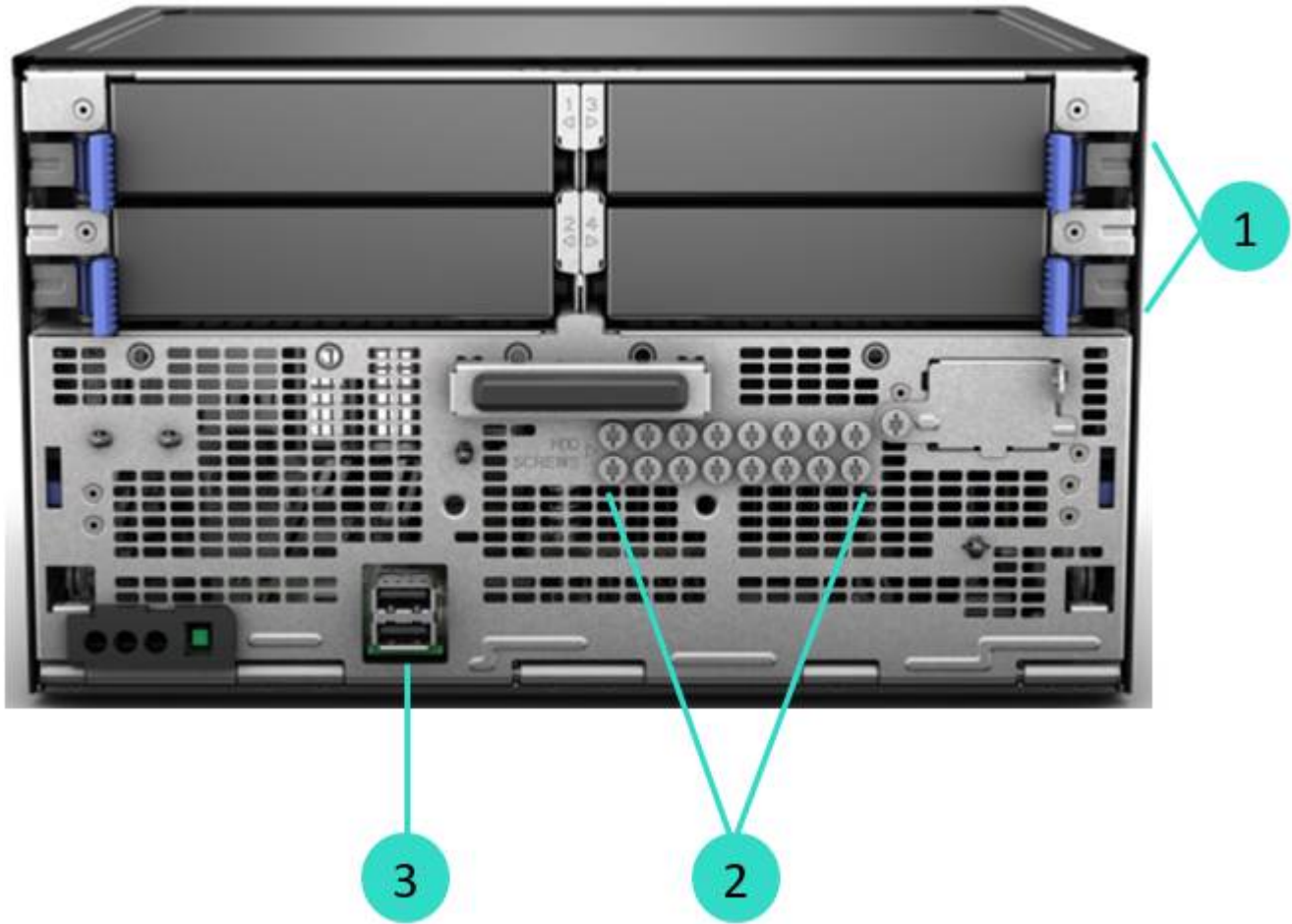Overview

HPE ProLiant MicroServer Gen11

HPE ProLiant MicroServer Gen11 delivers an affordable compact yet powerful entry level server that you can customize for on-premises, edge, hybrid cloud, or even workloads demanding datacenter performance. It has the ultra mini tower form factor and can be placed flat or vertically or wall-mounted depending on the customer environment. The latest Intel Xeon® E and Pentium® supported processors 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 4 DIMM slots for DDR5 memory and 2 PCIe slots, 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. Drive activity LED
2. NIC status LED
3. Health LED
4. Power on/ Standby button and system power LED
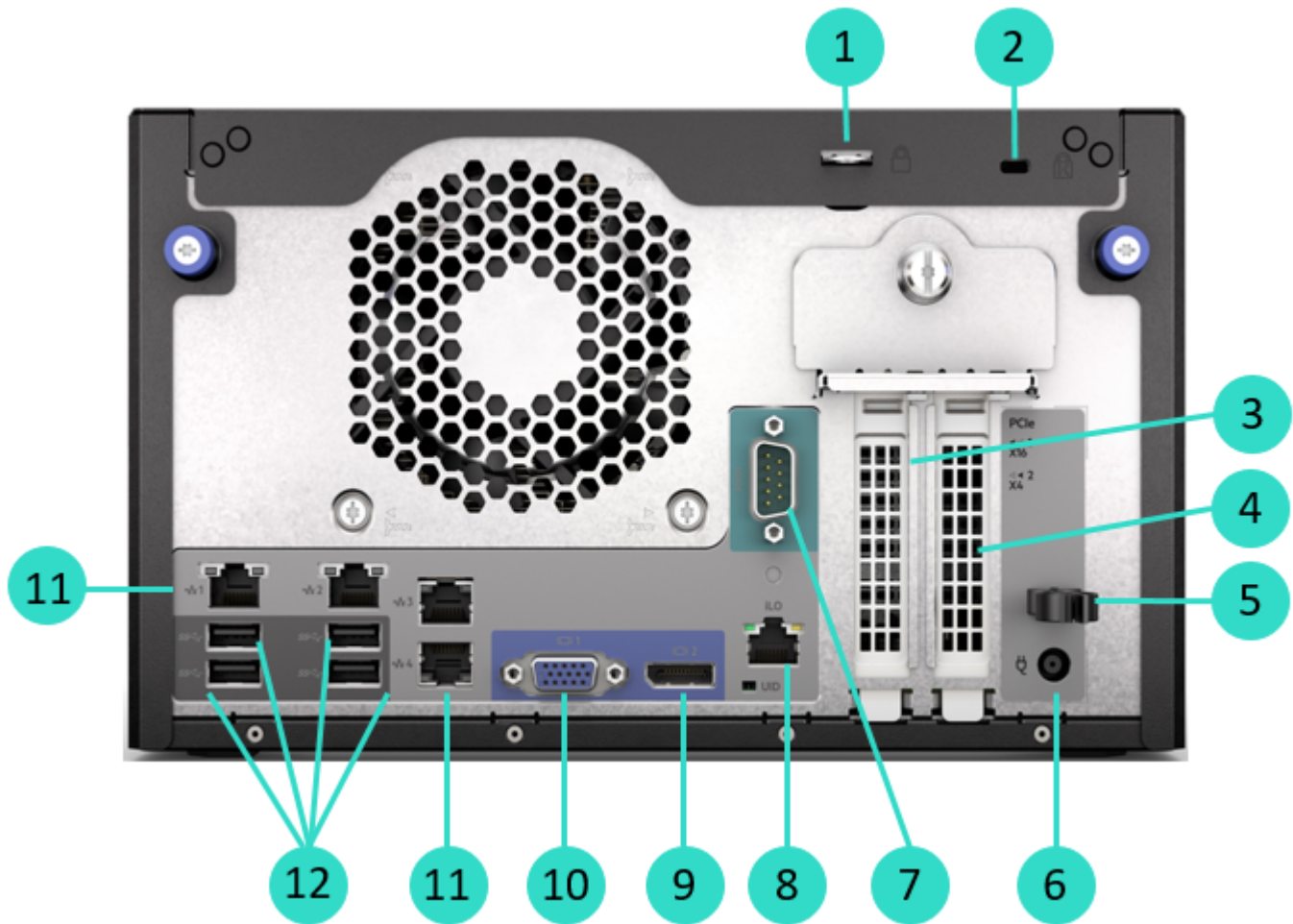5. USB 3.2 Gen2 Type-A ports

Overview

Front View (Internal)

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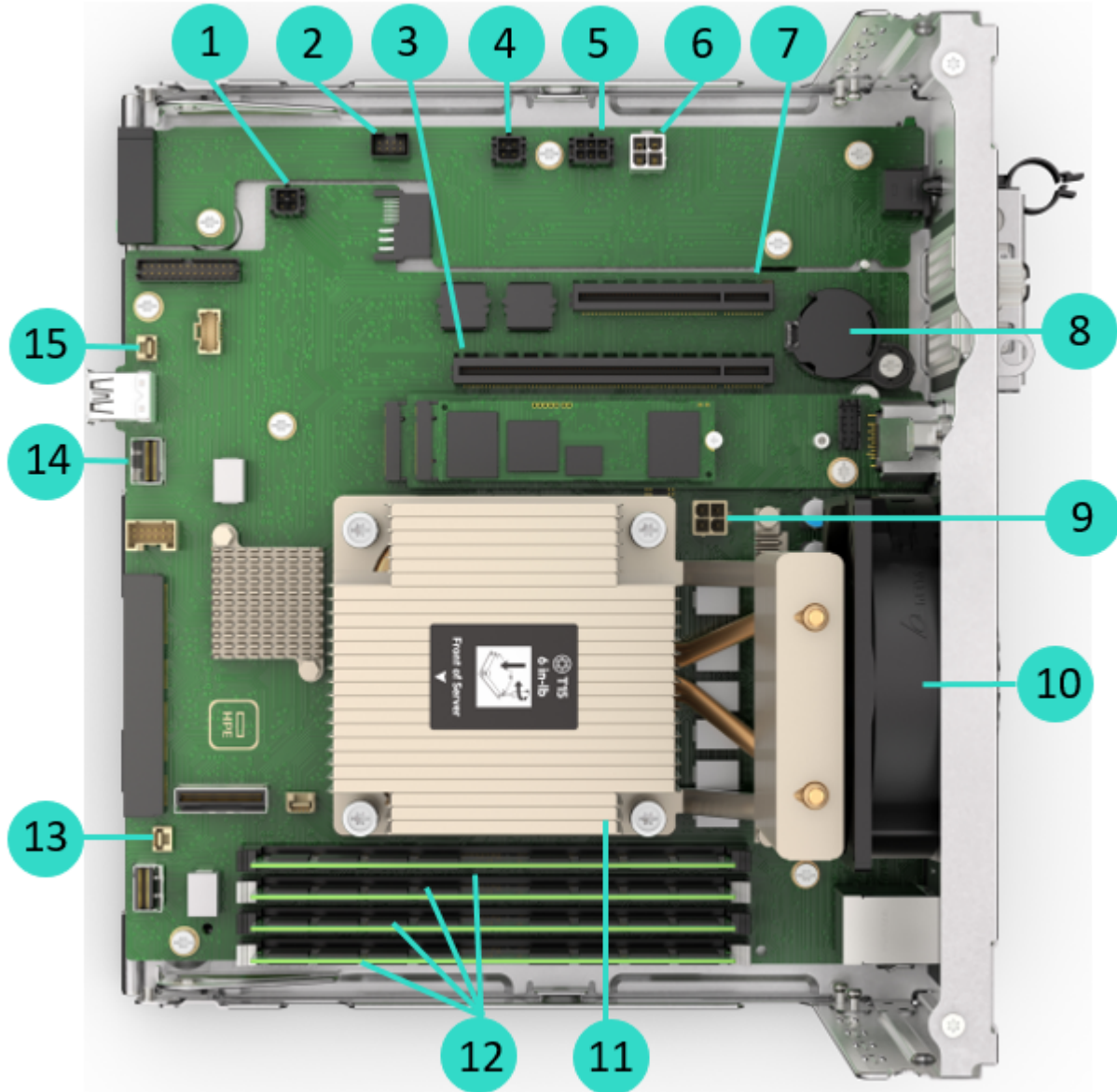3.   USB 3.2 Gen2 Type-A ports

Overview

Rear View

1.	Padlock eye	7.	Serial port (optional, enabled by the iLO/M.2/serial port kit)
2.	Kensington security slot	8.	iLO dedicated NIC port (optional, enabled by the iLO/M.2/serial port kit)
3.	(1) PCIe Gen5 low-profile slot (PCIe5 x16)	9.	Display Port 1.1a
4.	(1) PCIe Gen4 low-profile slot (PCIe4 x8)	10.	VGA
5.	Power clip hole (for the power cord clip to firmly secure the power adapter cord)	11.	Four (4) NIC ports (NIC1-4 from left)
6.	Power jack	12.	Four (4) USB 3.2 Gen1 Type-A ports

Overview

Mainboard View (Internal)

1. System board: System power connector
2. Fan connector
3. Slot 1 PCIe5 x16
4. PDB: System power connector
5. Drive power connector
6. PDB: 4-pin processor power connector
7. Slot 2 PCIe4 x8
8. Coin battery
9. System board: 4-pin processor power connector
10. System fan
11. One (1) processor and heatsink
12. Four (4) DDR5 UDIMM slots
13. Ambient temperature sensor connector
14. SlimSAS x4 port
15. Storage controller backup power connector

Standard Features

Processor

Intel® Xeon® E Processor is designed to deliver the best combination of performance, built-in capabilities, and cost-effectiveness. This server 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-2400 Series / Pentium Gold						
Model	**CPU Base Frequency**	**Cores**	**Threads**	**Smart Cache**	**Power**	**DDR5**
Xeon E-2414	2.6 GHz	4	4	12 MB	55W	4400 MT/s
Xeon E-2434	3.4 GHz	4	8	12 MB	55W	4400 MT/s
Pentium G7400	3.7 GHz	2	4	6 MB	46W	4400 MT/s

Notes: Intel® Xeon E-2414 up to 4.5 GHz with 1 or 2 cores and 4.3 GHz with 3 or 4 cores and E-2434 support Turbo Boost which can make the CPU frequency to up to 5.0GHz with 1 or 2 cores and 4.6 GHz with 3 or 4 cores.

Chipset

Intel® C262 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 6 ASIC

Notes:

– MicroServer Gen11 does not support remote management/ out-of-band management by default. The MicroServer Gen11 leverages the HPE ML30 Gen11 iLO/NIC/M.2/COM Port Kit (P65741-B21) which must be installed to activate remote management. Without the iLO Port Kit, the server only supports in-band management features.

   o The iLO Port Kit supports below features:

   - It acts as an activation key for remote management to the server
   - The iLO 6 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

Standard Features

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

– Read and learn more in the **HPE iLO QuickSpecs**.

Memory

Type	HPE Standard Memory DDR5 Unbuffered (UDIMM)
DIMM Slots Available	4
Maximum Capacity	128GB (4 x 32GB UDIMM @4400 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/psnow/doc/a50010188enw**

Memory Protection

- ECC

Network Controller

Embedded Broadcom BCM5719 Ethernet 1GbE 4-port BASE-T Adapter for HPE

The HPE ProLiant MicroServer Gen11 server offers the customer a 4-port NIC standard with the option to upgrade with a variety of networking options.

Expansion Slots

Expansion Slot #	Technology	Bus Width	Connector Width	Form Factor	Notes
1	PCIe 5.0	x 16	x 16	Low Profile	
2	PCIe 4.0	x4	x8	Low Profile	

Storage Controller
Intel **VROC** SATA Software RAID
Notes: The embedded Intel Virtual RAID on CPU (Intel VROC) is the SATA software RAID controller supported in this server.

– All models feature an embedded storage controller Intel VROC SATA.

– BIOS Default is SATA AHCI. Embedded Intel SATA VROC is disabled by default. Embedded Intel SATA VROC can be enabled in BIOS/Platform Configuration (RBSU) for SW RAID features.

– For Linux users, HPE offers a solution that uses in-distro open-source software to create a two-disk RAID 1 boot volume.

Standard Features

– For more information visit: **https://downloads.linux.hpe.com/SDR/project/lsrrb/**

– RAID support - 0/1/5/10.

– Intel VROC SATA does not support RAID volume creation with different form factors of drives

– Intel VROC SATA RAID supports Windows Server and Linux but does not support VMware.

– Intel VROC SATA will operate in UEFI mode, Windows **OS** environment, and Linux OS environment.

– Required to install AMS tools in OS for supporting drives thermal sensor reading for thermal fan control, otherwise may experience acoustic noise impact.

– Both Intel® Xeon® E processors and Intel® Pentium® processors support Intel® VROC SATA Raid.

– See HPE Support Center for additional information regarding installation of Intel® VROC (SATA RAID): Enabling Intel VROC (SATA RAID) for SATA or SATA on BIOS/Platform configuration (RBSU)

o **Windows Edition**

o **Linux Edition**

– Intel VROC requires the server boot mode to be set to UEFI Mode.

– Obtain the Intel VROC downloads (drivers, GUI) specific for your system OS. For direct download links, see the OS-specific

– VROC guide: **https://support.hpe.com/connect/s/product?language=en_US&cep=on&kmpmoid=1013158021&tab=manuals**

– Intel VROC supports RAID management though the following tools:

  o non-OS specific: UEFI System Utilities

  o Windows: Intel VROC GUI, Intel VROC CLI.

Essential RAID Controller
HPE Smart Array E208e-p SR Gen10 Controller

Internal Storage Devices

- **Hard Drives**

  None ship standard

- **Solid State Drives**

  None ship standard

Standard Features

Maximum Internal Storage

- **Non-hot plug SATA**

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

  3.84TB (4x 960GB) 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 3.2 Gen 1 Type-A Ports	4 total (4 rear)
USB 3.2 Gen 2 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 6 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

Standard Features

Industry Standard Compliance

- ACPI V6.3 Compliant
- PCIe 5.0 and 4.0 Compliant
- PXE Support
- WOL Support
- EMC Class B
- Microsoft® Logo certifications
- VGA Port
- **DP** 1.1a
- SMBIOS 3.2
- UEFI 2.9
- Redfish API
- IPMI 2.0
- TPM 2.0 Gen11 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
- UEFI (Unified Extensible Firmware Interface Forum)
- USB 3.2 Compliant
- SATA 6Gb/s

Notes: For additional technical thermal details regarding ambient temperatures, humidity and features support please visit URL: **http://www.hpe.com/servers/ashrae** for ASHRAE A3/A4 feature.

Operating Systems and Virtualization Software Support for ProLiant Servers

- Microsoft Windows Server 2022: Essentials, Standard, Datacenter
- Red Hat Enterprise Linux (RHEL): 8.8, 9.2 (64 bit, includes KVM)
- VMware vSphere: 8.0 U2
- Canonical Ubuntu 20.04 and 22.04

Notes: VMware supported only on MicroServer performance **SKUs** and not on entry SKUs. No Legacy Mode Support on VMware. **https://kb.vmware.com/s/article/84233**

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 Plus 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.
>
> − Intel VROC SATA for HPE ProLiant Gen11 will operate in UEFI mode only.

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 **iLO Essentials licenses | HPE iLO Licensing Guide**.

Notes:

− To activate iLO remote management, the HPE ML30 Gen11 iLO/NIC/M.2/COM Port Kit (P65741-B21) needs to be installed.

− Without the HPE ML30 Gen11 iLO/NIC/M.2/COM Port Kit (P65741-B21), the Embedded Management, Server Utilities and iLO 6 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 **iLO Essentials licenses | HPE iLO Licensing Guide**.

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**.

RESTful Interface Tool
RESTful Interface tool is a scripting tool to provision using RESTful API for iLO 6 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 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
- Ability to rollback firmware
- Secure erase of NAND/User data
- TPM (Trusted Platform Module) 2.0 Gen 11
- 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 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.
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/support/ProLiantServers-Warranties

Optional Features

Server Management

HPE ML30 Gen11 iLO/NIC/M.2/COM Port Kit (P65741-B21)

MicroServer Gen11 does not support remote management/ out-of-band management by default. The HPE ML30 Gen11 iLO/NIC/M.2/COM Port Kit (P65741-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 6 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 the 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

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 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

Service and Support

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

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.

Service and Support

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/**

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

Pre-configured Models

Pre-Configured models ship with the configurations below.

- 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 not be shipped inside the server.
- Network Choice models do not include embedded LOM.

Performance Models			
SKU Number	P68820-001 P68820-291 P68820-371 P68820-421	P68821-001 P68821-421	P68822-001
Model Name	HPE ProLiant MicroServer Gen11 E-2414 2.6GHz 4-core 1P 16GB-U VROC 4LFF-NHP 180W External PS Server	HPE ProLiant MicroServer Gen11 E-2434 4-core 1P 16GB-U VROC 4LFF-NHP 1TB 180W External PS Server	HPE ProLiant MicroServer Gen11 E-2434 4-core 1P 16GB-U VROC 4LFF-NHP 1TB 180W External PS Server
Processor	E-2414 (4 core, 2.8 GHz, 55W)	E-2434 (4 core, 3.4 GHz, 55W)	E-2434 (4 core, 3.4 GHz, 55W)
Number of Processors	One		
Memory	16 GB (1x 16 GB, 4800 MT/s)		
Network Controller	4x1Gbe embedded **Notes:** Embedded 1Gb 4-port		
Storage Controller	Embedded Intel VROC SATA SW RAID		
Included Hard Drives	None shipped standard	1x 1 TB SATA 6G Business Critical 7.2K LFF RW HDD	1x 1 TB SATA 6G Business Critical 7.2K LFF RW HDD
Internal Storage	Up to 4 LFF NHP HDD or 4 SFF NHP SSD (with LFF-to-SFF converter kit)		
Optical Drive Bay	Optional ODD Bay Kit, none included		
Optical Drive	Optional ODD Bay Kit, none included		
Expansion Slots	(1) PCIe 5.0 slots, (1) PCIe 4.0 slots		
Power Supply	1x 180W External Power Adapter, Non-Redundant Power Supply		
Fans	1x non-redundant system fan ships standard		
Management	HPE iLO 6		
Security	TPM (Trusted Platform Module)		

Pre-configured Models

Form Factor	Ultra Micro Tower
Warranty	Server warranty includes 1-year parts, 1-year labor, and 1-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. 3) A trained, authorized service engineer must service non-CSR parts. For more information, visit https://www.hpe.com/support.

Pre-configured Models

Entry Models	
SKU Number	P68819-001 P68819-291 P68819-371 P68819-421 P68819-AA1
Model Name	HPE ProLiant MicroServer Gen11 G7400 2-core VROC 4LFF-NHP 180W External PS Compute Module Server
Processor	G7400 (2 core, 3.7 GHz, 46W)
Number of Processors	One
Memory	16 GB (1x 16 GB, 4800 MT/s)
Network Controller	4x1Gbe embedded **Notes:** Embedded 1Gb 4-port
Storage Controller	Embedded Intel VROC SATA SW RAID
Included Hard Drives	None shipped standard
Internal Storage	Up to 4 LFF NHP HDD or 4 SFF NHP SSD (with LFF-to-SFF converter kit)
Optical Drive Bay	Optional ODD Bay Kit, none included
Optical Drive	Optional ODD Bay Kit, none included
Expansion Slots	(1) PCIe 5.0 slots, (1) PCIe 4.0 slots
Power Supply	1x 180W External Power Adapter, Non-Redundant Power Supply
Fans	1x non-redundant system fan ships standard
Management	HPE iLO 6
Security	P68819-001, P68819-291, P68819-371 & P68819-421: TPM (Trusted Platform Module)
	P68819-AA1: TPM disabled for shipments to China
Form Factor	Ultra Micro Tower

Pre-configured Models

Warranty	Server warranty includes 1-year parts, 1-year labor, and 1-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. 3) A trained, authorized service engineer must service non-CSR parts. For more information, visit https://www.hpe.com/support.

Country Code Key

- -001 = North America
- -291 = Japan
- -371 = Asia Pacific
- -421 = Europe, the Middle East and Africa
- -AA1 = China

Additional Options

HPE Unique Options

HPE ProLiant ML30 Gen11 iLO/NIC/M.2/COM Port Kit   P65741-B21

Notes: This kit plugs to the iLO Port 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 6 Essentials features are activated upon installing the enablement kit:

   o Email-Based Alerting

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

   o Virtual Media via Integrated Remote Console

   o 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 16GB (1x16GB) Single Rank x8 DDR5-4800 CAS-40-39-39 Unbuffered Standard Memory Kit	P64336-B21
HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 Unbuffered Standard Memory Kit	P64339-B21

Notes: DDR5 4800 MT/s memory runs at 4400 MT/s maximum in entry servers due to processor support. Mixing memory DIMMs of different capacities in the server is not recommended.

HPE Hard Disk Drives

Business Critical (Entry) 6G SATA - LFF NHP/Raw 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

Notes: Please see the **HPE Hard Drives QuickSpecs** for Technical Specifications and additional information.

HPE Solid State Drives

Additional Options

HPE 240GB SATA RI SFF BC MV SSD	P40496-B21
HPE 480GB SATA 6G Read Intensive SFF **BC** **Multi Vendor** SSD	P65272-B21
HPE 960GB SATA 6G Read Intensive SFF BC **Multi Vendor** SSD	P40498-B21

Notes: To accommodate an SSD, HPE MicroServer Gen10 NHP SFF Converter Kit (870213-B21) must be used. If the new SFF drive has its own carrier, remove the carrier before installing it in the converter kit.

HPE M.2 Drives

HPE 480GB NVMe Gen4 Mainstream Performance Read Intensive M.2 PM9A3 SSD	P69543-B21

Notes: To support this low power NVMe M.2 drive, the HPE ML30 Gen11 iLO/NIC/M.2/COM Port Kit (P65741-B21) must be installed.

HPE Networking

10 Gigabit Ethernet Adapter

Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE	P26253-B21
Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE	P26259-B21

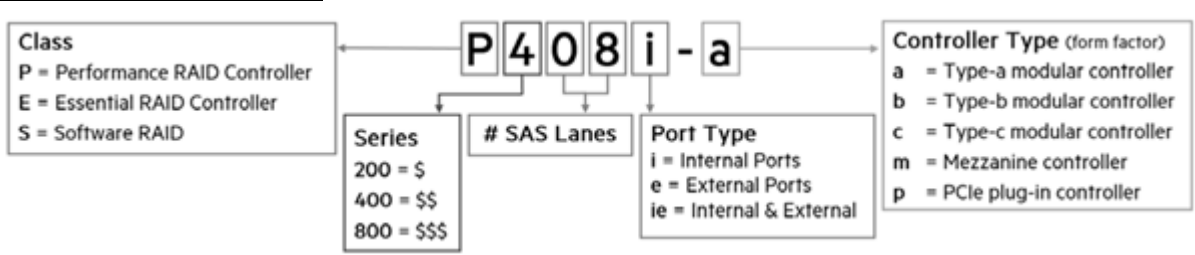**1 Gigabit Ethernet Adapter**

Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T Adapter for HPE	P51178-B21
Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE	P21106-B21

Notes: If Customer uses the OS RHEL 8.4 on Broadcom adapters (P28787-B21 or P26259-B21) they will need to download the driver from the following links.

- **https://support.hpe.com/connect/s/softwaredetails?language=en_US&softwareId=MTX_91bef687f7694f3aa51a5e6277**
- **https://support.hpe.com/connect/s/softwaredetails?language=en_US&softwareId=MTX_579d5cde4cef4d108f24a326ff**

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

Additional Options

HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21

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

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

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

HPE Security

HPE ProLiant MicroServer Gen11 Server ships with embedded Trusted Platform Module (TPM) 2.0 enabled by default.

For servers shipping to China, the TPM is disabled.

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
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

Additional Options

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

HPE Support Services

HPE Services HPE Tech Care Service

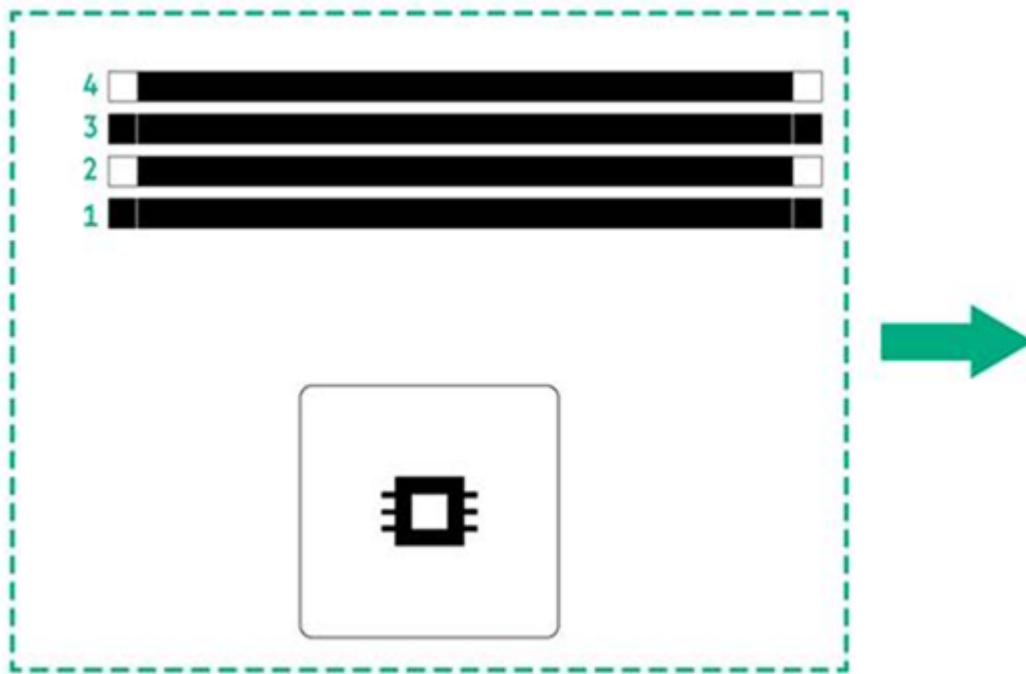|	
HPE 3 Year Tech Care Basic Proliant Microserver GEN11 HW Service	H44NME
HPE 3 Year Tech Care Basic wDMR Proliant Microserver GEN11 HW Service	H44NNE
HPE 3 Year Tech Care Basic wCDMR Proliant Microserver GEN11 HW Service	H44NQE
HPE 3 Year Tech Care Basic Same Business Day Proliant Microserver GEN11 Service	H44NRE
HPE 3 Year Tech Care Basic Same Business Day wDMR Proliant Microserver GEN11 Service	H44NSE
HPE 3 Year Tech Care Essential Proliant Microserver GEN11 HW Service	H44NTE
HPE 3 Year Tech Care Essential wDMR Proliant Microserver GEN11 HW Service	H44NVE
HPE 3 Year Tech Care Essential wCDMR Proliant Microserver GEN11 HW Service	H44NWE
HPE 4 Year Tech Care Basic Proliant Microserver GEN11 HW Service	H44NXE
HPE 4 Year Tech Care Basic wDMR Proliant Microserver GEN11 HW Service	H44NYE
HPE 4 Year Tech Care Basic wCDMR Proliant Microserver GEN11 HW Service	H44NZE
HPE 4 Year Tech Care Basic Same Business Day Proliant Microserver GEN11 Service	H44PBE
HPE 4 Year Tech Care Basic Same Business Day wDMR Proliant Microserver GEN11 Service	H44PCE
HPE 4 Year Tech Care Essential Proliant Microserver GEN11 HW Service	H44PDE
HPE 4 Year Tech Care Essential wDMR Proliant Microserver GEN11 HW Service	H44PFE
HPE 4 Year Tech Care Essential wCDMR Proliant Microserver GEN11 HW Service	H44PGE
HPE 5 Year Tech Care Basic Proliant Microserver GEN11 HW Service	H44PHE
HPE 5 Year Tech Care Basic wDMR Proliant Microserver GEN11 HW Service	H44PJE
HPE 5 Year Tech Care Basic wCDMR Proliant Microserver GEN11 HW Service	H44PKE
HPE 5 Year Tech Care Basic Same Business Day Proliant Microserver GEN11 Service	H44PLE

Additional Options

HPE 5 Year Tech Care Basic Same Business Day wDMR Proliant Microserver GEN11 Service	H44PME
HPE 5 Year Tech Care Essential Proliant Microserver GEN11 HW Service	H44PNE
HPE 5 Year Tech Care Essential wDMR Proliant Microserver GEN11 HW Service	H44PQE
HPE 5 Year Tech Care Essential wCDMR Proliant Microserver GEN11 HW Service	H44PRE

Memory

HPE Standard Memory

HPE Standard Memory offers the best combination of pricing, quality, reliability and compatibility for HPE ProLiant servers; designed to help your business achieve powerful results with right-sized affordable solutions. It delivers the ideal value that small businesses require to smoothly run a small network server environment and provides entry-level businesses while being affordable.

HPE Standard Memory UDIMMs has passed the rigorous Hewlett Packard Enterprise qualification and testing processes. The memory subsystem in this server supports UDIMMs. The server supports single-rank and dual-rank DDR5 UDIMMs operating at up to 4400 MT/s DIMM speeds

Memory Population Guidelines

The server supports two channels per processor with two DIMMs per channel for a total of four DIMMs per MicroServer Gen11 Server.

CPU 1			
		Slot #	**Population Order**
Chnl 2		4	B
		3	D
Chnl 1		2	A
		1	C

General Memory Population Rules and Guidelines:

- The HPE ProLiant MicroServer Gen11 Server has four memory slots.
- Only ECC UDIMMs are supported on MicroServer Gen11. 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.

Memory

- The server supports up to 4400 MT/s ECC UDIMMs (Unbuffered DIMMS).
- The server supports up to 128GB (4 x 32 GB) UDIMMs.
- Population order; start with "A" first, "B" second, "C" third, etc.
- The server does not support **Non-ECC UDIMMs**, RDIMMs, and LRDIMMs
- Mixing memory DIMMs of different capacities in the server is not recommended.
- Always use HPE qualified DIMMs.
- For Server Memory Population Rules for HPE ProLiant Servers with Intel® Xeon® E-2400 Processors see details here: **www.hpe.com/docs/server-memory**
- For details on the HPE Server Memory Options Population Rules, visit: **http://www.hpe.com/docs/memory-population-rules**
- 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.

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/server-memory**

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.

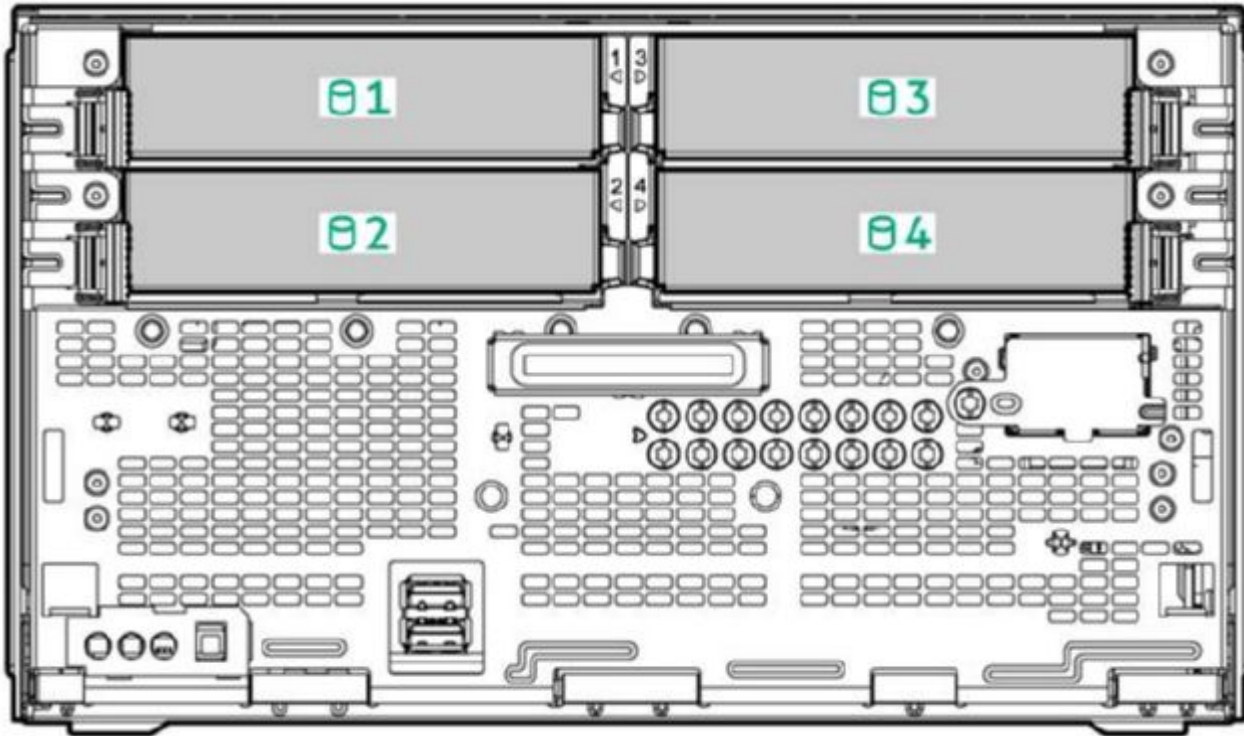| DIMM Type	Unbuffered with ECC DIMMs (UDIMMs)	
HPE SKU P/N	**P64336-B21**	**P64339-B21**
SKU Description	HPE 16GB (1x16GB) Single Rank x8 DDR5-4800 CAS-40-39-39 Unbuffered Standard Memory Kit	HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 Unbuffered Standard Memory Kit
DIMM Rank	Single Rank (1R)	Dual Rank (2R)
DIMM Capacity	16GB	32GB
Voltage	Std Voltage 1.1V VDDQ, 1.8V VPP	Std Voltage 1.1V VDDQ, 1.8V VPP
CAS Latency	36-36-36	36-36-36
DIMM Native Speed (MT/S)	5600 MT/s	5600 MT/s
Slots That Can Be Populated	4	4
Maximum Capacity (Gb)	64 GB (4 x 16 GB)	128 GB (4 x 32 GB)
HPE Server Memory Speed: Intel® Xeon® E processors		
1 DIMM Per Channel	4400 MT/s	4400 MT/s
2 DIMM Per Channel	4000 MT/s	3600 MT/s
HPE Server Memory Speed: Intel® Pentium® G7400 processor		
1 DIMM Per Channel	4400 MT/s	4400 MT/s
2 DIMM Per Channel	4000 MT/s	3600 MT/s

DDR5 memory options part number decoder
Capacity references are rounded to the common gigabyte (GB) values.

- 16GB = 16,384 MB
- 32GB = 32,768 MB
- 64GB = 65,536 MB
- 128GB = 131,072 MB

For more information on memory, please visit the HPE DDR5 Standard Memory web site.

Storage

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

Drive Support			
Drive	**Quantity Supported**	**Position Supported**	**Controller**
NHP SATA SSD	4	1-4	VROC SR or E208e-p SR
NHP SATA HDD	4	1-4	VROC SR or E208e-p SR

Technical Specifications

System Unit

Dimensions

- **(H x W x D)** (with feet)
  6.06 x 10.28 x 9.82 in (15.4 x 26.1 x 24.9 cm)

Weight (approximate)

- **Maximum** (Four drives, four DIMMs, expansion board + iLO Enablement Kit)
  19.07 lb (8.65 kg)
- **Minimum** (One DIMM installed, one drive, expansion board, iLO Enablement Kit)
  18.78 lb (8.52 kg)

Input Requirements (per power supply)

- **Rated Line Voltage**
  100 VAC 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**
  8% to 90% <In the **UG**, this is 8% to 90%. Please confirm with EPM.> - Relative humidity (Rh), 28°C

Technical Specifications

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

Altitude

- **Operating**
  3050 m (10,000 ft). This value may be limited by the type and number of options installed. The 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 (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

Technical Specifications

provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Idle	
LWAd	3.4 Bels (Entry) 3.4 Bels (Performance 1) 3.4 Bels (Performance 2)
LpAm	24 dBA (Entry) 24 dBA (Performance 1) 24 dBA (Performance 2)
Kv	0.4 Bels (Entry) 0.4 Bels (Performance 1) 0.4 Bels (Performance 2)
Operating	
LWAd	3.4 Bels (Entry) 3.4 Bels (Performance 1) 3.4 Bels (Performance 2)
LpAm	24 dBA (Entry) 24 dBA (Performance 1) 24 dBA (Performance 2)
Kv	0.4 Bels (Entry) 0.4 Bels (Performance 1) 0.4 Bels (Performance 2)

Notes:

− 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.

− The statistical adder for verification, Kv, is a quantity to be added to the declared mean A-weighted sound power level, LWA,m, such that there will be a 95 % probability of acceptance, when using the verification procedures of ISO 9296, if no more than 6,5 % of the batch of new equipment, has A-weighted sound power levels greater than (LWA,m + Kv).

− The quantity, LWA,c (formerly called LWAd), can be computed from the sum of LWA,m and Kv.

− All measurements made to conform to ISO 7779 / ECMA-74 and declared to conform to ISO 9296 / ECMA-109.

− B, dB, abbreviations for bels and decibels, respectively, where 1 B = 10 dB.

− The results in this declaration apply only to the model numbers listed above when operating and tested

Technical Specifications

according to the indicated modes and standards. A system with additional configuration components or increased operating functionality may increase the noise emission values.

– The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels, for example, higher-end graphic processing units (GPU), SSDs or NVMe M.2.

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.**
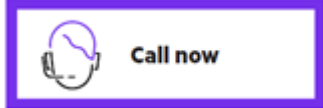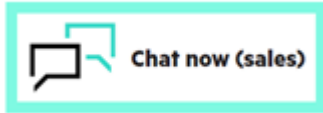
The **EU** WEEE directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and 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
3-Jun-2024	Version 1	New	New QuickSpecs.

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