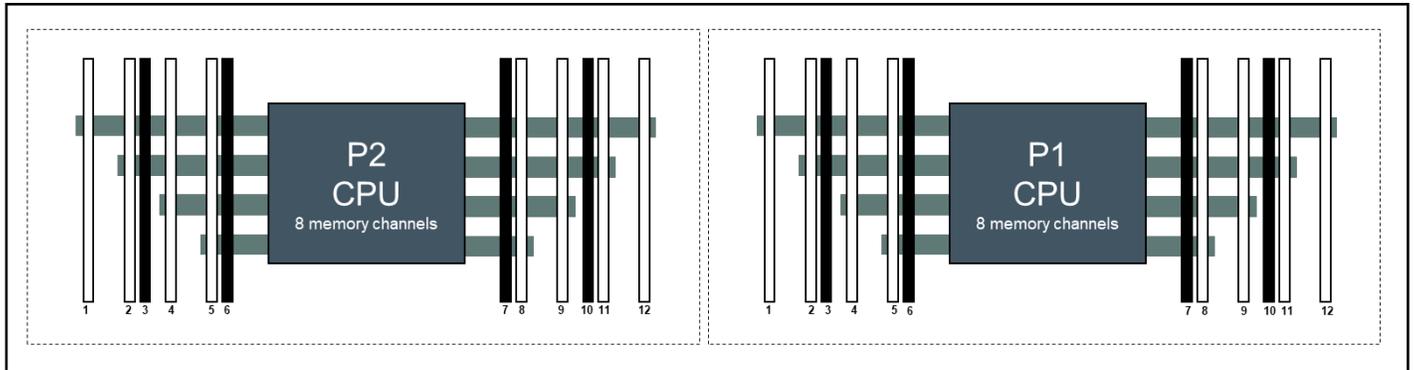
Front of Server
HPE ProLiant DX380a Gen11

HPE ProLiant DX380a 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 Smart Memory is required.
- For additional information, please see the **HPE DDR5 Smart Memory QuickSpecs**.

Memory

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 Smart Memory**

Memory Speed Table for HPE ProLiantDX380a 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

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
- 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

Technical Specifications

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.
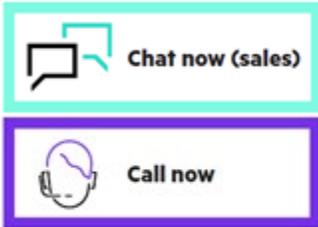
Summary of Changes

Date	Version History	Action	Description of Change
01-Jul-2024	Version 3	Changed	Configuration Information and Additional Options sections were updated.
18-Mar-2024	Version 2	Changed	Standard features and Configuration Information sections were updated.
08-Jan-2023	Version 1	New	New QuickSpecs

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