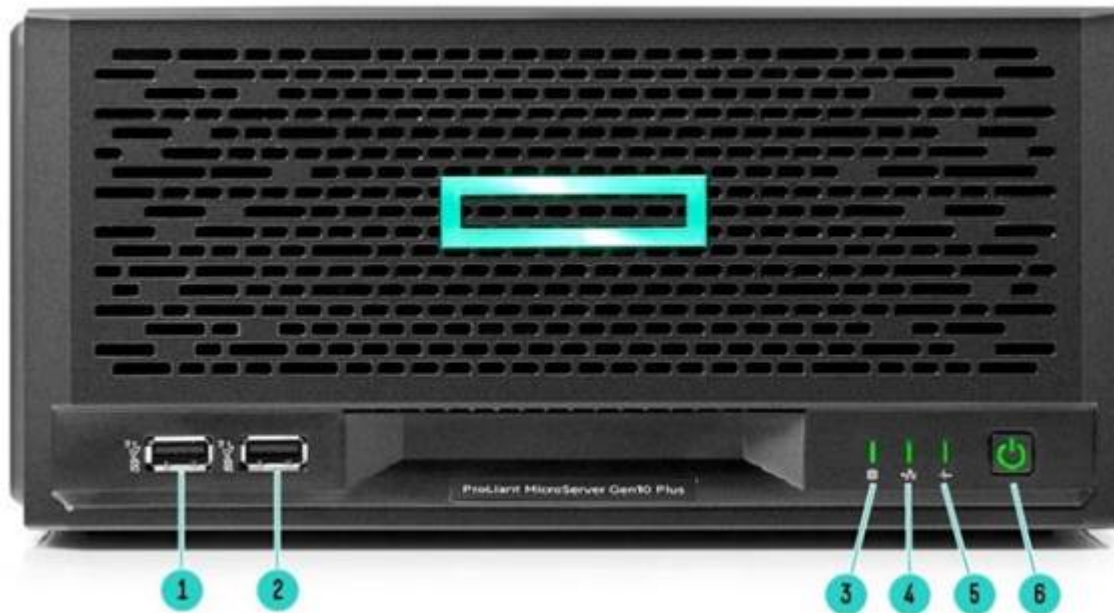


Overview

HPE ProLiant MicroServer Gen10 Plus

HPE ProLiant MicroServer Gen10 Plus delivers an affordable compact yet powerful entry level server that you can customize for on-premises, hybrid cloud or even workloads demanding datacenter performance. It is the most compact MicroServer that we have launched so far, which can be placed flat or vertically depending on your space. The latest Intel Xeon® E and Pentium® processors supported to deliver compute performance as well as security and remote management into the server with HPE iLO silicon root of trust. Along with other enhancements such as 4x 1GbE onboard NICs and USB 3.2 Gen2 Type-A, whether you want a general purpose server, NAS or even a virtualization server, you will be surprised at how much you can get out of this small and affordable server.



Front View (External):

1. USB 3.2 Gen2 Type-A port
2. USB 3.2 Gen2 Type-A port
3. Drive activity LED
4. NIC status LED
5. Health LED
6. Power on/Standby button and system power LED

Overview



Front View (Internal):

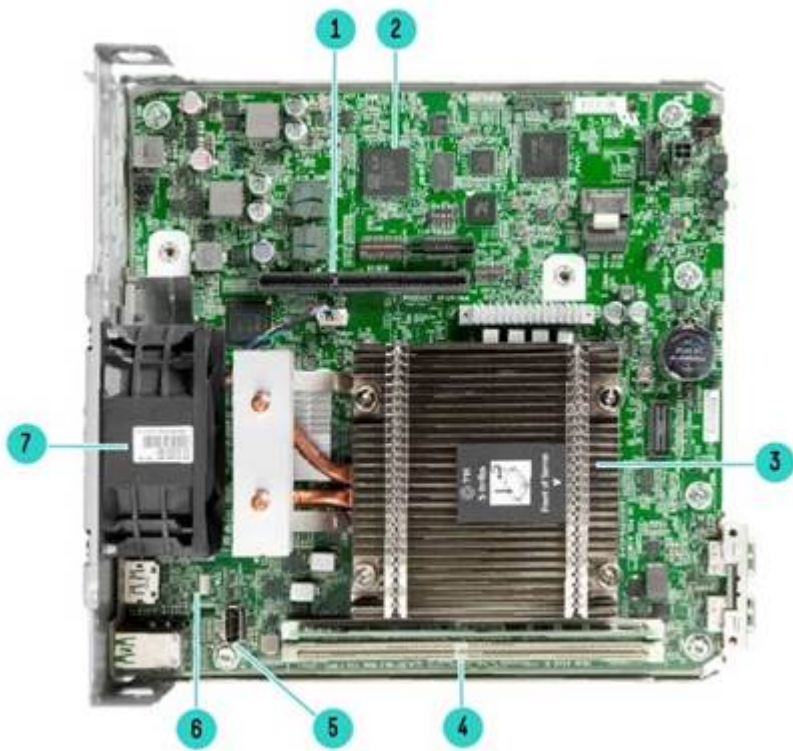
1. Four (4) LFF NHP SATA HDD cage
2. Hard drive screws
3. USB 3.2 Gen2 Type-A ports



Rear View:

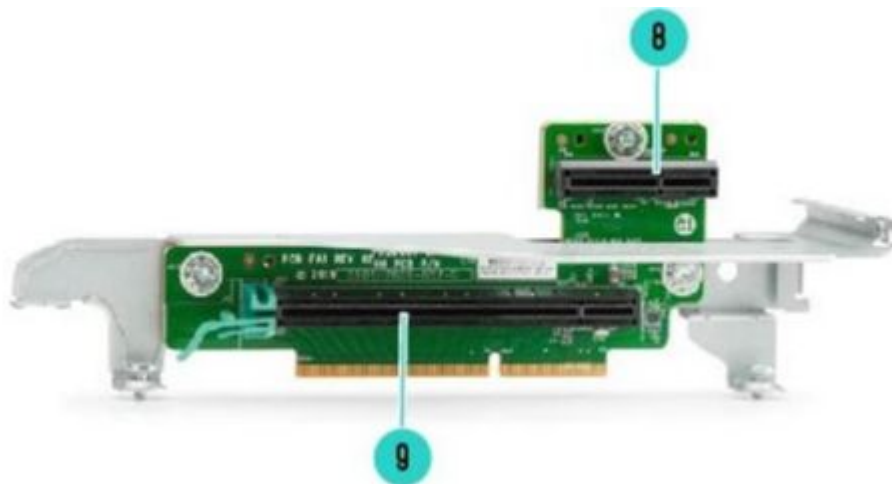
1. Padlock eye
2. Kensington security slot
3. Four (4) USB 3.2 Gen1 Type-A ports
4. DisplayPort 1.1a
5. VGA port
6. Four (4) NIC ports (NIC1-4 from left)
7. Power clip hole (for the power cord clip to firmly secure the power adapter. Clip is by default installed)
8. Power jack
9. PCIe Gen3 low-profile slot (PCIe x16)
10. iLO Enablement Kit slot (1x iLO Dedicated NIC port)

Overview



Mainboard Internal View:

- 1. Riser board connector
- 2. iLO 5 chip onboard
- 3. One (1) processor and heatsink
- 4. Two (2) DDR4 UDIMM slots
- 5. One (1) internal USB 2.0 Type-A port
- 6. TPM connector
- 7. System fan



Riser Board

- 8. Riser board - iLO Enablement Kit slot
- 9. Riser board - Expansion low-profile slot, PCIe3 x16

Overview



iLO Enablement Kit

Standard Features

Processor

Intel® Xeon® E Processor is designed to deliver the best combination of performance, built-in capabilities, and cost-effectiveness. This product also supports Intel® Pentium® processors.

Choose one of the following processors based on the model:

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

Intel Xeon E-2200 Series / 9th Gen Pentium G						
Model	CPU Frequency	Cores	L3 Cache	Power	DDR4	SGX
Xeon E-2224	3.4 GHz	4	8 MB	71W	2666 MT/s	No
Pentium G5420	3.8 GHz	2	4 MB	54W	2400 MT/s	No

Chipset

Intel® C242 Chipset

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

<http://www.intel.com/products/server/chipsets/>

On System Management Chipset

HPE iLO 5 ASIC

Notes:

– MicroServer Gen10 Plus does not support remote management/ out-of-band management by default. The MicroServer Gen10 Plus iLO Enablement Kit (P13788-B21) must be installed to activate remote management. Without the iLO Enablement Kit, the server only supports in-band management features.

o The iLO Enablement Kit supports below features:

- It acts as an activation key for remote management to the server
- An iLO dedicated NIC port comes with the kit
- The iLO 5 Essentials features are activated upon installing the enablement kit:

– Email-Based Alerting

– Integrated Remote Console (IRC/Virtual KVM - Supports text and graphics)

– Virtual Media via Integrated Remote Console

– iLO support will follow same warranty term as the server itself.

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

Memory

Type	HPE Standard Memory DDR4 Unbuffered (UDIMM)
DIMM Slots Available	2
Maximum Capacity	32GB (2 x 16GB UDIMM @2666 MT/s) Notes: The maximum memory speed depends on processor model.

Standard Features

Memory Protection

- ECC

Network Controller

Embedded Intel i350 AM41Gb 4-port network controller

The HPE ProLiant MicroServer Gen10 Plus server offers the customer a 4-port NIC standard with the option to upgrade with a variety of networking options.

Expansion Slots

ExpansionSlot #	Technology	Bus Width**	Connector Width	Form Factor	Notes
1	PCIe 3.0	x 16	x 16	Low Profile	Supported on the PCIe Riser Board

Storage Controller

The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the

[HPE Smart Array Gen10 Controllers Data Sheet.](#)

Software RAID

- HPE Smart Array S100i SR Gen10 Software RAID

Notes:

–HPE Smart Array S100i SR Gen10 SW RAID will operate in UEFI mode only. For legacy support an additional controller will be needed

–The S100i only supports Windows. For Linux users, HPE offers a solution that uses in-distro open-source software to create a two-disk RAID 1 boot volume. For more information visit:

<https://downloads.linux.hpe.com/SDR/project/lsrrb/>

Essential RAID Controller

- HPE Smart Array E208i-p SR Gen10 Controller

Internal Storage Devices

- **Hard Drives**

None ship standard

- **Solid State Drives**

None ship standard

Maximum Internal Storage

Standard Features

- **Non-hot plug SATA**

16TB (4 x 4TB) 3.5" SATA HDD

960GB (4x 240GB) 2.5" SATA SSD

Notes: The maximum storage indicated is aligned with the current HDD & SSD option list supported. Maximum internal storage supported would change with the server's option support plan.

Interfaces

Video	1 Rear VGA port 1 Rear DisplayPort 1.1a
USB 2.0 Type-A Ports	1 total (1 internal)
USB 3.2 Gen1 Type-A Ports	4 total (4 rear)
USB 3.2 Gen2 Type-A Ports	2 total (2 front)
Network RJ-45 (Ethernet)	4

Notes: If you connect two display devices to the VGA port and DisplayPort, the same image is shown on both devices-screen mirroring mode. The embedded video controller in the iLO 5 chipset does not support dual display or screen extension mode.

Server Power Cords

All pre-configured models ship standard with one or more country-specific 6 ft/1.83m C5 power cords depending on models. If a different power cord is required, please check the [HPE Power Cords and Cables](#) web page.

Power Supply

- One (1) 180 Watts , non-redundant External Power Adapter
-

Form Factor

- Ultra Micro Tower
-

System Fans

- One (1) non-redundant system fan shipped standard
-

Industry Standard Compliance

- ACPI V6.1 Compliant
 - PCIe 3.0 Compliant
-

Standard Features

- PXE Support
- WOL Support
- EMC Class B
- Microsoft® Logo certifications
- VGA Port
- DP 1.1a
- SMBIOS 3.1
- UEFI 2.6
- Redfish API
- IPMI 2.0
- 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 A2
- UEFI (Unified Extensible Firmware Interface Forum)
- USB 2.0 Compliant
- USB 3.2 Compliant
- SATA 6Gb/s

Operating Systems and Virtualization Software Support for ProLiant Servers

- **Microsoft Windows Server 2016 and 2019**
- Red Hat Enterprise Linux (RHEL) 7.6, 7.7, 8.0, 8.1
- VMware ESXi 6.5 U3 and 6.7 U3
 - Notes:** VMware supported only with Intel® Xeon® E processors, not supported with Intel® Pentium® processors.
- ClearOS
 - HPE and ClearCenter will help you lower the cost of building on-premise solutions without sacrificing security and ease of use. HPE ProLiant servers with ClearOS give you a simple, secure, and affordable operating system with an intuitive web-based graphical user interface that provides a cloud-like experience on-premise, and an Application Marketplace with over 100 apps and growing. Whether you're starting out or scaling, you decide what applications you need and pay as you grow.
 - Notes:** ClearOS allows you to build a fully functional server that is just right for you at no upfront cost. For more information on ClearOS, please visit <http://www.hpe.com/servers/clearos>.

For more information on Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server.

<https://www.hpe.com/us/en/servers/server-operating-systems.html>.

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 function 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

Standard Features

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

UEFI Boot Mode only

- TPM 2.0 Support
- iSCSI Software Initiator Support.
- HTTP/HTTPS Boot support as a PXE alternative.
- 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.
- Legacy FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory for your HPEProLiant Gen10 Server.

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>.

Notes:

- To activate iLO remote management, the MicroServer Gen10 Plus iLO Enablement Kit (P13788-B21) needs to be installed.
- Without the MicroServer Gen10 Plus iLO Enablement Kit (P13788-B21), the Embedded Management, Server Utilities and iLO 5 Standard features will only be available for on-premise usage.

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 few servers with Intelligent Provisioning.

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

iLO RESTful API

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

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

Standard Features

Server Utilities

Active Health System

The HPE Active Health System (AHS) is an essential component of the iLO management portfolio that provides continuous, proactive health monitoring of HPE servers. Learn more at <http://www.hpe.com/servers/ahs>.

Active Health System Viewer

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

Smart Update

Keep your servers up to date with the HPE Smart Update solution by using Smart Update Manager (SUM) to optimize the firmware and driver updates of the Service Pack for ProLiant (SPP). Learn more at <http://www.hpe.com/info/smartupdate>.

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 is a scripting tool to provision using RESTful API for iLO 4 to discover and deploy servers at scale.

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

Scripting Tools

Provision one to many servers using your own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell.

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

HPE Systems Insight Manager (HPE SIM)

HPE SIM allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers, and 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.

Security

- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-2 validation
- Common Criteria certification
- Configurable for PCI DSS compliance

Standard Features

- Ability to rollback firmware
 - Secure erase of NAND/User data
 - TPM (Trusted Platform Module) 2.0 option
 - Front bezel lock feature, standard
 - Padlock slot, standard
 - Kensington Lock slot, standard
 - Power cord clip, standard
-

Warranty

This product is covered by a global limited warranty and supported by HPE Pointnext 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.

Server Warranty includes 1-Year Parts, 1-Year Labor, 1-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. 3) Non CSR parts must be serviced by a trained authorized service engineer. Additional information regarding worldwide limited warranty and technical support is available at:

<https://www.hpe.com/us/en/search-results.html?page=1&q=servers%20warranty&autocomplete=0>

Notes: Warranty does not cover support for ClearOS. Support for ClearOS is provided by ClearCenter.

Optional Features

Server Management

MicroServer Gen10 Plus iLO Enablement Kit

MicroServer Gen10 Plus does not support remote management/ out-of-band management by default. The MicroServer Gen10 Plus iLO Enablement Kit (P13788-B21) must be installed to activate remote management. Without the iLO Enablement Kit, the server only supports in-band management features. The iLO Enablement Kit supports below features:

- 1) It acts as an activation key for remote management to the server
- 2) An iLO dedicated NIC port comes with the kit
- 3) The iLO 5 Essentials features are activated upon installing the enablement kit:
 - Email-Based Alerting
 - Integrated Remote Console (IRC/Virtual KVM - Supports text and graphics)
 - Virtual Media via Integrated Remote Console

iLO support will follow same warranty term as the server itself.

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 GreenLake for Compute Ops Management

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

Compute Ops Management is cloud-native software that is continually updated with new services, features, patches, and fixes. The management application resides in the HPE GreenLake cloud platform (access via <https://console.greenlake.hpe.com>) and leverages the HPE GreenLake architecture, security, and unified operations.

For a complete list of software as-a-service subscription SKUs and more information, visit the HPE GreenLake for Compute Ops Management QuickSpecs: <https://www.hpe.com/psnow/doc/a50004263enw>

For information on supported HPE servers, the complete list can be found here: <https://www.hpe.com/info/com-supported-servers>

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>

One Config Simple (SCE)

SCE is a guided self-service tool to help sales and non-technical people provide customers with initial

Optional Features

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.

<http://ocs.ext.hpe.com/>.

Service and Support

HPE Pointnext - Service and Support

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

Consume IT on your terms

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

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

Managed services to run your IT operations

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

Recommended Services

HPE Pointnext Tech Care.

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

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

HPE Pointnext Complete Care

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

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

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

Other related Services

HPE Server Hardware Installation

Provides for the basic hardware installation of HPE branded servers, storage devices and networking

Service and Support

options to assist you in bringing your new hardware into operation in a timely and professional manner
<https://www.hpe.com/h20195/V2/GetPDF.aspx/5981-9356ENW.pdf>

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).

Notes: HPE Startup services does not include support for ClearOS. ClearOS is supported by ClearCenter.

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](http://www.hpe.com/ww/learn)

HPE Support Center

The HPE Support Center is a personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise 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>.

– HPE ProLiant MicroServer 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.

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

Service and Support

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.

Entry Models	
SKU Number	P16005-001 P16005-291 P16005-371 P16005-421 P16005-AA1
Model Name	HPE ProLiant MicroServer Gen10 Plus G5420 3.8GHz 2-core 8GB-U S100i 4LFF-NHP 180W External PS Server
Processor	Intel® Pentium® G5420 (2-Core, 3.8 GHz, 54W)
Memory	8 GB UDIMM DDR4 2666 MT/s (1x 8 GB) Notes: Total of 2 DIMM slots. With G5420 processor, memory speed supports up to 2400 MT/s
Network Controller	Embedded 1Gb 4-Port Intel i350-AM4 Controller
Storage Controller	Embedded S100i SW RAID
Hard Drive	None ship as standard
Internal Storage	4 LFF NHP SATA HDD cage
Optical Drive Bay	N/A
PCI-Express Slots	1 standard (Low Profile) PCIe 3.0
Power Supply	(1) 180W External Power Adapter, Non-Redundant Power Supply
Fans	(1) A non-redundant system fan ships standard
Operating System	None ship as standard
Form Factor	Ultra Micro Tower
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response

Pre-configured Models

Performance Models			
SKU Number	P16006-001 P16006-291 P16006-371 P16006-421	P18584-001 P18584-421	P19752-371
Model Name	HPE ProLiant MicroServer Gen10 Plus E-2224 3.4GHz 4-core S100i 4LFF-NHP 180W External PS Server	HPE ProLiant MicroServer Gen10 Plus E-2224 3.4GHz 4-core S100i 4LFF-NHP 1TB 180W External PS Server	HPE ProLiant MicroServer Gen10 Plus E-2224 3.4GHz 4-core S100i 4LFF-NHP 180W External PS Server
Processor	Intel® Xeon® E-2224 (4-Core, 3.4 GHz, 71W)	Intel® Xeon® E-2224 (4-Core, 3.4 GHz, 71W)	Intel® Xeon® E-2224 (4-Core, 3.4 GHz, 71W)
Memory	16 GB UDIMM DDR4 2666 MT/s (1x 16GB) Notes: Total of 2 DIMM slots. With E-2224 processor, memory speed supports up to 2666 MT/s	16 GB UDIMM DDR4 2666 MT/s (1x 16GB) Notes: Total of 2 DIMM slots. With E-2224 processor, memory speed supports up to 2666 MT/s	8 GB UDIMM DDR4 2666 MT/s (1x 8GB) Notes: Total of 2 DIMM slots. With E-2224 processor, memory speed supports up to 2666 MT/s
Network Controller	Embedded 1Gb 4-Port Intel i350-AM4 Controller	Embedded 1Gb 4-Port Intel i350-AM4 Controller	Embedded 1Gb 4-Port Intel i350-AM4 Controller
Storage Controller	Embedded S100i SW RAID	Embedded S100i SW RAID	Embedded S100i SW RAID
Hard Drive	None ship as standard	1TB SATA 6G Entry 7.2K LFF RW HDD	None ship as standard
Internal Storage	4 LFF NHP SATA HDD cage	4 LFF NHP SATA HDD cage	4 LFF NHP SATA HDD cage
Optical Drive Bay	N/A	N/A	N/A
PCI-Express Slots	1 standard (Low Profile) PCIe 3.0	1 standard (Low Profile) PCIe 3.0	1 standard (Low Profile) PCIe 3.0
Power Supply	(1) 180W External Power Adapter, Non-Redundant Power Supply	(1) 180W External Power Adapter, Non-Redundant Power Supply	(1) 180W External Power Adapter, Non-Redundant Power Supply
Fans	(1) A non-redundant system fan ships standard	(1) A non-redundant system fan ships standard	(1) A non-redundant system fan ships standard
Operating System	None ship as standard	None ship as standard	None ship as standard
Form Factor	Ultra Micro Tower	Ultra Micro Tower	Ultra Micro Tower
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response

Country Code Key

XXX = 001 AMS
 XXX = 421 EMEA
 XXX = 371 AP
 XXX = 291 Japan

Pre-configured Models

XXX = AA1 PRC

HPE Unique Options

HPE MicroServer Gen10 Plus iLO Enablement Kit P13788-B21

Notes: This kit plugs to the iLO Enablement Kit slot on the riser board. This kit provides several functionalities:

- 1) It acts as an activation key for remote management to the server
- 2) An iLO dedicated NIC port comes with the kit
- 3) The iLO 5 Essentials features are activated upon installing the enablement kit:
 - Email-Based Alerting
 - Integrated Remote Console (IRC/Virtual KVM - Supports text and graphics)
 - Virtual Media via Integrated Remote Console
 - When the iLO Enablement Kit is integrated, NIC port 1 can be configured as an iLO shared NIC port.

HPE MicroServer Gen10 SFF NHP SATA Converter Kit 870213-B21

Notes: This kit works to accommodate your SFF NHP SSD into the LFF NHP drive cage.

HPE Memory

Unbuffered with ECC DIMMs (UDIMMs)

HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Unbuffered Standard Memory Kit 879505-B21

HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Unbuffered Standard Memory Kit 879507-B21

Notes: Running at 2400 MT/s with Intel Pentium® G families due to processor limitation.

HPE Hard Drives

6G SATA Non-Hot Plug LFF (3.5-inch) Standard (MDL) Drives

HPE 1TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD 801882-B21

HPE 4TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD 801888-B21

6G SATA Non-Hot Plug LFF (3.5-inch) ETY HDD

Notes: Please see the [HPE Hard Drives QuickSpecs](#) for Technical Specifications and additional information.

HPE Solid State Drives

HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD P47809-B21

HPE Networking

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

Pre-configured Models

Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter for HPE

P08437-B21

Additional Options

Embedded Management

HPE iLO Advanced

HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features	512485-B21
HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features	512486-B21
HPE iLO Advanced AKA Tracking License with 1yr Support on iLO Licensed Features	512487-B21
HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE
HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A
HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features	BD506A
HPE iLO Advanced AKA Tracking License with 3yr Support on iLO Licensed Features	BD507A

Software as a Service Management

HPE GreenLake for Compute Ops Management

HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS	R7A11AAE
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Additional Options

HPE GreenLake for Compute Ops Management Enhanced 1-year Upfront ProLiant SaaS	R7A10AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Upfront ProLiant SaaS	R7A12AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Monthly ProLiant SaaS	R7A13AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Monthly ProLiant SaaS	R7A14AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Monthly ProLiant SaaS	R7A15AAE

Notes: For customers purchasing HPE GreenLake for Compute Ops Management, without a hardware purchase or a BTO purchase, use this base SKU within ASQ order:

HPE GreenLake for Compute Ops Management Base SaaS	R6Z73AAE
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HPE Security

HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21
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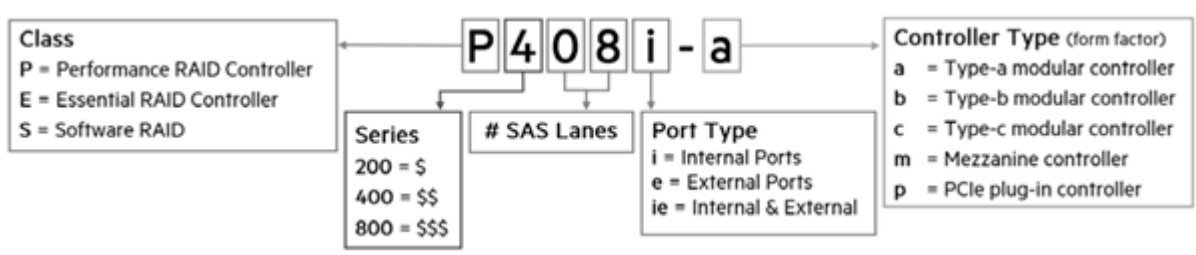
Notes:

- HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.
- HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.
- The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

Additional Options

HPE Smart Array Controllers

The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the [HPE Smart Array Gen10 Controllers Data Sheet](#).



Essential RAID Controllers

HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller 804394-B21

HPE Disk Backup

For the complete range of RDX drives and media see:

<https://www.hpe.com/us/en/product-catalog/storage/disk-based-backup-systems.html>.

For hardware and software compatibility of HPE disk backup products see:

<http://www.hpe.com/storage/spock>.

Please see the [HPE RDX Removable Disk Backup System QuickSpecs](#) for additional part numbers, technical specifications, and additional information.

HPE RDX 500GB Removable Disk Cartridge	Q2042A
HPE RDX 1TB Removable Disk Cartridge	Q2044A
HPE RDX 2TB Removable Disk Cartridge	Q2046A
HPE RDX 4TB Removable Disk Cartridge	Q2048A
HPE RDX External Docking Station	C8S07B

HPE USB Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD RAID 1 USB Boot Drive P21868-B21

Notes: In vSphere 7.0, VMware made changes that impact the use of an SD Card/USB media as a standalone boot device and will be removing support for them after version 7.x.

SD Card/USB media can still be used as a standalone boot option through all 7.x releases via published [Customer Advisory Usage of SD Card/USB Devices As Standalone Boot Devices Has Changed Due to System Storage Changes For VMware ESXi 7.0 \(Or Later\)](#).

For any major release beyond VMware ESXi 7.x, VMware will require M.2 or another local persistent device as the standalone boot option.

HPE Optical Drives

HPE Mobile USB DVD-RW Optical Drive 701498-B21

HPE USB Keyboard and Mouse

HPE USB US Keyboard/Mouse Kit 631341-B21

HPE USB JP Keyboard/Mouse Kit 631360-B21

HPE USB AP/INTL Keyboard/Mouse Kit 672097-373

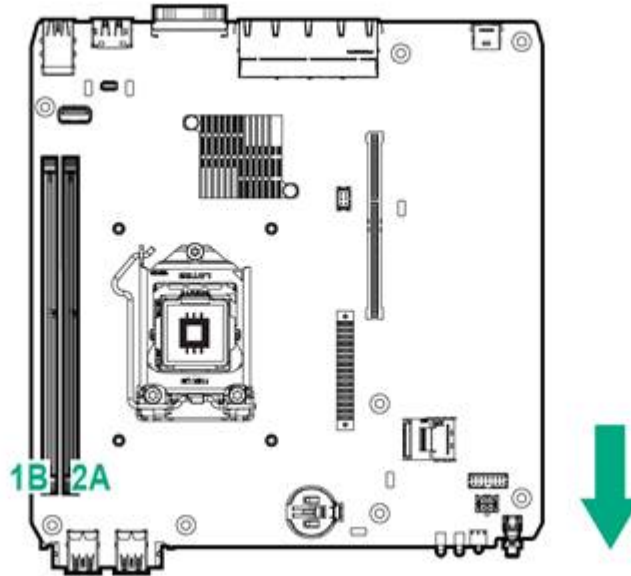
Additional Options

HPE USB INTL Keyboard/Mouse Kit	672097-B33
HPE USB UK Keyboard/Mouse Kit	631344-B21
HPE USB FR Keyboard/Mouse Kit	631346-B21
HPE USB ES Keyboard/Mouse Kit	631348-B21
HPE USB DE Keyboard/Mouse Kit	631358-B21
HPE USB IT Keyboard/Mouse Kit	631362-B21
HPE USB CN Keyboard/Mouse Kit	631364-B21
HPE USB AE Keyboard/Mouse Kit	638212-B21
HPE USB RU Keyboard/Mouse Kit	638214-B21
HPE USB SE Keyboard/Mouse Kit	672097-103
HPE USB CH Keyboard/Mouse Kit	672097-113
HPE USB PT Keyboard/Mouse Kit	672097-133
HPE USB TR Keyboard/Mouse Kit	672097-143
HPE USB CZ Keyboard/Mouse Kit	672097-223
HPE USB FI Keyboard/Mouse Kit	672097-353
HPE USB IN Keyboard/Mouse Kit	672097-D63
HPE USB KR Keyboard/Mouse Kit	672097-KD3

Memory

HPE ProLiant MicroServer Generation 10 Plus

32GB of maximum memory is available with the installation of 2 x 16 GB UDIMM Memory kits.



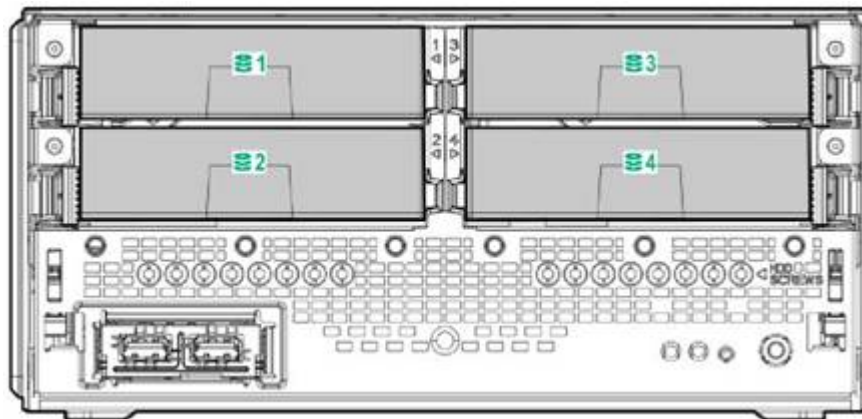
Maximum Memory

Memory Population			
Memory		Slot 2A	Slot 1B
Standard	8 GB	8 GB	Empty
	16 GB	16 GB	Empty
Optional	16 GB	8 GB	8 GB
Maximum	32 GB	16 GB	16 GB

General Memory Population Rules and Guidelines:

- The HPE ProLiant MicroServer Gen10 Plus Server has two memory slots.
- Only ECC UDIMMs are supported on MicroServer Gen10 Plus. No support for non-ECC UDIMMs.
- Memory speed support depends on the type of processor installed. For more information, see the technical specification of the installed processor.
- The server supports up to 2666 MT/s ECC UDIMMs (Unbuffered DIMMS).
- The server supports up to 32 GB (2 x 16 GB) UDIMMs.
- The server does not support Non-ECC UDIMMs, RDIMMs, and LRDIMMs
- Populate the DIMM on slots in this sequence: 2-A, 1-B
- Always use HPE qualified DIMMs.

Storage



1-4 Four (4) non-hot plug drive bays

Drive Support			
Drive	Quantity Supported	Position Supported	Controller
NHP SATA SSD	4	1-4	S100i or E208i-p SR
NHP SATA HDD	4	1-4	S100i or E208i-p SR

Technical Specifications

System Unit

Dimensions

- **(H x W x D)** (with feet)
4.68 x 9.65 x 9.65 in (11.89 x 24.5 x 24.5 cm)

Weight (approximate)

- **Maximum** (Four drives, two DIMMs, expansion board + iLO Enablement Kit)
15.87 lb (7.2 kg)
- **Minimum** (One DIMM installed, no drive, expansion board, iLO Enablement Kit)
9.33 lb (4.23 kg)

Input Requirements (per power supply)

- **Rated Line Voltage**
100 V AC to 240 VAC
- **Rated Input Current**
2.5 A (at 90 VAC)
- **Rated Input Frequency**
50 to 60 Hz
- **Rated Input Power**
180W Power Supply

Power Specifications

To review typical system power ratings use the Power Advisor which is available via the online tool located at URL: <https://www.hpe.com/us/en/integrated-systems/rack-power-cooling.html>

Power Supply Output (per power supply)

- **Rated Steady-State Power**
180 W Power Supply
180 W (at 100 VAC)
180 W (at 200 VAC)
- **Maximum Peak Power**
180 W Power Supply
180 W (at 100 VAC)
180 W (at 200 VAC)

Relative Humidity (non-condensing)

- **Operating**
10% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
- **Non-operating**
5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

Altitude

Technical Specifications

- **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).

System Inlet Temperature

- **Standard Operating Support**
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 above 30°C (86°F).
- **Extended Ambient Operating Support**
For approved hardware configurations, the supported system inlet range is 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 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 ambient operating range.
- **Non-operating**
-30°C to 60°C (-22°F to 140°F) Maximum rate of change is 20°C/hr (36°F/hr).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) 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.

Idle	
LWAd	3.6 Bels (Entry) 3.6 Bels (Performance)
LpAm	21 dBA (Entry) 21 dBA (Performance)
Operating	
LWAd	3.6 Bels (Entry) 3.6 Bels (Performance)
LpAm	21 dBA (Entry) 21 dBA (Performance)

Notes:

–The listed sound levels apply to listed configurations. Additional options may result in increased sound

Technical Specifications

levels. Please have your HPE Rep. refer to EMESC website for further technical details regarding the configurations listed above.

– Acoustics levels presented here accounts for test configuration only and acoustics level will vary depending on system configuration.

– Values are subject to change without notification and are for reference only.

Emissions Classification (EMC)

- **FCC Rating**

Class B

- **Normative Standards**

CISPR32, EN55032, EN55024

FCC CFR 47, Pt15; ICES-003; CNS13438; GB9254

K32; K24; EN61000-3-2;

EN61000-3-3;

Notes: 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.

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.

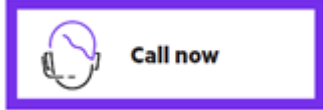
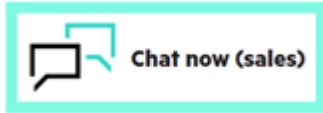
The EU WEEE directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other 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-May-2023	Version 10	Changed	Optional Features and Additional Options sections were updated.
07-Nov-2022	Version 9	Changed	Standard Features, Optional Features and Additional Options sections were updated.
18-Apr-2022	Version 8	Changed	Pre-configured Models section was updated.
07-Mar-2022	Version 7	Changed	Core options section was updated.
07-Feb-2022	Version 6	Changed	Technical Specifications section was updated.
06-Dec-2021	Version 5	Changed	Additional Options section was updated. Obsolete SKUs were removed.
18-Oct-2021	Version 4	Changed	Technical Specifications section was updated. Obsolete SKUs were removed.
01-Jun-2020	Version 3	Changed	Overview and Standard Features sections were updated.
24-Feb-2020	Version 2	Changed	Overview, Standard Features, Optional Features and Core Options sections were updated.
03-Feb-2020	Version 1	New	New QuickSpecs.

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

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