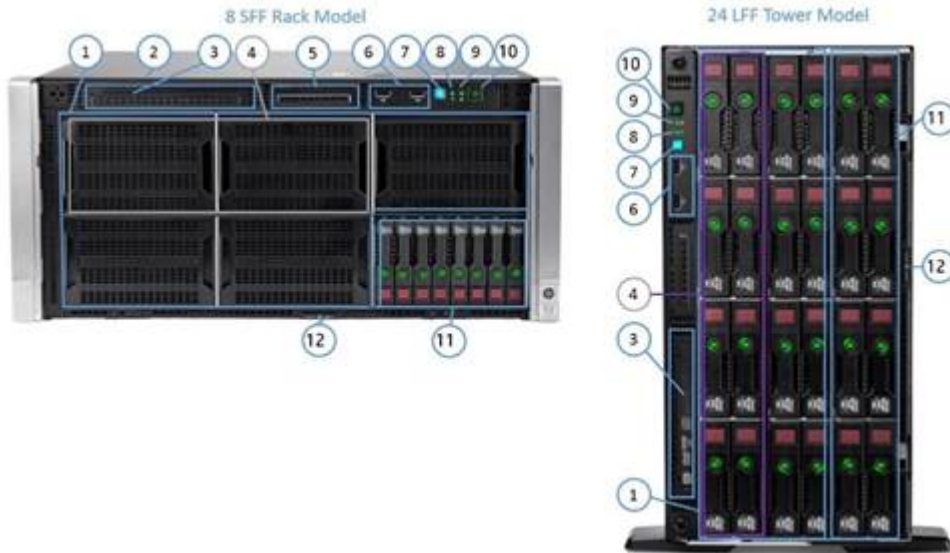


Overview

HP ProLiant ML350 Generation 9 (Gen9)

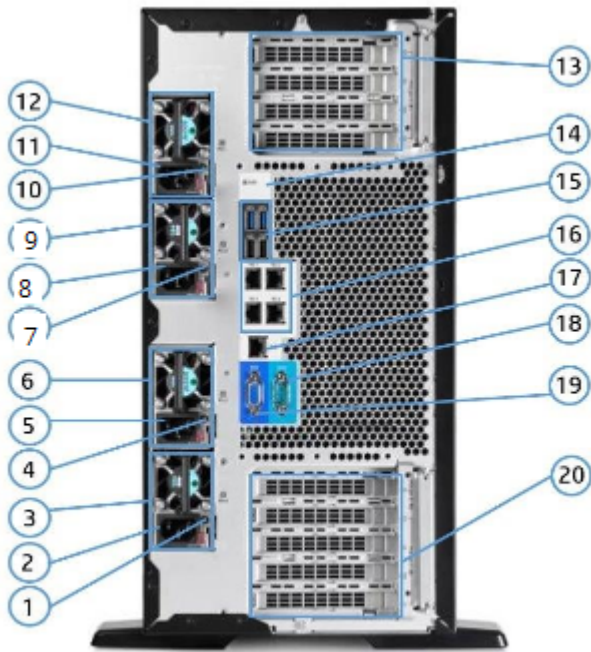
The ML350 Gen9 is the 2P premium server which delivers a class-leading combination of performance, availability, expandability, manageability, reliability and serviceability making it the choice for remote offices, growing businesses and data centers.



Front view details for Rack (SFF) and Tower (LFF)

1. Optional HDD cage Drive Cage Bays (Rack shown with blanks. Tower shown with 16 LFF Optional drives)
2. Quick removal access panel (shown on Rack)
3. Slim Height Drive Bay for Optional Slim Height SATA DVD-ROM or DVD RW Optical Drive (shown on Tower)
4. Media Drive Cage Bays – (Rack supports two half height or one full height device; Tower supports one half height device)
5. Systems Insight Display Bay for Optional SID (Rack models only)
6. Two (2) USB 2.0 connectors
7. Unit ID LED button
8. Health LED
9. NIC Activity LED
10. Power On /Standby button & system power LED button
11. Eight (8) SFF (Rack)/LFF (Tower) SAS/SATA HDD cage
12. Serial label pull tab

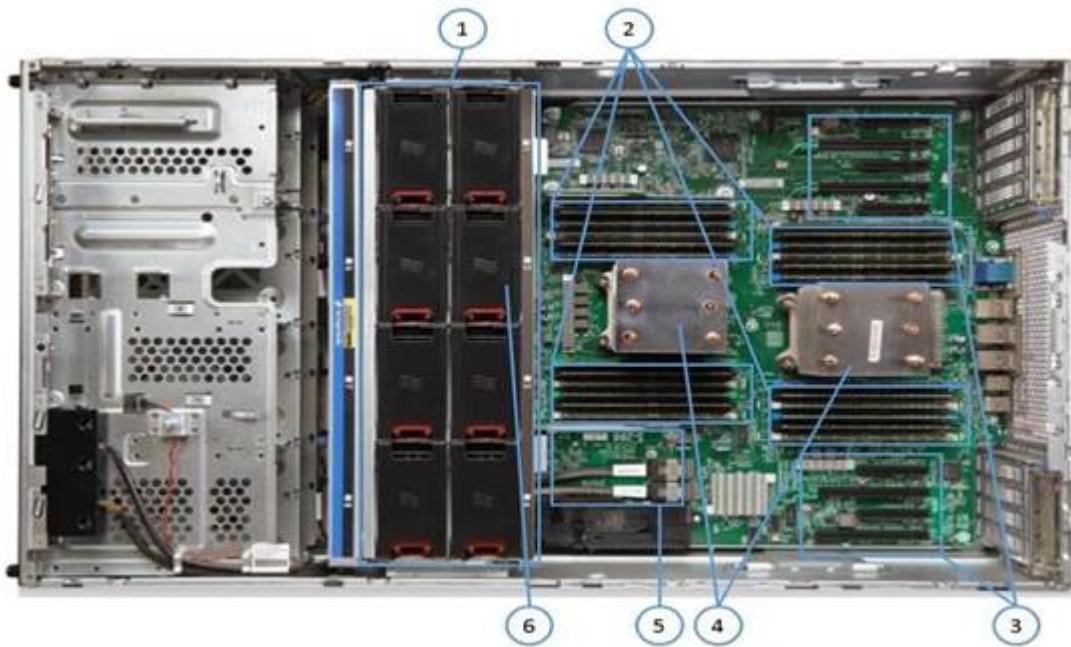
Overview



Rear View (Tower Model)

1. Power supply Power LED
2. Power supply Power connection
3. HP Flexible Slot 4 Power Supply (Optional - 500w Power Supply shown)
4. Power supply Power LED
5. Power supply Power connection
6. HP Flexible Slot 3 Power Supply (Optional - 500w Power Supply shown)
7. Power supply Power LED
8. Power supply Power connection
9. HP Flexible Slot 2 Power Supply (Optional - 500w Power Supply shown)
10. Power supply Power LED
11. Power supply Power connection
12. HP Flexible Slot 1 Power Supply (Standard Entry Model - 500w Power Supply shown)
13. PCI Slots (Slots 1-4) Slot 1 and 3 can support Optional GPU
14. Unit ID LED
15. USB 3.0 Connectors (2) top & USB 2.0 Connectors (2) bottom
16. Embedded 4 x 1GbE Network Adapter
17. Dedicated iLO Connector
18. Serial Connector
19. Video Connector
20. PCI Slots (Slots 5-9) requires Optional second processor—Slot 6 and 8 can support Optional GPU

Overview



Interior View (Rack Model)

1. System fans: Three (3) fans are standard Optional Five (5) systems fans are shown.
2. Twenty four DIMM slots: DDR4 Registered (RDIMM) or Load Reduced Registered (LRDIMM) memory
3. Nine (9) PCIe expansion slots (8 PCIe Gen3 and 1 PCIe Gen2)
4. Two (2) processors and heatsinks (Second Processor is Optional)
5. Optional HP Flexible Smart Array or Smart HBA (not shown here)
6. Optional HP Smart Storage Battery is under the system fans

What's New

- Support up to 6 NVMe PCIe Solid State Drives thru SFF Express Bay Kit (726551-B21), drive capacity/each, 400 GB, 800 GB or 1.2 TB.

Standard Features

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

| Processor One of the following depending on model | Model | CPU frequency | Cores | L3 Cache | Power | QPI | DDR4 Hz |
|--|------------|---------------|-------|----------|-------|---------|---------|
| | E5-2699v3 | 2.3GHz | 18 | 45MB | 145W | 9.6GT/s | 2133 |
| | E5-2698v3 | 2.3GHz | 16 | 40MB | 135W | 9.6GT/s | 2133 |
| | E5-2697v3 | 2.6GHz | 14 | 35MB | 145W | 9.6GT/s | 2133 |
| | E5-2695v3 | 2.3GHz | 14 | 35MB | 120W | 9.6GT/s | 2133 |
| | E5-2690v3 | 2.6GHz | 12 | 30MB | 135W | 9.6GT/s | 2133 |
| | E5-2683v3 | 2.0GHz | 14 | 35MB | 120W | 9.6GT/s | 2133 |
| | E5-2680v3 | 2.5GHz | 12 | 30MB | 120W | 9.6GT/s | 2133 |
| | E5-2670v3 | 2.3GHz | 12 | 30MB | 120W | 9.6GT/s | 2133 |
| | E5-2667v3 | 3.2GHz | 8 | 20MB | 135W | 9.6GT/s | 2133 |
| | E5-2660v3 | 2.6GHz | 10 | 25MB | 105W | 9.6GT/s | 2133 |
| | E5-2650v3 | 2.3GHz | 10 | 25MB | 105W | 9.6GT/s | 2133 |
| | E5-2650Lv3 | 1.8GHz | 12 | 30MB | 65W | 9.6GT/s | 2133 |
| | E5-2643v3 | 3.4GHz | 6 | 20MB | 135W | 9.6GT/s | 2133 |
| | E5-2640v3 | 2.6GHz | 8 | 20MB | 90W | 8.0GT/s | 1866 |
| | E5-2637v3 | 3.5GHz | 4 | 15MB | 135W | 9.6GT/s | 2133 |
| | E5-2630v3 | 2.4Ghz | 8 | 20MB | 85W | 8.0GT/s | 1866 |
| | E5-2630Lv3 | 1.8GHz | 8 | 20MB | 55W | 8.0GT/s | 1866 |
| | E5-2623v3 | 3.0GHz | 4 | 10MB | 105W | 8.0GT/s | 1866 |
| | E5-2620v3 | 2.4GHz | 6 | 15MB | 85W | 8.0GT/s | 1866 |
| | E5-2609v3 | 1.9GHz | 6 | 15MB | 85W | 6.4GT/s | 1600 |
| | E5-2603v3 | 1.6GHz | 6 | 15MB | 85W | 6.4GT/s | 1600 |

Chipset Intel® C610 Series Chipset
Intel® E5-2600v3 Processor Family
NOTE: For more information regarding Intel® chipsets, please see the following URL:
<http://www.intel.com/products/server/chipsets/>.

On System Management Chipset HP iLO (Firmware HP iLO4 2.0) 4GB NAND
NOTE: 1GB USB user space configurable via UEFI and accessible via iLO. Read and learn more in the [iLO QuickSpecs](#).

Memory Type:
HP SmartMemory
DDR4 Registered (RDIMM) or Load Reduced (LRDIMM)
DIMM Slots Available 24 (12 DIMM slots per processor, 4 channels per processor, 3 DIMMs per channel)
Maximum Capacity 1.5TB (24 x 64GB LRDIMM @2133MHz) (LRDIMM)
Maximum Capacity 768GB (24 x 32GB RDIMM @2133MHz) (RDIMM)
NOTE: 64GB LRDIMMs, feature support available in June 2015.

Standard Features

| | | |
|--------------------------|--------------|--|
| Memory Protection | Advanced ECC | Advanced ECC uses single device data correction to detect and correct single and all multibit error that occurs within a single DRAM chip. |
| | Online spare | Memory online spare mode detects a rank that is degrading and switches operation to the spare rank. |

| | |
|---------------------------|-------------------------------------|
| Network Controller | HP 1Gb Ethernet 4-port 331i Adapter |
|---------------------------|-------------------------------------|

Expansion Slots

| Expansion Slots # | Technology | Bus Width | Connector Width | Bus Number | Form Factor | Notes |
|-------------------|------------|-----------|-----------------|------------|-------------------------------|-----------------|
| 9 | PCIe 3.0 | x4 | x8 | | Full length, full height slot | For processor 2 |
| 8 | PCIe 3.0 | x16 | x16 | | Full length, full height slot | For processor 2 |
| 7 | PCIe 3.0 | x4 | x8 | | Full length, full height slot | For processor 2 |
| 6 | PCIe 3.0 | x16 | x16 | | Full length, full height slot | For processor 2 |
| 5 | PCIe 2.0 | x4 | x8 | | Half length, full height slot | For processor 2 |
| 4 | PCIe 3.0 | x4 | x8 | 0 | Full length, full height slot | For processor 1 |
| 3 | PCIe 3.0 | x16 | x16 | 0 | Full length, full height slot | For processor 1 |
| 2 | PCIe 3.0 | x4 | x8 | 0 | Full length, full height slot | For processor 1 |
| 1 | PCIe 3.0 | x8 | x16 | 0 | Full length, full height slot | For processor 1 |

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number.

NOTE: Nine total expansion slots. Three PCIe 3.0 x16 (x16 speed); One PCIe 3.0 x16 (x8 speed); Four PCIe 3.0 x8 (x4 speed); One PCIe 2.0 x8 (x4 speed).

| | | |
|---|--------------------|------------------------------------|
| Storage Controller One of the following depending on model | Entry Models | HP Dynamic Smart Array B140i |
| | Base Models | HP Flexible Smart Array P440ar/2GB |
| | Performance Models | HP Flexible Smart Array P440ar/2GB |
| | | |

Standard Features

| | | |
|--|--------------------------------|--|
| 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 entry, base and performance BTO models. |
| | Hard Drives Hard Drive Bays | None ship standard (8) Hot plug SFF SAS/SATA HDD bays; upgradable to (48) (8) Hot Plug LFF SAS/SATA HDD Bays; upgradable to (24) NOTE: All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HP SFF HDD Blank Kit or P/N 666986-B21: HP LFF HDD Blank Kit. These part numbers for single HDD blanks below are also provided should the customer require replacement HDD blanks for their server. |

| Maximum Internal Storage | | CAPACITY | CONFIGURATION |
|---|-----------------------|----------|---------------|
| One of the following depending on model | Hot Plug LFF SAS | 144TB | 24 x 6TB |
| | Hot Plug LFF SATA | 192TB | 24 x 8TB |
| | Hot Plug SFF SAS | 96TB | 48 x 2TB |
| | Hot Plug SFF SATA | 96TB | 48 x 2TB |
| | Hot Plug SFF SATA SSD | 76.8TB | 48 x 1.6TB |
| | Hot Plug SFF SAS SSD | 92.16TB | 48 x 1.92TB |
| | Hot Plug LFF SATA SSD | 38.4TB | 24 x 1.6TB |

| | |
|--|--|
| Power Supply One of the following depending on model | HP 500W Flex Slot Platinum Hot Plug Power Supply |
| | HP 800W Flex Slot Platinum Hot Plug Power Supply |
| | HP 1400W Flex Slot Platinum Plus Hot Plug Power Supply |
| | HP Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HP ProLiant Gen9 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 with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). 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](http://www.hp.com/go/proliant/powercables) web page.

To review the power requirements for your selected system, please use the HP Power Advisor Tool located at <http://www.hp.com/go/hppoweradvisor>.

Power specifications and technical content for all HP Server power supplies can be found at <http://www.hp.com/go/proliant/powersupply>.

| System Fans | | Non-redundant | Redundant |
|---|--|-------------------------|---------------------|
| One of the following depending on model | 1P model | 3 fans | 6 fans |
| | NOTE: Fan Redundancy is standard in performance model. Option (725878-B21 includes four fans and PCIe baffles are required for fan redundant kit. | | |
| | 2P model | Non-redundant 4 fans | Redundant 8 fans |

Standard Features

| | | |
|-------------------|---|---------------------------------|
| Interfaces | Serial | 1 |
| | Video | 1 (rear) |
| | Network RJ-45 (Ethernet) | 4 |
| | HP iLO Remote Management Network Port | 1 Gb Dedicated |
| | SD Slot | 1 (internal) |
| | NOTE: The Micro-SD slot is not a hot-pluggable device. Customers should not attempt to plug an Micro-SD card into the Micro-SD slot while the server is powered. | |
| | USB 2.0 Ports | 5 (2 front, 2 rear, 1 internal) |
| | USB 3.0 | 3 (2 rear, 1 internal) |
| | | |
| | | |

| | |
|---|---|
| Operating Systems and Virtualization Software Support for ProLiant Servers | Microsoft Windows Server |
| | Canonical Ubuntu |
| | Red Hat Enterprise Linux (RHEL) |
| | SUSE Linux Enterprise Server (SLES) |
| | VMware |

NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page.

| | |
|-----------------------|---|
| Upgradeability | Upgradable for two processors (Up to 18 Cores) |
| | NOTE: Total 4, 6, 8, 10, 12, 14, 16, 18 cores. |
| | Up to 24 DIMM slots available for higher Memory capacity |
| | Up to 48 SFF Hard Drive Bays; Or 24 LFF Hard Drive Bays |
| | 8 PCIe 3.0 and 1 PCIe 2.0 I/O slots for additional communications and storage expansion |
| | Redundant Power Supply and Redundant Fans |
| | Optional optical drive (up to 1) |
| | Optional System Insight Display |

NOTE: Rack model only.

| | |
|-------------------------------------|---|
| Industry Standard Compliance | ACPI 2.0b Compliant |
| | PCIe 3.0 Compliant |
| | PXE Support |
| | WOL Support |
| | Novell Certified |
| | IPMI 2.0, SMASH CLP, DCMI 1.0 compliant |
| | Microsoft® Logo certifications |
| | USB 3.0 Support |
| | SMBIOS 2.7.1 |
| | ASHRAE A3/A4 |

Energy Star

| | |
|-----------------|---|
| Graphics | 16 bit color: maximum resolution of 1600 x 1200 |
| | Integrated Matrox G200 video standard |
| | 32 bit color: maximum resolution of 1280 x 1024 |

- 16 MB Flash
- 256 MB DDR3

Standard Features

HP Server

UEFI/Legacy ROM

HP Server UEFI /Legacy ROM

Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secured configuration while interacting with your server at boot time. HP ProLiant Gen9 platform defaults to UEFI and can be factory or field configured for Legacy BIOS Boot Mode.

NOTE: The UEFI System Utilities function is analogous to the HP ROM-Based Setup Utility (RBSU) of legacy BIOS. For more information, please visit <http://www.hp.com/go/proliantuefi/docs>.

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

- ~~Secure Boot~~
- ~~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 HP RESTful API~~
- ~~PXE boot support for IPv6 networks~~
- ~~Boot support for option cards that only support a UEFI option ROM~~

For more information please visit <http://www.hp.com/go/proliant/uefi>.

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

NOTE: HP UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory.

Form Factor

Tower or Rack (5U)

Embedded Management

HP Integrated Lights-Out (HP iLO)

Monitor your servers for ongoing management, service alerting, reporting and remote management with iLO. Learn more at <http://www.hp.com/go/ilo>.

UEFI

Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI). Learn more at <http://www.hp.com/go/ProLiant/uefi>.

HP RESTful API

RESTful API is an application programming interface. RESTful Web Service API served by iLO's web server. Learn more at <http://www.hp.com/go/restfulapi>.

Intelligent Provisioning

Provision servers by discovering and deploying 1 to few servers with Intelligent Provisioning. Learn more at <http://www.hp.com/go/intelligentprovisioning>.

Embedded Remote Support

HP's embedded remote support, used with Insight Online direct connect or HP Insight Remote Support, allows HP ProLiant servers to transmit hardware events directly to HP or an HP Authorized Partner for automated phone home support. Learn more at <http://www.hp.com/go/insightonline/info>.

Standard Features

Server utilities

- HP Smart Update** Optimize firmware and driver updates with HP Smart Update solutions. Learn more at <http://www.hp.com/go/smartupdate>.
- HP Systems Insight Manager (HP SIM)** HP SIM allows you to monitor the health of your HP ProLiant Servers and HP Integrity Servers, and also provides you with basic support for non-HP servers. HP SIM also integrates with HP SUM to provide quick and seamless firmware updates. Learn more at <http://www.hp.com/go/sim>.
- HP OneView Standard** HP OneView Standard can inventory, monitor, alert, and report on your G6, G7, Gen8, and Gen9 servers, while using the HP OneView user interface. Annual support is optionally available. Learn more at <http://www.hp.com/go/oneview>.
- Scripting Tool Kit and Windows PowerShell** Provision 1 to many servers using your own scripts to discover and deploy them with HP Scripting Tool Kit for Windows and Linux or HP Scripting Tools for Windows PowerShell. Learn more at <http://www.hp.com/go/ProLiantSTK> or <http://www.hp.com/go/powershell>.
- HP RESTful Interface Tool** HP RESTful Interface tool is a scripting tool to provision servers using RESTful API Interface to discover and deploy servers at scale. Learn more at <http://www.hp.com/go/restfulapi>.
- HP 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.hp.com/go/ilo/mobileapp>.
- HP Insight Online** HP Insight Online, available at no additional cost as part of your HP warranty, Care Pack or contractual support agreement with HP, is a personalized dashboard for simplified tracking of IT operations and support information from anywhere, anytime. Learn more at <http://www.hp.com/go/insightonline/info>.
- NOTE:** The Service Pack for ProLiant (which includes HP SUM) can be downloaded from <http://www.hp.com/go/spp/download>. More information can be found: <http://www.hp.com/go/SmartUpdate>, <http://www.hp.com/go/spp> and <http://www.hp.com/go/hpsum>.

Security

Power-on password
Setup password
Serial interface control
Power switch security
Administrator's password
TPM 1.2
UEFI

Standard Features

Warranty

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP 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 HP Care Pack 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. 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 HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>.

Optional Features

| | | |
|--------------------------------------|--|--|
| Embedded Management | iLO Advanced | HP iLO Advanced licenses offer smart remote functionality without compromise, for all HP 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 HP iLO Advanced at http://www.hp.com/go/iloadvanced . |
| Server Management | HP Insight Control | HP Insight Control, lets you deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, see http://www.hp.com/go/insightcontrol . |
| | HP OneView Advanced | HP OneView Advanced is converged management that eliminates infrastructure complexity with automation simplicity. This modern architecture is designed to accelerate your IT operations across servers, storage, and network resources using software-defined approaches and automation, see http://www.hp.com/go/oneview . |
| | HP Insight Cluster Management Utility (CMU) | HP Insight Cluster Management Utility is a hyperscale-optimized management framework that includes software for the provisioning, control, performance management and monitoring of groups of nodes and infrastructure. Learn more at http://www.hp.com/go/cmu . |
| Rack and Power Infrastructure | HP Rack and Power Infrastructure products and services create highly efficient and intelligent solutions for existing or new IT data centers. HP Rack and Power infrastructure solutions – rack infrastructure, power protection and management, performance optimized data centers (PODs) – are the foundation you are looking for to help secure your long-term IT success. These products are designed to help you react to changes in the industry. They deliver efficient, easy-to-use capabilities to manage, monitor, deploy and provision infrastructure from entry to enterprise. As an industry leader, HP is uniquely positioned to address the key concerns of power, cooling, cable management and system access. Learn more at HP Rack and Power Infrastructure . | |
| High Performance Clusters | HP Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and SUSE Linux Enterprise Server, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. http://www.hp.com/go/clusters . HP Insight Cluster Management Utility (CMU) is an HP-licensed and HP-supported suite of tools that are used for lifecycle management of hyperscale clusters of Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. http://www.hp.com/go/cmu . NOTE: High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. http://www.hp.com/techservers/clusters/ucp/index.html . | |

Optional Features

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server under the HP Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand Interconnects: <http://www.hp.com/techservers/clusters/ucp/index.html>.

Storage Software Whether you need to solve a specific data protection, archiving, or storage command and control challenge, or deliver on strategic consolidation, compliance, or continuity initiatives, look no further than HP storage software. Our storage software helps you reduce costs, simplify storage infrastructure, protect vital assets and respond faster to business opportunities.

Storage software that gets the job done:

- **Data Protection and Recovery Software**
Whether you're a large enterprise or a smaller business, HP data protection and recovery software will cost-effectively protect you against disaster and ensure business continuity.
- **Data Archive and Migration Software**
HP's storage software enables you to comply with data retention and retrieval requirements, improve application performance, and reduce costs by efficiently migrating infrequently accessed or less valuable data to lower cost storage.
- **Storage Resource Management Software (SRM)**
HP's storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.
- **Data Replication Software**
HP offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.
- **Storage Device Management Software**
Maximize your investment in HP storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HP StoreVirtual VSA**
With HP StoreVirtual VSA you can use the power of virtualization to create a virtual array within your host server. Manage it as a single pool of shared storage capacity, and scale it to match your evolving needs. HP ProLiant Gen9 servers include a 3-year limited license for HP StoreVirtual VSA software with 1TB of capacity at no extra cost. Simply select to install HP StoreVirtual VSA software during server setup within Intelligent Provisioning. More information, instructional videos, and free console management software are available at <http://www.hp.com/go/vsa1TB>.

NOTE: For more information about Storage Software including QuickSpecs, please see: <http://www.hp.com/go/storage/software>.

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 HP's Customer Business Center or an Authorized Partner for assistance. <http://www.hp.com/products/configurator>.

Service and Support

Service and Support

HP Technology Services for Industry Standard Servers

HP Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HP to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HP Care Pack Services

HP Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

Optimized Care Supports maintaining servers at optimum performance availability

HP Proactive Care with 24x7 coverage, three year Care Pack Service

HP Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to HP. This Care Pack Service combines three years' proactive reporting and advice with our 24x7 coverage and enhanced escalation management, four hour hardware response time and two hour call back for software questions on leading industry standard software running on your HP ProLiant server.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

Standard Care Package

Supports maintaining high level of server availability

Foundation Care 24x7, three-year Care Pack Service

HP Foundation Care 24x7 connects you to HP 24 hours a day, seven days a week for assistance on resolving issues. Hardware onsite response within four hours if needed; collaborative software included in this Care Pack service provides troubleshooting assistance on industry leading software running on your HP server. Simplify your support experience and make HP your first call for hardware or software questions.

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en>

Related Services HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

Factory Express for Servers and storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. For more information on Factory Express services for your specific server model please contact your sales representative or go to: <http://www.hp.com/go/factory-express>.

Data Privacy Services

Protect your data through better media management. HP Data privacy services help manage and protect sensitive data to reduce the risk of unauthorized access to private information and help meet compliance requirements. Our retention services allow you to keep drives and other devices upon failure, our removal services provide convenient data sanitization and our recovery services allow you to safely retire IT assets and capture any remaining value from the hardware.

<http://www.hp.com/services/dataprivacy>

Additional HP Care Pack services can be found at: <http://www.hp.com/go/cpc>

Service and Support

Get connected to HP to improve your support experience Prevent problems with innovative, automated monitoring tools and proactive services. Combining Proactive Care Services with our remote support technology such as Insight Online provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit: <http://www.hp.com/go/proactiveinsightexperience>

HP Support Center Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP'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. HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

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

Parts and Materials HP will provide HP-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 HP due to malfunction.

For more information To learn more on HP ProLiant servers, please contact your HP sales representative or HP Authorized Channel Partner or visit: <http://www.hp.com/services/proliant>



Pre-configured Models

For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

1. Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
2. HP 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.
4. Not all models are available in all regions. Check with your local country HP offices for availability.

NOTE: All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HP SFF Hard Drive Blank Kit or P/N 666986-B21: HP LFF Hard Drive Blank Kit.

NOTE: All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). 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.

Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

| | Entry Models | Base Models |
|-----------------------------|---|---|
| [SKU Number] | 765819-xx1 | 765820-xx1 |
| Model Name | HP ProLiant ML350 Gen9 E5-2609v3 8GB-R B140i 8LFF 500W PS Entry Tower Server | HP ProLiant ML350 Gen9 E5-2620v3 16GB-R P440ar 8SFF 500W PS Base Tower Server |
| Processor | Intel® Xeon® E5-2609v3 | Intel® Xeon® E5-2620v3 |
| Number of Processors | One | |
| Memory | 8GB (1x8GB Registered DIMMs, 2133 MHz) | 16GB (1x16GB Registered DIMMs, 2133 MHz) |
| Network Controller | HP Embedded 1Gb Ethernet 4-port 331i Adapter | |
| Storage Controller | HP Dynamic Smart Array B140i | HP Smart Array P440ar/2G Controller |
| Hard Drive | None ship standard; includes 6 LFF hard drive blanks | None ship standard; includes 6 SFF hard drive blanks |
| Internal Storage | 8 LFF HDD Bays (upgradable to 24) | (8) Hot plug SFF SAS/SATA HDD bays; upgradable to (48) |
| Optical Drive Bay | 1; (Optional: DVD-ROM, DVD-RW) | |
| Optical Drive | Optional Slim Optical Bay (SATA DVD-RW/ROM Optical Drive) | |
| PCI-Express Slots | 9 PCIe slots | |
| Power Supply | (1) HP 500W Flex Slot Platinum Power Supply | |
| Fans | 3 hot plug fans, non-redundant | |
| Management | iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional) | |
| Form Factor | Tower (5U) | |
| Warranty | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response | |

Pre-configured Models

| | Energy Star Models | Performance Models |
|-----------------------------|--|--|
| [SKU Number] | 765821-xx1 | 765822-xx1 |
| Model Name | HP ProLiant ML350 Gen9 2xE5-2630v3 2P 32GB-R P440ar 8SFF 2x800W PS ES Rack Server | HP ProLiant ML350 Gen9 2xE5-2650v3 2P 32GB-R P440ar 8SFF 2x800W PS ES Tower Server |
| Processor | Intel® Xeon® E5-2630v3 | Intel® Xeon® E5-2650v3 |
| Number of Processors | Two | |
| Memory | 32GB (2x16GB Registered DIMMs, 2133 MHz) | |
| Network Controller | HP Embedded 1Gb Ethernet 4-port 331i Adapter | |
| Storage Controller | HP Smart Array P440ar/2G Controller | |
| Hard Drive | None ship standard; includes 6 SFF hard drive blanks | |
| Internal Storage | (8) Hot plug SFF SAS/SATA HDD bays; upgradable to (48) | |
| Optical Drive Bay | 1; (Optional: DVD-ROM, DVD-RW) | Optional Slim Optical Bay (SATA DVD-RW/ROM Optical Drive) |
| Optical Drive | Optional Slim Optical Bay (SATA DVD-RW/ROM Optical Drive) | |
| PCI-Express Slots | 9 PCIe slots | |
| Power Supply | (2) HP 800W Flex Slot Platinum Power Supply | |
| Fans | 8 hot plug fans, redundant | |
| Management | iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional) | |
| Energy Star | Meets Energy Star requirements | |
| Accessories | Rack Kit included | |
| Form Factor | Rack (5U), HP Easy Install Rails | Tower (5U) |
| Warranty | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response | |

| | | |
|-------------------------|-----------|-----------|
| Country Code Key | xx1 = 001 | US |
| | xx1 = 011 | AU |
| | xx1 = 031 | UK |
| | xx1 = 291 | Japan |
| | xx1 = 371 | AP |
| | xx1 = 421 | EU |
| | xx1 = AA1 | PRC |
| | xx1 = B21 | Worldwide |

NOTE: Not all models are available in all regions. Check with your local country HP offices for availability.

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, HP recommends the use of an HP 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)

| [Chassis] | HP ProLiant ML350 Gen9 Hot Plug 8SFF Configure-to-order Rack Server | HP ProLiant ML350 Gen9 Hot Plug 8SFF Configure-to-order Tower Server | HP ProLiant ML350 Gen9 Hot Plug 8LFF Configure-to-order Tower Server |
|--------------------|---|--|--|
| SKU Number | 754534-B21 | 754536-B21 | 754537-B21 |
| Processor | 2 (optional) x HP Smart Socket Guides | | |
| DIMM Slots | 24 DIMM slots for RDIMM, LRDIMM DDR4 Memory | | |
| Storage Controller | HP Dynamic Smart Array B140i | | |
| PCIe | 9 Standard (8 FH/FL, 1 FH/HL) | | |
| Drive Cage | 8SFF Hot Plug | 8LFF Hot Plug | |
| Network Controller | HP Embedded 1Gb Ethernet 4-port 331i Adapter | | |
| Fans | 3 hot plug fans, non-redundant | | |
| Management | iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional) | | |
| USB | 2 front, 2 internal, 4 rear | | |

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

HP Processors

Select one or two processors from Core options-Processor section below:

- ~~If one processor is desired, select one xxxxx-L21~~
- ~~If two processors are desired, select one xxxxx-L21 and one xxxxx-B21.~~
- ~~Up to 2 processors supported. Mixing different processor models is not supported.~~
- ~~DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.~~

For the Intel® C600 Chipset E5-2600 Series, the letter preceding the model number indicates the Product Line (E3, E5, E7); 2600x v#, 2 = number of CPUs in a Node, 6 is socket/segment designation, 00 = Processor SKU, x = L for low power SKUs and v# (not yet designated) = version number.

HP Memory

Select one or more memory from Core options-Memory section below:

- ~~LRDIMM, RDIMM are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen9 servers support LRDIMM and RDIMM.~~
- ~~HP memory from previous generation servers are not qualified or warranted with this HP ProLiant Server. HP SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen9.~~
- ~~If only one processor is installed, only half of the total DIMM slots are available. When populating with two processors all DIMM slots are available.~~
- ~~Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: <http://www.hp.com/go/proliant-energy-efficient>.~~



Configuration Information - Factory Integrated Models

HP Power Supplies

- Depending on the memory configuration and processor model, the memory speed may run at 2133MHz, 1866MHz, 1600MHz or 1333MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: <http://www.hp.com/go/ddr4memory-configurator>.
- Select one or more power supplies from Core Options-Power Supplies section below:
 - Prior to selecting a power supply option, it is highly recommended that you review your server configuration in the HP Power Advisor tool to determine the right size power supply for your server configuration. The HP Power Advisor is located at: <http://www.hp.com/go/hppoweradvisor>.
 - Mixing of power supplies in the same server 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.

Step 3: Choose Additional Factory Integratable Options

HP Networking

- Select a standup NIC adapter from Core options-Networking section below:
 - Please see the QuickSpecs for Technical Specifications and additional information: <http://www.hp.com/go/ProLiantNICs>.
 - These options are upgradeable and can be changed from the original configuration after the server is shipped.
 - For 10Gb adapters, a minimum of two Gigabytes (2 GB) of server memory is required per each adapter.

HP Drives

- Select one or more drives from Core options-HP Drives section below:
 - The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.
 - Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.
 - The HP ProLiant Gen9 Smart Storage solutions are equipped with re-designed Small Form Factor (SFF 2.5 in) and Large Form Factor (LFF 3.5 in) hot plug carriers for HP Qualified Hard Drives and Solid State Drives. These new carriers provide status and activity indicators as well as caution indicators for "Do Not Remove".

HP Graphics Options

- Select one or more graphics adapter from Additional options section below:
 - Please see the HP Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HP Power Advisor is located at: <http://www.hp.com/go/hppoweradvisor>.
 - This section may contain FIO options, please see HP Computation & Graphics Accelerators section below.

HP Unique Options

- Select one or more Unique options from Core options section below:
 - This section may contain FIO options, please see the Unique options section below.
 - FIO indicates that this option is only available as a factory installable option.

HP Cooling Options

- Select one or more Fan Kits from Core options section below:
 - This section may contain FIO options, please see HP Cooling Options section below.
 - FIO indicates that this option is only available as a factory installable option.

HP Storage Controllers

- Select one or more Storage options from Additional options section below:
 - The embedded B140i controller will operate in UEFI only mode. For legacy support an additional controller will be needed, and for CTO orders please also select the Legacy mode settings part, 758959-B22
 - This section may contain FIO options, please see HP Storage Controllers section below.
 - FIO indicates that this option is only available as a factory installable option.

HP Rail Kits

- Select one type of rail kit from Additional options section below:
 - Please take a moment to review the installation documentation that comes with the

Configuration Information - Factory Integrated Models

server to help you with the installation of your Gen9 server.

- To assist in the installation of the server into the rack, an optional installation tool is available by contacting your local services representative (p/n 695539-001).
- See HP Rack Options in Additional Options section of this QuickSpecs for more rack kit choices.

Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

Core Options

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

| | | |
|--------------------------|--|------------|
| HP Unique Options | HP ML350 Gen9 8SFF Hard Drive Cage Kit | 778157-B21 |
| | NOTE: Add'l 8SFF Hard Drive Cage, allowing for up 48SFF Drive Bays. | |
| | HP ML350 Gen9 8LFF Hot Plug Drive Cage Kit | 726547-B21 |
| | NOTE: Add'l 8LFF Hard Drive backplane allowing for up 24FF Drive Bays. | |
| | HP ML350 Gen9 Redundant Fan Kit | 725878-B21 |
| | NOTE: Add'l 4 fans for redundancy. | |
| | HP ML350 Gen9 Flexible Smart Array Controller Mini-SAS Cable Kit | 765652-B21 |
| | NOTE: Mini-SAS Cable Kit for FlexibleSmart Array Controller. | |
| | HP ML350 Gen9 Smart Array Cable Kit | 765650-B21 |
| | NOTE: Mini-SAS Cable Kit for stand up P series Smart Array Card. | |
| | HP ML350 Gen9 LFF Media Cage Kit | 726561-B21 |
| | NOTE: Cage for converting LFF drive bays to a media device. Supports 1*Half-Height tape storage/ Disk-Based Backup device. (RDX) | |
| | HP ML350 Gen9 SFF Media Cage Kit | 726545-B21 |
| | NOTE: Cage for converting SFF drive bays to a media device. Supports 2*Half-Height/ 1*Full-Height tape storage/ Disk-Based Backup device (RDX). | |
| | HP ML350 Gen9 Host Bus Adapter Mini-SAS Cable Kit | 765648-B21 |
| | NOTE: Mini-SAS Cable kit for Host Bus Adapter. | |
| | HP ML350 Gen9 Graphic Card Support Kit | 726565-B21 |
| | NOTE: Cables and brackets for supporting graphic cards. | |
| | HP ML350 Gen9 Tower to Rack Conversion Kit | 726567-B21 |
| | NOTE: For converting a tower model to a rack model. | |
| | HP ML350 Gen9 System Insight Display Kit | 726563-B21 |
| | NOTE: For rack model only. | |
| | HP 12Gb SAS Expander Card for ML350 Gen9 | 769635-B21 |
| | NOTE: The SAS Expander card supports 24 drives. The SAS Expander card must be used in conjunction with an HP Smart Array P840 or P440 controller, or an H240 Host Bus Adapter. The SAS Expander card cannot be connected to H240ar or P440ar Flexible Smart Array Controller cards. The SAS Expander kit includes two cables to connect from the Smart Array controller or HBA to the SAS Expander and the other to connect from the Expander to the HDD backplane. It DOES NOT support tape storage/ Disk-Based Backup device. (RDX) | |
| | HP ML350 Gen9 2nd Expander FIO Kit | 769637-B21 |
| | NOTE: 2nd Expander FIO Kit (769637-B21) is for factory integrated only and support for 25-48 HDDs, cannot be selected when 1st Expander Kit (769635-B21) is not in order. When 769637-B21 (2nd Expander FIO Kit) is selected, then 2nd CPU (-B21 processor) and (725870-B21) X4 RPS Enablement FIO Kit and P840 controller must be ordered. Can't support tape storage/ Disk-Based Backup device. (RDX) | |
| | HP ML350 Gen9 Mini SAS Cable FIO Kit | 765654-B21 |
| | NOTE: Support with embedded controller | |
| | HP ML350 Gen9 X4 RPS Enablement Kit | 802988-B21 |
| | NOTE: If Power supply selection qty is more than two, then X4 RPS Enablement Kit must be selected. And this option is not supported with 720478-B21 (HP 500W FS Plat Ht Plg Pwr Supply Kit). | |

Core Options

HP ML350 Gen9 NVMe 6 Solid State Drive Express Bay Enablement Kit 726551-B21

NOTE: Support for SFF chassis SKU only. Maximum installation of NVMe express bay in ML350 Gen9 is one - installation limited to Box 1 or Box 4 for optimized cooling, which supports up to 6 SFF NVMe PCIe SSDs. One express bay bridge card is included in the enablement kit, with installation limited to PCIe slot 3, 6 or 8. If slot 6 or 8 is selected, a 2nd processor must be installed.

For NVMe PCIe SSD selection, refer to drive section in this document.

HP Processors

Entry Processors - E5-2600v3 series Processors

HP ML350 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) Processor Kit 726664-B21

HP ML350 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) FIO Processor Kit 726664-L21

HP ML350 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) Processor Kit 726661-B21

HP ML350 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) FIO Processor Kit 726661-L21

Base Processors - E5-2600v3 series Processors

HP ML350 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) FIO Processor Kit 726658-L21

HP ML350 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) FIO Processor Kit 726651-L21

HP ML350 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) FIO Processor Kit 726654-L21

HP ML350 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) FIO Processor Kit 726671-L21

HP ML350 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) FIO Processor Kit 779834-L21

HP ML350 Gen9 Intel® Xeon® E5-2637v3 (3.5GHz/4-core/15MB/135W) FIO Processor Kit 726686-L21

HP ML350 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) Processor Kit 726651-B21

HP ML350 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) Processor Kit 726658-B21

HP ML350 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) Processor Kit 726654-B21

HP ML350 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) Processor Kit 726671-B21

HP ML350 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) Processor Kit 779834-B21

HP ML350 Gen9 Intel® Xeon® E5-2637v3 (3.5GHz/4-core/15MB/135W) Processor Kit 726686-B21

Performance Processors - E5-2600v3 series Processors

Core Options

| | |
|---|------------|
| HP ML350 Gen9 Intel® Xeon® E5-2690v3 (2.6GHz/12-core/30MB/135W) FIO Processor Kit | 726636-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 726639-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) FIO Processor Kit | 726642-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) FIO Processor Kit | 726645-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) FIO Processor Kit | 726648-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) FIO Processor Kit | 726668-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2697v3 (2.6GHz/14-core/35MB/145W) FIO Processor Kit | 726674-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2695v3 (2.3GHz/14-core/35MB/120W) FIO Processor Kit | 726677-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2667v3 (3.2GHz/8-core/20MB/135W) FIO Processor Kit | 726680-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2643v3 (3.4GHz/6-core/20MB/135W) FIO Processor Kit | 726683-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2683v3 (2GHz/14-core/35MB/120W) FIO Processor Kit | 765794-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2699v3 (2.3GHz/18-core/45MB/145W) FIO Processor Kit | 781828-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2698v3 (2.3GHz/16-core/40MB/135W) FIO Processor Kit | 781830-L21 |
| HP ML350 Gen9 Intel® Xeon® E5-2690v3 (2.6GHz/12-core/30MB/135W) Processor Kit | 726636-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) Processor Kit | 726639-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) Processor Kit | 726642-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) Processor Kit | 726645-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) Processor Kit | 726648-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) Processor Kit | 726668-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2697v3 (2.6GHz/14-core/35MB/145W) Processor Kit | 726674-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2695v3 (2.3GHz/14-core/35MB/120W) Processor Kit | 726677-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2667v3 (3.2GHz/8-core/20MB/135W) Processor Kit | 726680-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2643v3 (3.4GHz/6-core/20MB/135W) Processor Kit | 726683-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2683v3 (2GHz/14-core/35MB/120W) Processor Kit | 765794-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2699v3 (2.3GHz/18-core/45MB/145W) Processor Kit | 781828-B21 |
| HP ML350 Gen9 Intel® Xeon® E5-2698v3 (2.3GHz/16-core/40MB/135W) Processor Kit | 781830-B21 |

Core Options

HP Memory

Registered DIMMs (RDIMMs) for E5-2600v3 Series

HP 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit 726717-B21

HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit 726718-B21

HP 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit 759934-B21

HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit 726719-B21

HP 32GB (1x32GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit 728629-B21

Load Reduced DIMMs (LRDIMMs) for E5-2600v3 Series

HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit 726720-B21

HP 32GB (1x32GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit 726722-B21

HP 64GB (1x64GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit 726724-B21

HP Optical Drives

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

HP 9.5mm SATA DVD-RW JackBlack G9 Optical Drive 726537-B21

HP Drives

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive 718162-B21

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652589-B21

HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 759212-B21

HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652583-B21

HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 759210-B21

HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652572-B21

HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 759208-B21

HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652564-B21

HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652605-B21

HP 600GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 781516-B21

HP 1.2TB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 781518-B21

HP 300GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 785067-B21

HP 900GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 785069-B21

Core Options

| | |
|---|------------|
| HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC 512e Enterprise 3yr Warranty Hard Drive | 748387-B21 |
| HP 1.8TB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 512e 3yr Warranty Hard Drive | 791034-B21 |
| SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives | |
| HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 652749-B21 |
| HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 652745-B21 |
| HP 1TB 12G SAS 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765464-B21 |
| HP 2TB 12G SAS 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765466-B21 |
| SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives | |
| HP 450GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive | 737394-B21 |
| HP 300GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive | 737261-B21 |
| HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive | 765424-B21 |
| HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive | 793699-B21 |
| HP 8TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive | 793703-B21 |
| SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives | |
| HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 761477-B21 |
| HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 695510-B21 |
| HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 652766-B21 |
| HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 652757-B21 |
| HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 652753-B21 |
| HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive | 765257-B21 |
| HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive | 765259-B21 |
| HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive | 793669-B21 |
| HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive | 793671-B21 |
| SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives | |
| HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 655710-B21 |
| HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 655708-B21 |
| HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765453-B21 |
| HP 2TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765455-B21 |
| SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives | |

Core Options

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|---|------------|
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 753874-B21 |
| HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 693687-B21 |
| HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 628061-B21 |
| HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 658079-B21 |
| HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 657750-B21 |
| HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 658071-B21 |
| HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive | 765253-B21 |
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive | 765255-B21 |
| HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drives | 793665-B21 |
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive | 793667-B21 |
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive | 793683-B21 |
| HP 8TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive | 793695-B21 |
| 12G SAS Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives | |
| HP 1.6TB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762263-B21 |
| HP 800GB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762261-B21 |
| HP 200GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive | 802578-B21 |
| HP 400GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive | 802582-B21 |
| HP 800GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive | 802586-B21 |
| HP 1.92TB 12G SAS Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive | 802891-B21 |
| 12G SAS Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives | |
| HP 800GB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762270-B21 |
| HP 1.6TB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762272-B21 |
| 12G SAS Mainstream Endurance Hot Plug SFF (2.5-inch) Enterprise Mainstream H2 Solid State Drives | |
| HP 1.6TB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive | 779176-B21 |
| HP 800GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive | 779172-B21 |
| HP 400GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive | 779168-B21 |
| HP 200GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive | 779164-B21 |
| 6G SATA Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives | |

Core Options

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| HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691868-B21 |
| HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691866-B21 |
| HP 200GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691864-B21 |
| HP 100GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691862-B21 |
| HP 240GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive | 789135-B21 |
| HP 480GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive | 789145-B21 |
| HP 960GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive | 789155-B21 |
| 6G SATA Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives | |
| HP 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717973-B21 |
| HP 600GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 739898-B21 |
| HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717971-B21 |
| HP 300GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 739888-B21 |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717969-B21 |
| HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 757339-B21 |
| 6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Value G1 Solid State Drives | |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive | 756636-B21 |
| HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive | 756657-B21 |
| HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive | 756660-B21 |
| 6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Value M1 Solid State Drives | |
| HP 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive | 764929-B21 |
| HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive | 764927-B21 |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive | 764925-B21 |
| HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive | 764923-B21 |
| 6G SATA Hot Plug SFF (2.5-inch) Enterprise Light G1 Solid State Drives | |
| HP 960GB 6G SATA Light Endurance SFF 2.5-in SC Enterprise Light 3yr Wty G1 Solid State Drive | 756601-B21 |
| 6G SATA Hot Plug SFF (2.5-inch) Enterprise Boot Solid State Drives | |

Core Options

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| HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive | 717965-B21 |
| HP 80GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive | 734360-B21 |
| HP 80GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804575-B21 |
| HP 120GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804581-B21 |
| HP 240GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804587-B21 |
| HP 480GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804593-B21 |
| HP 800GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804599-B21 |
| HP 1.6TB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804605-B21 |
| HP 200GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804613-B21 |
| HP 800GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804625-B21 |
| HP 1.6TB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804631-B21 |
| HP 480GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 832414-B21 |
| HP 200GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804639-B21 |
| HP 400GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804665-B21 |
| HP 800GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804671-B21 |
| HP 1.2TB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive | 804677-B21 |
| HP 400GB NVMe PCIe Write Intensive SFF 2.5-in SC2 3yr Wty Solid State Drive | 736936-B21 |
| HP 800GB NVMe PCIe Write Intensive SFF 2.5-in SC2 3yr Wty Solid State Drive | 736939-B21 |
| 6G SATA Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives | |
| HP 800GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691860-B21 |
| HP 400GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691856-B21 |
| HP 200GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691854-B21 |
| HP 100GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691852-B21 |
| HP 240GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive | 789137-B21 |
| HP 480GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive | 789147-B21 |
| HP 960GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive | 789157-B21 |
| HP 240GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804590-B21 |
| HP 200GB 6G SATA Mixed Use-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804616-B21 |
| HP 800GB 6G SATA Mixed Use-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804628-B21 |
| HP 1.6TB 6G SATA Mixed Use-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804634-B21 |
| HP 480GB 6G SATA Mixed Use-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 832417-B21 |

Core Options

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| HP 200GB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804642-B21 |
| HP 400GB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804668-B21 |
| HP 1.2TB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804680-B21 |
| HP 800GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804602-B21 |
| HP 1.6TB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804608-B21 |
| 6G SATA Hot Plug LFF Value Endurance (3.5-inch) Converter Enterprise Value G1 Solid State Drives | |
| HP 80GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804578-B21 |
| HP 120GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804584-B21 |
| HP 480GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804596-B21 |
| HP 800GB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive | 804674-B21 |
| 6G SATA Hot Plug LFF Value Endurance (3.5-inch) Converter Enterprise Value M1 Solid State Drives | |
| HP 800GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty M1 Solid State Drive | 764945-B21 |
| HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty M1 Solid State Drive | 764943-B21 |
| HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty M1 Solid State Drive | 764941-B21 |
| HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty M1 Solid State Drive | 764939-B21 |
| 6G SATA Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives | |
| HP 800GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 718189-B21 |
| HP 600GB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive | 739900-B21 |
| HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 718183-B21 |
| HP 300GB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive | 739890-B21 |
| HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 718177-B21 |
| HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive | 757342-B21 |
| 6G SATA Hot Plug LFF (3.5-inch) Enterprise Light G1 Solid State Drives | |
| HP 960GB 6G SATA Light Endurance LFF 3.5-in SC Converter ENT Light 3yr Wty G1 Solid State Drive | 756604-B21 |
| 6G SATA Hot Plug LFF (3.5-inch) Enterprise Boot Solid State Drives | |
| HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive | 718171-B21 |
| HP 80GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive | 734362-B21 |
| NVMe PCIe Mixed Use SSDs | |

Core Options

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| HP 800GB NVMe PCIe Mixed Use SFF 2.5-in SC2 3yr Wty Solid State Drive | 765036-B21 |
| HP 400GB NVMe PCIe Mixed Use SFF 2.5-in SC2 3yr Wty Solid State Drive | 765034-B21 |
| HP 1.2TB NVMe PCIe Read Intensive SFF 2.5-in SC2 3yr Wty Solid State Drive | 764906-B21 |

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| HP 400GB NVMe PCIe Read Intensive SFF 2.5-in SC2 3yr Wty Solid State Drive | 764904-B21 |
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NOTE: ML350 Gen9 6SFF Express Bay Enablement Kit (726551-B21) must be selected if any of above NVMe PCIe SSD is selected.

M.2 SSD

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| HP Dual 120GB Value Endurance Solid State M.2 Enablement Kit for ProLiant ML/DL Servers | 777894-B21 |
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| HP 120GB Value Endurance Solid State M.2 Enablement Kit for ProLiant ML/DL Servers | 788028-B21 |
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Rules:

1 If this option is selected, then Optical drives CANNOT be selected.

Remarks:

M.2 SSD ML-DL Enablmt Kit can be built RAID 0, 1 by using B140i controller.

- When HP 120GB M.2 SSD ML-DL Dual Enablmt Kit is ordered, then it can support RAID 0, 1.

- When HP 120GB M.2 SSD ML-DL Sngl Enablmt Kit is ordered, then it can support RAID 0.

NOTE: M.2 SSD ML-DL Enablmt Kit CANNOT support RAID setting when AROC card (P440ar or H240ar) is selected. Embedded B140i controller cannot be used when AROC is ordered.

Hard Drive Blank Kits

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| HP Large Form Factor Hard Drive Blank Kit | 666986-B21 |
| HP Small Form Factor Hard Drive Blank Kit | 666987-B21 |

Hard Drive Kits

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| HP ML350 Gen9 SFF Media Cage Kit | 726545-B21 |
| HP ML350 Gen9 8LFF Hot Plug Drive Cage Kit | 726547-B21 |
| HP ML350 Gen9 LFF Media Cage Kit | 726561-B21 |
| HP ML350 Gen9 8SFF Hard Drive Cage Kit | 778157-B21 |

HP Networking

1 Gigabit Ethernet adapters

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

10 Gigabit Ethernet adapters

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|---|------------|
| HP Ethernet 10Gb 2-port 560SFP+ Adapter | 665249-B21 |
| HP Ethernet 10Gb 2-port 530T Adapter | 656596-B21 |
| HP Ethernet 10Gb 2-port 530SFP Adapter | 652503-B21 |
| HP Ethernet 10Gb 2-port 561T Adapter | 716591-B21 |
| HP Ethernet 10Gb 2-port 546SFP+ Adapter | 779793-B21 |
| HP Ethernet 10Gb 2-port 557SFP+ Adapter | 788995-B21 |

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| HP InfiniBand HP InfiniBand FDR 2-port 545QSFP Adapter | 702211-B21 |
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Core Options

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|---|---|------------|
| HP Power Supplies | HP Flex Slot Platinum Hot-plug Power supplies | |
| | HP 500W Flex Slot Platinum Hot Plug Power Supply Kit | 720478-B21 |
| | HP 800W Flex Slot Platinum Hot Plug Power Supply Kit | 720479-B21 |
| | HP 1400W Flex Slot Platinum Plus Hot Plug Power Supply Kit | 720620-B21 |
| | HP 800W Flex Slot -48VDC Hot Plug Power Supply Kit | 720480-B21 |
| | HP 800W Flex Slot Titanium Hot Plug Power Supply Kit | 720482-B21 |
| | HP 800W Flex Slot Universal Hot Plug Power Supply Kit | 720484-B21 |
| | HP ML350 Gen9 X4 RPS Enablement Kit | 802988-B21 |
| | NOTE: If Power supply selection qty is more than two, then X4 RPS Enablement Kit must be selected, can NOT support 720478-B21 (HP 500W FS Plat Ht Plg Pwr Supply Kit). | |
| HP Computation and Graphics Accelerators | HP ML350 Gen9 Graphic Card Support Kit | 726565-B21 |
| | NOTE: One Graphic Card Support Kit- 726565-B21 is required for each computation or graphics accelerator except K2200. | |
| | HP NVIDIA Quadro K2200 Graphics Accelerator | J0G89A |
| | HP NVIDIA Quadro K4200 Graphics Accelerator | J0G90A |
| | NOTE: A maximum of four of these cards can be selected. Each requires one Graphic Card Support Kit (726565-B21). | |
| | HP NVIDIA Quadro K5200 GPU Graphics Accelerator | J0G91A |
| | NOTE: A maximum of four of these cards can be selected. Each requires one Graphic Card Support Kit (726565-B21). | |
| | NVIDIA Quadro K6000 PCI-E Graphics Adapter | 730874-B21 |
| | NOTE: A maximum of four of these cards can be selected. Each requires one Graphic Card Support Kit (726565-B21). | |
| | NOTE: If this SKU is selected then minimum quantity = 2 of 800W Power Supply Kit (725870-B21) must be selected. | |
| | NVIDIA Tesla K40C 12GB Computational Accelerator | 753960-B21 |
| | NOTE: A maximum of four of these cards can be selected. Each requires one Graphic Card Support Kit (726565-B21). | |
| | NOTE: If this SKU is selected then minimum quantity = 2 of 800W Power Supply Kit (725870-B21) must be selected. | |
| | HP NVIDIA Quadro M6000 Graphics Accelerator | J0G92A |
| | NOTE: Requires one ML350 Gen9 Graphic Card Support Kit (726565-B21). | |
| | HP AMD FirePro W7100 Accelerator Kit | J0H10A |
| | NOTE: Requires one ML350 Gen9 Graphic Card Support Kit (726565-B21). | |
| | NOTE: If more than two Double Wide Graphics options are selected, then HP ML350 Gen9 X4 RPS Enablement Kit must be selected. | |
| | NOTE: Only the above listed Graphics cards are HP standard supported options in this server. | |
| | NOTE: The NVIDIA Quadro modules are supported only on 64-bit versions of Linux and Windows operating systems as well as on Virtual Machine client operating systems. The supported bare metal operating systems are RHEL6, SLES 11 and Windows Server 2012 R2. | |
| | NOTE: Please see the HP Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HP Power Advisor is located at: http://www.hp.com/go/hppoweradvisor . | |
| HP Cooling Options | HP ML350 Gen9 Redundant Fan Kit | 725878-B21 |
| | NOTE: 4 fans are included. | |



Additional Options

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of the approved configurator. Contact your local sales representative for additional information.

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| HP Insight Software | HP Insight Control | |
| | HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License | C6N27A |
| | HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License | C6N28ABE |
| | NOTE: The Electronic software license is available in EMEA only. | |
| | HP Insight Control Server Provisioning Media Kit | BD883A |
| | HP Insight Management Media Kit | C6N31A |
| | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License | C6N36A |

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| Embedded Management | HP iLO Advanced | |
| | HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates | BD505A |
| | HP iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU | E6U59ABE |
| | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 512485-B21 |
| | HP iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU | E6U64ABE |
| | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License | C6N36ABE |

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| High Performance Clusters | HP Cluster Management Utility | |
| | HP Insight Cluster Management Utility 1yr 24x7 Flexible License | QL803B |
| | HP Insight Cluster Management Utility 3yr 24x7 Flexible License | BD476A |
| | NOTE: These part numbers can be used to purchase one certificate for multiple licenses and support with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. Customer also will receive a support agreement. | |
| | HP Insight Cluster Management Utility Media | BD477A |

Additional Options

HP PCIe Workload Accelerator Value Endurance (VE) PCIe Workload Accelerators

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|----------------------------|---|------------|
| Accelerator Options | HP 6.4TB FH/HL Value Endurance (VE) PCIe Workload Accelerator | 763840-B21 |
| | HP 3.2TB HH/HL Value Endurance (VE) PCIe Workload Accelerator | 763838-B21 |
| | HP 1.6TB HH/HL Value Endurance (VE) PCIe Workload Accelerator | 763836-B21 |
| | HP 1.3TB HH/HL Value Endurance (VE) PCIe Workload Accelerator | 763834-B21 |

Light Endurance (LE) PCIe Workload Accelerators

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| | HP 5.2TB FH/HL Light Endurance (LE) PCIe Workload Accelerator | 775672-B21 |
| | HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator | 775670-B21 |
| | HP 1.3TB HH/HL Light Endurance (LE) PCIe Workload Accelerator | 775668-B21 |
| | HP 1.0TB HH/HL Light Endurance (LE) PCIe Workload Accelerator | 775666-B21 |

NVMe PCIe Workload Accelerators

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| | HP 2.0TB NVMe Mixed Use HH/HL PCIe Workload Accelerator | 803204-B21 |
| | HP 1.6TB NVMe Write Intensive HH/HL PCIe Workload Accelerator | 803197-B21 |
| | HP 1.6TB NVMe Mixed Use HH/HL PCIe Workload Accelerator | 803202-B21 |
| | HP 800GB NVMe Write Intensive HH/HL PCIe Workload Accelerator | 803195-B21 |
| | HP 800GB NVMe Mixed Use HH/HL PCIe Workload Accelerator | 803200-B21 |

HP Security

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|--|-----------------------------------|------------|
| | HP Trusted Platform Module Option | 488069-B21 |
| | HP Security Bezel Kit | 660584-B21 |

NOTE: Rack model only.

NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: <http://www.hp.com/go/TPM>.

NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.

NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

HP Storage Controllers

SAS Controllers

HP Smart Array Controllers

| | | |
|--|--|------------|
| | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int SAS Controller | 726736-B21 |
|--|--|------------|

NOTE: Provides support for up to 8 internal SAS/SATA drives without using a PCIe slot.

NOTE: Includes the HP Smart Storage Battery.

| | | |
|--|--|------------|
| | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller | 749974-B21 |
|--|--|------------|

NOTE: Provides support for up to 8 internal SAS/SATA drives without using a PCIe slot.

NOTE: Includes the HP Smart Storage Battery.

| | | |
|--|---|------------|
| | HP Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller | 726821-B21 |
|--|---|------------|

NOTE: Provides support for up to 8 internal SAS/SATA drives, consumes 1 PCIe slot.

| | | |
|--|--|------------|
| | HP Smart Array P441/4GB FBWC 12Gb 2-ports Ext SAS Controller | 726825-B21 |
|--|--|------------|

| | | |
|--|---|------------|
| | HP Smart Array P440/4GB FBWC 12Gb 1-port Int FIO SAS Controller | 761872-B21 |
|--|---|------------|

NOTE: Includes the HP Smart Storage Battery.

| | | |
|--|--|------------|
| | HP Smart Array P840/4GB FBWC 12Gb 2-ports Int SAS Controller | 726897-B21 |
|--|--|------------|

| | | |
|--|--|------------|
| | HP Smart Array P840/4GB FBWC 12Gb 2-ports Int FIO SAS Controller | 761874-B21 |
|--|--|------------|

NOTE: Includes the HP Smart Storage Battery.



Additional Options

| | |
|--|------------|
| HP Smart Array P841/4GB FBWC 12Gb 4-ports Ext SAS Controller | 726903-B21 |
| HP H240ar 12Gb 2-ports Int Smart Host Bus Adapter | 726757-B21 |
| NOTE: Provides support for up to 8 internal SAS/SATA drives without using a PCIe slot. | |
| HP H240ar 12Gb 2-ports Int FIO Smart Host Bus Adapter | 749976-B21 |
| NOTE: Provides support for up to 8 internal SAS/SATA drives without using a PCIe slot. | |
| NOTE: FIO indicates factory integrated option via CTO. | |
| HP H240 12Gb 2-ports Int Smart Host Bus Adapter | 726907-B21 |
| HP H240 12Gb 2-ports Int FIO Smart Host Bus Adapter | 761873-B21 |
| HP H241 12Gb 2-ports Ext Smart Host Bus Adapter | 726911-B21 |
| HP ML350 Gen9 2nd Expander Card | 811216-B21 |
| HP 12Gb SAS Expander Card for ML350 Gen9 | 769635-B21 |
| NOTE: The SAS Expander Card Kit cannot support H240ar or P440ar AROC cards. It contains three cables from expander card to HDD backplanes, and one cable from SA or HBA to expander card. | |
| HP SmartCache No Media 24x7 Technical Support 1 Svr License | D7S26A |
| HP SmartCache No Media 24x7 Technical Support Flexible License | D7S27A |
| HP SmartCache No Media 24x7 Technical Support Electronic License | D7S27AAE |
| HP Secure Encryption No Media Flexible License per Drive | D8S84A |
| HP Secure Encryption No Media E-LTU per Drive | D8S85AAE |
| SAS Controller Options | |
| HP 96W Smart Storage Battery with 145mm Cable for DL/ML/SL Servers | 727258-B21 |
| HP Cable Options | |
| HP ML350 Gen9 Host Bus Adapter Mini-SAS Cable Kit | 765648-B21 |
| HP ML350 Gen9 Smart Array Cable Kit | 765650-B21 |
| HP ML350 Gen9 Flexible Smart Array Controller Mini-SAS Cable Kit | 765652-B21 |
| HP ML350 Gen9 Mini SAS Cable FIO Kit | 765654-B21 |

HP Tape Backup **NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: <http://www.hp.com/go/tape>. For hardware and software compatibility of HP tape backup products see: <http://www.hp.com/storage/SPOCK> and <http://www.hp.com/go/ebs>.

Tape Drives

| | |
|---|--------|
| HP StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive | EH964A |
| HP StoreEver LTO-6 Ultrium 6650 SAS Internal Tape Drive | EH963A |
| HP StoreEver LTO-6 Ultrium 6250 External Tape Drive | EH970A |
| HP StoreEver LTO-6 Ultrium 6250 Internal Tape Drive | EH969A |
| HP StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader | C0H19A |
| HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit | C0L99A |
| HP StoreEver LTO-3 Ultrium 920 SAS External Tape Drive | EH848B |
| HP StoreEver LTO-3 Ultrium 920 SAS Internal Tape Drive | EH847B |
| HP StoreEver LTO-4 Ultrium 1760 SAS External Tape Drive | EH920B |
| HP StoreEver LTO-4 Ultrium 1760 SAS Internal WW Tape Drive | EH919B |
| HP StoreEver LTO-4 Ultrium 1760 SAS (1) in 1U Rack-mount Kit | EH946C |
| HP StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive | EH958B |
| HP StoreEver LTO-5 Ultrium 3000 SAS Internal Tape Drive | EH957B |
| HP StoreEver LTO-5 Ultrium 3000 SAS Tape Drive in 1U Rack-mount | EJ014B |
| HP StoreEver LTO-5 Ultrium 3280 SAS External Tape Drive | EH900B |
| HP StoreEver LTO-5 Ultrium 3280 SAS Internal Tape Drive | EH899B |
| HP StoreEver LTO-5 Ultrium 3280 SAS Tape Drive in 3U Rack-mount | EJ013B |

Additional Options

| | |
|--|--------|
| HP StoreEver 1U SAS Rack-mount Kit | AE459B |
| HP Mini SAS High Density to 4-lane Mini SAS External Fanout 2 Meter Cable | K2R09A |
| HP Mini SAS High Density to 4-lane Mini SAS External Fanout 4 Meter Cable | K2R10A |
| HP Tape Storage Systems | |
| HP StoreEver MSL6480 | |
| HP StoreEver MSL6480 Scaleable Expansion Module | QU626A |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/14604_div/14604_div.html (Worldwide). | |
| HP StoreEver MSL6480 Scalable Base Module | QU625A |
| HP MSL2024 0-Drive Tape Library | AK379A |
| HP MSL4048 0-Drive Tape Library | AK381A |

HP Disk Backup

HP RDX Removable Disk Backup Systems USB

| | |
|---|--------|
| HP RDX 2TB USB3.0 Internal Disk Backup System | E7X52A |
| HP RDX320 USB3.0 External Disk Backup System | B7B63A |
| HP D3700 Enclosure | QW967A |
| HP D3600 Enclosure | QW968A |
| HP RDX+ 500GB External Backup System | B7B66B |
| HP RDX+ 1TB External Backup System | B7B69B |
| HP RDX+ External Docking System | C8S07B |

NOTE: For the complete range of RDX drives and media see:
<http://www.hp.com/go/rdx>. For hardware and software compatibility of HP disk backup products see: <http://www.hp.com/storage/SPOCK>.

HP Storage Options

NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see:
<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>.

Emulex Fibre Channel HBAs

| | |
|--|--------|
| HP 81E 8Gb 1-port PCIe Fibre Channel Host Bus Adapter | AJ762B |
| HP 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter | AJ763B |
| HP StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter | C8R38A |
| HP StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter | C8R39A |

QLogic Fibre Channel HBAs

| | |
|--|--------|
| HP 81Q 8Gb 1-port PCIe Fibre Channel Host Bus Adapter | AK344A |
| HP 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter | AJ764A |
| HP StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter | QW971A |
| HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter | QW972A |

Converged Network Adapter

| | |
|--|--------|
| HP StoreFabric CN1100R Dual Port Converged Network Adapter | QW990A |
| HP StoreFabric CN1200E 10Gb Converged Network Adapter | E7Y06A |

Additional Options

| | | |
|--------------------------------|---|--------|
| HP Disk Storage Systems | Disk Enclosures | |
| | HP D6000 Dual I/O Module Disk Enclosure | QQ695A |
| | NOTE: See the D6000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/14419_div/14419_div.html (Worldwide). | |
| | HP D6000 w/35 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 140TB Bundle | E7W30A |
| | HP D6000 w/70 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 280TB Bundle | E7W31A |
| | HP D6000 w/35 2TB 6G SAS 7.2K LFF Dual port MDL HDD 70TB Bundle | QQ697A |
| | HP D6000 w/70 2TB 6G SAS 7.2K LFF Dual port MDL HDD 140TB Bundle | QQ698A |
| | HP D6000 w/35 3TB 6G SAS 7.2K LFF Dual port MDL HDD 105TB Bundle | QQ699A |
| | HP D6000 w/70 3TB 6G SAS 7.2K LFF Dual port MDL HDD 210TB Bundle | QQ700A |
| | HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle | E7W32A |

| | | |
|-----------------------------|---|--------|
| HP Data Center Racks | Rack 10000 G2 series | |
| | HP 11648 1075mm Pallet Universal Rack | H6J87A |
| | HP 11648 1075mm Shock Universal Rack | H6J88A |
| | HP 11642 1075mm Pallet Universal Rack | H6J65A |
| | HP 11642 1075mm Shock Universal Rack | H6J66A |
| | HP 11642 1200mm Pallet Universal Rack | H6J67A |
| | HP 11642 1200mm Shock Universal Rack | H6J68A |
| | HP 11636 1075mm Pallet Universal Rack | H6J77A |
| | HP 11636 1075mm Shock Universal Rack | H6J78A |
| | HP 11622 G2 1075mm Pallet Universal Rack | H6J83A |
| | HP 11622 G2 1075mm Shock Universal Rack | H6J84A |
| | HP 11614 1075mm Shock Universal Rack | H6J82A |
| | NOTE: Please see the HP 11000 G2 Series Racks QuickSpecs for information on additional racks options and rack specifications. | |
| | HP Intelligent Series Rack | |
| | HP 647 1075mm Pallet Intelligent Series Rack | BW911A |
| | HP 647 1075mm Shock Intelligent Series Rack | BW912A |
| | HP 647 1200mm Pallet Intelligent Series Rack | BW913A |
| | HP 647 1200mm Shock Intelligent Series Rack | BW914A |
| | HP 642 1075mm Pallet Intelligent Series Rack | BW903A |
| | HP 642 1075mm Shock Intelligent Series Rack | BW904A |
| | HP 642 1200mm Pallet Intelligent Series Rack | BW907A |
| | HP 642 1200mm Shock Intelligent Series Rack | BW908A |
| | HP 636 1075mm Pallet Intelligent Series Rack | BW895A |
| | HP 636 1075mm Shock Intelligent Series Rack | BW896A |
| | HP 842 1075mm Pallet Intelligent Series Rack | BW917A |
| | HP 842 1075mm Shock Intelligent Series Rack | BW918A |
| | NOTE: Please see the HP Intelligent Series Racks QuickSpecs for information on additional racks options and rack specifications. | |
| | HP Value Series Rack | |
| | HP V142 1075mm deep Pallet 100 series Rack | AF046A |
| | NOTE: Please see the HP Value Series Rack QuickSpecs for information on additional racks options and rack specifications. | |

Additional Options

| | | |
|---|---|------------|
| HP Power Distribution Units (PDUs) | HP Basic Power Distribution Unit (bPDU) | |
| | HP 4.9kVA 24A High Voltage NA/JP Core Modular Power Distribution Unit | 252663-D74 |
| | HP 8.3kVA 40A High Voltage NA/JP Core Modular Power Distribution Unit | 252663-D75 |
| | HP 7.3kVA 32A High Voltage INTL Core Modular Power Distribution Unit | 252663-B33 |
| | HP 17.3kVA 48A Three Phase NA/JP Modular Power Distribution Unit | AF511A |
| | HP 22kVA 32A Three Phase INTL Core Modular Power Distribution Unit | AF518A |
| | HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Basic PDU | H5M56A |
| | HP 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU | H5M58A |
| | HP 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU | H5M68A |
| | HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU | H5M70A |
| | HP 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit | AF526A |
| | NOTE: To learn more about HP Basic Power Distribution Units (bPDU), please visit the HP website at http://www.hp.com/go/pdu . | |
| | HP Monitored Power Distribution Units (mPDU) | |
| | HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU | D9N43A |
| | HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU | D9N45A |
| | HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU | D9N47A |
| | HP 7.3kVA 230 Volt IEC309 32A Input (20xC13/4xC19) INTL Monitored PDU | D9N48A |
| | HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU | D9N50A |
| | HP 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU | D9N55A |
| | HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU | D9N57A |
| | HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU | D9N59A |
| | HP 22kVA 400 Volt IEC309 32A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU | D9N56A |
| | HP 22kVA 400 Volt IEC309 32A 3-Phase Input (12xC13/12xC19) INTL Monitored PDU | D9N60A |
| | NOTE: Please see the HP Monitored Power Distribution Units QuickSpecs for information on additional options and product specifications. | |
| | HP Intelligent Power Distribution Units (iPDU) | |
| | HP 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF520A |
| | HP 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF521A |
| | HP 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF522A |
| | HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF523A |
| | HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit | AF535A |
| | HP 4.9kVA 24A Single Phase NA/JP Intelligent Modular Power Distribution Kit | AF531A |
| | HP 8.6kVA 24A Three Phase NA/JP Intelligent Modular Power Distribution Kit | AF532A |
| | HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit | AF525A |
| | HP 7.3kVA 32A Single Phase INTL Intelligent Modular Power Distribution Kit | AF534A |
| | NOTE: Please see the HP Intelligent Power Distribution Units QuickSpecs for information on additional options and product specifications. | |

Additional Options

| | | |
|--|--|------------|
| HP Rack Mount Consoles, KVM Switches, and Keyboards | Rack location options | |
| | HP ML350 Gen9 Discover Service FIO Kit | 726549-B21 |
| | NOTE: Rack CTO server only. | |
| | HP 36U Location Discovery Kit | BW945A |
| | HP 42U Location Discovery Kit | BW946A |
| | HP 47U Location Discovery Kit | BW947A |
| | HP ML350 Gen9 System Insight Display Kit | 726563-B21 |
| | HP 0x1x8 G3 KVM Console Switch | AF651A |
| | Rail Kits | |
| | HP ML350 Gen9 5U FIO Rail Kit | 790357-B21 |
| | NOTE: Rack CTO server only. | |
| | HP ML350 Gen9 Tower to Rack Conversion Kit | 726567-B21 |
| | HP Rack Mount Consoles | |
| | HP KVM Switches | |
| | HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software | AF620A |
| | HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software | AF621A |
| | HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software | AF618A |
| | HP 1x4 USB/PS2 KVM Console Switch | AF611A |
| | NOTE: To learn more, please visit the HP KVM Switches web page . | |
| | HP USB Keyboard and Mouse | |
| | HP USB BFR with PVC Free US Keyboard/Mouse Kit | 631341-B21 |
| | HP USB BFR with PVC Free Intl Keyboard/Mouse Kit | 672097-B33 |
| | HP USB BFR with PVC Free UK Keyboard/Mouse Kit | 631344-B21 |
| | HP USB BFR with PVC Free FR Keyboard/Mouse Kit | 631346-B21 |
| | HP USB BFR with PVC Free ES Keyboard/Mouse Kit | 631348-B21 |
| | HP USB BFR with PVC Free DE Keyboard/Mouse Kit | 631358-B21 |
| | HP USB BFR with PVC Free JP Keyboard/Mouse Kit | 631360-B21 |
| | HP USB BFR with PVC Free IT Keyboard/Mouse Kit | 631362-B21 |
| | HP USB BFR with PVC Free CN Keyboard/Mouse Kit | 631364-B21 |
| | HP USB BFR with PVC Free AE Keyboard/Mouse Kit | 638212-B21 |
| | HP USB BFR with PVC Free RU Keyboard/Mouse Kit | 638214-B21 |
| | HP USB BFR with PVC Free SE Keyboard/Mouse Kit | 672097-103 |
| | HP USB BFR with PVC Free CH Keyboard/Mouse Kit | 672097-113 |
| | HP USB BFR with PVC Free PT Keyboard/Mouse Kit | 672097-133 |
| | HP USB BFR with PVC Free TR Keyboard/Mouse Kit | 672097-143 |
| | HP USB BFR with PVC Free CZ Keyboard/Mouse Kit | 672097-223 |
| | HP USB BFR with PVC Free FI Keyboard/Mouse Kit | 672097-353 |
| | HP USB BFR with PVC Free AP-Intl Keyboard/Mouse Kit | 672097-373 |
| | HP USB BFR with PVC Free IN Keyboard/Mouse Kit | 672097-D63 |
| | HP USB BFR with PVC Free KR Keyboard/Mouse Kit | 672097-KD3 |
| | NOTE: Please see the HP USB Keyboard and Mouse QuickSpecs for information on additional options and product specifications. | |
| | Micro SD Options | |
| | HP 32GB microSD Enterprise Mainstream Flash Media Kit | 700139-B21 |
| | HP 8GB microSD Enterprise Mainstream Flash Media Kit | 726116-B21 |
| | HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit | 737953-B21 |
| | HP Dual 8GB microSD Enterprise Midline USB Kit | 741279-B21 |

Additional Options

HP Uninterruptible Power Systems

| | | |
|----------------------------|--|--------|
| Power Systems (UPS) | HP R1500 G4 JP/TWN Uninterruptible Power System | J2R05A |
| | HP R1500 G4 INTL Uninterruptible Power System | J2R03A |
| | HP T1500J JP Uninterruptible Power System | AF458A |
| | HP T750 G4 NA/JP Uninterruptible Power System | J2P85A |
| | HP T1000 G4 NA/JP Uninterruptible Power System | J2P86A |
| | HP T1500 G4 NA/JP Uninterruptible Power System | J2P87A |
| | HP T750 G4 INTL Uninterruptible Power System | J2P88A |
| | HP T1000 G4 INTL Uninterruptible Power System | J2P89A |
| | HP T1500 G4 INTL Uninterruptible Power System | J2P90A |
| | HP R5000 3U L630 High Voltage NA/JP Uninterruptible Power System | AF460A |
| | HP Rack-mountable UPS | |
| | HP T750 G2 750VA INTL Tower Uninterruptible Power System | AF447A |
| | HP 32A 400-415 Volt Three Phase INTL R12000 DirectFlow UPS IEC309 Input/Output Module | AF488A |
| | HP R5000 3U IEC309-32A High Voltage INTL Uninterruptible Power System | AF461A |
| | HP R7000 4U IEC-32A High Voltage INTL Uninterruptible Power System | AF463A |
| | HP R7000 4U 50A High Voltage NA/JP Uninterruptible Power System | AF462A |
| | HP RP12000/3 12000VA Three Phase INTL 6U Rackmount Uninterruptible Power System | AF437A |
| | NOTE: To learn more, please visit the HP Uninterruptible Power Systems (UPS) web page . | |

HP Care Pack Services

Installation & Start-up Services

| | |
|--------------------------------------|--------|
| HP Install ProLiant ML350(p) Service | U4522E |
| HP Startup ProLiant ML350(p) Service | U4523E |

Proactive Care

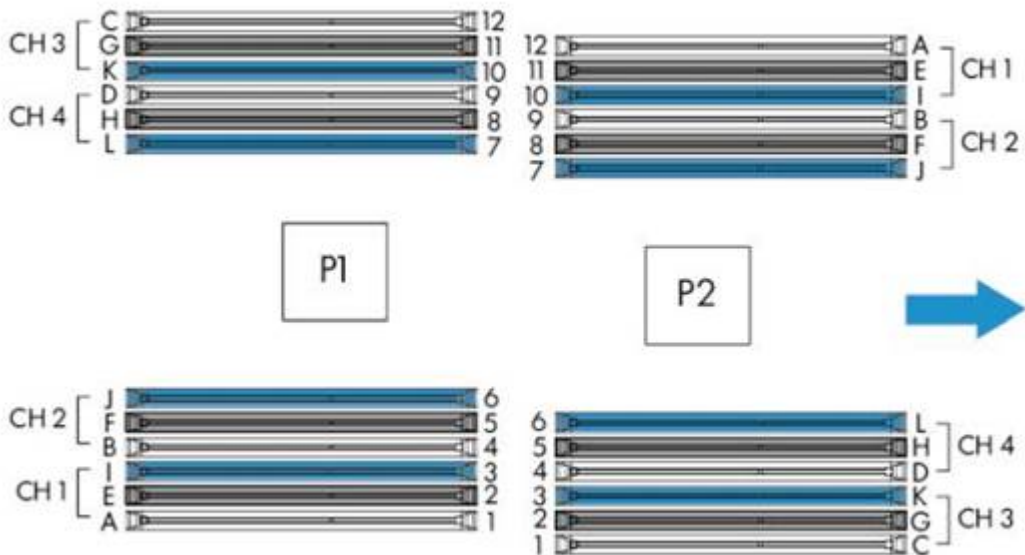
| | |
|--|--------|
| HP 3 year 24x7 ML350 Gen9 Proactive Care Service | U7BG4E |
| HP 3 year Call to Repair ML350 Gen9 Proactive Care Service | U7BH0E |
| HP 3 year 24x7 with Defective Media Retention ML350 Gen9 Proactive Care Service | U7BG5E |
| HP 3 year 24x7 with Comprehensive Defective Material Retention ML350 Gen9 Proactive Care Service | U7BG6E |
| HP 3 year Call to Repair with Defective Media Retention ML350 Gen9 Proactive Care Service | U7BH1E |
| HP 3 year CTR with Comprehensive Defective Material Retention ML350 Gen9 Proactive Care Service | U7BH2E |

Memory

Memory Subsystem Architecture

Each Intel® Xeon® E5-2600v3 family processor socket contains four memory channels per installed processor with three DIMMs per channel for a total of twelve (12) DIMMs or a grand total of twenty-four (24) DIMMs for the server.

Memory Population guidelines



| DIMM population order | | | | | | | | | | | | |
|----------------------------|---------------------|---|---|---|---------------------|---|---|---|---------------------|---|---|---|
| | 1st slot of channel | | | | 2nd slot of channel | | | | 3rd slot of channel | | | |
| | A | B | C | D | E | F | G | H | I | J | K | L |
| Number of DIMMs to install | 4 | | | | | | | | | | | |
| | 8 | | | | | | | | | | | |
| | 12 | | | | | | | | | | | |

General Memory Population Rules and Guidelines:

Memory

- . Install DIMMs only if the corresponding processor is installed.
- . If only one processor is installed in a two processor system, only half of the DIMM slots are available.
- . To maximize performance, it is recommended to balance the total memory capacity between all installed processors and load the channels similarly whenever possible.
- . When two processors are installed, balance the DIMMs across the two processors.
- . White DIMM slots denote the first slot to be populated in a channel.
- . Place the DIMMs with the highest number of ranks in the white slot when mixing DIMMs of different ranks on the same channel.
- . Do not mix RDIMMs or LRDIMMs.
- . Quad rank RDIMMs are not supported in HP ProLiant ML350 Gen9 servers.
- . Quad rank LRDIMMs are capable of up to three DIMMs per channel.
- . RDIMMs operating at 1.2V
- . DIMMs of different speeds may be mixed in any order; the server will select a common optimal speed.
- . 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 memory type and number of installed processors.
- . To realize the performance memory capabilities listed in this document, HP SmartMemory is required.
- . There are four (4) channels per processor; eight (8) channels per server
There are three (3) DIMM slots for each memory channel; twenty-four (24) total slots
Memory channels1 and 3 consists of the three (3) DIMMs that are furthest from the processor
Memory channel 2 and 4 consists of the three (3) DIMMs that are closest to the processor
- . The sum of memory capacity can't exceed 1TB when below Nvidia graphic options are selected:
 - Nvidia K2200
 - Nvidia K4200
 - Nvidia Quadro K6000
 - Nvidia Tesla K40C
 - Nvidia Quadro M6000
 - Nvidia Quadro K5200

Intel Gen9 Supported Memory Bandwidth for HP ProLiant Gen9 Intel® Xeon®E5-2600v3 Series Processor Family

| |
|-------------------------------|
| Memory Bandwidth and Capacity |
|-------------------------------|

Memory

| [DIMM Type] | Registered DIMMs (RDIMMs) | | | | | Load Reduced (LRDIMMs) | | |
|-----------------------------|---------------------------|-----|-----------|------|------|------------------------|------|--|
| DIMM Rank | Single Rank | | Dual Rank | | | Quad Rank | | |
| DIMM Capacity | 4GB | 8GB | 16GB | 32GB | 16GB | 32GB | 64GB | |
| DIMM Native Speed (MT/s) | 2133 | | | | | | | |
| Voltage | Std Voltage 1.2V | | | | | | | |
| SLOTS THAT CAN BE POPULATED | | | | | | | | |
| 24 slot servers | 24 | | | | | | | |
| MAXIMUM CAPACITY (GB) | | | | | | | | |
| | 96 | 192 | 384 | 768 | 384 | 768 | 1536 | |
| | | | | | | | | |
| 1 DIMM Per Channel | 2133 | | | | | | | |
| 2 DIMM Per Channel | 2133 | | | | | | | |
| 3 DIMM Per Channel | 1600 | | | | 1866 | | | |

DIMM slot and configuration diagram

Population order; start with "A" first, "B" second, "C" third, etc.

- When one processor is installed, install DIMMs in sequential alphabetic order: A, B, C, D, E, F ...
- When two processors are installed, install DIMMs in sequential alphabetic order: CPU1-A, CPU2-A, CPU1-B, CPU2-B, CPU1-C, CPU2-C

| | | CPU 1 | | CPU 2 | |
|--------|---|--------|------------------|--------|------------------|
| | | Slot # | population order | Slot # | population order |
| Chnl 1 | 1 | A | | 1 | C |
| | 2 | E | | 2 | G |
| | 3 | I | | 3 | K |
| | | CPU 1 | | CPU 2 | |
| | | Slot # | population order | Slot # | population order |
| Chnl 2 | 4 | B | | 4 | D |
| | 5 | F | | 5 | H |
| | 6 | J | | 6 | L |
| | | CPU 1 | | CPU 2 | |
| | | Slot # | population order | Slot # | population order |
| Chnl 3 | 7 | L | | 7 | J |
| | 8 | H | | 8 | F |
| | 9 | D | | 9 | B |

Memory

| CPU 1 | | | CPU 2 | | |
|--------|--------|------------------|--------|------------------|--------|
| | Slot # | population order | Slot # | population order | |
| Chnl 4 | 10 | K | 10 | I | Chnl 1 |
| | 11 | G | 11 | E | |
| | 12 | C | 12 | A | |

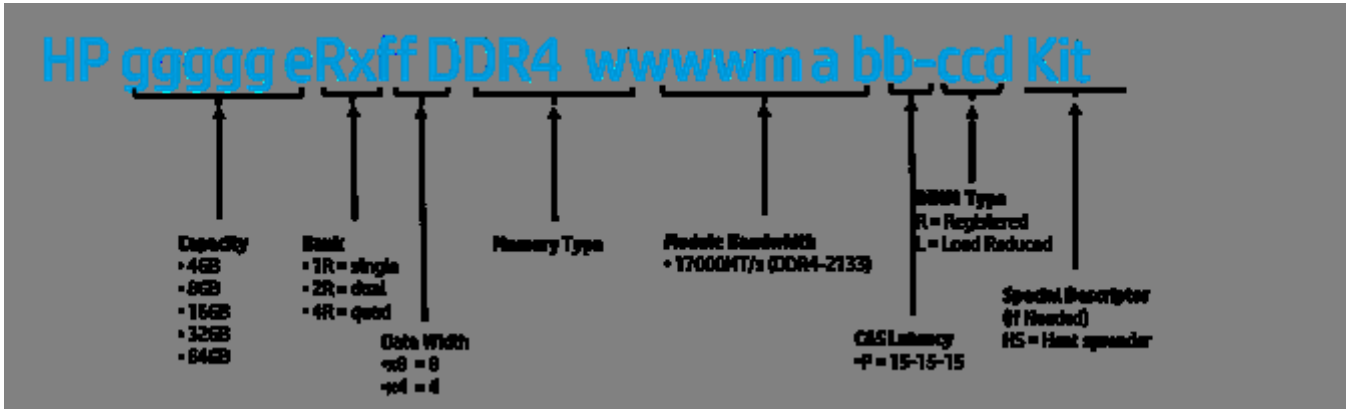
| Memory Speed by Processor Model | Processor Models | Supported Memory Speeds |
|---------------------------------|--|-------------------------|
| | E5-2603v3, E5-2609v3, | 1600MHz |
| | E5-2620v3, E5-2640v3, E5-2630v3, E5-2630Lv3, E5-2623v3, | 1866MHz |
| | E5-2637v3, E5-2690v3, E5-2680v3, E5-2670v3, E5-2660v3, E5-2650v3, E5-2650Lv3, E5-2697v3, E5-2695v3, E5-2667v3, E5-2643v3, E5-2683v3, E5-2699v3, E5-2698v3, | 2133MHz |

| Standard and Maximum Memory Capacity (Pre-configured Models) | Pre-Configured Models | Standard Memory | Maximum Memory Plus Optional Memory | Standard Memory Replaced with Optional Memory |
|--|-----------------------|-----------------|-------------------------------------|---|
| | E5-2609v3, | 8GB (1x8GB) | 744GB (23x32GB, 1x8GB) | 1536GB (24x64GB) |
| | E5-2620v3, | 16GB (1x16GB) | 752GB (23x32GB, 1x16GB) | 1536GB (24x64GB) |
| | E5-2630v3, E5-2650v3, | 32GB (2x16GB) | 736GB (22x32GB, 2x16GB) | 1536GB (24x64GB) |

DDR4 memory options part number decoder

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

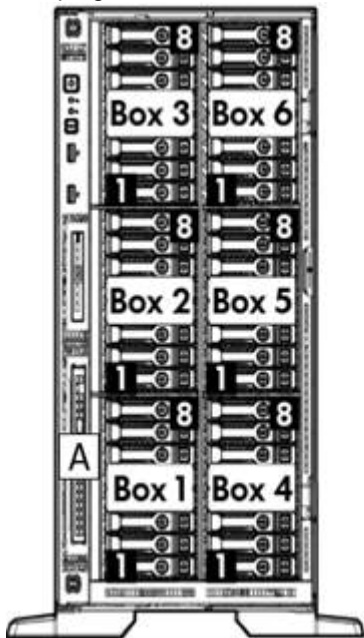
- 2GB = 2,048MB
- 4GB = 4,096MB
- 8GB = 8,192MB
- 16GB = 16,384MB
- 32GB = 32,768MB
- 64GB = 65,536MB



Memory

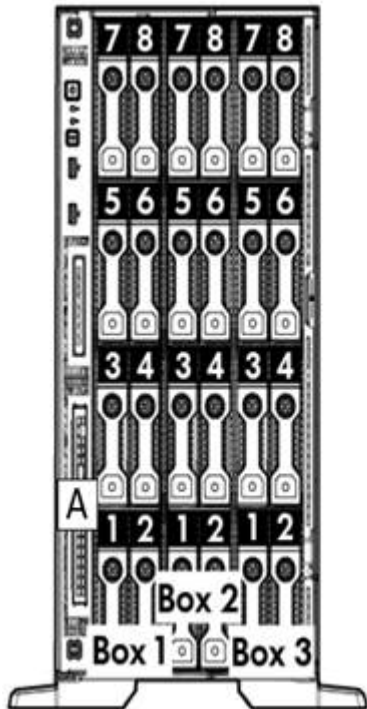
Storage

48 SFF hot-plug drive model



- A Optional Slim DVD-ROM/DVD-RW
- 1-8 8 x SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays

24 LFF hot-plug drive model



- A Optional Slim DVD-ROM/DVD-RW
- 1-8 8 x LFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays

Technical Specifications

| | | |
|--------------------|---------------------------------|---|
| System Unit | Tower Dimensions | 18.27(H) x 8.62(W) x 30.28(D) in (46.4 x 21.9 x 76.9 cm) |
| | Rack Dimensions | 8.58(H) x 17.51(W) x 29.37(D) in (21.8 x 44.5 x 74.6 cm) |
| | Tower Weight | Minimum: 66.14lb(30kg) |
| | | Maximum: 121.30lb (55kg) |
| | Rack Weight | Minimum: 57.3lb(26kg) |
| | | Maximum: 112.4lb(51kg) |
| | Input Requirements | Range Line Voltage 100 to 120 VAC 200 to 240 VAC |
| | BTU Rating | Maximum For 1400W Power Supply: 5459 BTU/hr (at 200 VAC), 5459 BTU/hr (at 240 VAC), 5459 BTU/hr (at 240 VAC) for China Only |
| | | For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only |
| | | For 500W Power Supply: 1979 BTU/hr (at 100 VAC), 1911 BTU/hr (at 200 VAC), 1965 BTU/hr (at 240 VAC) for China Only |
| | Power Supply Output | Rated Steady-State Power For 1400W Power Supply: 1400W (at 240 VAC), 1400W (at 240 VAC) |
| | | For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only |
| | | For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VAC) input for China only |
| | System Inlet Temperature | Maximum Peak Power For 1400W Power Supply: 1400W (at 200 to 240 1VAC), 1400W (at 240 VAC) input for China only |
| | | For 800W Power Supply: 800W (at 100 to 127 VAC), 800W (at 200 to 240 1VAC), 800W (at 240 VAC) input for China only |
| | | For 500W Power Supply: 500W (at 100 to 127 VAC), 500W (at 200 to 240 VAC), 500W (at 240 VAC) input for China only |
| | System Inlet Temperature | Standard Operating Support 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. For approved hardware configurations, the supported system inlet range is extended to be: 5° to 40°C (41° 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.hp.com/servers/ashrae . |
| | | |
| | | |
| | System Inlet Temperature | For approved hardware configurations, the supported system inlet range is extended to be: 5° to 45°C (41° 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.hp.com/servers/ashrae . |
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Technical Specifications

| | | |
|---------------------------------|--|--|
| | Extended Ambient Operating Support | Non-operating -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr). |
| Relative Humidity | Operating | Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity. |
| | 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 (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). | |
| | Idle | |
| | L WAd | 3.6 Bels (1P LFF Entry) 3.5 Bels (1P SFF Base) 3.6 Bels (2P SFF E-star Rack) 3.4 Bels (2P SFF E-star Tower) |
| | L pAm | 21 dBA (1P LFF Entry) 21 dBA (1P SFF Base) 20 dBA (2P SFF E-star Rack) 19 dBA (2P SFF E-star Tower) |
| | Operating | |
| | L WAd | 3.7 Bels (1P LFF Entry) 3.6 Bels (1P SFF Base) 4.5 Bels (2P SFF E-star Rack) 4.5 Bels (2P SFF E-star Rack) |
| | L pAm | 21 dBA (1P LFF Entry) 22 dBA (1P SFF Entry) 28 dBA (2P SFF E-star Rack) 28 dBA (2P SFF E-star Tower) |
| | NOTE: Configurations tested for 1P LFF Entry models included two (2) 500GB LFF SATA Midline HDD and Windows 2012 Enterprise 64-bit. | |
| | NOTE: Configurations tested for 1P and 2P SFF models included two (2) 500GB SFF SATA Midline HDD and Windows 2012 Enterprise 64-bit. | |
| | NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. | |
| Emissions Classification | FCC Rating | Class A |
| | Normative Standards | CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1 |



Technical Specifications

NOTE: 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.

| | | |
|--|---|--------------------------------|
| HP Dynamic Smart Array B140i Controller | Number of PCI links | Four |
| | PCI link rate | 4 Gb/s |
| | Storage protocol support | SATA |
| | SAS/SATA peak data transfer rate | 6 Gb/s |
| | Number of SAS/SATA links | 10 links |
| | SAS/SATA connectivity | 2x4 connectors; 2x1 connectors |
| | Expander support | No |
| | Drives supported (max) | Up to 10 Internal Drives |
| | RAID support | 0, 1, 10, 5 SATA |
| | Software management | HP SSA, SMH, SIM |
| | Warranty | Server warranty |
| | HP Secure Encryption license | Not Supported |
| | HP SmartCache License | Not Supported |
| | HP Smart Storage Administrator | Supported |
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|------------------------------------|--------------------------|---------------------------------|
| HP Ethernet 1Gb 4-port 331i | Network Interface | 10Base-T/100Base-TX/1000Base-TX |
|------------------------------------|--------------------------|---------------------------------|

Technical Specifications

| | | |
|-------------------|-----------------------------|--|
| Adapter | Compatibility | IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX |
| | Data Transfer Method | PCI Express, two lanes (x2) |
| Controller | Network | BCM5719 |
| | Transfer Rate | 10Base-T (Half-Duplex) 10 Mb/s per port, 40 Mb/s combined 10Base-T (Full-Duplex) 20 Mb/s per port, 80 Mb/s combined 100Base-TX (Half-Duplex) 100 Mb/s per port, 400 Mb/s combined 100Base-TX (Full-Duplex) 200 Mb/s per port, 800 Mb/s combined 100Base-TX (Half-Duplex) 1000Mb/s per port, 4000 Mb/s combined 100Base-TX (Full-Duplex) 2000Mb/s per port, 8000 Mb/s combined |
| Connector | Cable Support | RJ-45 10 Base-T Categories 3, 4 or 5 UTP; up to 328 ft (100 m) 10/100/1000 Base-TX Category 5 or higher UTP; up to 328 ft (100 m) |

Environment-friendly Products and Approach **End-of-life Management and Recycling** Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

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Summary of Changes

| Date | Version History | Action | Description of Change |
|-------------|-----------------------------|---------|--|
| 28-Sep-2015 | From Version 8 to 9 | Added | Added support for new NVMe SSD Drives and NVME PCIe Workload Accelerators. NVMe SSD Drives were added to HP Drives. Added new graphic options. |
| | | Changed | HP Unique Options, HP Drives, HP Computation and Graphics Accelerators, and HP PCIe Workload Accelerator Options were revised. |
| | | Removed | Obsolete SKUs were removed from QuickSpecs. |
| 17-Aug-2015 | From version 7 to version 8 | Added | New Solid State Drives offering was added to HP Drives. New graphic options were added to HP Computation and Graphics Accelerators. |
| | | Changed | Memory, Maximum Internal Storage, and Additional Options were updated. |
| | | Removed | Obsolete SKUs were removed from QuickSpecs. |
| 1-Jun-2015 | From version 6 to version 7 | Added | New Hard Drives were added to QuickSpecs. New RDX+ external backup options were added. |
| | | Changed | Number of fans for Energy Star Models and Performance Models were revised. HP Memory was revised. |
| | | Removed | Obsolete SKUs were removed from QuickSpecs. |
| 30-Mar-2015 | From version 5 to version 6 | Added | New Hard Drives offering. Optional Software added to HP Storage Controllers. |
| | | Changed | HP Power Supplies, HP Storage Controllers, HP Disk Storage Systems, Micro SD Options were updated. |
| 9-Feb-2015 | From version 4 to version 5 | Added | Added new HP Drives, HP Disk Backup, and new G4 UPS models. HP Drives, HP Computation and Graphics Accelerators, HP Tape Backup, HP Rack Mount Consoles, KVM Switches, and Keyboards, and HP Uninterruptible Power Systems (UPS) sections were revised. |
| 1-Dec-2014 | From version 3 to version 4 | Changed | Changes made throughout the entire QuickSpecs. |
| 13-Oct-2014 | From version 2 to version 3 | Added | 6G SATA Enterprise Value G1 Solid State Drives were added to Core Option section. |



Summary of Changes

| | | | |
|-------------|-----------------------------|---------|---|
| | | | High Performance Clusters, HP PCIe Workload Accelerator Options, HP USB and SD options, and HP Care Pack Services were added to the Additional Options section. |
| | | Changed | Standard Features, Optional Features, Core Options, Additional Options, and Memory sections were revised. |
| 19-Sep-2014 | From Version 1 to version 2 | Changed | Changes made throughout the entire QuickSpec. |



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