Overview

**HPE ProLiant ML110 Gen10 Server**

The HPE ProLiant ML110 Gen10 delivers a performance that meets the growing needs of the SMB. The server is a single processor, 4.5U Tower Server that is designed to provide enterprise class features such as redundancy, reliability, and manageability. The server delivers the right size Tower with performance and expandability that covers a wide range of applications and workloads and addresses our customers from SMB to enterprise class server ROBO environments. Accelerate your business with this right-sized compute.

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**Front View (details for 8LFF and 16SFF)**

1. Drive Cage 1
2. Drive Cage 2 (optional)
3. Optical drive (optional)
4. Power button/ LED
5. Health LED
6. NIC status LED
7. USB 3.0 (2) connectors
8. iLO Service Port
Rear View

1. PCIe3.0 Slots (Slots 1-5)
2. USB 3.0 (2) connectors
3. USB 2.0 (2) connectors
4. Network RJ-45 ports (2)
5. Video connector
6. UID button/LED
7. Power supply bay
8. Power supply power connection
9. iLO management port
10. Serial port (optional)
Internal View

1. System Fan (92x32mm default)
2. Power Supply
3. Six (6) DDR4 DIMM slots
4. One (1) processor and heatsink
5. Front Bezel Lock
6. X4 SATA Port 2 (5-8)
7. X4 SATA Port 1 (1-4)
8. PCIe fan (92x32mm default)
9. Front USB 3.0 connector
10. SATA Port 9
11. SATA Port 10
12. MicroSD slot
13. Five (5) PCIe3.0 expansion slots
14. Internal USB 2.0 connector
15. Internal USB 3.0 connector
QuickSpecs

HPE ProLiant ML110 Gen10 Server

Overview

What’s New:

- New SMB SKU Offerings
- NVIDIA Quadro P2000 GPU Module (optional)
- HPE 12TB SAS/ SATA 7.2K LFF HDD
- Intel® Xeon® Scalable processors, up to 14 cores, up to 105W
- Redundant Fan Kit (optional)
- Support up to 8 LFF NHP SATA HDDs
- HPE DDR4 SmartMemory up to 2666 MT/s
- Security features: iLO 5 (Security Root of Trust)
Platform Information

Form Factor

Tower (4.5U)

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

System Fans

1 Default system fan module (92 x 32 mm)
1 Default PCIe fan module (92 x 32 mm)

**NOTE:** When one of the following scenarios occurs, the server requires a Redundant Fan with a 800W Redundant Power Supply to be installed.
1. When a second HDD cage is installed and the SAS HDDs are running at 15K RPM.
2. When a SAS SSD is installed.
3. If one fan fails, the system will be required to continue operating with a Redundant Fan. This condition is indicated by a flashing amber Health LED.
4. When the system requirements are to meet the A3 extended operating environment.
Standard Features

Processors – One of the following depending on model.

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

<table>
<thead>
<tr>
<th>Intel Xeon Models</th>
<th>CPU Frequency</th>
<th>Cores</th>
<th>L3 Cache</th>
<th>Power</th>
<th>UPI</th>
<th>DDR4</th>
<th>Memory per socket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold Processors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold 5122 Processor</td>
<td>3.6 GHz</td>
<td>4</td>
<td>16.50 MB</td>
<td>105W</td>
<td>2 @ 10.4 GT/s</td>
<td>2666 MT/s</td>
<td>192 GB</td>
</tr>
<tr>
<td>Gold 5120 Processor</td>
<td>2.2 GHz</td>
<td>14</td>
<td>19.25 MB</td>
<td>105W</td>
<td>2 @ 10.4 GT/s</td>
<td>2400 MT/s</td>
<td>192 GB</td>
</tr>
<tr>
<td>Silver Processors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver 4112 Processor</td>
<td>2.6 GHz</td>
<td>4</td>
<td>8.25 MB</td>
<td>85W</td>
<td>2 @ 9.6 GT/s</td>
<td>2400 MT/s</td>
<td>192 GB</td>
</tr>
<tr>
<td>Silver 4110 Processor</td>
<td>2.1 GHz</td>
<td>8</td>
<td>11.00 MB</td>
<td>85W</td>
<td>2 @ 9.6 GT/s</td>
<td>2400 MT/s</td>
<td>192 GB</td>
</tr>
<tr>
<td>Silver 4108 Processor</td>
<td>1.8 GHz</td>
<td>8</td>
<td>11.00 MB</td>
<td>85W</td>
<td>2 @ 9.6 GT/s</td>
<td>2400 MT/s</td>
<td>192 GB</td>
</tr>
<tr>
<td>Bronze Processors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bronze 3106 Processor</td>
<td>1.7 GHz</td>
<td>8</td>
<td>11.00 MB</td>
<td>85W</td>
<td>2 @ 9.6 GT/s</td>
<td>2133 MT/s</td>
<td>192 GB</td>
</tr>
<tr>
<td>Bronze 3104 Processor</td>
<td>1.7 GHz</td>
<td>6</td>
<td>11.00 MB</td>
<td>85W</td>
<td>2 @ 9.6 GT/s</td>
<td>2133 MT/s</td>
<td>192 GB</td>
</tr>
</tbody>
</table>

NOTE: Gold – 5100 Series - Supports 6-Channel DDR4 @ 2400 MT/s of SKU 5120 and @2666 MT/s of SKU 5122 providing up to 192 GB memory capacity. Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512(1x 512-bit FMA) (SKU 5122 supports 2x 512 bit FMA), 48 lanes PCIe 3.0, advanced RAS supported.

NOTE: Silver – 4100 Series - 6-Channel DDR4 @ 2400 MT/s providing up to 192 GB memory capacity. Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512(1x 512-bit FMA), 48 lanes PCIe 3.0, standard RAS supported.

NOTE: Bronze – 3100 Series - Supports 6-Channel DDR4 @ 2133 MT/s providing up to 192GB memory capacity. Intel AVX-512(1x 512-bit FMA), 48 lanes PCIe 3.0, standard RAS supported.

Chipset

Intel C621 Chipset

NOTE: 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

NOTE: Read and learn more in the iLO QuickSpecs

Memory

Type: HPE SmartMemory and Standard Memory
DDR4 Registered (RDIMM)

DIMM Slots Available: 6
6 DIMM slots per processor, 6 channels per processor, 1 DIMM per channel

Maximum capacity (RDIMM): 192 GB
6 x 32 GB RDIMM @ 2666 MT/s

NOTE: LRDIMM is not qualified by this server. This server does not support mixing LRDIMMs and RDIMMs. Attempting to mix any combination of these DIMMs can cause the server to halt during BIOS installation. All memory installed in the server must be of the same type.

NOTE: The maximum memory speed is a function of the memory type, memory configuration, and processor model.

Memory Protection

For details on the HPE Server Memory Options RAS feature, visit: http://www.hpe.com/docs/memory-ras-feature.
Standard Features

Expansion Slots

<table>
<thead>
<tr>
<th>Slots #</th>
<th>Technology</th>
<th>Bus Width</th>
<th>Connector Width</th>
<th>Slot Form Factor</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>PCIe 3.0</td>
<td>X4</td>
<td>X8</td>
<td>Full-height, half-length slot</td>
<td>PCH</td>
</tr>
<tr>
<td>4</td>
<td>PCIe 3.0</td>
<td>X16</td>
<td>X16</td>
<td>Full-height, full-length slot</td>
<td>Proc 1</td>
</tr>
<tr>
<td>3</td>
<td>PCIe 3.0</td>
<td>X8</td>
<td>X8</td>
<td>Full-height, half-length slot</td>
<td>Proc 1</td>
</tr>
<tr>
<td>2</td>
<td>PCIe 3.0</td>
<td>X4</td>
<td>X8</td>
<td>Full-height, half-length slot</td>
<td>Proc 1</td>
</tr>
<tr>
<td>1</td>
<td>PCIe 3.0</td>
<td>X16</td>
<td>X16</td>
<td>Full-height, ¾ length (up to 9.5”) Slot</td>
<td>Proc 1</td>
</tr>
</tbody>
</table>

**NOTE:** Bus Width Indicates the number of physical electrical lanes running to the connector.

**NOTE:** Although the Speed of slot is designed for 32Gb/s, the actual running speed will be lower than it was designed. Hence Slot 2 and Slot 5 will be least recommended for usage.

Storage 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](https://www.hpe.com/en/smart-array-gen10-controllers-data-sheet.html).

One of the following depending on model

**Software RAID**

- HPE Smart Array S100i SR Gen10 SW RAID

**NOTE:** 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.

**NOTE:** 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).

**NOTE:** The S100i supports 10 ports as 2 additional ports are leveraged to support the M.2 option.

**NOTE:** 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/](https://downloads.linux.hpe.com/SDR/project/lssrb/)

**Essential RAID Controller**

- HPE Smart Array E208i-p SR Gen10 Controller

**Performance RAID Controller**

- HPE Smart Array P408i-p SR Gen10 Controller

**NOTE:** Performance RAID Controllers require the HPE Smart Storage Battery (P01367-B21-B21) which is sold separately.

Internal Storage Devices

One of the following depending on model

**Optical Drive**

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

**NOTE:** Optical is optional in BTO models.

**Hard Drives**

None ship standard

**Hard Drive Bays**

Up to 8 Non-hot plug SATA 3.5-inch drives

**NOTE:** Mixing drive cage types is not allowed.

**NOTE:** All Pre-configured Models come populated with hard drive blanks installed. The 4LFF configurations includes 3 blanks and 8SFF includes 7 blanks. Additional hard drive blanks can be ordered using either P/N 807878-B21 for the HPE LFF HDD Blank Kit or P/N 666987-B21 for the HPE SFF HDD Blank Kit. These part numbers for single HDD blanks...
Standard Features

Below are also provided should you require replacement HDD blanks for your server.

**NOTE:** NHP SATA is limited to S100i controller.

- 4 Hot plug LFF SAS/SATA HDD bays; upgradable to 8
- 8 Hot plug SFF SAS/SATA HDD bays; upgradable to 16

### Maximum Internal Storage

<table>
<thead>
<tr>
<th>Hot Plug Type</th>
<th>Capacity</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFF SAS</td>
<td>96 TB</td>
<td>8 x 12 TB</td>
</tr>
<tr>
<td>LFF SATA</td>
<td>96 TB</td>
<td>8 x 12 TB</td>
</tr>
<tr>
<td>SFF SAS</td>
<td>38.4 TB</td>
<td>16 x 2.4 TB</td>
</tr>
<tr>
<td>SFF SATA</td>
<td>32 TB</td>
<td>16 x 2 TB</td>
</tr>
<tr>
<td>Non Hot Plug LFF SATA</td>
<td>32 TB</td>
<td>8 x 4 TB</td>
</tr>
<tr>
<td>Hot Plug LFF SATA SSD</td>
<td>30.72 TB</td>
<td>8 x 3.84 TB</td>
</tr>
<tr>
<td>Hot Plug SFF SAS SSD</td>
<td>61.44 TB</td>
<td>16 x 3.84 TB</td>
</tr>
<tr>
<td>Hot Plug SFF SATA SSD</td>
<td>61.44 TB</td>
<td>16 x 3.84 TB</td>
</tr>
</tbody>
</table>

### Power Supply

- HPE ML110 Gen10 350W ATX Power Supply Kit
- HPE ML110 Gen10 550W ATX Power Supply Kit

**NOTE:** ATX power supply will not support redundant fan option.

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 550W ATX Power Supply is the standard, non-redundant AC power supply option for most HPE ProLiant Gen10 Essential servers. It features Silver-level (88%) certified power efficiency with a set of features optimized for the Gen10 Essential-series rack and tower servers.

- HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit

**NOTE:** Flex Slot Platinum power supplies support power efficiency of up to 94% and include a standard C-14 power inlet connector.

**NOTE:** The 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit requires the RPS Enablement Kit.

**NOTE:** The RPS Enablement kit will support two power supplies.

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.

This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the [ProLiant Power Cables](#) web page.

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

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

### Interfaces

- **Video:** 1 standard (at system rear)
- **Network RJ-45:** 2 standard (at system rear)
- **Serial:** 1 optional (at system rear)
- **iLO Management Port:** 1 standard (at system rear)
QuickSpecs

HPE ProLiant ML110 Gen10 Server

Standard Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>iLO Service Port</td>
<td>1 standard (at system front)</td>
</tr>
<tr>
<td>MicroSD Slot</td>
<td>1 standard (at system internal)</td>
</tr>
</tbody>
</table>

**NOTE:** The MicroSD slot is not hot-pluggable, please power down server before installation or removal.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB 3.0</td>
<td>5 (2 front, 2 rear, 1 internal)</td>
</tr>
<tr>
<td>USB 2.0</td>
<td>3 (2 rear, 1 internal)</td>
</tr>
</tbody>
</table>

Operating Systems and Virtualization Software Support for ProLiant Servers

**Microsoft Windows Server**

**Red Hat Enterprise Linux (RHEL)**

**SUSE Linux Enterprise Server (SLES)**

**VMware**

**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.

**NOTE:** 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](http://www.hpe.com/servers/clearos).

**CentOS**

**NOTE:** CentOS not directly supported / Community Supported (Based on RHEL so RHEL testing and enablement applicable to CentOS) CentOS 6.9 / CentOS 7.3, 7.4.


Industry Standard Compliance

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- Novell Certified
- PXE Support
- VGA Port
- USB 3.0 Compliant
- USB 2.0 Compliant
- Energy Star 2.1
- SMBIOS 3.1
- UEFI 2.6
- ASHRAE A3

**NOTE:** For additional technical thermal details regarding ambient temperatures, humidity and features support please visit: [http://www.hpe.com/servers/ashrae](http://www.hpe.com/servers/ashrae).

UEFI (Unified Extensible Firmware Interface Forum)

**NOTE:** UEFI is the default for the ML110 Gen10. Legacy mode can be selected in the field or as a CTO option (758959-B22).
Standard Features

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.

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

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

NOTE: UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory for your HPE ProLiant Gen10 Server.

Embedded Management
HPE Integrated Lights-Out (HPE iLO)
Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO. Learn more at [http://www.hpe.com/info/ilo](http://www.hpe.com/info/ilo).

UEFI

Intelligent Provisioning
Hassle free server and OS provisioning for 1 or more servers with Intelligent Provisioning. Learn more at [http://www.hpe.com/servers/intelligentprovisioning](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](http://www.hpe.com/info/restfulapi).
## Standard Features

### Server Utilities

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

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

**Scripting Tools**

**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](http://www.hpe.com/info/oneview).

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

### Security

- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-2 validation (iLO 5 certification in progress)
- Common Criteria certification (iLO 5 certification in progress)
- Configurable for PCI DSS compliance
- Ability to rollback firmware
- Secure erase of NAND/User data
Standard Features

TPM (Trusted Platform Module) 1.2 option
TPM (Trusted Platform Module) 2.0 option

Warranty

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

**NOTE:** Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Exceptions may apply to certain regions or countries. 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; 3) Non CSR parts must be serviced by a trained authorized service engineer. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:

**Optional Features**

### Server Management

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HPE iLO Advanced</strong></td>
<td>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. Learn more about HPE iLO Advanced at <a href="http://www.hpe.com/servers/iloadvanced">http://www.hpe.com/servers/iloadvanced</a>.</td>
</tr>
</tbody>
</table>

### 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.

Service and Support

HPE Pointnext - Service and Support

Protect your business beyond warranty with HPE Support Services
HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution. Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. HPE is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

Connect your devices:
Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Reduce down time and improve diagnostic accuracy with a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support. Learn more about getting connected at http://www.hpe.com/services/getconnected

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. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Other related Services
HPE Server Hardware Installation
Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

HPE Education Services
Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment. http://www.hpe.com/ww/learn

HPE Support Center
The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers. Learn more http://www.hpe.com/support/hpesc

HPE's Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.
HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

*HPE Support Center Mobile App is subject to local availability.

For more information: http://www.hpe.com/services
### Pre-configured Models

<table>
<thead>
<tr>
<th></th>
<th>Entry Models</th>
<th>Performance Models</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>[SKU Number]</strong></td>
<td>878450-xx1</td>
<td>878452-xx1</td>
</tr>
<tr>
<td><strong>Model Name</strong></td>
<td>HPE ProLiant ML110 Gen10 3104 8GB-R S100i 4LFF NHP SATA 350W PS Entry Server</td>
<td>HPE ProLiant ML110 Gen10 4110 16GB-R S100i 4LFF SATA 550W PS Perf Server</td>
</tr>
<tr>
<td><strong>Processor</strong></td>
<td>3104 (6-Core, 1.7 GHz, 85W)</td>
<td>4110 (8-Core, 2.1 GHz, 85W)</td>
</tr>
<tr>
<td><strong>Number of Processors</strong></td>
<td></td>
<td>One processor</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>8 GB RDIMM DDR4 2666 MT/s (1x 8 GB)</td>
<td>16 GB RDIMM DDR4 2666 MT/s (1x 16 GB)</td>
</tr>
<tr>
<td><strong>Network Controller</strong></td>
<td>Embedded 2-Port 1GbE HPE Ethernet 1Gb 2-port 332i Adapter</td>
<td></td>
</tr>
<tr>
<td><strong>Storage Controller</strong></td>
<td>Embedded SW RAID with 10 SATA ports</td>
<td></td>
</tr>
<tr>
<td><strong>Hard Drive</strong></td>
<td>None ship as standard</td>
<td></td>
</tr>
<tr>
<td><strong>Internal Storage</strong></td>
<td>4 LFF HDD Bays (Non Hot Plug)</td>
<td>4 LFF HDD Bays (Hot Plug)</td>
</tr>
<tr>
<td><strong>Optical Drive Bay</strong></td>
<td></td>
<td>1; (Optional: DVD-ROM, DVD-RW)</td>
</tr>
<tr>
<td><strong>Optical Drive</strong></td>
<td>None ship as standard</td>
<td></td>
</tr>
<tr>
<td><strong>PCI-Express Slots</strong></td>
<td>5 PCIe 3.0 slots</td>
<td></td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>(1) 350W ATX Power Supply</td>
<td>(1) 550W ATX Power Supply</td>
</tr>
<tr>
<td><strong>Fans</strong></td>
<td>2 non-hot plug, non-redundant</td>
<td></td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download); HPE iLO Advanced (optional), HPE iLO Advanced Premium Security Edition (optional)</td>
<td></td>
</tr>
<tr>
<td><strong>Energy Star</strong></td>
<td>2.1 certified</td>
<td></td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Tower (4.5U)</td>
<td></td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td>3-year parts, 3-year labor, 3-year onsite support with next business day response.</td>
<td></td>
</tr>
<tr>
<td><strong>Country Code Key</strong></td>
<td>xx1 = B21</td>
<td>Worldwide</td>
</tr>
<tr>
<td></td>
<td>xx1 = 001</td>
<td>US</td>
</tr>
<tr>
<td></td>
<td>xx1 = 031</td>
<td>UK</td>
</tr>
<tr>
<td></td>
<td>xx1 = 291</td>
<td>Japan</td>
</tr>
<tr>
<td></td>
<td>xx1 = 371</td>
<td>AP</td>
</tr>
<tr>
<td></td>
<td>xx1 = 421</td>
<td>EU</td>
</tr>
<tr>
<td></td>
<td>xx1 = AA1</td>
<td>PRC</td>
</tr>
</tbody>
</table>

*NOTE: The -B21 WW SKU is to be ordered in all countries other than Japan.*
## HPE ProLiant ML110 Gen10 Server SMB Models

<table>
<thead>
<tr>
<th>SKU Number</th>
<th>Entry Models</th>
<th>Performance Models</th>
<th>Performance Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>P03684-xxx</td>
<td>HPE ProLiant ML110 Gen10 3104 1.7GHz 6-core 1P 8GB-R S100i 4LFF NHP SATA 350W PS Entry Server</td>
<td>HPE ProLiant ML110 Gen10 3106 1.7GHz 8-core 1P 16GB-R S100i 4LFF Hot Plug 550W PS Perf Server</td>
<td>HPE ProLiant ML110 Gen10 4108 1.8GHz 8-core 1P 16GB-R S100i 4LFF Hot Plug 550W PS Perf Server</td>
</tr>
</tbody>
</table>

### Processor
- **3104** (6-Core, 1.7 GHz, 85W)
- **3106** (8-Core, 1.7 GHz, 85W)
- **4108** (8-Core, 1.8 GHz, 85W)

### Number of Processors
- One processor

### Memory
- **8 GB RDIMM DDR4 2666 MT/s** (1x 8 GB)
- **16 GB RDIMM DDR4 2666 MT/s** (1x 8 GB)
- **16 GB RDIMM DDR4 2666 MT/s** (1x 16 GB)

**NOTE:** The maximum memory speed for Intel 3104 processor is 2133 MT/s. The maximum memory speed for Intel 3106 processor is 2133 MT/s. The maximum memory speed for Intel 4108 processor is 2400 MT/s.

### Network Controller
- Embedded 2-Port 1GbE HPE Ethernet 1Gb 2-port 332i Adapter

### Storage Controller
- Embedded SW RAID with 10 SATA ports

### Hard Drive
- None ship as standard

### Internal Storage
- 4 LFF HDD Bays (Non Hot Plug)
- 4 LFF HDD Bays (Hot Plug)
- 4 LFF HDD Bays (Hot Plug)

### Optical Drive Bay
- 1; (Optional: DVD-ROM, DVD-RW)

### Optical Drive
- 1 DVD-RW

### PCI-Express Slots
- 5 PCIe 3.0 slots

### Power Supply
- (1) 350W ATX Power Supply
- (1) 550W ATX Power Supply
- (1) 550W ATX Power Supply

### Fans
- 2 non-hot plug, non-redundant

### Management
- HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download), HPE iLO Advanced (optional), HPE iLO Advanced Premium Security Edition (optional)

### Energy Star
- 2.1 certified

### Form Factor
- Tower (4.5U)

### Warranty
- 3-year parts, 3-year labor, 3-year onsite support with next business day response.

### Country Code Key
- xxx = S01
- xxx = 425
- xxx = 375
- xxx = 291
- xxx = S01
- NA and LAC
- EU and UK
- AP
- Japan
Configuration Information - Factory Integrated Models

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.

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

<table>
<thead>
<tr>
<th>CTO Server</th>
<th>HPE ProLiant ML110 Gen10 4LFF Non Hot Plug Configure-to-order Server</th>
<th>HPE ProLiant ML110 Gen10 4LFF Configure-to-order Server</th>
<th>HPE ProLiant ML110 Gen10 8SFF Configure-to-order Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKU Number</td>
<td>872305-B21</td>
<td>872307-B21</td>
<td>872309-B21</td>
</tr>
<tr>
<td>Processor</td>
<td>Not included as standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIMM Slots</td>
<td>6 DIMM slots for RDIMM DDR4 Memory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Controller</td>
<td>Embedded SW RAID with 10 SATA ports, or choice of HPE PCIe Smart Array controller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCIe</td>
<td>5 PCIe 3.0 Slots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive Cage - included</td>
<td>4 LFF Non Hot Plug</td>
<td>4 LFF Hot Plug</td>
<td>8 SFF Hot Plug</td>
</tr>
<tr>
<td>Network Controller</td>
<td>Embedded 2-Port 1GbE HPE Ethernet 1Gb 2-port 332i Adapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fans</td>
<td>2 non-hot plug, non-redundant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download); HPE iLO Advanced(optional), HPE iLO Advanced Premium Security Edition (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB</td>
<td>2 front, 2 internal, 4 rear</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Step 2a: Choose Required Options - Processors**

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

**Processor Option Kits**

<table>
<thead>
<tr>
<th>Processor</th>
<th>Required Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE ML110 Gen10 Intel® Xeon-Gold 5122 (3.6GHz/4-core/105W) FIO Processor Kit</td>
<td>872308-L21</td>
</tr>
<tr>
<td>HPE ML110 Gen10 Intel® Xeon-Gold 5120 (2.2GHz/14-core/105W) FIO Processor Kit</td>
<td>872306-L21</td>
</tr>
<tr>
<td>HPE ML110 Gen10 Intel® Xeon-Silver 4112 (2.6GHz/4-core/85W) FIO Processor Kit</td>
<td>872296-L21</td>
</tr>
<tr>
<td>HPE ML110 Gen10 Intel® Xeon-Silver 4110 (2.1GHz/8-core/85W) FIO Processor Kit</td>
<td>876918-L21</td>
</tr>
<tr>
<td>HPE ML110 Gen10 Intel® Xeon-Silver 4108 (1.8GHz/8-core/85W) FIO Processor Kit</td>
<td>876917-L21</td>
</tr>
<tr>
<td>HPE ML110 Gen10 Intel® Xeon-Bronze 3106 (1.7GHz/8-core/85W) FIO Processor Kit</td>
<td>876916-L21</td>
</tr>
<tr>
<td>HPE ML110 Gen10 Intel® Xeon-Bronze 3104 (1.7GHz/6-core/85W) FIO Processor Kit</td>
<td>876915-L21</td>
</tr>
</tbody>
</table>

**Step 2b: Choose Memory Options**

Please select one or more memory from below.

For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to: [https://www.hpe.com/docs/memory-population-rules](https://www.hpe.com/docs/memory-population-rules)

For Gen10 memory speed table, please go to: [https://www.hpe.com/docs/memory-speed-table](https://www.hpe.com/docs/memory-speed-table)

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: [http://www.hpe.com/docs/memory-ras-feature](http://www.hpe.com/docs/memory-ras-feature)

NOTE: Memory DIMM availability with a server platform is dependent upon completion of certification testing.
Configuration Information - Factory Integrated Models

**NOTE:** The maximum memory speed is a function of the memory type, memory configuration, and processor model.

- HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit 815097-B21
- HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Standard Memory Kit 867853-B21
- HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit 815098-B21
- HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Standard Memory Kit 867855-B21
- HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit 815100-B21

**Step 2c: Choose Power Supplies**

Select one or two power supplies from below.

**NOTE:** Prior to selecting a power supply option, it is highly recommended that you review your server configuration in the HPE Power Advisor tool to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: [http://www.hpe.com/info/hppoweradvisor](http://www.hpe.com/info/hppoweradvisor).

**NOTE:** By RPS Enablement Kit power options, mixing of power supplies in the same RPS enablement kit is not supported. All power supplies must be of the same input voltage, output rating, and efficiency rating. If non-matching power supplies are installed, you may receive an error message and/or experience operational issues with your server.

- HPE ML110 Gen10 350W ATX FIO PS Kit 867876-B21
- HPE ML110 Gen10 550W ATX Power Supply Kit 874009-B21
- HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit 865414-B21
- HPE ML110 Gen10 Redundant Power Supply Enablement Kit 867875-B21

**Step 3: Choose Additional Factory Integratable Options**

One of the following from each list may be selected if desired at time of factory integration:

- HPE Legacy FIO Mode Setting 758959-B22

**NOTE:** UEFI is the default, this FIO part can be used for CTO to enable Legacy mode.
NOTE: 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. Note the Cabling Matrix can help to explain the cable routing for each option:

HPE Unique Options

- HPE ML110 Gen10 4LFF Drive Backplane Cage Kit
  
  NOTE: The 4 LFF hot-plug drive cage can be installed in both box 1 and box 2. Follow the same installation procedure.

- HPE ML110 Gen10 4LFF Non Hot Plug Drive Cage Kit
  
  NOTE: The 4 LFF Non hot-plug drive cage can be installed in both box 1 and box 2. Follow the same installation procedure.

- HPE ML110 Gen10 8SFF Drive Backplane Cage Kit
  
  NOTE: The 8SFF hot-plug drive cage can be installed in both box 1 and box 2. Follow the same installation procedure.

- HPE ML110 Gen10 Redundant Power Supply Enablement Kit
  
  NOTE: This kit is also required to support an optional redundant fan kit.

- HPE ML110 Gen10 Redundant Fan with 4 Fans Kit
  
  NOTE: When one of the following scenarios occurs, the server requires a Redundant Fan with a 800W Redundant Power Supply to be installed.
  
  1. When a second HDD cage is installed and the SAS HDDs are running at 15K RPM.
  
  2. When a SAS SSD is installed.
  
  3. If one fan fails, the system will be required to continue operating with a Redundant Fan. This condition is indicated by a flashing amber Health LED.
  
  4. When the system requirements are to meet the A3 extended operating environment.

- HPE ML110 Gen10 Serial Port Kit

- HPE ML110 Gen10 550W ATX Power Supply Kit
  
  NOTE: Prior to selecting a power supply option, it is highly recommended that you review your server configuration in the HPE Power Advisor tool to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: http://www.hpe.com/info/hppoweradvisor

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/servers/servermemoryconfigurator.

Best product availability is limited to US, Canada, and Latin America at this time.

HPE DDR4 SmartMemory

- HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit
  
  815097-B21

- HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit
  
  815098-B21

- HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit
  
  815100-B21

HPE DDR4 Standard Memory

- HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Standard Memory Kit
  
  867853-B21

- HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Standard Memory Kit
  
  867855-B21

NOTE: Memory DIMM availability with a server platform is dependent upon completion of certification testing.

NOTE: The maximum memory speed is a function of the memory type, memory configuration, and processor model.

HPE Optical Drives

- HPE 9.5mm SATA DVD-ROM JackBlack Gen9 Optical Drive
  
  726536-B21

- HPE 9.5mm SATA DVD-RW JackBlack G9 Optical Drive
  
  726537-B21
Core Options

HPE Drives

Enterprise - 12G SAS - SFF Drives
- HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD 870753-B21
- HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD 872475-B21
- HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD 870757-B21
- HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD 870763-B21
- HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD 870759-B21
- HPE 900GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD 872477-B21
- HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD 870765-B21
- HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD 872481-B21

Enterprise - 12G SAS - LFF Drives
- HPE 300GB SAS 12G Enterprise 15K LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware HDD 870755-B21

Midline - 12G SAS - SFF Drives
- HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD 832514-B21
- HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD 765464-B21
- HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD 765466-B21

Midline - 12G SAS - LFF Drives
- HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD 833926-B21
- HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD 833928-B21
- HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD 834031-B21
- HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD 857640-B21
- HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD 881781-B21

Midline - 6G SATA - SFF Drives
- HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD 655710-B21
- HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD 765455-B21

Midline - 6G SATA - LFF Drives
- HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD 861686-B21
- HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD 801882-B21
- HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD 861681-B21
- HPE 3TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD 861688-B21
- HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD 861683-B21
- HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD 801888-B21
- HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD 861744-B21
- HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD 861742-B21
- HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD 861596-B21
- HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD 834028-B21
- HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD 857650-B21
- HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD 881787-B21

SSD Selection
To streamline the configuration process for HPE ProLiant Gen10 servers and to provide the best product availability, HPE recommends SSDs from the list located here: [http://www.hpe.com/products/recommend](http://www.hpe.com/products/recommend)

Write Intensive – 12G SAS - SFF - Solid State Drives
## Core Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>873351-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>873355-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>873357-B21</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>875503-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>866814-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>877752-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>877758-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>877764-B21</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE 960GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD</td>
<td>877756-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD</td>
<td>877762-B21</td>
<td></td>
</tr>
</tbody>
</table>

## Read Intensive - 6G SAS - SFF - Solid State Drives

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>872390-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>872392-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>872394-B21</td>
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</tr>
<tr>
<td>HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>870144-B21</td>
<td></td>
</tr>
</tbody>
</table>

## Mixed Use - 12G SAS - SFF - Solid State Drives

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>872374-B21</td>
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</tr>
<tr>
<td>HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>873359-B21</td>
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<tr>
<td>HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>872376-B21</td>
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<tr>
<td>HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>873363-B21</td>
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</tr>
<tr>
<td>HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>872382-B21</td>
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<tr>
<td>HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>873365-B21</td>
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<tr>
<td>HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>872386-B21</td>
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<tr>
<td>HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
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## Mixed Use - 6G SATA - SFF - Solid State Drives

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>880295-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>875483-B21</td>
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</tr>
<tr>
<td>HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>877776-B21</td>
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<tr>
<td>HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>875470-B21</td>
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<tr>
<td>HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>877782-B21</td>
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</tr>
<tr>
<td>HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>875474-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>877788-B21</td>
<td></td>
</tr>
<tr>
<td>HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD</td>
<td>875478-B21</td>
<td></td>
</tr>
</tbody>
</table>

## M.2 Selection

**NOTE:** Requires the M.2 universal enablement card kit (878783-B21) and use S100i SATA controller only.

**NOTE:** Installation of the M.2 universal enablement card kit is limited to PCIe slot 1, 2, 3 or 4. Max. in ML350 Gen10 is one M.2 enablement card kit.

**NOTE:** M.2 supports Software RAID only.

## Mixed Use - SATA - M.2 - Solid State Drives

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD</td>
<td>875488-B21</td>
<td></td>
</tr>
</tbody>
</table>
Core Options

HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD 875490-B21

NOTE: Requires the M.2 universal enablement card kit (878783-B21) and use S100i SATA controller only.
NOTE: M.2 supports Software RAID only.

Read Intensive - 6G SATA - M.2 - Solid State Drives

HPE 150GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD 875317-B21

NOTE: Requires the M.2 universal enablement card kit (878783-B21) and use S100i SATA controller only.
NOTE: M.2 supports Software RAID only.

Hard Drive Blank Kits

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

GPGPU Information

<table>
<thead>
<tr>
<th>Part number</th>
<th>Card</th>
<th>Qty support</th>
<th>Processor support</th>
<th>PCIe speed</th>
<th>ML110 configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q0V77A</td>
<td>NVIDIA Quadro P2000 GPU Module</td>
<td>2</td>
<td>All</td>
<td>Gen3</td>
<td>8SFF 4LFF 16SFF 8LFF</td>
</tr>
</tbody>
</table>

NOTE: 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.
NOTE: Only the above listed Graphics cards are HPE standard supported options in this server.

HPE Computation and Graphics Accelerators

HPE NVIDIA Quadro P2000 GPU Module Q0V77A

Hard Drive Kits

HPE Universal SATA HHHL 3yr Wty M.2 Kit 878783-B21

HPE Networking

1 Gigabit Ethernet adapters

- HPE Ethernet 1Gb 4-port 331T Adapter 647594-B21
- HPE Ethernet 1Gb 2-port 332T Adapter 615732-B21
- HPE Ethernet 1Gb 2-port 361T Adapter 652497-B21
- HPE Ethernet 1Gb 4-port 366T Adapter 811546-B21

10 Gigabit Ethernet adapters

- HPE Ethernet 10Gb 2-port 530SFP Adapter 652503-B21
- HPE Ethernet 10Gb 2-port 530T Adapter 656596-B21
- HPE Ethernet 10Gb 2-port 535T Adapter 813661-B21
- HPE Ethernet 10Gb 2-port 562SFP+ Adapter 727055-B21
- HPE Ethernet 10Gb 2-port 562T Adapter 817738-B21

NOTE: The ML110 Gen10 ships with 2x 1 Gb Embedded.
NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.
NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. Please see the related NIC QuickSpecs for Technical Specifications and additional information:
Core Options


HPE Power Supplies

- HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit  
  **NOTE:** Flex Slot Platinum power supplies support power efficiency of up to 94% and include a standard C-14 power inlet connector.
- HPE ML110 Gen10 550W ATX Power Supply Kit  
- HPE ML110 Gen10 Redundant Power Supply Enablement Kit

HPE Cooling Options

- HPE ML110 Gen10 Redundant Fan with 4 Fans Kit  
  **NOTE:** When one of the following scenarios occurs, the server requires a Redundant Fan with a 800W Redundant Power Supply to be installed.
  1. When a second HDD cage is installed and the SAS HDDs are running at 15K RPM.
  2. When a SAS SSD is installed.
  3. If one fan fails, the system will be required to continue operating with a Redundant Fan. This condition is indicated by a flashing amber Health LED.
  4. When the system requirements are to meet the A3 extended operating environment.
QuickSpecs

Additional Options

**Embedded Management**

**HPE iLO Advanced**
- HPE iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU E6U59ABE
- HPE iLO Advanced including 1yr 24x7 Technical Support and Updates 1-server LTU 512485-B21
- HPE iLO Advanced including 1yr 24x7 Technical Support and Updates Flexible Quantity LTU 512486-B21
- HPE iLO Advanced including 1yr 24x7 Technical Support and Updates Tracking LTU 512487-B21
- HPE iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU E6U64ABE
- HPE iLO Advanced including 3yr 24x7 Tech Support and Updates 1-server LTU BD505A
- HPE iLO Advanced including 3yr 24x7 Tech Support and Updates Flexible Quantity LTU BD506A
- HPE iLO Advanced including 3yr 24x7 Tech Support and Updates Tracking LTU BD507A

**HPE iLO Essentials**
- HPE iLO Essentials including 1yr 24x7 Tech Support and Updates 1-server LTU BD775A
- HPE iLO Essentials including 1yr 24x7 Technical Support and Updates E-LTU E6U62ABE
- HPE iLO Essentials including 3yr 24x7 Tech Support and Updates 1-server LTU BD774A
- HPE iLO Essentials including 3yr 24x7 Technical Support and Updates E-LTU E6U61ABE

**HPE Security**
- HPE Trusted Platform Module 2.0 Gen10 Option 864279-B21

**NOTE:** HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.

**NOTE:** HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

**NOTE:** There is a FIO setting to allow this TPM module to operate in a TPM 1.2 mode (872108-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](#).

**Performance RAID Controllers**

**NOTE:** All performance RAID controllers are supported by the HPE Smart Storage Battery (875241-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
- HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller 804405-B21

**Essential RAID Controllers**

- HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller 804394-B21
- HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller 804398-B21
## Additional Options

### Optional Software

- **HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU**
  - Q2F26AAE
- **HPE Smart Array SR SmartCache (Single Key/Single Server) LTU**
  - D7S26A
- **HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU**
  - D7S27A
- **HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU**
  - D7S27AAE

**NOTE:** SmartCache is offered on HPE Smart Array performance RAID controllers.

### Optional Upgrades

- **HPE 96W Smart Storage Battery (up to 20 Devices/260mm Cable) Kit**
  - P01367-B21

**NOTE:** Provides backup power for multiple HPE Smart Array controllers or other devices. Is required with performance RAID controllers. This product replaces 875242-B21.

### HPE Tape Backup

**NOTE:** For the complete range of tape drives, autoloaders, libraries and media see:
- [http://www.hpe.com/storage/BURAcompatibility](http://www.hpe.com/storage/BURAcompatibility)

### HPE USB and SD Options

**HPE Enterprise Mainstream Flash Media Kits for Memory Cards**

- **HPE 32GB microSD Mainstream Flash Media Kit**
  - 700139-B21
- **HPE 8GB microSD Enterprise Mainstream Flash Media Kit**
  - 726116-B21
- **HPE 8GB USB Enterprise Mainstream Flash Media Drive Key Kit**
  - 737953-B21
- **HPE Dual 8GB microSD Enterprise Midline USB Kit**
  - 741279-B21

**Rail Kits**

- **HPE ML Gen10 Tower to Rack Conversion Kit with Sliding Rail Rack Shelf and Cable Management Arm**
  - 874578-B21

**NOTE:** Easy install rack rail tray which takes up 1U height in a standard rack facility. This kit is supported in both ML350 and ML110 Gen10 for tower to rack conversion.

### HPE Support Services

- **HPE 3 Year Foundation Care 24x7 ML110 Gen10 Service**
  - H9CH9E
- **HPE 3 Year Foundation Care 24x7 with DMR ML110 Gen10 Service**
  - H9CJ0E
- **HPE 3 Year Foundation Care 24x7 with CDMR ML110 Gen10 Service**
  - H9CJ1E
- **HPE 3 Year Proactive Care 24x7 ML110 Gen10 Service**
  - H9CJ2E
- **HPE 3 Year Proactive Care 24x7 with DMR ML110 Gen10 Service**
  - H9CJ3E
- **HPE 3 Year Proactive Care 24x7 with CDMR ML110 Gen10 Service**
  - H9CJ4E
- **HPE Installation ML310e/ML110 Service**
  - U6G21E
- **HPE Installation and Startup ML310e Service**
  - U6G23E
**Memory**

**Memory Population guidelines**

**HPE ML110 Gen10 server**

1 Slot per Channel

![Diagram of server](image)

**Front of server**

<table>
<thead>
<tr>
<th>HPE ProLiant Gen10 6 slot per CPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMM population order</td>
</tr>
<tr>
<td>1 DIMM</td>
</tr>
<tr>
<td>2 DIMMs</td>
</tr>
<tr>
<td>3 DIMMs</td>
</tr>
<tr>
<td>4 DIMMs</td>
</tr>
<tr>
<td>5 DIMMs*</td>
</tr>
<tr>
<td>6 DIMMs</td>
</tr>
</tbody>
</table>

* Unbalanced, not recommended

**General Memory Population Rules and Guidelines:**

- Install DIMMs only if the corresponding processor is installed.
- White DIMM slots denote the first slot to be populated in a channel.
- Mixing of DIMM types (UDIMM, RDIMM, and LRDIMM) is not supported.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- The maximum memory capacity is a function of the number of DIMM slots on the platform, the largest DIMM capacity qualified on the platform, the number and model of installed processors qualified on the platform.
- For details on the HPE Server Memory Options Population Rules, visit: [http://www.hpe.com/docs/memory-population-rules](http://www.hpe.com/docs/memory-population-rules)
- To realize the performance memory capabilities listed in this document, HPE DDR4 SmartMemory is required. For additional information, please see the [HPE DDR4 SmartMemory QuickSpecs](http://www.hpe.com/docs/ddr4-smartmemory-quickspecs).
## Memory

<table>
<thead>
<tr>
<th>DIMM Type</th>
<th>Register DIMM (RDIMM)</th>
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</thead>
<tbody>
<tr>
<td>HPE SKU P/N</td>
<td>815097-B21</td>
</tr>
<tr>
<td>SKU Description</td>
<td>HPE 8GB 1Rx8 PC4-2666V-R Kit</td>
</tr>
<tr>
<td>DIMM Rank -&gt;</td>
<td>Single Rank (1R)</td>
</tr>
<tr>
<td>DIMM Capacity -&gt;</td>
<td>8GB</td>
</tr>
<tr>
<td>Voltage</td>
<td>1.2V</td>
</tr>
<tr>
<td>DRAM depth [bit]</td>
<td>1Gb</td>
</tr>
<tr>
<td>DRAM Width [bit]</td>
<td>x8</td>
</tr>
<tr>
<td>DRAM Density</td>
<td>8Gb</td>
</tr>
<tr>
<td>DIMM Native Speed (MT/s)</td>
<td>2666 MT/s</td>
</tr>
</tbody>
</table>

**HPE Server Memory Speed (MT/s): Intel Xeon® Gold 51xx Processors**

1 DIMM Per Channel | 2400 MT/s | 2400 MT/s | 2400 MT/s | 2400 MT/s | 2400 MT/s |

**HPE Server Memory Speed (MT/s): Intel Xeon® Silver 41xx Processors**

1 DIMM Per Channel | 2400 MT/s | 2400 MT/s | 2400 MT/s | 2400 MT/s | 2400 MT/s |

**HPE Server Memory Speed (MT/s): Intel Xeon® Bronze 31xx Processors**

1 DIMM Per Channel | 2133 MT/s | 2133 MT/s | 2133 MT/s | 2133 MT/s | 2133 MT/s |

**NOTE:** Intel Xeon® Gold Processor #5122 supports 2666MT/s.

**NOTE:** The maximum memory speed is a function of the memory type, memory configuration, and processor model.

For details on the HPE Server Memory speed, visit: [https://www.hpe.com/docs/memory-speed-table](https://www.hpe.com/docs/memory-speed-table)

### Standard and Maximum Memory Capacity (Pre-configured Models)

<table>
<thead>
<tr>
<th>Pre Configured Models</th>
<th>Standard Memory</th>
<th>Maximum Memory Plus Optional Memory</th>
<th>Standard Memory Replaced with Optional Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>3104</td>
<td>8 GB (1x8 GB RDIMM)</td>
<td>168 GB (8GB + 5x32GB)</td>
<td>192 GB (6x32 GB)</td>
</tr>
<tr>
<td>4110</td>
<td>16 GB (1x16 GB RDIMM)</td>
<td>176 GB (16GB + 5x32 GB)</td>
<td>192 GB (6x32 GB)</td>
</tr>
</tbody>
</table>

**DDR4 memory options part number decoder**

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

- 8GB = 8,192 MB
- 16GB = 16,384 MB
- 32GB = 32,768 MB

For more information on memory, please see the Memory Quickspecs: [HPE DDR4 SmartMemory](https://www.hpe.com/docs/memory-speed-table)
Storage

4-bay LFF non-hot-plug / hot-plug drive model

1 x 1-4  4 x LFF SATA Non-hot-plug / SAS,SATA Hot Pluggable Hard Drive Bays
2 x 1-4  4 x LFF SATA Non-hot-plug / SAS,SATA Hot Pluggable Hard Drive Bays (optional)

8-bay SFF hot-plug drive model

1 x 1-8  8 x SFF SATA/SSD Hot Pluggable Hard Drive Bays
2 x 1-8  8 x SFF SATA/SSD Hot Pluggable Hard Drive Bays (optional)
Technical Specifications

System Unit

Tower Dimensions
17.32 (H) x 7.68 (W) x 18.92. (D) in (44 x 19.5 x 48.05 cm)

Tower Weight
Minimum: 29.82 lbs (13.5 kg)
Maximum: 55.0 lbs (25.0 kg)

Input Requirements
Rated Line Voltage
100 to 120 VAC

Rated Input Frequency
50 to 60 Hz

Rated Input Power
For 350 W Power Supply: 8A (at 100-240 VAC)
For 550 W Power Supply: < 639 W (at 100 VAC), < 605 W (at 200 VAC)

BTU Rating
Maximum
For 350 W Power Supply: 1452 BTU/hr (at 100 VAC), 1544 BTU/hr (at 200 VAC)
For 550 W Power Supply: 2204 BTU/hr (at 100 VAC), 2113 BTU/hr (at 200 VAC)

Power Supply Output
Rated Steady-State Power
For 550 W Power Supply: 550 W (at 100 VAC), 550 W (at 200 VAC)
For 350 W Power Supply: 350 W (at 100 VAC), 350 W (at 200 VAC)

Maximum Peak Power
For 550 W Power Supply: < 639 W (at 100 VAC), < 605 W (at 200 VAC)
For 350 W Power Supply: < 427 W (at 100 VAC), < 427 W (at 200 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 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.

Extended Ambient Operating Support
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 3048 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: http://www.hpe.com/servers/ashrae

Relative Humidity
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 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

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

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

<table>
<thead>
<tr>
<th></th>
<th>Idle</th>
<th>Operating</th>
</tr>
</thead>
<tbody>
<tr>
<td>LWAd</td>
<td>4.0 Bels Entry</td>
<td>4.0 Bels Entry</td>
</tr>
<tr>
<td></td>
<td>4.0 Bels Perf</td>
<td>4.0 Bels Perf</td>
</tr>
<tr>
<td>LpAm</td>
<td>24.8 dBA Entry</td>
<td>24.8 dBA Entry</td>
</tr>
<tr>
<td></td>
<td>24.1 dBA Perf</td>
<td>24.1 dBA Perf</td>
</tr>
</tbody>
</table>

**NOTE:** 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.

### 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:


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For information on the HPE Smart Array E208i-p SR Gen10 Controller please refer to their [QuickSpecs](#).

For information on the HPE Smart Array E208e-p SR Gen10 Controller please refer to their [QuickSpecs](#).

For information on the HPE Smart Array P408i-p SR Gen10 Controller please refer to their [QuickSpecs](#).

For information on the HPE Smart Array P408e-p SR Gen10 Controller please refer to their [QuickSpecs](#).

---

### Environment-friendly Products and Approach

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Version History</th>
<th>Action</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>05-Feb-2018</td>
<td>From Version 3 to 4</td>
<td>Added</td>
<td>Added new SMB offerings. Added GPGPU information.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changed</td>
<td>Standard Features, Pre-Configured Models, Additional Options, and Memory were revised.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changed</td>
<td>Standard Features, Configuration Information – Factory Integrated Models, Core Options, Additional Options, and Memory section were revised.</td>
</tr>
</tbody>
</table>

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