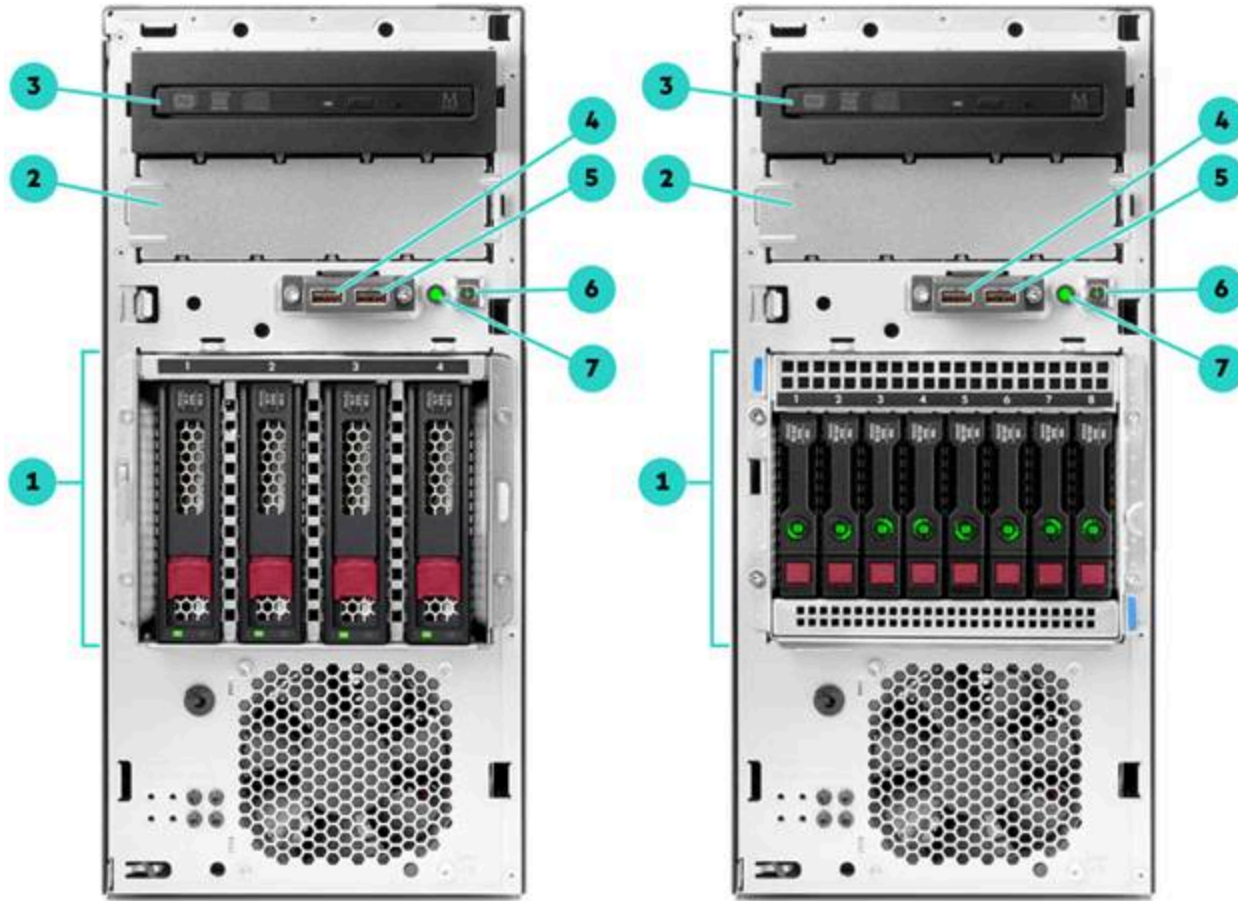


Overview

HPE ProLiant ML30 Gen10 Server

The HPE ProLiant ML30 Gen10 Server is a powerful yet affordable tower server designed for small offices, remote and branch offices to run on-premises and hybrid cloud solutions, delivering enterprise-class performance, security, reliability, and expandability at a lower cost.

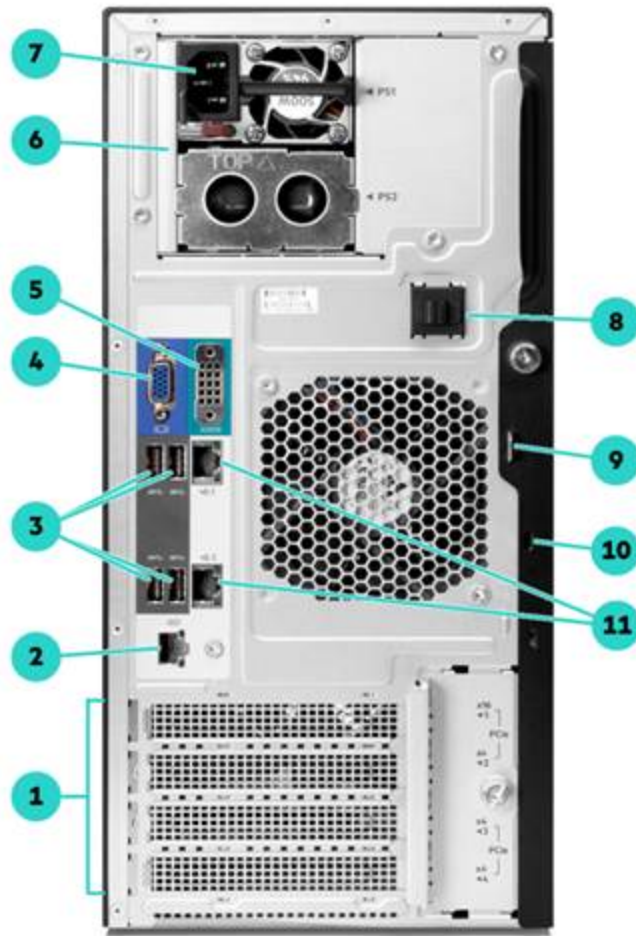


4 LFF Model

8 SFF Model

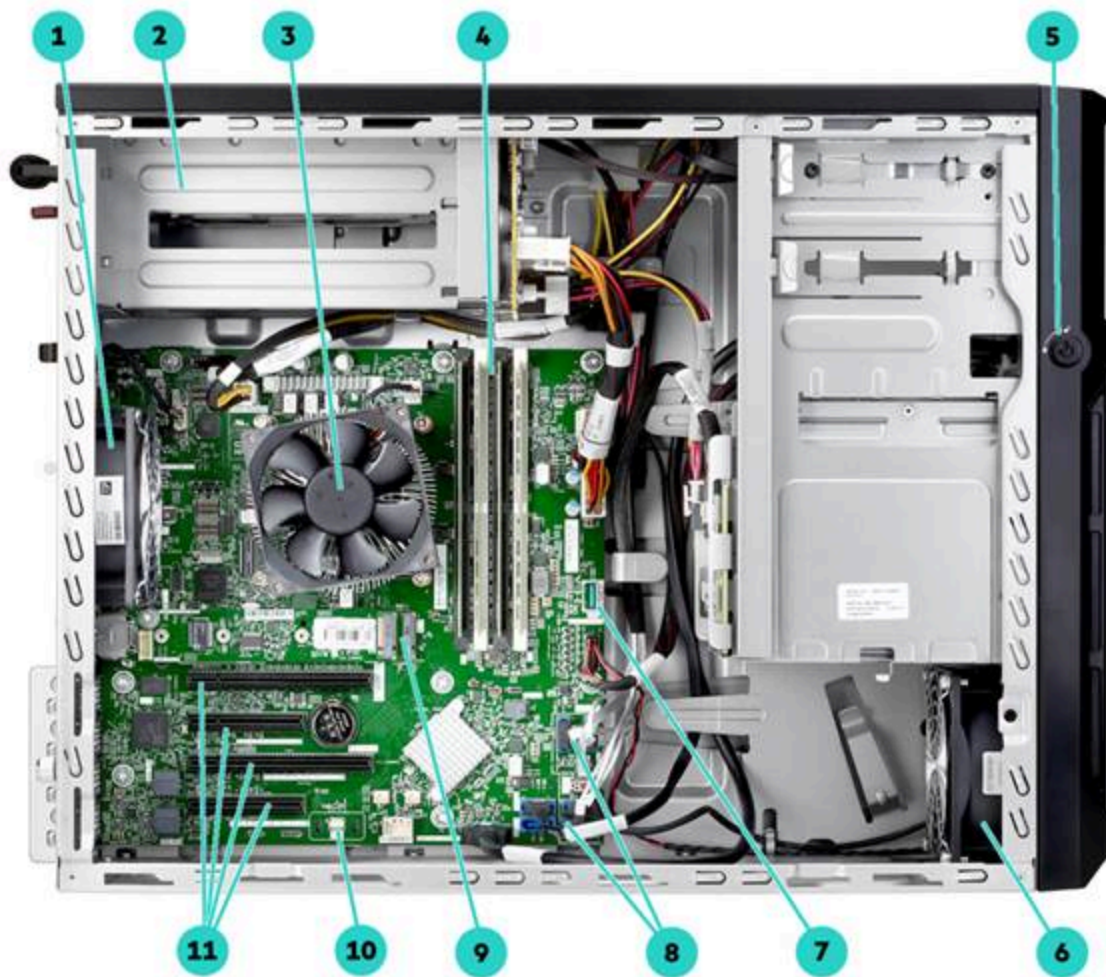
Front View (details for 4LFF and 8SFF)

- | | |
|---|---|
| 1. Four (4) LFF or Eight (8) SAS/SATA HDD cage | 5. USB 2.0 port |
| 2. Media drive bay 2 (blank shown) | 6. Power On/Standby button and system power LED |
| 3. Media drive bay 1 (optional slim-line DVD shown) | 7. Health LED |
| 4. USB 3.0 port | |



Rear View

- | | |
|---|---|
| 1. PCI slots (slots 1-4) | 7. Power supply power connector |
| 2. Dedicated iLO management port (optional) | 8. Power cord clip |
| 3. Four (4) USB 3.0 ports | 9. Padlock eye |
| 4. VGA port | 10. Kensington security slot |
| 5. Serial port (optional) | 11. NIC1/shared iLO port (upper), NIC2 port (lower) |
| 6. Power supply bay (one optional redundant power supply with enablement kit and blank shown) | |



Internal View

- | | |
|--|---|
| 1. System fan | 7. One (1) internal USB 3.0 port |
| 2. Power supply | 8. Six (6) SATA ports |
| 3. One (1) processor and heatsink/fan | 9. One (1) M.2 slot (optional module shown) |
| 4. Four (4) DDR4 DIMM slots | 10. TPM connector |
| 5. Bezel lock | 11. Four (4) PCIe expansion slots |
| 6. Front PCI fan (optional or included, depending on models) | |

What's New

- Support for NVIDIA Quadro P2200 and P1000 GPU cards.
- Support for one new M.2 NVMe SSD.
- 350W non-hot-plug power supply with Gold-level power efficiency.
- Supports latest Intel® Xeon® E-2200 processors up to 6 cores and up to 83W, 9th Gen Core™ i3 and Pentium® G processors.
- 2666 MT/s HPE DDR4 Standard Memory UDIMM offering 8GB, 16GB. Max 64GB memory capacity.
- Four expansion slots for more flexible usage - two x16 and two x8 connectors.
- Dedicated iLO port & serial port option kit.
- SMB Offering to match different workloads.
- ClearOS, an easy to use OS with an application marketplace, allows you to build a fully functional server that is just right for you at no upfront cost. To learn more on what you can do, please visit <http://www.hpe.com/servers/clearos>.

Platform Information

- Form Factor
- 4U Tower

Notes: Sliding Shelf - 874578-B21 is optional to support rack form factor.

Chassis Types

- 8 SFF chassis and 2 half-height (5.25") media drive bays with optional 1 slim-line DVD bay kit option
- 4 LFF chassis and 2 half-height (5.25") media drive bays with optional 1 slim-line DVD bay kit option
- 4 LFF NHP chassis and 2 half-height (5.25") media drive bays with optional 1 slim-line DVD bay kit option or up to 2 LFF NHP HDD cage kits

System Fans

- 1 Default system fan module (92 x 32 mm)
- 1 Default PCI fan module (92 x 32 mm) depending on models

Notes:

– PCI fan module is part of HPE ML30 Gen10 PCI Fan and Baffle Kit (P06303-B21) which is included in pre-configured Performance Models.

– HPE ML30 Gen10 PCI Fan and Baffle Kit (P06303-B21) is required as follows:

Must be selected in 4LFF Hot Plug CTO Server and 8SFF Hot Plug CTO Server.

Must be selected in 4LFF NHP CTO Server and pre-configured Entry Model if M.2 SSD or any PCIe card (NIC, Smart Array Controller, graphic card, etc.) is selected except the E208e-p controller and 1Gb network adapters.

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® and Intel® Core™ i3 processors. Choose one of the following processors based on the model:

Notes: For more information regarding Intel Xeon processors, please see the following

<http://www.intel.com/xeon>.

Intel Xeon E-2200 Series / 9 th Gen Core i3 and Pentium G						
Model	CPU Frequency	Cores	L3 Cache	Power	DDR4	SGX
Xeon E-2276G	3.8 GHz	6	12 MB	80W	2666 MT/s	Yes
Xeon E-2274G	4.0 GHz	4	8 MB	83W	2666 MT/s	Yes
Xeon E-2244G	3.8 GHz	4	8 MB	71W	2666 MT/s	No
Xeon E-2236	3.4 GHz	6	12 MB	80W	2666 MT/s	No
Xeon E-2234	3.6 GHz	4	8 MB	71W	2666 MT/s	No
Xeon E-2226G	3.4 GHz	6	12 MB	80W	2666 MT/s	No
Xeon E-2224	3.4 GHz	4	8 MB	71W	2666 MT/s	No
Core i3-9100	3.6 GHz	4	6 MB	65W	2400 MT/s	No
Pentium G5420	3.8 GHz	2	4 MB	54W	2400 MT/s	No

Chipset

Intel® C246 Chipset

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

Memory

Type	HPE DDR4 Standard Memory, Unbuffered (UDIMM)
DIMM Slots Available	4 4 DIMMs (2 Channels/ 2 DIMMs per channel)
Maximum Capacity (UDIMM)	64GB (4 x 16GB UDIMM @2666 MT/s)

Notes: The maximum memory speed depends on processor model.

Memory Protection

ECC

Network Controller

Embedded HPE Ethernet 1Gb 2-port 361i network Adapter

The HPE ProLiant ML30 Gen10 server offers the customer a dual-port NIC standard with the option to upgrade with a variety of networking options.

Notes: ML30 Gen10 does not support SR-IOV.

Internal Storage Devices

- Optical Drives

None ship standard

Optional: SATA 9.5mm DVD-RW/DVD-ROM Optical Drive

- Hard Drives

None ship standard

Expansion Slots

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
1	PCIe 3.0	x16	x16	Full height, full length	Processor
2	PCIe 3.0	X4	X8	Full height, half length	PCH
3	PCIe 3.0	X4	X16	Full height, full length	PCH
4	PCIe 3.0	X4	X8	Full height, half length	PCH

Notes: Bus Width indicates the number of physical electrical lanes running to the connector.

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](#).

Notes: ML30 Gen10 does not support internal RAID Controller E208i-p and P408i-p in NHP models.

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, and for CTO orders please also select the Legacy mode settings part, 758959-B22.
- For CTO orders, HPE Smart Array S100i SR Gen10 SW RAID is off by default and must be enabled. For enabling please select HPE FIO Enable Smart Array SW RAID (784308-B21).
- For BTO orders, HPE Smart Array S100i SR Gen10 SW RAID is on by default.
- The S100i supports 4 SATA ports for drive cage and additional 2 SATA ports for drives from media drive bays.
- 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/lssrb/>

Essential RAID Controller

- HPE Smart Array E208i-p SR Gen10 Controller
- HPE Smart Array E208e-p SR Gen10 Controller

Performance RAID Controller

- HPE Smart Array P408i-p SR Gen10 Controller
- HPE Smart Array P408e-p SR Gen10 Controller

Notes: Performance RAID Controllers require the HPE Smart Storage Battery (P01366-B21) which is sold separately.

Maximum Internal Storage		
Drive	Capacity	Configuration
Hot Plug LFF SAS	72 TB	4 x 18 TB
Hot Plug LFF SATA	72 TB	4 x 18 TB
Hot Plug SFF SAS	19.2 TB	8 x 2.4 TB
Hot Plug SFF SATA	16 TB	8 x 2 TB
Non Hot Plug LFF SATA	24 TB	4 x 4 TB + 2 x 4 TB (with additional optional LFF drive enablement kits)
Hot Plug LFF SATA SSD	7.68 TB	4 x 1.92 TB
Hot Plug SFF SAS SSD	3.2 TB	8 x 400 GB
Hot Plug SFF SATA SSD	61.44 TB	8 x 7.68 TB
M.2 NVMe SSD	480 GB	1 x 480 GB

Notes: M.2 SSD is applicable to all models.

Power Supply

- HPE 350W E-star 1.0 Power Supply FIO Kit
Notes: Available in 85% efficiency.
- HPE 350W Gold-level Power Supply FIO Kit
Notes: Available in 92% efficiency.
- HPE 500W Flex Slot Platinum Hot Plug Low Halogen Redundant Power Supply
Notes: Available in 94% efficiency.

HPE Entry-Level Power Supplies provide lower-cost options for customers trying to balance their need for enterprise class efficiency and reliability while maintaining lowest possible hardware costs. All Entry-Level power supply options have been designed specifically for HPE ProLiant Gen10 Essential Series servers.

The HPE 350W FIO Power Supply is the standard, non-redundant AC power supply option for most HPE ProLiant Gen10 Essential servers. It features Bronze-level (85%) and Gold-level (92%) certified power efficiency with a set of features optimized for the Gen10 Essential-series tower servers. Starting March 1st, 2020, only the 350W Gold-level PSU (power supply) and the 500W PSU meet the European Union (EU) Lot 9 regulation requirement for CE marking. Do not order the Bronze-level 350W PSU (820303-B21) in countries that requires CE marking, especially the EU countries.

EU eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot 9 requirements. For more information regarding HPE Lot 9 conformance, please visit:

<https://www.hpe.com/us/en/about/environment/msds-specs-more.html>.

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen10 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

All pre-configured servers ship standard with one or more country-specific 6 ft/1.83m C-13 power cords depending on regions. If a different power cord is required, please check the [HPE Power Cords and Cables](#) web page.

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

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

Interfaces	
VGA Port	1 standard (rear)
Serial Port	1 optional (rear)
Network Port (RJ-45)	2 x 1 Gb ports as standard (rear, 1 shared for HPE iLO)
Dedicated iLO Management Port (RJ-45)	1 optional (rear)
USB 3.0 Port	6 (1 front, 4 rear, 1 internal)
USB 2.0 Port	1 (1 front)

Upgradeability

One of the following depending on model

- Up to 4 DIMM slots available for higher memory capacity
- Up to 4LFF (+2LFF optional) non hot-plug, 4LFF hot-plug, or 8SFF hot-plug drive bays
- HPE Smart Array or Smart HBA Controller
- Redundant Power Supply
- Dedicated iLO Management Port
- M.2 NVMe SSDs for boot

Industry Standard Compliance

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- PXE Support
- WOL Support
- Microsoft® Logo certifications
- VGA Port
- USB 3.0 Compliant
- USB 2.0 Compliant
- 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 A3/A4

Notes: For additional technical thermal details regarding ambient temperatures, humidity and features support please visit: <http://www.hpe.com/servers/ashrae>.

- UEFI (Unified Extensible Firmware Interface Forum)

Notes: UEFI is the default for the ML30 Gen10. Legacy mode can be selected in the field or as a CTO option (758959-B22)

Graphics

Integrated Video Standard

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

HPE iLO 5 On System Management Memory

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

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:

- 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 HPE ProLiant Gen10 Server.

Operating Systems and Virtualization Software Support for ProLiant Servers

- **Microsoft Windows Server 2016, 2019, and 2022**
- **Red Hat Enterprise Linux (RHEL) 7.6 and 8.0**
- **SUSE Linux Enterprise Server (SLES) 12 SP3 and 15**
- **VMware ESXi 6.5 U2, 6.7, and 7.0**

Notes: VMware supported only with Intel® Xeon® E processors, not supported with Intel® Core™ or 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>.

- **CentOS**

CentOS not directly supported / Community Supported (Based on RHEL so RHEL testing and enablement applicable to CentOS) CentOS 7.6 and 8.0.

Notes: 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>.

Embedded Management

HPE Integrated Lights-Out (HPE iLO)

Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO.

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

UEFI

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

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

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>.

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 OneView Standard

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

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

HPE Systems Insight Manager (HPE SIM)

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) 1.2 option
- TPM (Trusted Platform Module) 2.0 option
- Front bezel key-lock feature, standard
- Padlock slot, standard
- Kensington Lock slot, standard
- Intel® SGX (Software Guard Extensions)

Notes: Intel® SGX is supported in selective processors, please refer to the Standard Features - Processor section.

Warranty

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Services operational

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

Notes:

- Server Warranty includes 3-Year Parts, 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>

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

Optional Features

Server Management

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 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/completecure>

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.

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.

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For more information

<http://www.hpe.com/services>

Pre-configured Models

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

Notes:

- European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot 9 requirements. For more information regarding HPE Lot 9 conformance, please visit: <https://www.hpe.com/us/en/about/environment/msds-specs-more.html>.
- ML30 Gen10 pre-configured models with 350W PSU inside for EMEA (P16926-421, P16928-421, P16929-421) will be shipped with a Gold-level PSU. Pre-configured SKUs with 350W PSU for regions other than EMEA will be shipped with Bronze-level PSU which is not compliant with EU Lot 9.

Entry Models

SKU Number	P16926-S01 (AMS) P16926-291 (Japan) P16926-371 (APAC) P16926-421 (EMEA)	P16927-S01 (AMS only)
Model Name	HPE ProLiant ML30 Gen10 E-2224 3.4GHz 4-core 1P 8GB-U S100i 4LFF- NHP 350W PS Server	HPE ProLiant ML30 Gen10 E-2224 3.4GHz 4-core 1P 16GB-U S100i 4LFF- NHP 1TB 350W PS Server
Processor	Intel® Xeon® E-2224 (4-Core, 3.4 GHz, 71W)	Intel® Xeon® E-2224 (4-Core, 3.4 GHz, 71W)

Number of Processors	One	
Memory	8 GB UDIMM DDR4 2666 MT/s (1x 8 GB)	16 GB UDIMM DDR4 2666 MT/s (1x 16 GB)
Network Controller	Embedded 1Gb 2-Port 361i Ethernet Adapter	
Storage Controller	Embedded S100i SW RAID with 4 SATA ports Notes: – Field upgradeable to 6 SATA ports by selecting 2pcs drive enablement kits (812248-B21). – Does not support internal Smart Array controller.	
Hard Drive	None ship standard	1TB SATA 6G Midline 7.2K LFF RW HDD
Internal Storage	4 LFF HDD Bays (Non Hot Plug) 1x M.2 PCIe 3.0 x2 slot	
Optical Drive Bay	Optional Slimline ODD Bay Kit (P06309-B21) for SATA DVD-ROM/DVD-RW optical drive up to 1, Media drive bay for internal RDX or tape/LTO devices up to 1	
Optical Drive	None ship as standard	
PCI-Express Slots	4 PCIe 3.0 slots	
Power Supply	(1) 350W ATX Power Supply	
Fans	1 non-hot plug, non-redundant system fan	
Management	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download), HPE iLO Advanced, HPE iLO Advanced Premium Security Edition, and HPE OneView Advanced (require licenses)	
Form Factor	Tower (4U)	
Warranty	3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Notes: APAC and Japan Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.	

Performance Models

SKU Number	P16928-S01 (AMS) P16928-291 (Japan) P16928-371 (APAC) P16928-421 (EMEA) P16928-AA1 (PRC)	P16929-S01 (AMS) P16929-291 (Japan) P16929-371 (APAC) P16929-421 (EMEA)	P16930-S01 (AMS) P16930-291 (Japan) P16930-371 (APAC) P16930-421 (EMEA)
Model Name	HPE ProLiant ML30 Gen10 E-2224 3.4GHz 4-core 1P 16GB-U S100i 4LFF 350W PS Server	HPE ProLiant ML30 Gen10 E-2234 3.6GHz 4-core 1P 16GB-U S100i 4LFF 350W PS Server	HPE ProLiant ML30 Gen10 E-2224 3.4GHz 4-core 1P 16GB-U S100i 8SFF 1x500W RPS Server
Processor	Intel® Xeon® E-2224 (4-Core, 3.4 GHz, 71W)	Intel® Xeon® E-2234 (4-Core, 3.6 GHz, 71W)	Intel® Xeon® E-2224 (4-Core, 3.4 GHz, 71W)
Number of Processors	One		
Memory	16 GB UDIMM DDR4 2666 MT/s (1x 16 GB)	16 GB UDIMM DDR4 2666 MT/s (1x 16 GB)	16 GB UDIMM DDR4 2666 MT/s (1x 16 GB)
Network Controller	Embedded 1Gb 2-Port 361i Ethernet Adapter		
Storage Controller	Embedded S100i SW RAID with 4 SATA ports Notes: Field upgradeable to SAS by selecting HPE Smart Array controller.		Embedded S100i SW RAID with 4 SATA ports Notes: Field upgradeable to SAS/8

		ports by selecting HPE Smart Array controller.
Hard Drive	None ship standard	
Internal Storage	4 LFF HDD Bays (Hot Plug) 1x M.2 PCIe 3.0 x2 slot	8 SFF HDD Bays (Hot Plug) 1x M.2 PCIe 3.0 x2 slot
Optical Drive Bay	Optional Slimline ODD Bay Kit (P06309-B21) for SATA DVD-ROM/DVD-RW optical drive up to 1, Media drive bay for internal RDX or tape/LTO devices up to 1	
Optical Drive	None ship as standard	
PCI-Express Slots	4 PCIe 3.0 slots	
Power Supply	(1) 350W ATX Power Supply	(1) 500W HPE Flex Slot Power Supply Notes: Add a second 500W Flex Slot Power Supply to get 1+1 power redundancy feature.
Fans	1 non-hot plug, non-redundant system fan	
Management	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download), HPE iLO Advanced, HPE iLO Advanced Premium Security Edition, and HPE OneView Advanced (require licenses)	
Form Factor	Tower (4U)	
Warranty	3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Notes: APAC, Japan, and PRC Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.	

Configuration Information

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

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

Notes:

- European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot 9 requirements. For more information regarding HPE Lot 9 conformance, please visit: <https://www.hpe.com/us/en/about/environment/msds-specs-more.html>.
- For the EMEA region, do not select 350W Bronze PSU (820303-B21). Please select the Gold-level PSU (P21652-B21) instead to be compliant with Lot 9 requirements.

Step 1: Base Configuration (choose one of the following configurable models)

CTO Server	HPE ProLiant ML30 Gen10	HPE ProLiant ML30 Gen10	HPE ProLiant ML30 Gen10
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	4 LFF Non Hot Plug CTO Server	4 LFF Hot Plug CTO Server	8 SFF Hot Plug CTO Server
SKU Number	P06760-B21	P06761-B21	P06762-B21
Processor Socket	1	1	1
Processor	Not included as standard	Not included as standard	Not included as standard
DIMM Slots	4 DIMM slots for UDIMM DDR4 Memory		
Storage Controller	Embedded S100i SW RAID with 4 SATA ports	Embedded S100i SW RAID with 4 SATA ports, choice of HPE Smart Array controller	
PCIe	4 PCIe 3.0 slots		
Drive Cage	4 LFF Non Hot Plug	4 LFF Hot Plug	8 SFF Hot Plug
M.2 Slot	1 M.2 PCIe 3.0 x2 slot	1 M.2 PCIe 3.0 x2 slot	1 M.2 PCIe 3.0 x2 slot
Network Controller	Embedded HPE Ethernet 1Gb 2-Port 361i Adapter optional 1/10Gb standup card		
Fans	1 non hot plug, non-redundant system fan		
Management	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download), HPE iLO Advanced, HPE iLO Advanced Premium Security Edition, and HPE OneView Advanced (require licenses)		
USB	2 front, 4 rear, 1 internal		

Step 2: Choose Required Options

(only one of the following from each list unless otherwise noted)

Intel® Pentium® Processor G Series

Step 2b: Choose Memory Options

Please select one or more memory from below.

Notes:

- With one processor installed, four DIMMs slots are available.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.

Step 2c: Choose Power Supplies

Notes:

- Mixing of 2 different power supplies is NOT allowed.
- Selection of two HPE Flex Slot power supplies provides 1+1 power redundancy.
- To review the power requirements for your selected configuration, please use the [HPE Power Advisor Tool](#).

Power Supplies

HPE ML30 Gen10 350W Gold FIO Power Supply Kit	P21652-B21
HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21

Step 3: Choose additional options for Factory Integration from Core and Additional Options sections below

Core Options

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

HPE Unique Options

HPE ML30 Gen10 Slimline Optical Disk Drive Enablement Kit	P06309-B21
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Notes: Required if ODD is in the order.

HPE ML30 Gen10 Front PCI Fan and Baffle Kit	P06303-B21
Notes:	
– Included in pre-configured Performance Models.	
– Must be selected in 4LFF Hot Plug CTO Server and 8SFF Hot Plug CTO Server.	
– Must be selected in 4LFF NHP CTO Server and pre-configured Entry Model if M.2 SSD or any PCIe card (NIC, Smart Array Controller, graphic card, etc.) is selected except the E208e-p controller and 1Gb network adapters.	
HPE ML30 Gen10 Mini SAS Cable Kit	P06307-B21
Notes: Required if P408i-p/E208i-p is selected. Select one cable kit for 4LFF Hot Plug Server, two for 8SFF Hot Plug Server.	
HPE DL20/ML30 Gen10 M.2/Dedicated iLO and Serial Port Kit	P06687-B21
Notes:	
– This kit includes one dedicated iLO module and one serial port cable, with one M.2 slot on the module for M.2 SSD installation.	
– M.2 SSD is supported with or without this option on ML30 Gen10.	
HPE ML Gen10 Tower to Rack Conversion Kit with Sliding Rail Rack Shelf and Cable Management Arm	874578-B21
Notes: Easy install rack rail tray which takes up 1U height in a standard rack facility. This conversion kit only provides shelf function for ML30 Gen10 and does not support Cable Management Arm.	
HPE Legacy FIO Mode Setting	758959-B22
Notes: UEFI is the default, this FIO part can be used for CTO to enable Legacy mode.	
HPE iLO Common Password FIO Setting	P08040-B21
Notes:	
– Replaces iLO default randomized password by an HPE defined common password. HPE highly recommends changing this password immediately after the initial onboarding process..	
– Customers who want to choose their own custom iLO default password should use the HPE Factory Express Integration Services.	
HPE ML30 Gen9 Tape Drive Cable Kit	851615-B21
Notes: 1pc required per LTO int tape drive or per RDX USB int disk backup sys for power connection if selected together with 350W Power Supply (820303-B21 or P21652-B21).	

Memory Selection

To streamline the configuration process for HPE ProLiant Gen10 servers and to provide the best product availability, HPE recommends memory from the list located here:

<http://www.hpe.com/products/recommend>. Best product availability is limited to US, Canada, and Latin America at this time.

HPE Optical Drives

HPE 9.5mm SATA DVD-ROM Optical Drive	726536-B21
Notes: The HPE ML30 Gen10 Slim Optical Disk Drive Enablement Kit (P06309-B21) is required for this option.	
HPE 9.5mm SATA DVD-RW Optical Drive	726537-B21
Notes: The HPE ML30 Gen10 Slim Optical Disk Drive Enablement Kit (P06309-B21) is required for this option.	
HPE Mobile USB DVD-RW Optical Drive	701498-B21

HPE Drives

Enterprise - 12G SAS - SFF Drives

HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870753-B21
HPE 300GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872475-B21
HPE 600GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870757-B21
HPE 600GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872477-B21
HPE 900GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870759-B21
HPE 1.2TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872479-B21
HPE 1.8TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	872481-B21
HPE 2.4TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	881457-B21

Midline - 12G SAS - SFF Drives

HPE 1TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty HDD	832514-B21
HPE 2TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD	765466-B21

Midline - 12G SAS - LFF Drives

HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833926-B21
HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833928-B21
HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861746-B21
HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834031-B21
HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881781-B21
HPE 14TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	P09155-B21
HPE 16TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P23608-B21

Midline - 6G SATA - SFF Drives

HPE 1TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty HDD	655710-B21
HPE 2TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD	765455-B21

Midline - 6G SATA - LFF Drives

HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861686-B21
HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861681-B21
HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861683-B21
HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861742-B21
HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834028-B21
HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881787-B21
HPE 16TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P23449-B21
HPE 18TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P37678-B21

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

SSD Selection

To streamline the configuration process for HPE ProLiant Gen10 servers and to provide the best product availability, HPE recommends memory from the list located here: <http://www.hpe.com/products/recommend>. Best product availability is limited to US, Canada, and Latin America at this time.

Read Intensive - 6G SATA - SFF - Solid State Drives

HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18420-B21
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HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18422-B21
HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18424-B21
HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18426-B21
HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18428-B21
HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18430-B21

Read Intensive - 6G SATA - LFF - Solid State Drives

HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	P47808-B21
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Mixed Use - 6G SATA - SFF - Solid State Drives

HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18432-B21
HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18434-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18436-B21
HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18438-B21

Read Intensive - NVMe - M.2 - Solid State Drives

HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	P40513-B21
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Notes:

- M.2 SSD can be installed either on system board or on dedicated iLO module (P06687-B21).
- Running at PCIe 3.0 x2 speed on ML30 Gen10.
- HPE ML30 Gen10 Front PCI Fan and Baffle Kit (P06303-B21) is required to support these drives.
- Not supported by HPE Smart Array controllers.

Hard Drive Kits

HPE Small Form Factor Hard Drive Blank Kit	666987-B21
HPE Gen9 LFF HDD Spade Blank Kit	807878-B21

Notes: Only compatible with Non Hot Plug chassis and supports additional NHP LFF Hard Disk up to 2 pcs.

HPE Networking

Notes: Max 2 pcs of HPE Networking Adapters can be selected for better performance.

1 Gigabit Ethernet adapters

HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter	647594-B21
HPE Ethernet 1Gb 4-port BASE-T I350-T4V2 Adapter	811546-B21
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21

10 Gigabit Ethernet adapters

Notes: HPE ML30 Gen10 Front PCI Fan and Baffle Kit (P06303-B21) is required for 10Gb adapters.

HPE Ethernet 10Gb 2-port BASE-T BCM57416 Adapter	813661-B21
HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter	817738-B21

Notes: Max 1 pc of HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter can be selected.

HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	727055-B21
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HPE Power Supplies

HPE ML30 Gen10 350W Gold FIO Power Supply Kit	P21652-B21
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Notes: Up to one is allowed.

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
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Notes: Flex Slot Platinum power supplies support power efficiency of up to 94% and include a standard C-14 power inlet connector.

HPE Cooling Options

HPE ML30 Gen10 Front PCI Fan and Baffle Kit

P06303-B21

Notes:

- Included in pre-configured Performance Models.
- Must be selected in 4LFF Hot Plug CTO Server and 8SFF Hot Plug CTO Server.
- Must be selected in 4LFF NHP CTO Server and pre-configured Entry Model if M.2 SSD or any PCIe card (NIC, Smart Array Controller, graphic card, etc.) is selected except the E208e-p controller and 1Gb network adapters.

GPGPU Information								
Part Number	Card	TDP	PCIe Speed	Processor Support	Qty. Support	ML30 Gen10 Configuration		
						4LFF NHP	4LFF HP	8SFF HP
R2U55C	HPE NVIDIA Quadro P2200 GPU Module	75W	Gen3	Xeon E processors only	1	n/a	35°C	35°C
R3K70C	HPE NVIDIA Quadro P1000 GPU Module	47W	Gen3	Xeon E processors only	1	n/a	35°C	35°C

Notes:

- Please see the HPE Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HPE Power Advisor is located at: <http://www.hpe.com/info/hppoweradvisor>.
- Only the above listed Graphics cards are HPE standard supported options in this server.

HPE Computation and Graphics Accelerators

Notes:

- HPE ML30 Gen10 Front PCI Fan and Baffle Kit (P06303-B21) is required.
- HPE 500W Flex Slot Power Supply Kit (865408-B21) is required.

Additional Options

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

Embedded Management

HPE iLO 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

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 LegacyMode. 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.

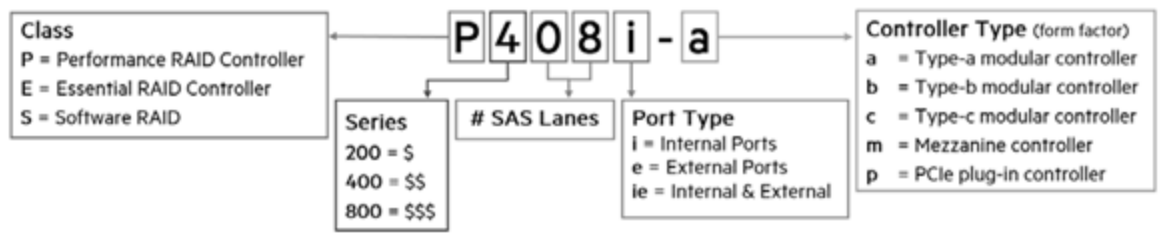
HPE Gen10 TPM 1.2 FIO Setting	872108-B21
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Notes:

- This is a FIO setting to allows the TPM 2.0 module to operate in a TPM 1.2 mode.
- This option must be selected only with TPM 2.0 Gen10 Option (864279-B21).

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](#).



Notes: Max 2 pcs of HPE Smart Array Controllers can be selected for better performance.

Performance RAID Controllers

Notes: All performance RAID controllers require the HPE Smart Storage Battery (P01366-B21), which supports multiple devices and is sold separately.

HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS PCIe Plug-in Controller	830824-B21
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Notes:

- Max 1 pc of P408i-p can be selected for better performance.

- Must select 1pc of Mini SAS Cable Kit (P06307-B21) for 4LFF Hot Plug Server.
- Must select 2pcs of Mini SAS Cable Kit (P06307-B21) for 8SFF Hot Plug Server.
- Does not support Non Hot Plug Server.

HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21
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Essential RAID Controllers

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

- Must select 1pc of Mini SAS Cable Kit (P06307-B21) for 4LFF Hot Plug Server.
- Must select 2pcs of Mini SAS Cable Kit (P06307-B21) for 8SFF Hot Plug Server.
- Does not support Non Hot Plug Server.

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

HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE
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Notes: SmartCache is offered on HPE Smart Array performance RAID controllers.

Optional Upgrades

HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21
HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit	P02377-B21

Notes:

- Provides backup power for multiple HPE Smart Array controllers or other devices. Is required with performance RAID controllers.
- A Battery holder is required: HPE Gen9 Smart Storage Battery Holder Kit (786710-B21).

HPE Tape Backup

For the complete range of tape drives, autoloaders, libraries and mediasee:

<https://www.hpe.com/us/en/storage/storeever-tape-storage.html>.

For hardware and software compatibility of Hewlett Packard Enterprise tape backup products

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

HPE Tape Drives

HPE StoreEver LTO-5 Ultrium 3000 SAS Internal Tape Drive	EH957B
HPE StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
HPE LTO-6 Ultrium 6250 Internal Tape Drive	EH969A
HPE StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
HPE LTO-7 Ultrium 15000 Internal Tape Drive	BB873A
HPE StoreEver LTO-7 Ultrium 15000 External Tape Drive	BB874A

Notes:

- Only 1pc of internal tape drive is supported.
- Internal LTO tape drive requires 1pc of HPE ML30 Gen9 Tape Drive Cable Kit (851615-B21) for power connection if configured with a 350W Power Supply (820303-B21 or P21652-B21)

– Cannot share SAS controller with SAS drives. Must select additional internal SAS controller E208i-p to support internal SAS tape drive.

– Internal LTO tape drive cannot be selected in Non Hot Plug Server.

HPE Tape Backup Products

HPE StoreEver MSL2024 0-drive Tape Library	AK379A
HPE StoreEver MSL LTO-7 Ultrium 15000 SAS Drive Upgrade Kit	N7P37A
HPE StoreEver Mini-SAS High Density to 4-lane Mini-SAS External Fanout 2m Cable	K2R09A
HPE StoreEver Mini-SAS High Density to 4-lane Mini-SAS External Fanout 4m Cable	K2R10A

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 Removable Disk Backup Products

HPE RDX External Docking Station	C8S07B
HPE RDX Internal Docking Station	C8S06A
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

Notes:

– Only 1pc of internal RDX is supported, sharing the same internal USB port with USB flash drives.

– Internal RDX requires 1pc of HPE ML30 Gen9 Tape Drive Cable Kit (851615-B21) for power connection if configured with a 350W Power Supply (820303-B21 or P21652-B21).

HPE USB Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD RAID 1 USB Boot Drive	P21868-B21
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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 Uninterruptible Power Systems (UPS)

To learn more, please visit the **HPE Uninterruptible Power Systems (UPS) web page**.

HPE Rack Options

Rail Kits

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

Furthermore, HPE has no obligation and assumes no liability for the materials, design, specifications, installation, safety, and compatibility of any such third-party racks with any rail kits, including HPE rail kits.

HPE ML Gen10 Tower to Rack Conversion Kit with Sliding Rail Rack Shelf and Cable Management Arm

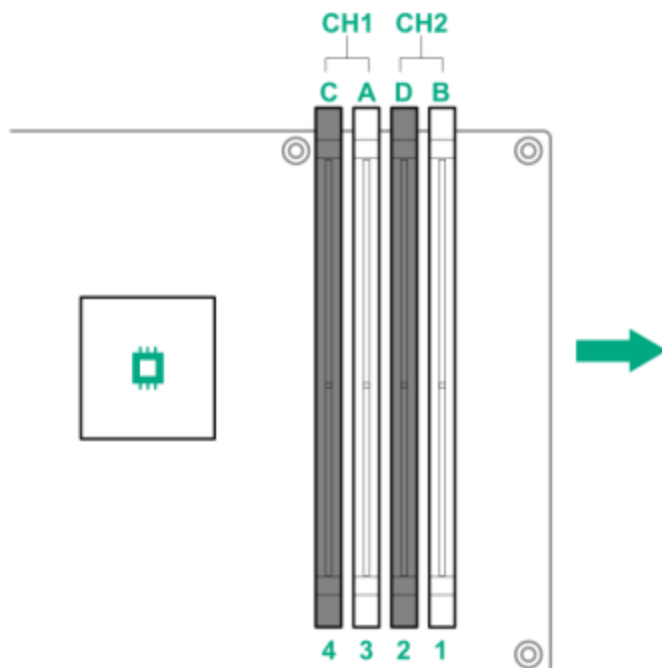
874578-B21

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 with affordable server memory that has been optimized for HPE entry-level servers. HPE Standard Memory is outstanding for businesses looking for memory with a low acquisition cost, exceptional performance, optimized compatibility, assured reliability, and comprehensive management.

Memory Population guidelines



HPE ProLiant ML30 Gen10 Server memory slots

General Memory Population Rules and Guidelines:

- The HPE ProLiant ML30 Gen10 Server has four memory slots.
- Only ECC UDIMMs are supported on ML30 Gen10. No support for non-ECC UDIMMs.
- There are two channels per processor with two DIMM slots per channel.
- Memory channel 1 consists of the two DIMMs that are closest to the processor.
- Memory channel 2 consists of the two DIMMs that are farthest from the processor.
- A white DIMM slot indicates the first slot of a channel (3-A, 1-B).
- 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 64 GB (4 x 16 GB) UDIMMs.
- The server does not support Non-ECC UDIMMs, RDIMMs, and LRDIMMs
- Populate the DIMM on slots in this sequence: 3-A, 1-B, 4-C, 2-D.
- Always use HPE qualified DIMMs.

DIMM Type		Unbuffered with ECC DIMMs (UDIMMs)
HPE SKU P/N	879505-B21	879507-B21
SKU Description	HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Unbuffered Standard Memory Kit	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Unbuffered Standard Memory Kit
DIMM Rank	Single Rank (1R)	Dual Rank (2R)
DIMM Capacity	8 GB	16 GB
Voltage	1.2V	1.2V
CAS Latency	19-19-19	19-19-19
DIMM Native Speed	2666 MT/s	2666 MT/s
Maximum Capacity	32 GB (4 x 8 GB)	64 GB (4 x 16 GB)
HPE Server Memory Speed: Intel® Xeon® E processors		
1 DIMM Per Channel	2666 MT/s	2666 MT/s
2 DIMM Per Channel	2666 MT/s	2666 MT/s
HPE Server Memory Speed: Intel® Core™ i3-8300/9100, Pentium® G5400/G5420 processors		
1 DIMM Per Channel	2400 MT/s	2400 MT/s
2 DIMM Per Channel	2400 MT/s	2400 MT/s

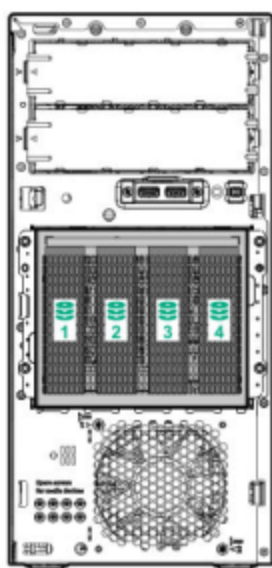
DDR4 memory options part number decoder

Capacity references are rounded to the common gigabyte (GB) values.

- 8GB = 8,192 MB
- 16GB = 16,384 MB
- 32GB = 32,768 MB
- 64GB = 65,536 MB

For more information on memory, please visit the [HPE DDR4 Standard Memory web site](#).

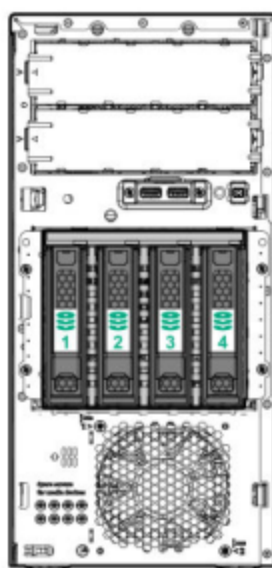
Storage



4 LFF Non-Hot-Plug Drive Model

1-4

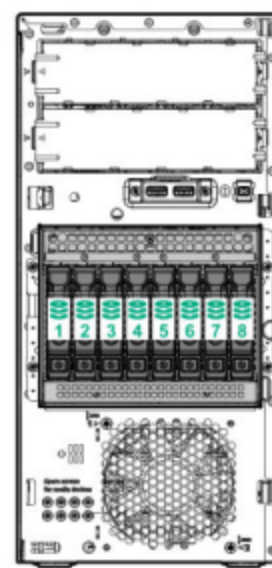
4 x LFF SATA
non-hot-plug hard drive bays



4 LFF Hot-Plug Drive Model

1-4

4 x LFF SAS/SATA/SSD
hot pluggable hard drive bays



8 SFF Hot-Plug Drive Model

1-8

8 x SFF SAS/SATA/SSD
hot pluggable hard drive bays

Technical Specifications

System Unit

Dimensions

- 14.50 (H) x 6.89 (W) x 18.70 (D) in
(36.83 x 17.50 x 47.50 cm)

Weight

(approximate)

- Minimum:
22.1 lb
10.1 kg
 - 4 NHP LFF chassis with 1x LFF HDD, 1x processor including heatsink, 1x DIMM, 1x ATX power supply, cables for the above.
 - Maximum:
38.7 lb
17.6 kg
 - Fully loaded - 4 Hot-plug LFF chassis with 4x LFF HDDs, 1x DVD-RW, 1x tape drive, 1x processor including heatsink, 4x DIMMs, 2x power supplies, cables for the above.
-

Input Requirements

(per power supply)

Rated Line Voltage

- 100 to 120 VAC
 - 200 to 240 VAC
-

BTU Rating

Maximum

- For 350W Power Supply (820303-B21): 1452 BTU/hr (at 100 VAC), 1544 BTU/hr (at 200 VAC)
 - For 350W Power Supply (P21652-B21): 1474 BTU/hr (at 100 VAC), 1419 BTU/hr (at 200 VAC)
 - For 500W Power Supply: 1902 BTU/hr (at 100 VAC), 1840 BTU/hr (at 200 VAC), 1832 BTU/hr (at 240 VAC)
-

Power Supply Output

(per power supply)

- **Rated Steady-State Power**
 - For 350W Power Supply: 350W (at 100 to 230 VAC)
 - For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC)
 - **Maximum Peak Power**
 - For 350W Power Supply: 350W (at 100 to 230 VAC)
 - For 500W Power Supply: 500W (at 100 to 127 VAC), 500W (at 200 to 240 VAC)
-

System Inlet Temperature

- **Standard Operating Temperature**

10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.

System performance may be reduced if operating with a fan fault or above 30°C (86°F).

- **Extended Ambient Operating Temperature**

For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: <http://www.hpe.com/servers/ashrae>

For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the

URL: <http://www.hpe.com/servers/ashrae>

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

- **Non-operating**

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

Relative Humidity

(non-condensing)

- **Operating**

8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.

- **Non-operating**

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

Altitude

- **Operating**

3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

- **Non-operating**

9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (*L_{WAd}*) and declared average bystander position A-Weighted sound pressure levels (*L_{pAm}*) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296

(ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Idle	
LWAd	4.3 Bels (Entry) 3.6 Bels (Performance)
LpAm	28 dBA (Entry) 23 dBA (Performance)
Operating	
LWAd	4.3 Bels (Entry) 3.8 Bels (Performance)
LpAm	28 dBA (Entry) 23 dBA (Performance)

Notes:

- Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.
- Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.
- The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

Emissions Classification (EMC) - Regulatory Information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center: <http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>

Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers **end-of-life product return, trade-in, and recycling programs**, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
18-Mar-2024	Version 24	Changed	Standard Features and Additional Options sections were updated
20-Nov-2023	Version 23	Changed	HPE Services Rebranding
01-May-2023	Version 22	Changed	Optional Features and Additional Options sections were updated.
12-Dec-2022	Version 21	Changed	Optional Features and Additional Options sections were updated. Obsolete SKU was removed.
06-Dec-2021	Version 20	Changed	Additional Options section was updated.

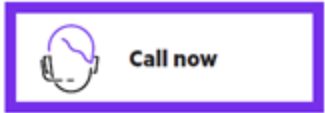
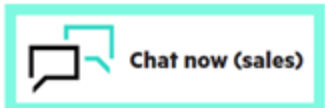
			Obsolete SKU was removed.
01-Nov-2021	Version 19	Changed	Core Options and Service and Support sections were updated. Obsolete SKUs were removed.
02-Aug-2021	Version 18	Changed	Service and Support section was updated. Obsolete SKUs were removed.
06-Apr-2021	Version 17	Changed	Core Options section was updated. Obsolete SKUs were removed.
01-Feb-2021	Version 16	Changed	Core Options section was updated. Obsolete SKUs were removed.
07-Dec-2020	Version 15	Changed	Core Options section was updated. Obsolete SKUs were removed.
02-Nov-2020	Version 14	Changed	Overview, Standard Features, Pre-configured Models and Core Options sections were updated. Obsolete SKUs were removed.
01-Jun-2020	Version 13	Changed	Overview, Standard Features, and Configuration Information sections were updated. Added new GPU cards, M.2 NVMe SSD, SAS SSD.
06-Apr-2020	Version 12	Changed	Core Options, Additional Options, Standard Features, Pre-configured Models and Configuration Information sections were updated. Xeon E-2100 series processors and pre-configured servers are retired.
02-Mar-2020	Version 11	Changed	Overview, Standard Features, Core Options, Additional Options and Technical Specifications sections were updated. Obsolete SKU was removed.
02-Dec-2019	Version 10	Changed	Standard Features, Core Options, Additional Options and Memory sections were updated. SKUs under Core Options section were updated. Obsolete SKUs were removed. Added new SSD, Core Option and Additional Option.
18-Nov-2019	Version 9	Changed	Overview, Standard Features, Service and Support, Pre-configured Models, Configuration Information and Core Options sections were updated. Added new generation of Processors. Added new Pre-configured Models.
07-Oct-2019	Version 8	Changed	Obsolete SKUs were removed. Standard Features, Optional Features and Additional Options sections were updated. Added notes for SMB Models and storage controllers.
05-Aug-2019	Version 7	Changed	Added new SSD. SMB Models, Core Options and Memory sections were updated. Obsolete SKUs were removed.

Date	Version History	Action	Description of Change
03-Jun-2019	Version 6	Added	Added new HDD. Overview, Service and Support, Core Options and Additional Options sections were updated. The U.S. version of QuickSpecs is no longer being updated, please reference the Worldwide QuickSpecs for latest information.
02-Apr-2019	Version 5	Added	Added new SSDs, Smart Hybrid Capacitor. Added Microsoft Windows Server 2019 support.
04-Feb-2019	Version 4	Changed	Standard Features, Core Options, Optional Features and Additional Options sections were updated. Added new HDDs, AMD Radeon Pro WX4100, RDX cartridges.
12-Dec-2022	Version 21	Changed	Update Standard Features - Upgradeability

07-Jan-2019	Version 3	Changed	Update Standard Features - Upgradeability Update Country Code Key Standard Features, SMB Models, Service and Support, Core Options, Additional Options sections were updated
03-Dec-2018	Version 2	Changed	SKUs were Added and deleted in Core Options Service and Support and Technical Specifications were updated
05-Nov-2018	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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