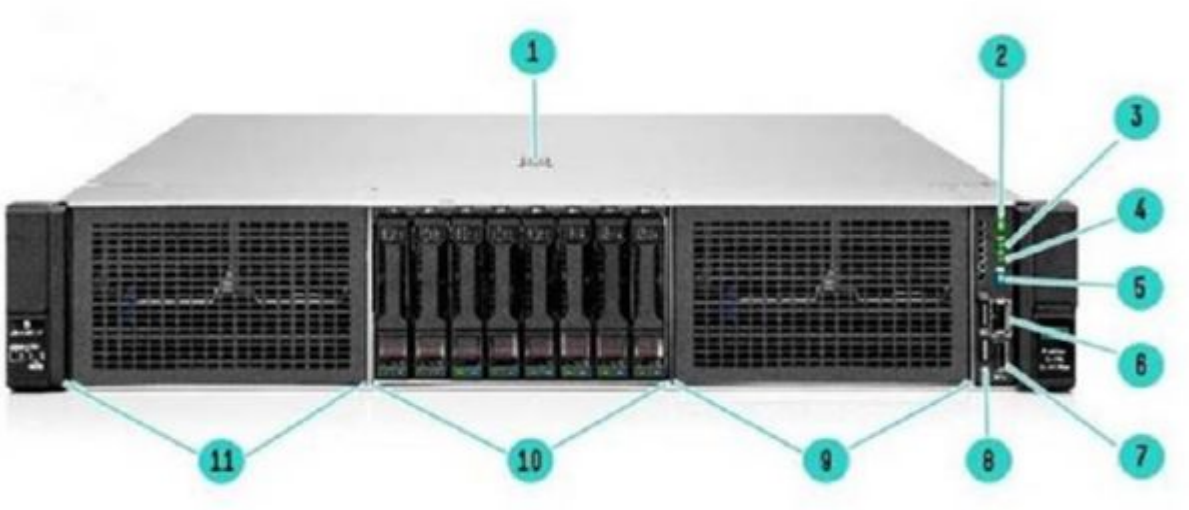
HPE ProLiant with VMware vSphere Distributed Services Engine

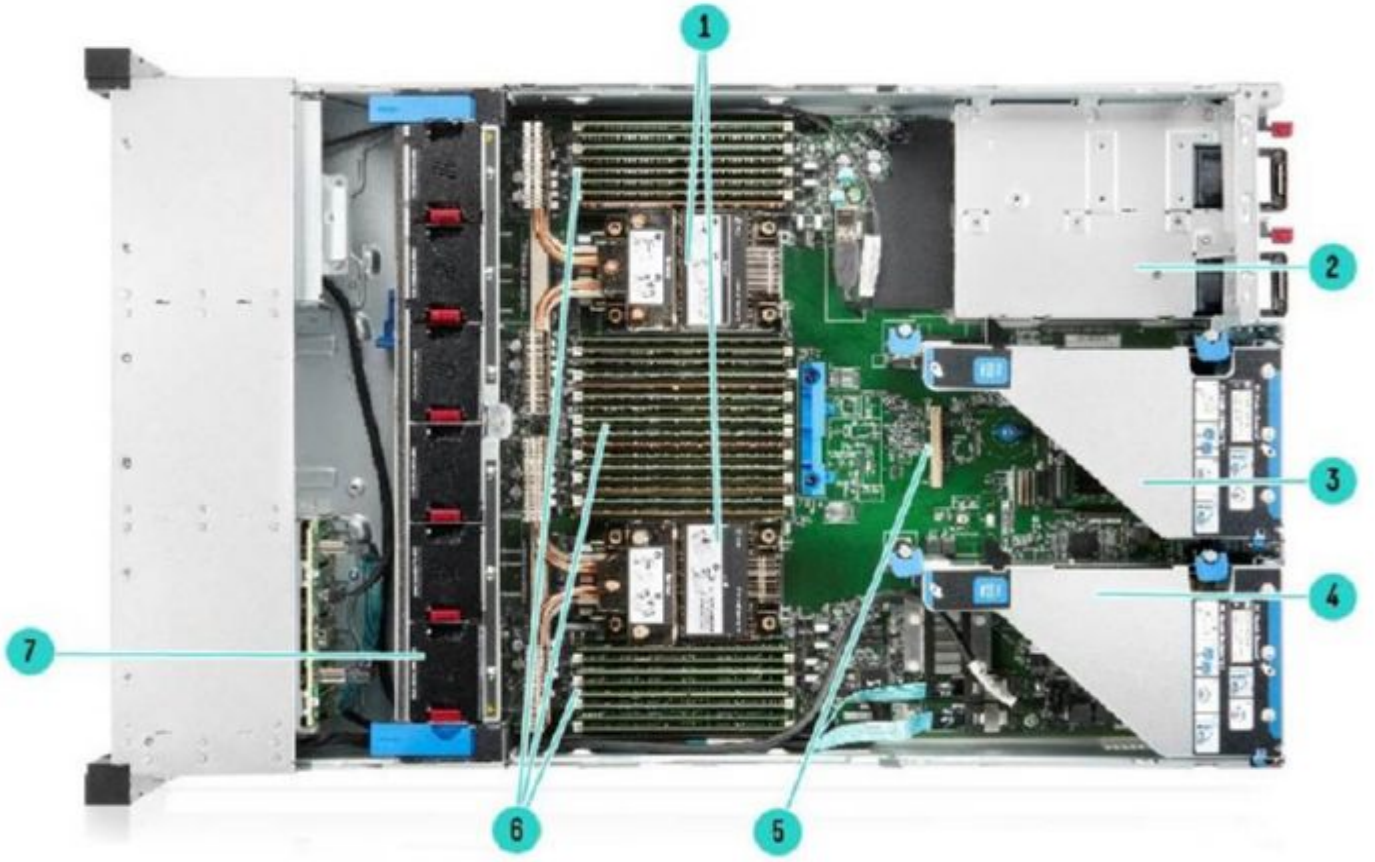
HPE ProLiant DL380 Gen 10plus with vSphere Distributed Services Engine provides the next evolution in virtualized architecture enabling the Data Processing Unit (DPU) as a control fabric to securely orchestrate virtualized workloads while offloading management services from core processors, improving App performance. Delivered on the industry's most trusted compute platform



Front View - 12TB Configuration

1. Quick removal access panel
2. Power On/Standby button and system power LED
3. Health LED
4. NIC status LED
5. UID button/LED
6. iLO Service Port
7. USB 3.0
8. Serial number label pull tab
9. Box 3
10. Box 2 - 8 SFF Drive Cage Bay
11. Box 1

Overview



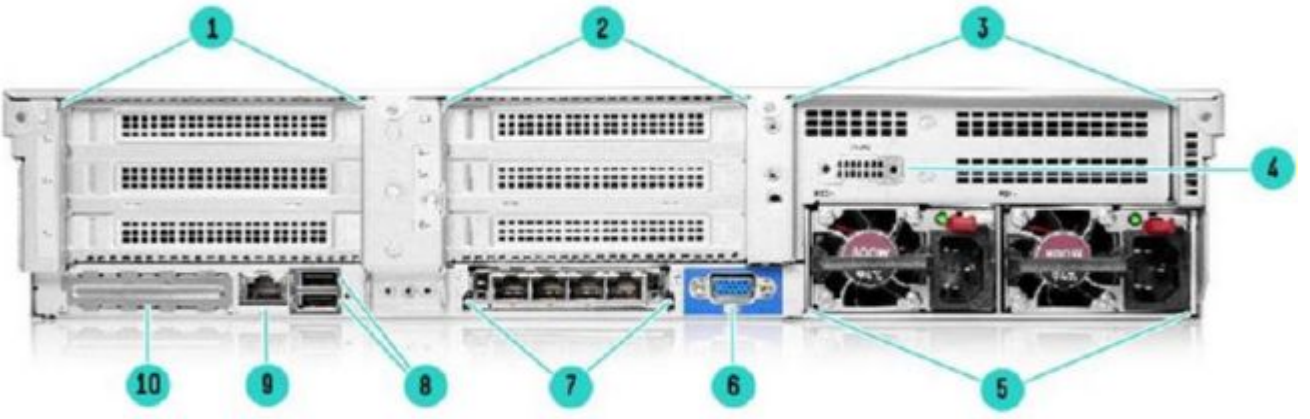
Internal View 8SFF chassis

1.	2 Processors, heatsink showing	5.	Smart Array connector
2.	Hot Plug redundant HPE Flexible Slot Power supplies	6.	DDR DIMM Slots[1]
3.	Second (optional) riser (Requires second CPU)	7.	Hot plug fans (6 single rotor standard)[2]
4.	Primary riser		

Notes:

– [1]Shown fully populated in 32 slots (16 per processor)
– [2]High performance temperature fans optional

Overview



Rear View - Standard for all DL380 Gen10 Plus

1. Primary Riser. PCIe 4.0 Slots (Slots 1-3)
2. Secondary Riser. PCIe 4.0 Slots (Slots 4-6)
3.. Tertiary Riser (Slots 7-8).
4. Optional serial port
5. Power Supply 1 and 2
6. VGA connector
7. OCP NIC ports
8. USB connectors 3.0 (2)
9. Dedicated ILO Management Port
10. Blank cover, not available for use

Platform Information

Form Factor

- 2U rack

Chassis Types

- 8SFF (P05172-B21)

System Fans

- High perfromance- fan type included

Standard Features

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. Listed below are the 3 processors for the 3 fixed configuration SKUs being offered

3rd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache (MB)**	**Power**	**UPI**	**DDR4**	**SGX Enclave size**
Gold 6338 Processor	2.0 GHz	32	48 MB	205W	3 @ 11.2 GT/s	3200 MT/s	64GB
Gold 6326 Processor	2.9 GHz	16	24 MB	185W	3 @ 11.2 GT/s	3200 MT/s	64GB
Gold 6342 Processor	2.8 GHz	24	36 MB	230W	3 @ 11.2 GT/s	3200 MT/s	64GB

Notes:

- Processors with TDP equal to or greater than 150W require High Performance Heatsink (P27095-B21) included in all BTO SKUs offered
- 2 socket capable, 3 UPI @ 11.2 GT/s.
- 64 lanes PCIe 4.0, advanced RAS.Features: Advanced RAS, AVX-512 2 FMA, TME-MT 64 keys.

Chipset

Intel C621A 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 5 ASIC
Read and learn more in the **iLO QuickSpecs**.

Memory

One of the following depending on model.

Standard Features

Type	HPE DDR4 SmartMemory, Registered (RDIMM)
DIMM Slots Available	32 16 DIMM slots per processor, 8channels per processor, 2 DIMMs per channel
Maximum capacity **(LRDIMM)**	8.0 TB 32 x 256 GB LRDIMM @ 3200 MT/s
Maximum capacity **(RDIMM)**	2.0 TB 32 x 64 GB RDIMM @ 3200 MT/s
Maximum capacity **(Intel Optane Persistent Memory for HPE)**	8.0 TB 16 X 512 GB Memory Modules

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.
– P37038-B21 and P27090-B21 are supported in the Primary Riser position
– x16 cards installed on x8 slots could observe sub-optimal performance.

Primary Riser1(P37038-B21)					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Slot Form Factor**	**Notes**
1	PCIe 4.0	X8	X16	Full-height,full-length slot	Proc 1
2	PCIe 4.0	X16	X16	Full-height,full-length slot	Proc 1
3	PCIe 4.0	X8	X16	Full-height,half-length slot	Proc 1

Primary Riser2 (P27090-B21)					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Slot Form Factor**	**Notes**
1	NA	NA	NA	NA	NA
2	PCIe 4.0	X16	X16	Full-height,full-length slot	Proc 1
3	NA	NA	NA	NA	NA

Secondary Riser:

Notes:

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

– P27089-B21 is the only Secondary Riser supported

Standard Features

Secondary Riser (P27089-B21)					
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Notes
4	NA	NA	NA	NA	NA
5	PCIe 4.0	X16	X16	Full-height,full-length slot	Proc 2
6	NA	NA	NA	NA	NA

Notes: Default Slot4 on the Secondary Riser3 is empty and not available. It requires P14600-B21 in conjunction with the Secondary Riser3 to add additional x16 PCIe Gen4 in slot4

Tertiary Riser:

Notes:

- Bus Width Indicates the number of physical electrical lanes running to the connector.
- P14581-B21 is the only Tertiary Riser supported
- x16 cards installed on x8 slots could observe sub-optimal performance.

Tertiary Riser1					
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Notes
7	PCIe 4.0	X8	X16	Full-height,full-length slot	Proc 2
8	PCIe 4.0	X8	X16	Full-height,full-length slot	Proc 2

Graphics

Integrated Video Standard

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

HPE iLO 5 on system management memory

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

Internal Storage Devices

Optical Drive

- Ships standard in Performance Models

Power Supply

- HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
  Notes: 1 available in 94% 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 Gen10 Plus Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to

Standard Features

"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. o 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**.

Interfaces

Serial	Optional, rear
VGA Port	1 standard, rear for all chassis.
Network Ports	These BTO models will come pre-selected with a primary OCP networking card.
HPE iLO Remote Management Network Port	1 Gb Dedicated, rear
Front iLO Service Port	1 standard note iLO dongle required. Hewlett Packard Enterprise recommends the HPE USB to Ethernet Adapter (part number Q7Y55A).)
Micro SD Slot	Optional via HPE 32GB microSD RAID1 USB Boot Device **Notes:** The Micro SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered.
USB 3.0	Up to 5 total: 1 front, 2 rear, 2 internal (secure),

Operating Systems and Virtualization Software Support

- VMware vSphere 8.0

HPE Server UEFI/Legacy ROM

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 Gen10 servers have a UEFI Class 2 implementation and support both UEFI Mode (default) and Legacy BIOS Mode.

Notes: The UEFI System Utilities tool is analogous to the HPE ROM-Based Setup Utility (RBSU) of legacy BIOS. For more information, please visit **http://www.hpe.com/servers/uefi**.

UEFI enables numerous new capabilities specific to HPE ProLiant servers such as:

- Secure Boot and Secure Start enable for enhanced security
- Embedded UEFI Shell
- Operating system specific functionality
- Mass Configuration Deployment Tool using iLO RESTful API that is Redfish API Conformant
- Support for > 2.2 TB (using GPT) boot drives
- PXE boot support for IPv6 networks
- USB 3.0 Stack
- Workload Profiles for simple performance optimization

Standard Features

UEFI Boot Mode only:

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

Notes: For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI.

Industry Standard Compliance

- ACPI 6.3 Compliant
- PCIe 4.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant (internal)
- Energy Star
- SMBIOS 3.2
- Redfish API
- IPMI 2.0
- Secure Digital 4.0
- TPM 2.0 Support
- Advanced Encryption Standard (AES)
- Triple Data Encryption Standard (3DES)
- SNMP v3
- TLS 1.2
- DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)
- Active Directory v1.0
- ASHRAE A3/A4

  Notes: For additional technical, thermal details regarding ambient temperature, humidity, and feature support, please visit **http://www.hpe.com/servers/ashrae**

- 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 Gen10 servers are compliant with Lot9 requirements.

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

- UEFI (Unified Extensible Firmware Interface Forum) 2.6

  Notes: UEFI is the default for the DL380 Gen10 Plus. Legacy mode can be selected in the field or as a CTO option (758959-B22); some configuration restrictions apply.

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 Gen8, Gen9 and Gen10 HPE servers at unmatched speed and scale. Use with an iLO Advanced License to unlock full capabilities.

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

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

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

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

Standard Features

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

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

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
- TPM (Trusted Platform Module) 1.2 option
- 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 Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

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

http://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/.

Optional Features

Server Management

HPE iLO Advanced

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

HPE OneView Advanced

HPE OneView 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 Gen8, Gen9 and Gen10 servers.

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 (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.

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.

Optional Features

HPE Uninterruptible Power Systems are cost-effective power protection for any type workload. Some UPSs include options for remote management and extended runtime modules so you're critical dense data center is covered in power outages.
HPE KVM Solutions include a console and switches designed to work with your server and IT equipment reliably. We've got a cost-effective KVM switch for your first rack and multiple connection IP switches with remote management and security capabilities to keep your data center rack up and running.

Learn more about HPE Racks, KVM, PDUs and UPSs at **HPE Rack and Power Infrastructure**.

Service and Support

HPE Pointnext - Service and Support

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

Consume IT on your terms

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

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

Managed services to run your IT operations

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

Recommended Services

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

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

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

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

Service and Support

Other related Services

HPE Server Hardware Installation

Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.
https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=5981-9356enw

HPE Installation and Startup Service

Provides for the installation of your HPE hardware according to product specifications including options. The HPE service delivery technician will connect the product to a LAN as appropriate and enable remote support to allow for automatic case creation for hardware failures. Installation and start up services also includes 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 DL385 Gen10 Plus 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, fibre 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.

Pre-Configured Models

- Pre-Configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
- Hewlett Packard Enterprise does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
- If you desire a custom configuration please see the "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

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 Gen10 servers are compliant with Lot 9 requirements. For more information regarding HPE Lot 9 conformance, please visit:
https://www.hpe.com/us/en/about/environment/msds-specs-more/erp-lot9-servers.html

Worldwide Models			
SKU Number	**P59780-B21**	**P59781-B21**	**P59782-B21**
Model Name	HPE ProLiant DL380 Gen10 Plus 6326 Small 12TB Server with VMware vSphere Distributed Services Engine	HPE ProLiant DL380 Gen10 Plus Medium 20TB Server with VMware vSphere Distributed Services Engine	HPE ProLiant DL380 Gen10 Plus 6338 Large 38TB Server with VMware vSphere Distributed Services Engine
Chassis	8SFF	8SFF	8SFF
Processor	6326 (16 - Core, 2.9 GHz, 185W)	6342 (24- Core, 2.8 GHz, 230W)	6338 (32- Core, 2.0 GHz, 205W)
Number of Processors	Two processors with performance heatsink	Two processors with performance heatsink	Two processors with performance heatsink
Data Processing Unit (DPU)	1 Pensando DSC25v2 10/25G 2p 32GB Spl Card	1 Pensando DSC25v2 10/25G 2p 32GB Spl Card	1 Pensando DSC25v2 10/25G 2p 32GB Spl Card
Memory	384 GB (12 x 32 GB) DDR4 2R 3200MT/s	512 GB (16 x 32 GB) DDR4 2R 3200 MT/s	1024 GB (16 x 64 GB) DDR4 2R 3200 MT/s
Network Controller	Marvell QL41132HLCU 10GbE 2-port SFP+ Adapter	Marvell QL41132HLCU 10GbE 2-port SFP+ Adapter	Marvell QL41132HLCU 10GbE 2-port SFP+ Adapter
Boot Controller	HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device	HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device	HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device
Hard Drive	None included	None included	None included
Optical Drive	None included	None included	None included
PCIe Slots	3 PCIe: x8/x16/x8	3 PCIe: x8/x16/x8	3 PCIe: x8/x16/x8
Power Supply	2 x 1600W	2 x 1600W	2 x 1600W
Fans	HPE DL38X Gen10 Plus Maximum Performance Fan Kit	HPE DL38X Gen10 Plus Maximum Performance Fan Kit	HPE DL38X Gen10 Plus Maximum Performance Fan Kit
Management	HPE iLO 5	HPE iLO 5	HPE iLO 5
Security	TPM (Trusted Platform Module)	TPM (Trusted Platform Module)	TPM (Trusted Platform Module)
Rail Kit	SFF Easy Install	SFF Easy Install	SFF Easy Install
Form Factor	2U Rack	2U Rack	2U Rack

Below are the options available when ordering an HPE Proliant solution for vSphere Distributed Services

Pre-Configured Models

Engine. Any additional options not listed below will have to be ordered separately. We recommend you refer to full option list at **DL380 Gen10plus QS Link** and confirm option supported by the HPE ProLiant solution for vSphere Distirubted Services Engine. Contact your local sales representative for additional information.

Additional Options

HPE Security

HPE Gen10 Plus Chassis Intrusion Detection Kit	P14604-B21

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.

Data Processing Unit (DPU) Transcivers and Cables

HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver	455883-B21
HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver	455886-B21
HPE 25Gb SFP28 SR 100m Transceiver	845398-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 3m Direct Attach Copper Cable	487655-B21
HPE 10GBase-T SFP+ Transceiver	813874-B21
Aruba 10G SFP+ to SFP+ 7m Direct Attach Copper Cable	J9285D
HPE BladeSystem c-Class 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	721064-B21
HPE 25Gb SFP28 to SFP28 3m Direct Attach Copper Cable	844477-B21
HPE 100Gb QSFP28 to 4x25Gb SFP28 3m Direct Attach Copper Cable	845416-B21
HPE M-series 25Gb SFP28 to SFP28 1m Direct Attach Copper Cable	R4G19A
Aruba 25G SFP28 to SFP28 3m Direct Attach Copper Cable	JL488A
HPE 25Gb SFP28 to SFP28 7m Active Optical Cable	844483-B21
HPE QSFP28 to 4x25Gb SFP28 7m Active Optical Cable	845420-B21
Aruba 25G SFP28 to SFP28 15m Active Optical Cable	R0Z21A

HPE Support Services

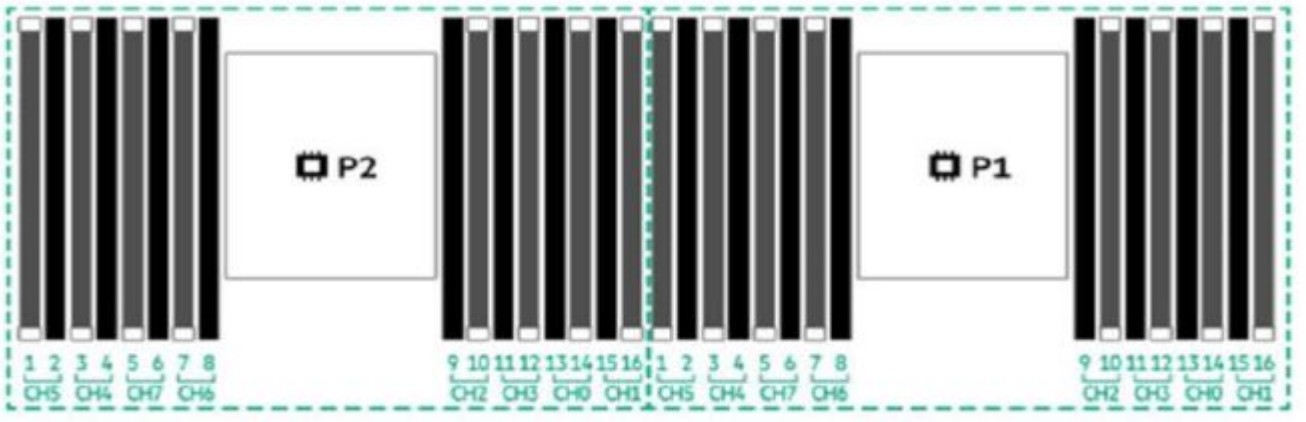
Tech Care

HPE 3 Year Tech Care Essential Proliant DL380 Gen10+ Service	HY4Z5E
HPE 3 Year Tech Care Essential wDMR Proliant DL380 Gen10+ Service	HY4Z6E
HPE 5 Year Tech Care Essential Proliant DL380 Gen10+ Service	HY5B9E
HPE 5 Year Tech Care Essential wDMR Proliant DL380 Gen10+ Service	HY5C0E

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

Memory

Memory Population guidelines



HPE ProLiant DL380 Gen10 Plus

HPE ProLiant Gen10 Plus 16 slot per CPU DIMM population order																
DIMM population order																
DIMM slot	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1 DIMM														14		
2 DIMMs			3											14		
4 DIMMs			3				7			10				14		
6 DIMMs	1		3				7			10				14		16
8 DIMMs[2,3]	1		3		5		7			10		12		14		16
12 DIMMs	1	2	3	4			7	8	9	10			13	14	15	16
12 DIMMs[1,2,3]	1		3	4	5		7	8	9	10		12	13	14		16
16 DIMMs[2,3]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Notes:

- Ommited DIMM counts/socket not qualified by Intel.
- [1] Required by Sub-NUMA Cluster (SNC) configurations, must be ordered with 12 DIMM SNC2 FIO Enable Kit (P26933-B21).
- [2] Support Hemi (hemisphere mode).
- [3] Support Software Guard Extensions (SGX)

General Memory Population Rules and Guidelines:

- Install DIMMs only if the corresponding processor is installed.
- If only one processor is installed in a two-processor system, only half of the DIMM slots are available.
- To maximize performance, it is recommended to balance the total memory capacity between all installed processors.
- When two processors are installed, balance the DIMMs across the two processors.
- White DIMM slots denote the first slot to be populated in a channel.
- Mixing of DIMM types (UDIMM, RDIMM, and LRDIMM) is not supported.

Memory

- 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://www.hpe.com/docs/intel-population-rules-Gen10plus**

- To realize the performance memory capabilities listed in this document, HPE DDR4 SmartMemory is required.
- For additional information, please see the **HPE DDR4 SmartMemory QuickSpecs**.

HPE SKU P/N	P06033-B21	P06035-B21
SKU Description	HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit
DIMM Capacity	32GB	64GB
DIMM Rank	Dual Rank (2R)	Dual Rank (2R)
Voltage	1.2 V	1.2 V
DRAM Depth [bit]	1G	2G
DRAM Width [bit]	x8	x4
DRAM Density	8Gb	8Gb
CAS Latency	22-22-22	22-22-22
DIMM Native Speed	3200 MT/s	3200 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://www.hpe.com/docs/memory-speed-table**

DDR4 memory options part number decoder

Notes:

- Capacity references are rounded to the common gigabyte (GB) values.
  - 32GB = 32,768 MB
  - 64GB = 65,536 MB

For more information on memory, please see the Memory Quickspecs: **HPE DDR4 SmartMemory**

Memory Speed Table for HPE ProLiantDL380 Gen 10 Plus
For details on the HPE Server Memory speed, please visit: **https://www.hpe.com/docs/memory-speed-table**

Technical Specifications

System Unit

Dimensions

- **SFF Drives:**
  8.75 x 44.54 x 71. cm / 3.44 x 17.54 x 28 in

Weight (approximate)

- **Maximum:** 8 SFF hard drives (no rear drives), 2x processors, 2x power supplies, 1x Smart Array, 2x Risers installed)
  - **Maximum:**
    28.77 kg / 63.43 lbs
  - **Minimum:**
    16.12 kg /35.54 lbs

Input Requirements

Rated Line Voltage

- For 1600W (Platinum) 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)

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

Rated Steady-State Power

- For 1600W Power Supply: 1600W (at 240 VAC), 1600W (at 240 VDC) for China only

Maximum Peak Power

- For 1600W Power Supply: 1600W (at 240 VAC), 1600W (at 240 VDC) for China only

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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: **http://www.hpe.com/servers/ashrae**

  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: **http://www.hpe.com/servers/ashrae**

  System performance may be reduced if operating in the extended ambient operating range or with a fan fault.

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

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 A-Weighted sound power levels (L_{WAd}) and declared average bystander position A-Weighted sound pressure levels (L_{pAm}) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Acoustic Noise	
Idle	
LWAd	4.8 B Entry 4.4 B Base 4.6 B Perf
LpAm	37 dBA Entry 31 dBA Base 31 dBA Perf
Operating	
LWAd	4.8 B Entry 4.4 B Base 4.6 B Perf
LpAm	37 dBA Entry 31 dBA Base 31 dBA Perf

Notes:

Technical Specifications

- 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

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

HPE Smart Array

For latest information on **HPE Smart Array Gen10 Controllers for HPE ProLiant DL, ML and Apollo Servers** please refer to their QuickSpecs. (E208i-a,E208i-p,E208e-p,P408i-a,P408i-p,P408e-p,P816i-a)

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
11-Oct-2022	Version 1	New	New QuickSpecs

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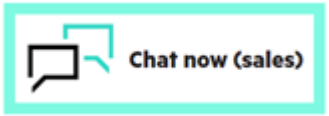
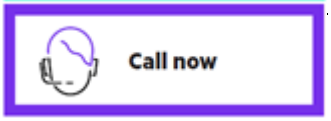
Make the right purchase decision. Contact our presales specialists.





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