# QuickSpecs

Overview

HPE ProLiant DL80 Generation9 (Gen9)

The HPE ProLiant DL80 Gen9 Server is designed with affordable storage, networking and processor scalability, and manageability in a 2U server for cost conscious service provider and SMBs. Apart from basic IT infrastructure workloads this server is ideal for running storage capacity intensive applications like cold storage, back-up due to compelling cost/GB that it offers.
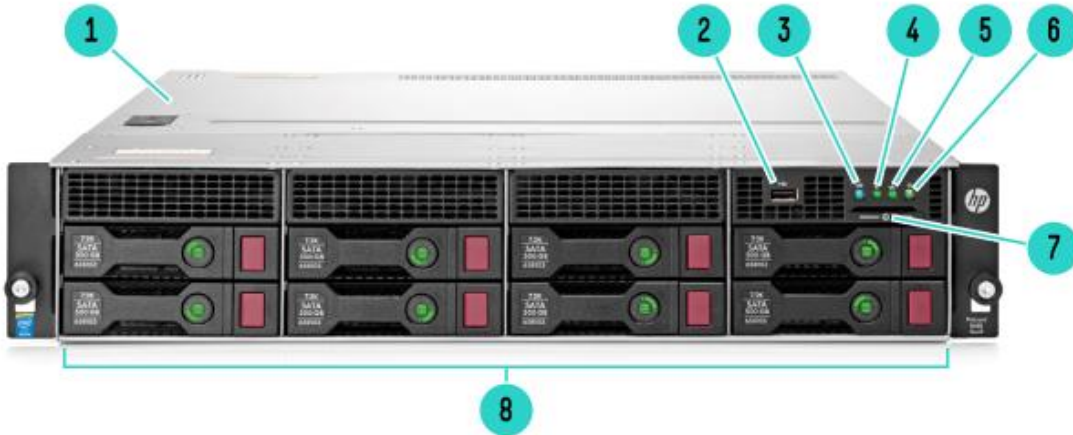
Front View

|			
1.	Access Panel (Top Cover)	5.	NIC status LED
2.	USB 2.0 connector	6.	Power On/Standby button and system power LED
3.	UID button/LED	7.	Serial label pull tab
4.	Health LED	8.	8-bay LFF drive cage bay
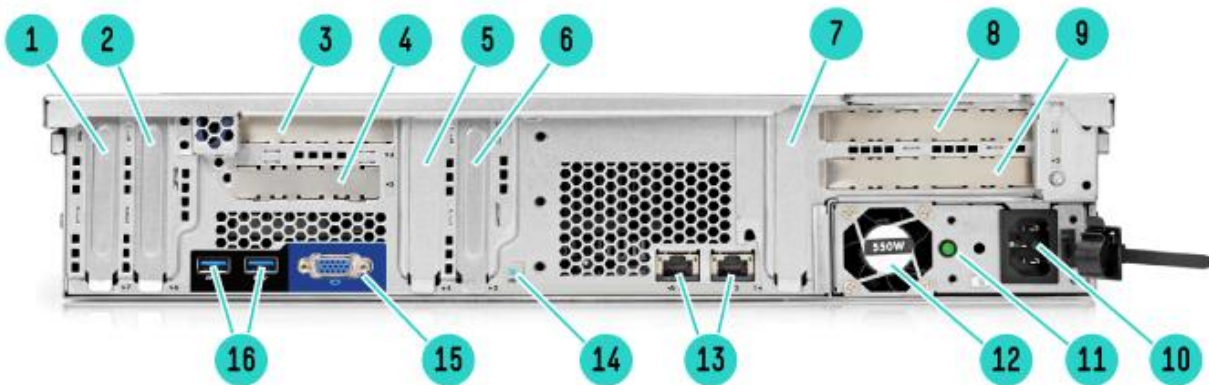
Rear view

1.	Slot 7 PCIe3 x16 low-profile, standup	9.	Slot 2 PCIe3 x8 full-height half-length riser (optional)
2.	Slot 6 PCIe3 x8 low-profile, standup	10.	Power supply power connection
3.	Slot 4 PCIe3 x8 low-profile, riser (optional)		

Hewlett Packard Enterprise

Overview

4. Slot 5 PCIe3 x8 FlexibleLOM riser (optional)
5. Slot 4 PCIe3 x16 low-profile, standup
6. Slot 3 PCIe3 x8 low-profile, standup
7. Slot 1 PCIe3 x16 low-profile, standup
8. Slot 1 PCIe3 x16 full-height, full-length GPU riser (optional) or Slot 1 PCIe3 x8 (8, 4, 1) full-height, half-length riser (optional)

11. Power supply status LED
12. Non-hot-plug power supply
13. Embedded 2x1GbE network adapter
14. UID LED
15. Video connector
16. USB 3.0 connectors
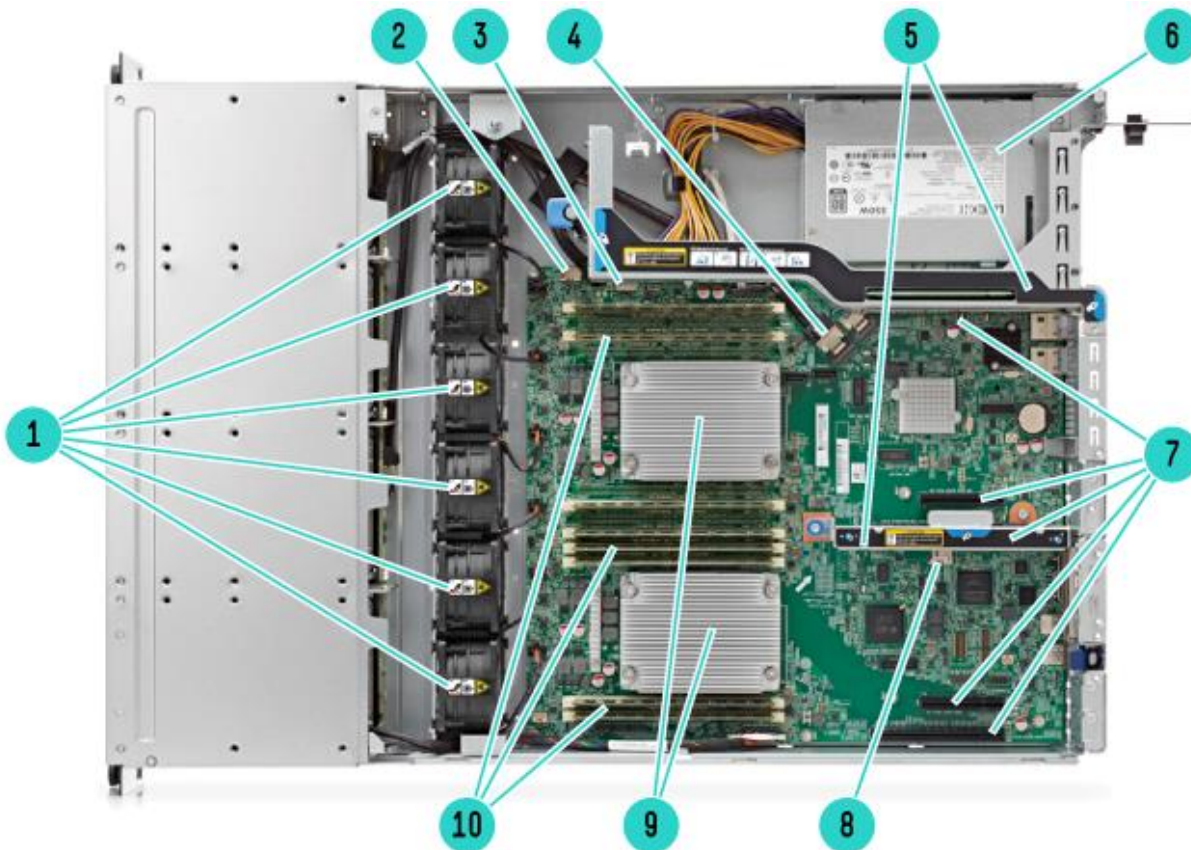
Internal View

1. Fans shown with 6 Hot-swap fans
2. HPE Smart Storage Battery connector (optional)
3. Internal USB 3.0 connector
4. Embedded HPE Smart Array B140i Controller
5. PCIe riser kits

6. (Under) Non-Hot Plug HPE Power supply
7. PCIe 3.0 slots
8. MicroSD card slot
9. 2 Processors, heatsink showing, with HPE Smart Socket Guide
10. HPE DDR4 SmartMemory DIMM slots. Shown fully populated in 8 slots (4 per processor)

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
E5-2660v3	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
E5-2640v3	2.6GHz	8	20MB	90W	8.0GT/s	1866
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
One of the following depending on model

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
One of the following depending on model

HPE iLO (Firmware HPE iLO4 2.3) 2GB NAND
NOTE: For more information, visit: http://www.hp.com/go/ilo.

Memory
One of the following depending on model

Type:
HPE SmartMemory
DDR4 Registered (RDIMM) or Load Reduced (LRDIMM)

DIMM Slots Available	8	(4 DIMM slots per processor, 4 channels per processor, 1 DIMMs per channel)
Maximum Capacity (LRDIMM)	256GB	(8 x 32GB LRDIMM @2133MHz)
Maximum Capacity (RDIMM)	256GB	(8 x 32GB RDIMM @2133MHz)

Memory Protection
One of the following depending on Model

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.

Standard Features

Expansion Slots

Motherboard slots (Standard)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCIe 3.0	x16	x16		Low Profile	CPU 1 slots
3	PCIe 3.0	x8	x8		Low Profile	CPU 1 slots
4	PCIe 3.0	x16	x16		Low Profile	CPU 1 slots
6	PCIe 3.0	x8	x8		Low Profile	CPU 2 slots
7	PCIe 3.0	x16	x16		Low Profile	CPU 2 slots

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

Primary Riser (Optional)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCIe 3.0	x8	x8		Full-height, half-length slot	CPU 1 slots
2	PCIe 3.0	x8	x8		Full-height, half-length slot	CPU 1 slots

Flexible LOM Riser (Optional)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
4	PCIe 3.0	x8	x8		Low profile	CPU 1 slots
5	PCIe 3.0	x8	x8		Flexible LOM	CPU 1 slots

NOTE: This riser is mandatory for installing Flexible LOMs.

GPU riser (Optional)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Device Number	Form Factor	Notes
1	PCIe 3.0	x16	x16			Full height, full length slot	CPU 1 slots

NOTE: When populating slots on second riser, a second processor must be installed.

Storage Controller

One of the following depending on model

Entry Models	HPE Dynamic Smart Array B140i Controller

NOTE: Provides support for up to 10 SATA drives and data transmission speeds up to 6Gb/s and supports RAID 0, 1 & 5.

Base Models	HPE H240 FIO Smart Host Bus Adapter

NOTE: H240 Provides support for up to 8 SAS/SATA drives, data transmission speeds up to 12Gb/s and supports RAID 0, 1 & 5.

Internal Storage Devices

One of the following depending on model

Optical Drives	Via USB only
Hard Drives	None ship standard
Hard Drive Bays	12 LFF drive bays total without Optical Bay
	8 LFF drive bays total without Optical Bay

Maximum Internal Storage

One of the following depending on model

	CAPACITY	CONFIGURATION
Hot Plug LFF SAS	96.0TB	12 x 8TB (with 12LFF drive cage)
Hot Plug LFF SATA	96.0TB	12 x 8TB (with 12LFF drive cage)
Hot Plug LFF SATA SSD	46.08TB	12 x 3.84TB (with 12LFF drive cage)
Non-Hot Plug LFF SATA	32TB	8 x 4TB (with 8LFF drive cage)

Standard Features

Power Supply One of the following depending on model	HPE 550W FIO Power Supply HPE 800W/900W Gold AC Power Input Module

HPE Entry-Level Power Supplies provide lower-cost options for customers trying to balance their need for enterprise class efficiency and reliability while maintaining lowest possible hardware costs. All Entry-Level power supply options have been designed specifically for HPE ProLiant Gen9 Essential Series servers.

The HPE 550W FIO Power Supply is the standard, non-redundant AC power supply option for most HPE ProLiant Gen9 Essential servers. It features Silver-level (89%) certified power efficiency with a set of features optimized for the Gen9 Essential-series rack and tower servers.

The HPE 800W Gold (Redundant)/900W (Non-Redundant) AC Power Input Module with Power Backplane can be configured to support power redundancy in ProLiant servers that offer only a single power supply bay, providing additional protection against power loss. With an 80 Plus Gold power efficiency rating (up to 92%), this power option helps to reduce operating expenses while protecting against trapped power capacity in the data center. Each power backplane option can support up to two (2) hot-plug AC power input modules.

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.

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

	Non-redundant	**Redundant**
System Fans One of the following depending on model — 1P model	2 fans	4 fans

NOTE: Redundant and non-redundant fan counts vary with riser selection.
1P configurations either one of primary and secondary risers need 3 fans in non-redundant configuration and

	Non-redundant	**Redundant**
2P model	4 fans	5 fans

NOTE: Customers may separately purchase redundant fans with the 765516-B21 option kit. Additional fans (two) are also included in -B21 processor option kits when upgrading from one processor to two processors.
NOTE: All the riser option kits ship with necessary fan option kits.

Interfaces	Video	1 (Vaux Support)
	LOM Network Ports	2 x 1GbE ports
	SD Slot	1 Micro SD

NOTE: The SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered.

	USB	Up to 4 USB ports (standard); Front: 1xUSB 2.0 std; (1xUSB2.0 optional upgrade with quick release ears)

Standard Features

Rear: 2xUSB 3.0

Internal: 1x USB 3.0

NOTE: 12LFF drive cage models with Quick release latch rack ears supports front USB 2.0.

Operating Systems and Virtualization Software Support for ProLiant Servers	Microsoft Windows Server Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris VMware **NOTE:** For more information on Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: http://www.hp.com/go/ossupport **and our driver download page** http://www.hp.com/support/DL80Gen9.
Upgradeability One of the following depending on model	Upgradeable to two processors (24 cores) Up to 8 DIMM slots **NOTE: To take advantage of DIMMs 5-8, a second processor must be installed.** FlexibleLOM slot for 1Gigabit or 10 Gigabit Ethernet or QDR/FDR InfiniBand networking options **NOTE: To take advantage of the additional 2 PCI slot upgrade, a second processor must be installed.** Redundant Power Supply Redundant Fan
Industry Standard Compliance	ACPI 2.0b Compliant PCIe 3.0 Compliant PXE Support WOL Support Microsoft® Logo certifications USB 3.0 Support ASHRAE A3 **NOTE: Supports A3 extended ambience.** **NOTE: Refer to technical specifications section for more details.**
Graphics	Integrated Matrox G200eH2 video standard • 1280 x 1024 (32 bpp) • 1920 x 1200 (16 bpp)
HPE Server UEFI/Legacy ROM	**HPE 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. HPE 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 HPE 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 HPE ProLiant servers such as:

Standard Features

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

Form Factor One of the following depending on model	2U Rack form factor All models ship with Easy Install rails (Cable management arm optional). 8 LFF Drive Bay Version: 3.44 (8.75cm) Height x 17.54" (44.55 cm) Width x 23.9" (60.70 cm) Length 12 LFF Drive Bay Version: 3.44 (8.75cm) Height x 17.54" (44.55 cm) Width x 23.9" (60.70 cm) Length

Embedded Management	**HPE Integrated Lights-Out (HPE iLO)**	Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO. Learn more at http://www.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.
	RESTful API	A single programmatic web interface that allows you to manage and monitor your HPE ProLiant server using basic HTTP operations (GET, PUT, POST, DELETE and PATCH). RESTful API for iLO 4 conforms to the Redfish 1.0 DMTF standard (iLO firmware version v2.30 or higher required for Redfish conformance). 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	Hewlett Packard Enterprise embedded remote support, when used with Insight Online direct connect or HPE Insight Remote Support, allows HPE ProLiant servers to transmit hardware events directly to HPE or an HPE Authorized Partner for automated phone home support. Learn more at http://www.hp.com/go/insightonline/info.

Standard Features

Server utilities

Smart Update	Optimize firmware and driver updates with Smart Update solutions including Smart Update Manager (SUM) and Service Pack for ProLiant (SPP). Learn more at http://www.hp.com/go/smartupdate.	
HPE Systems Insight Manager (HPE SIM)	HPE SIM allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers, and also provides you with basic support for non-HPE servers. HPE SIM also integrates with SUM to provide quick and seamless firmware updates. Learn more at http://www.hp.com/go/sim.	
Scripting Tool Kit and Windows PowerShell	Provision 1 to many servers using your own scripts to discover and deploy them with Scripting Tool Kit for Windows and Linux or Scripting Tools for Windows PowerShell. Learn more at http://www.hp.com/go/ProLiantSTK or http://www.hp.com/go/powershell.	
RESTful Interface Tool	Scripting tool to provision servers using iLO 4 RESTful API to discover and deploy servers at scale. Learn more at http://www.hp.com/go/resttool	
HPE iLO Mobile Application	Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: http://www.hp.com/go/ilo/mobileapp.	
HPE Insight Online	HPE Insight Online, available at no additional cost as part of your HPE warranty, Care Pack or contractual support agreement with HPE, 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.	

Security

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

Warranty

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE 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 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. 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 Essentials**	HPE iLO Essentials is the preferred license for small and medium business that offers full remote server management capabilities for small and medium business via the Integrated Remote Console (IRC), virtual media, and e-mail based alerts. Learn more about HPE iLO Essentials at http://www.hp.com/go/iLO/essentials.
	iLO Scale-Out	HPE iLO Scale-Out is the preferred license built for web hosting, cloud service providers, and high performance computing data centers, managing massive scale out environments. This license offers sophisticated scripting tools that provides remote access through Text Console via SSH, Dynamic power capping, Email-based Alerting and proactive notifications. For more information, visit http://www.hp.com/go/iLO/scale-out.
	iLO Advanced	HPE iLO Advanced licenses offer smart remote functionality without compromise, for all HPE ProLiant servers. The license includes the full integrated remote console, virtual keyboard, video, and mouse (KVM), multi-user collaboration, console record and replay, and GUI-based and scripted virtual media and virtual folders. You can also activate the enhanced security and power management functionality. Learn more about HPE iLO Advanced at http://www.hp.com/go/iloadvanced.
Server Management	**HPE Insight Control**	HPE 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.
	HPE OneView Advanced	HPE 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.

Rack and Power Infrastructure

HPE Rack and Power Infrastructure products and services create highly efficient and intelligent solutions for existing or new IT data centers. HPE 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, Hewlett Packard Enterprise is uniquely positioned to address the key concerns of power, cooling, cable management and system access.

Learn more at HPE Rack and Power Infrastructure**.**

High Performance Clusters

HPE 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 HPEC Server. A Cluster Platform Configurator simplifies ordering. http://www.hp.com/go/clusters.

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server under the HPE Cluster Platform product portfolio. These high-speed interconnects are fully supported by Hewlett Packard Enterprise 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

Optional Features

following URL to configure HPEC 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 HPE 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, HPE data protection and recovery software will cost-effectively protect you against disaster and ensure business continuity.
- **Data Archive and Migration Software**
  Hewlett Packard Enterprise 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)**
  Hewlett Packard Enterprise 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**
  Hewlett Packard Enterprise 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 HPE storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HPE StoreVirtual VSA**
  With HPE 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. HPE ProLiant Gen9 servers include a 3-year limited license for HPE StoreVirtual VSA software with 1TB of capacity at no extra cost. Simply select to install HPE 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 is a guided self-service tool to help sales and non-technical people provide customers with initial
(SCE)   configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance. https://h22174.www2.hp.com/SimplifiedConfig/Index.

Service and Support

Service and Support	**HPE Technology Services for Industry Standard Servers**
	HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise 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 HPE Care Pack Services
	HPE 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**
	HPE Proactive Care with 24x7 coverage, three year Care Pack Service
	HPE Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to HPE. 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 HPE 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
	HPE Foundation Care 24x7 connects you to Hewlett Packard Enterprise 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 HPE server. Simplify your support experience and make Hewlett Packard Enterprise your first call for hardware or software questions. http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

Basic Care	**Foundation Care NBD, three-year Care Pack Service**
	HPE Foundation Care Next Business Day connects you to HPE during business hours for assistance on resolving issues – features next business day hardware onsite response if needed and software call back within two hours. Collaborative software support is included and provides troubleshooting assistance on industry leading software running on your server. Simplify your support experience and make Hewlett Packard Enterprise 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	**HPE ProLiant Server Hardware Installation**
	Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner. http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf
	Factory Express for Servers and storage
	HPE Factory Express offers configuration, customization, integration and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested,

Service and Support

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. HPE 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 HPE Care Pack services can be found at: http://www.hp.com/go/cpc

Get connected to Hewlett Packard Enterprise 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
HPE Support Center	Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more http://www.hp.com/go/hpsc. Hewlett Packard Enterprise Support Center Mobile App** allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Care Pack or Hewlett Packard Enterprise contractual support agreement. **** HPE Support Center Mobile App is subject to local availability**
Parts and Materials	Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Pre-configured Models

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. Hewlett Packard Enterprise does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.

3. If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

4. Not all models are available in all regions. Check with your local country Hewlett Packard Enterprise 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: HPE SFF Hard Drive Blank Kit or P/N 666986-B21: HPE 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: Hewlett Packard Enterprise 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]	778640-B21	778641-B21
Model Name	HP ProLiant DL80 Gen9 E5-2603v3 4GB-R B140i 4LFF 550W PS Entry Server	HP ProLiant DL80 Gen9 E5-2609v3 8GB-R H240 8LFF 550W PS Entry Server
Processor	Intel® Xeon® E5-2603v3	Intel® Xeon® E5-2609v3
Number of Processors	One	
Memory	4GB (1x4GB Registered DIMMs, 2133 MHz) **NOTE:** Due to processor limitation, these DDR4 DIMMs will operate at 1600 MHz in this model.	8GB (1x8GB Registered DIMMs, 2133 MHz) **NOTE:** Due to processor limitation, these DDR4 DIMMs will operate at 1600 MHz in this model.
Network Controller	HPE Embedded Dual Port 361i Adapter Network Interface	
Storage Controller	HPE Dynamic Smart Array B140i	HPE H240 FIO Smart Host Bus Adapter
Hard Drive	None ship standard	
Internal Storage	4 LFF HDD Bays (Non Hot Plug)	8 LFF HDD Bays
Optical Drive Bay	Not Available	
Optical Drive	Optional via HPE Mobile USB DVDRW Drive (701498-B21)	
PCI-Express Slots	5 PCIe 3.0 slots (without risers)	
Power Supply	(1) HPE 550W FIO Power Supply	
Fans	2 hot swap fans, non-redundant	4 hot swap fans, redundant

Pre-configured Models

Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Essentials (optional)
Form Factor	Rack (2U), HPE Easy Install Rails

Country Code Key   xx1 = B21   Worldwide

                          NOTE: The -B21 WW SKU is to be ordered in all countries other than Japan or PRC.

                          xx1 = 291   Japan

                          xx1 = AA1   PRC

Configuration Information - Factory Integrated Models

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise 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 DL80 Gen9 Non-hot Plug 4LFF Configure-to-order Server	HP ProLiant DL80 Gen9 8LFF Configure-to-order Server	HP ProLiant DL80 Gen9 12LFF Configure-to-order Server
SKU Number	778686-B21	778685-B21	787217-B21
Processor	2 (optional) x HPE Smart Socket Guides		
DIMM Slots	8 DIMM slots for RDIMM, LRDIMM DDR4 Memory		
Storage Controller	HPE Dynamic Smart Array B140i		
PCIe	5 Low Profile PCIe 3.0 slots		
Drive Cage	4LFF Non Hot Plug	8LFF Hot Plug	12LFF Hot Plug
Network Controller	HPE Embedded Dual Port 361i Adapter Network Interface		
Fans	2 hot swap fans, non-redundant		
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Essentials (optional)		
USB	1 front, 1 internal, 2 rear		

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

HPE Processors   Select one or two processors from Core options-Processor section below,
- If one processor is desired, select one xxxxxx-L21
- If two processors are desired, select one xxxxxx-L21 and one xxxxxx-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.

HPE 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.

Configuration Information - Factory Integrated Models

- HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE 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.
- 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/ddr4config.

HPE Power Supplies
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 HPE Power Advisor tool to determine the right size power supply for your server configuration. The HPE 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

HPE 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.

HPE Drives
Select one or more drives from Core options-HPE 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 HPE 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 HPE Qualified Hard Drives and Solid State Drives. These new carriers provide status and activity indicators as well as caution indicators for "Do Not Remove".

HPE Flexible LOM
Select a FlexibleLOM from Core options-Networking section below,
- Only one FlexibleLOM can be added to the server. 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.
- Please see the QuickSpecs for Technical Specifications and additional information: http://www.hp.com/go/ProLiantNICs.

HPE Networking
Select a standup NIC adapter from Core options-Networking section below,

Configuration Information - Factory Integrated Models

- 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.

HPE Graphics Options   Select one or more graphics adapter from Additional options section below.

- Please see the HPE Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HPE Power Advisor is located at: http://www.hp.com/go/hppoweradvisor.
- This section may contain FIO options, please see HPE Computation & Graphics Accelerators section below.

HPE Cooling Options   Select one or more Fan Kits from Core options section below.

- This section may contain FIO options, please see HPE Cooling Options section below.
- FIO indicates that this option is only available as a factory installable option.

HPE 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 HPE Storage Controllers section below.
- FIO indicates that this option is only available as a factory installable option.

HPE I/O Expansion Options   Select one or more Riser Kit options from Core options section below.

- To take advantage of the additional PCI slot upgrade, the second processor must be installed.
- This section may contain FIO options, please see HPE I/O Expansion Options section below.
- FIO indicates that this option is only available as a factory installable option.

HPE 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 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 HPE Rack Options in Additional Options section of this QuickSpecs for more rack kit choices.

 CAUTION: Hewlett Packard Enterprise 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, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

HPE Unique Options	HP DL80 Gen9 8LFF Non-hot Plug Enablement Kit	788355-B21
	NOTE: Required to upgrade from 4LFF NHPE to 8LFF NHPE models.	
	HP DL80 Gen9 Full Height Half Length Riser Kit	765515-B21
	NOTE: Includes two FHHL PCIe 3.0 slots and one fan.	
	HP DL80 Gen9 GPU Enablement Kit	765518-B21
	NOTE: Includes 1 FHFL slot, one fan and power cable required to enable GPU support. Either one of FHHL or FlexibleLOM riser or GPU riser can be selected.	
	HP DL80 Gen9 FlexibleLOM Riser Kit	765514-B21
	NOTE: Includes one FlexibleLOM slot, one Low Profile slot and one fan.	
	HP AHCI-Enable FIO Setting	801845-B21
	NOTE: This needs to be selected when Advanced Host Controller Interface mode is required on B140i controller.	

HPE Processors	**Entry Processors - E5-2600v3 series Processors**	
	HP DL80 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) Processor Kit	765521-B21
	HP DL80 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) FIO Processor Kit	765521-L21
	HP DL80 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) Processor Kit	765523-B21
	HP DL80 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) FIO Processor Kit	765523-L21
	Base Processors - E5-2600v3 series Processors	
	HP DL80 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) Processor Kit	765525-B21
	HP DL80 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) FIO Processor Kit	765525-L21
	HP DL80 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) Processor Kit	765526-B21
	HP DL80 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) FIO Processor Kit	765526-L21
	HP DL80 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) Processor Kit	765530-B21
	HP DL80 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) FIO Processor Kit	765530-L21
	HP DL80 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) Processor Kit	765531-B21
	HP DL80 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) FIO Processor Kit	765531-L21
	HP DL80 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) Processor Kit	780100-B21
	HP DL80 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) FIO Processor Kit	780100-L21
	Performance Processors - E5-2600v3 series Processors	

Core Options

HP DL80 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) Processor Kit	765528-B21
HP DL80 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) FIO Processor Kit	765528-L21
HP DL80 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) Processor Kit	765529-B21
HP DL80 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) FIO Processor Kit	765529-L21
HP DL80 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) Processor Kit	765532-B21
HP DL80 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) FIO Processor Kit	765532-L21

HPE 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

HPE Standard Memory

HP 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Standard Memory Kit	803026-B21
HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Standard Memory Kit	803028-B21

NOTE: These memory options are available as standalone only and cannot be configured in the factory. These are standard memory DIMMs with no Smart Memory features.

HPE Optical Drives

HP Mobile USB Non Leaded System DVD RW Drive	701498-B21

HPE Drives

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	765424-B21
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

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

Core Options

HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765259-B21
HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive	793671-B21
HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	695510-B21
HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765257-B21
HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive	793669-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

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 Hot Plug SmartDrive LFF (3.5-inch) Midline 512e Helium Drives

HP 8TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive	793703-B21
HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive	793699-B21

SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	753874-B21
HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765255-B21
HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive	793667-B21
HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	693687-B21
HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765253-B21
HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drives	793665-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

SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 4TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive	801888-B21
HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	628065-B21
HP 3TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive	801886-B21
HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659339-B21

Core Options

HP 2TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive	801884-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659337-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive	801882-B21
HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659341-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 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 800GB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive	804674-B21
HP 1.2TB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive	804680-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
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

6G SATA Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives

HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive	757342-B21
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 Conveter 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

Core Options

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 120GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756624-B21
HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756639-B21
HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756660-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 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 240GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive	804590-B21
HP 480GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive	804596-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 (3.5-inch) RI-3 SCC SSD	
HP 3.84TB 6G SATA Read Intensive-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816933-B21
HP 1.92TB 6G SATA Read Intensive-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816923-B21
HP 960GB 6G SATA Read Intensive-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816913-B21
HP 480GB 6G SATA Read Intensive-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816903-B21
HP 240GB 6G SATA Read Intensive-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816893-B21
HP 120GB 6G SATA Read Intensive-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816883-B21
6G SATA Hot Plug LFF (3.5-inch) MU-3 SCC SSD	
HP 1.92TB 6G SATA Mixed Use-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	817015-B21
HP 960GB 6G SATA Mixed Use-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816999-B21
HP 480GB 6G SATA Mixed Use-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816989-B21
HP 240GB 6G SATA Mixed Use-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816979-B21
HP 120GB 6G SATA Mixed Use-3 LFF 3.5-in SC Converter 3yr Wty Solid State Drive	816969-B21

Core Options

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

M.2 SSD

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

NOTE: M.2 drives go in PCIe slot and use B140i SATA controller only.

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline 512e Helium Drives

HP 8TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive	793695-B21
HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive	793683-B21

Hard Drive Blank Kits

HP Large Form Factor Hard Drive Blank Kit	666986-B21

Hard Drive Kits

HP DL80 Gen9 8LFF Non-hot Plug Enablement Kit	788355-B21

NOTE: Required to move from 4LFF NHPE model to 8 LFF NHPE model.

HPE Networking

1 Gigabit Ethernet adapters

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

10 Gigabit Ethernet adapters

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

FlexibleLOM Adapters

HP Ethernet 1Gb 4-port 331FLR Adapter	629135-B22
HP Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
HP Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21
HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
HP FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
HP Ethernet 10Gb 2-port 546FLR-SFP+ Adapter	779799-B21
HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21

HPE InfiniBand

HP InfiniBand FDR 2-port 545QSFP Adapter	702211-B21

Core Options

	HP InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21

HPE I/O Expansion Options	HP DL80 Gen9 FlexibleLOM Riser Kit **NOTE:** Includes one FlexibleLOM slot, one Low Profile slot and one fan.	765514-B21
	HP DL80 Gen9 Full Height Half Length Riser Kit **NOTE:** Includes two FLFH PCIe 3.0 slots and one fan.	765515-B21
	HP DL80 Gen9 GPU Enablement Kit **NOTE:** Includes 1 FHFL slot, one fan and power cable required to enable GPU support. Either one of FHHL or FlexibleLOM riser or GPU riser can be selected.	765518-B21

HPE Power Supplies	**HPE Entry-Level Power Supplies**	
	HP 550W FIO Power Supply Kit	730941-B21

HPE Computation and Graphics Accelerators	HP NVIDIA Quadro K2200 Graphics Accelerator **NOTE:** GPU enablement kit (P/N: 765518-B21) is required with this option.	J0G89A
	HP NVIDIA Quadro K4200 Graphics Accelerator **NOTE:** GPU enablement kit (P/N: 765518-B21) is required with this option.	J0G90A
	NOTE: 1 GPU supported per Server, attached to the Primary CPU. **NOTE:** Only the above listed Graphics cards are HPE 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 HPE Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HPE Power Advisor is located at: http://www.hp.com/go/hppoweradvisor.	

HPE Cooling Options	HP DL80 Gen9 Redundant Fan Kit **NOTE:** Includes two fans and is required to move from non-redundant to redundant fan configurations. Since each riser includes a fan as well, please refer to user-guide for exact fan requirements to enable fan redundancy.	765516-B21

Additional Options

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

HPE Insight Software	**HPE 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
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	C6N36A
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License	C6N36ABE
	HP Insight Control Server Provisioning Media Kit	BD883A
	HP Insight Management Media Kit	C6N31A

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.

NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24x7 HPE Software Technical Support and Update Service.

NOTE: Licenses ship without media. The HPE Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates.

NOTE: For additional license options please see the QuickSpecs at: http://h18000.www1.hp.com/products/QuickSpecs/12631_div/12631_div.html.

Embedded Management	**HPE iLO Advanced**	
	HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License	512485-B21
	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 3yr 24x7 Technical Support and Updates E-LTU	E6U64ABE
	HPE iLO Essentials	
	HP Integrated Lights-Out Essentials including 3yr 24x7 Tech Support and Updates Single Svr License	BD774A
	HP Integrated Lights-Out Essentials including 1yr 24x7 Tech Support and Updates Single Svr License	BD775A
	HP Integrated Lights-Out Essentials including 3yr 24x7 Technical Support and Updates E-LTU	E6U61ABE
	HP Integrated Lights-Out Essentials including 1yr 24x7 Technical Support and Updates E-LTU	E6U62ABE
	HPE iLO Scale-out	
	HP Integrated Lights-Out Scale-Out 3yr 24x7 Tech Support and Updates Flex Quantity License	BD776A
	HP Integrated Lights-Out Scale-Out including 3yr 24x7 Tech Support and Updates Flex Qty E-LTU	BD776AAE

Additional Options

HP Integrated Lights-Out Scale-Out including 3yr 24x7 Tech Support and Updates Tracking License	BD777A
HP Integrated Lights-Out Scale-Out 1yr 24x7 Tech Support and Updates Flex Quantity License	BD778A
HP Integrated Lights-Out Scale-Out including 1yr 24x7 Tech Support and Updates Flex Qty E-LTU	BD778AAE
HP Integrated Lights-Out Scale-Out including 1yr 24x7 Tech Support and Updates Tracking License	BD779A

HPE Converged Infrastructure Management Software

HPE OneView

HP OneView incl 3yr 24x7 Supp Phys 1 Svr Lic	E5Y34A
HP OneView incl 3yr 24x7 Supp Flex Qty E-LTU	E5Y35AAE
HP OneView Media Kit Phys No Lic	E5Y37A
HP OneView for ProLiant DL Server incl 3yr 24x7 Supp FIO Bundle Physical 1 Svr Lic	E5Y43A

HPE OneView without iLO Advanced

HP OneView w/o iLO including 3yr 24x7 Support 1 Server LTU	P8B24A
HP OneView w/o iLO including 3yr 24x7 Support Track 1 Server LTU	P8B25A
HP OneView w/o iLO including 3yr 24x7 Support Flex Quantity E-LTU	P8B26AAE
HP OneView w/o iLO including 3yr 24x7 Support FIO 1 Server LTU	P8B31A
HP Operations Analytics for HP OneView LTU	K8G29A
HP Operations Analytics for HP OneView E-LTU	K8G29AAE

NOTE: Full licenses of HPE OneView Advanced also provide the right-to-use HPE Insight Control without additional charge.

NOTE: Server provisioning (via 'HPE Insight Control server provisioning') is licensed as part of HPE OneView Advanced and provides multi-server OS and driver provisioning. Media kit #BD883A can be ordered for a physical copy of this software (USB flash drive).

NOTE: Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/oneview.

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.

HPE Security

HP Trusted Platform Module Option	488069-B21
HP 2U Security Bezel Kit	666988-B21

NOTE: Quick release EAR FIO kit (P/N: 778109-B21) is required for installing security bezel.

HP DL80 Gen9 Quick Release Ear FIO Kit	778109-B21

NOTE: Quick Release Ears are mandatory for 12LFF models.

HP DL80 Gen9 Thumbscrew Ear FIO Kit	787211-B21

HPE Storage Controllers

SAS Controllers

HPE Smart Array Controllers

HP Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller	726821-B21
HP Smart Array P440/2GB FBWC 12Gb 1-port Int SAS Controller	820834-B21

Additional Options

NOTE: Includes the HPE Smart Storage Battery.

HP Smart Array P840/4GB FBWC 12Gb 2-ports Int SAS Controller	726897-B21
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 HPE Smart Storage Battery.

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

NOTE: Includes the HPE Smart Storage Battery.

HP Smart Array P841/4GB FBWC 12Gb 4-ports Ext SAS Controller	726903-B21

HPE Smart Host Bus Adapters

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

HPE Cable Options

HP DL60/80/120 Gen9 4LFF Cable FIO Kit	777331-B21
HP DL80 Gen9 LFF Smart Array P440/P840 SAS Cable Kit	779619-B21

NOTE: One cable kit must be selected with P440 controller.

NOTE: Two of these cable kits must be selected with P840 controller.

HP DL80 Gen9 LFF Smart HBA H240 SAS Cable Kit	779622-B21

NOTE: Two cable Kits must be selected with H240.

NOTE: One of the above cables is required to be selected depending on the combination of chassis and storage controller. Cable option kit descriptions include the right chassis and storage controllers names.

NOTE: FIO indicates that this option is only available as a factory installable option. Please select FIO option if you want the option to be factory installed.

NOTE: NHPE server chassis (Mod-x) includes SATA cables required to connect drives to embedded B140i SATA controller.

Optional Software

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

NOTE: HPE SmartCache is supported when one of the supported Smart Array Controllers is installed in the server.

NOTE: HPE SmartCache comes standard (no licensing is required) if the HPE Smart Array P840 Controller is installed in the server.

Optional Upgrades

HP 96W Smart Storage Battery with 145mm Cable for DL/ML/SL Servers	727258-B21

NOTE: This option is mandatorily required with HPE Smart Array controllers. One server can accommodate only 1 Smart Storage Battery that would suffice the requirement of all HPE Smart Array controllers.

HPE 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 HPE tape backup products see:** http://www.hp.com/storage/SPOCK **and** http://www.hp.com/go/ebs.

NOTE: For Internal drives to be connected to DL servers please make sure that you order rack mount kit as well.

Additional Options

Tape Drives

HPE StoreEver LTO-7 Ultrium 15000 Internal Tape Drive	BB873A
HPE StoreEver LTO-7 Ultrium 15000 External Tape Drive	BB874A
HP StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive	EH964A
HP StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
HP StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
HP StoreEver LTO-5 Ultrium 3280 SAS External Tape Drive	EH900B
HP StoreEver LTO-4 Ultrium 1760 SAS External Tape Drive	EH920B
HP StoreEver LTO-3 Ultrium 920 SAS External Tape Drive	EH848B
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

Tape Libraries

HP MSL2024 0-Drive Tape Library	AK379A
HP MSL4048 0-Drive Tape Library	AK381A

HPE Tape Storage Systems

HP StoreEver 1U SAS Rack-mount Kit	AE459B
HP StoreEver LTO-4 Ultrium 1760 SAS (1) in 1U Rack-mount Kit	EH946C
HP StoreEver LTO-5 Ultrium 3000 SAS Tape Drive in 1U Rack-mount	EJ014B
HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit	C0L99A
HP StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader	C0H19A

HPE StoreEver MSL6480

HP StoreEver MSL6480 Scalable Base Module	QU625A
HP StoreEver MSL6480 Scaleable Expansion Module	QU626A

HPE Disk Backup

HPE RDX Removable Disk Backup System

HP RDX 2TB USB3.0 External Disk Backup System	E7X53B
HP RDX+ 500GB External Backup System	B7B66B
HP RDX+ 1TB External Backup System	B7B69B
HP RDX+ External Docking System	C8S07B
HP D3700 Enclosure	QW967A
HP D3600 Enclosure	QW968A

HPE StoreOnce Backup systems

HPE StoreOnce 3100 8TB System	BB913A
HPE StoreOnce 3520 12TB System	BB922A
HPE StoreOnce 3540 24TB System	BB914A
HPE StoreOnce 5100 48TB System	BB915A

HPE Storage Options

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 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ764A

Additional Options

HP 81Q 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AK344A
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 CN1200E 10Gb Converged Network Adapter	E7Y06A
HP StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A

HPE Disk Storage Systems	**Disk Enclosures**	
	HP D6000 Dual I/O Module Disk Enclosure	QQ695A
	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/70 3TB 6G SAS 7.2K LFF Dual port MDL HDD 210TB Bundle	QQ700A
	HP D6000 w/70 2TB 6G SAS 7.2K LFF Dual port MDL HDD 140TB Bundle	QQ698A
	HP D6000 w/35 2TB 6G SAS 7.2K LFF Dual port MDL HDD 70TB Bundle	QQ697A
	HP D6000 w/35 3TB 6G SAS 7.2K LFF Dual port MDL HDD 105TB Bundle	QQ699A
	HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle	E7W32A
	HP D6000 w/70 6TB 12G SAS 7.2K LFF (3.5in) Dual Port MDL HDD 420TB Bundle	M0T57A
	HP D6000 w/35 8TB 12G SAS 7.2K LFF (3.5in) Dual Port MDL HDD 280TB Bundle	M0T58A
	HP D6000 w/70 8TB 12G SAS 7.2K LFF (3.5in) Dual Port MDL HDD 560TB Bundle	M0T59A

HPE Data Center Racks	**HPE 11000 G2 Series Racks**	
	HPE 11648 1075mm Pallet Universal Rack	H6J87A
	HPE 11648 1075mm Shock Universal Rack	H6J88A
	HPE 11642 1075mm Pallet Universal Rack	H6J65A
	HPE 11642 1075mm Shock Universal Rack	H6J66A
	HPE 11642 1200mm Pallet Universal Rack	H6J67A
	HPE 11642 1200mm Shock Universal Rack	H6J68A
	HPE 11636 1075mm Pallet Universal Rack	H6J77A
	HPE 11636 1075mm Shock Universal Rack	H6J78A
	HPE 11622 G2 1075mm Pallet Universal Rack	H6J83A
	HPE 11622 G2 1075mm Shock Universal Rack	H6J84A
	HPE 11614 1075mm Shock Universal Rack	H6J82A

NOTE: Please see the HPE 11000 G2 Series Racks QuickSpecs **for information on additional racks options and rack specifications.**

	HPE Intelligent Series Rack	
	HPE 647 1075mm Pallet Intelligent Series Rack	BW911A
	HPE 647 1075mm Shock Intelligent Series Rack	BW912A
	HPE 647 1200mm Pallet Intelligent Series Rack	BW913A
	HPE 647 1200mm Shock Intelligent Series Rack	BW914A
	HPE 642 1075mm Pallet Intelligent Series Rack	BW903A
	HPE 642 1075mm Shock Intelligent Series Rack	BW904A
	HPE 642 1200mm Pallet Intelligent Series Rack	BW907A
	HPE 642 1200mm Shock Intelligent Series Rack	BW908A

Additional Options

HPE 636 1075mm Pallet Intelligent Series Rack	BW895A
HPE 636 1075mm Shock Intelligent Series Rack	BW896A
HPE 842 1075mm Pallet Intelligent Series Rack	BW917A
HPE 842 1075mm Shock Intelligent Series Rack	BW918A

NOTE: Please see the HPE Intelligent Series Racks QuickSpecs **for information on additional racks options and rack specifications.**

HPE Value Series Rack

HPE V142 1075mm deep Pallet 100 series Rack	AF046A

NOTE: Please see the HPE Value Series Rack QuickSpecs **for information on additional racks options and rack specifications.**

HPE Power Distribution Units (PDUs)

HPE Basic Power Distribution Unit (bPDU)

HP 1.9kVA 120 Volt L5-20 Input (12xNEMA 5-20R) NA/JP Basic PDU	H5M54A
HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Basic PDU	H5M56A
HP 2.8kVA 120 Volt L5-30 Input (18xNEMA 5-20R) NA/JP Basic PDU	H5M55A
HP 3.6kVA 200-240 Volt Detachable C20 Input (18xC13) WW Basic PDU	H5M57A
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 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13) NA/JP Basic PDU	H5M61A
HP 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU	H5M59A
HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU	H5M70A
HP 8.3kVA 208 Volt CS8265C Input (30xC13/6xC19) NA/JP Basic PDU	H5M60A
HP 11kVA 230 Volt IEC309 63A Input (30xC13/6xC19) INTL Basic PDU	H5M71A
HP Hardwired 200-240 Volt Input (30xC13/6xC19) WW Basic PDU	H5M75A
HP 5.7kVA 208 Volt L21-20 3-Phase Input (24xC13/3xNEMA 5-20R) NA/JP Basic PDU	H5M63A
HP 8.6kVA 208 Volt L21-30 3-Phase Input (24xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU	H5M64A
HP 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU	H5M62A
HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/6xC19) INTL Basic PDU	H5M72A
HP 11kVA 400 Volt IEC309 30A 3-Phase Input (36xC13/6xC19) NA Basic PDU	H5M67A
HP 2.8kVA 24A Low Voltage NA/JP Modular Power Distribution Unit	252663-D71
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 9.2kVA 40A High Voltage INTL Core Modular Power Distribution Unit	252663-B34
HP 8.6kVA 24A Three Phase NA/JP Modular Power Distribution Unit	AF512A
HP 11kVA 16A Three Phase INTL Modular Power Distribution Unit	AF513A
HP 14.4kVA 40A Three Phase NA/JP Modular Power Distribution Unit	AF519A
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 11kVA 400 Volt IEC309 16A 3-Phase Input (36xC13/6xC19) INTL Basic PDU	H5M73A
HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A

NOTE: To learn more about HPE Basic Power Distribution Units (bPDU), please visit the HPE website at http://www.hp.com/go/pdu**.**

Additional Options

HPE 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 (12xC13) WW Monitored PDU	D9N46A
HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU	D9N44A
HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU	D9N45A
HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU	G9Z05A
HP 7.3kVA 230 Volt IEC309 32A Input (12xC13) INTL Monitored PDU	G9Z06A
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 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13/3xC19) NA/JP Monitored PDU	D9N51A
HP 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU	D9N52A
HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU	D9N53A
HP 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU	D9N55A
HP 8.3kVA 208 Volt CS8265C Input (30xC13/3xC19) NA Monitored PDU	D9N49A
HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU	D9N50A
HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU	D9N57A
HP 14.4kVA 208 Volt CS8365C 3-Phase Input (12xC13/12xC19)NA Monitored PDU	D9N58A
HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (30xC13/3xC19) NA Monitored PDU	D9N61A
HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (12xC13/12xC19) NA Monitored PDU	D9N62A
HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU	D9N54A
HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU	D9N59A
HP 17.3kVA 208 Volt IEC309 60A 3-Phase Watertight Input (12xC13/12xC19) NA/JP Monitored PDU	G9Z07A
HP 19.9kVA 480 Volt 3-Phase (30 Outlet) NA Monitored PDU	D9N63A
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
HP 22kVA 400 Volt IEC309 32A 3-Phase Watertight Input (12xC13/12xC19) INTL Monitored PDU	G9Z08A
HP Environmental Sensor for Remote Monitored and Managed PDUs	E2D53A

NOTE: Please see the HPE Monitored Power Distribution Units QuickSpecs **for information on additional options and product specifications.**

HPE 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

Additional Options

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 11.4kVA 16A 415V Three Phase L22-20 NA Core Intelligent Power Distribution Unit	AF900A
HP 17.3kVA 24A 415V Three Phase IEC309 NA Core Intelligent Power Distribution Unit	AF901A
HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit	AF525A
HP 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit	AF526A
HP 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit	AF527A
HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF535A
HP 17.3kVA 24A 415V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF537A
HP 22kVA 32A 400V Three Phase 12 Outlet Core INTL Intelligent Power Distribution Unit	AF538A
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 14.4kVA 40A Three Phase NA/JP Intelligent Modular Power Distribution Unit	AF533A
HP 7.3kVA 32A Single Phase INTL Intelligent Modular Power Distribution Kit	AF534A
HP 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A
HP 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A

NOTE: Please see the HPE Intelligent Power Distribution Units QuickSpecs **for information on additional options and product specifications.**

HPE Managed Power Distribution Units (maPDU)

HP 2.8kVA 120 Volt L5-30 Input (24x NEMA 5-20) NA/JP Managed PDU	H8B48A
HP 3.6kVA 200-240 Volt Detachable C20 Input (7xC13/1xC19) WW Managed PDU	H8B49A
HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Managed PDU	H8B50A
HP 7.3kVA 200-240 Volt IEC309 32A Input (20xC13/4xC19) INTL Managed PDU	H8B51A
HP 8.6kVA 208 Volt L15-30 3 Phase Input (18xC13/6xC19) NA/JP Managed PDU	H8B52A
HP 8.6kVA 208 Volt L21-30 3 Phase Input (20xC13/3xC19/1x NEMA 5-20) NA/JP Managed PDU	H8B53A
HP 11kVA 400 Volt IEC309 16A 3 Phase Input (21xC13/3xC19) INTL Managed PDU	H8B54A
HP 14.4kVA 208V CS8365C 3 Phase Input (12xC13/12xC19) NA/JP Managed PDU	H8B55A
HP 17.3kVA 208V IEC309 60A 3 Phase Input (12xC13/12xC19) NA/JP Managed PDU	H8B56A

NOTE: Please see the HPE Managed Power Distribution Units QuickSpecs **for information on additional options and product specifications.**

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

HPE Rack Mount Consoles, KVM

HPE Location Discovery Services

HP Location Discovery Services LCD8500 Kit	TL052A

Additional Options

Switches, and Keyboards

NOTE: Please see the HPE Location Discovery Services QuickSpecs **for Technical Specifications and additional information.**

HPE Rack Mount Consoles

HP LCD8500 1U US Rackmount Console Kit	AF630A
HP LCD8500 1U UK Rackmount Console Kit	AF631A
HP LCD8500 1U DE Rackmount Console Kit	AF632A
HP LCD8500 1U FR Rackmount Console Kit	AF633A
HP LCD8500 1U JP Rackmount Console Kit	AF642A
HP LCD8500 1U RU Rackmount Console Kit	AF643A
HP LCD8500 1U INTL Rackmount Console Kit	AF644A
HP LCD8500 1U US TAA Rackmount Console Kit	AF645A

HPE KVM Switches

HP 0x1x8 G3 KVM Console Switch	AF651A
HP 0x2x16 G3 KVM Console Switch	AF652A
HP TAA 0x2x16 G3 KVM Console Switch	AF653A
HP USB Remote Access Key for G3 KVM Console Switches	AF650A
HP KVM Console USB Interface Adapter	AF628A
HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
HP KVM Console USB 2.0 Virtual Media CAC Interface Adapter	AF629A
HP 1x4 USB/PS2 KVM Console Switch	AF611A
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 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A

NOTE: To learn more, please visit the HPE KVM Switches web page**.**

HPE USB Keyboard and Mouse

HP USB BFR with PVC Free US Keyboard/Mouse Kit	631341-B21
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 IN Keyboard/Mouse Kit	672097-D63
HP USB BFR with PVC Free AP-Intl Keyboard/Mouse Kit	672097-373
HP USB BFR with PVC Free Intl Keyboard/Mouse Kit	672097-B33
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 SE Keyboard/Mouse Kit	672097-103
HP USB BFR with PVC Free CH Keyboard/Mouse Kit	672097-113

Additional Options

HP USB BFR with PVC Free KR Keyboard/Mouse Kit	672097-KD3

NOTE: Please see the HPE USB Keyboard and Mouse QuickSpecs **for information on additional options and product specifications.**

Rail Kits

HP 2U Small Form Factor Easy Install Rail Kit	733660-B21
HP 2U Cable Management Arm for Easy Install Rail Kit	733664-B21

HPE Other Options

HP Rack LED Light Kit	BW939A
HP Kit LCD 1.83m Latch Display Port Cable	G7T29A
HP Advanced Power Manager Kit	741192-B21

HPE Uninterruptible Power Systems (UPS)

HPE DirectFlow Three Phase UPS

Power Unit (1U UPS)

HP R12000 DirectFlow - 1U Rackmount Uninterruptible Power System	G9Y75A
HP R12000 DirectFlow - POD 1U Rackmount Uninterruptible Power System	AF478A
HP RP12000/3 12000VA Three Phase INTL 6U Rackmount Uninterruptible Power System	AF437A

Input/Output Module Options for 1U UPS

HP 32A 400-415 Volt Three Phase INTL R12000 DirectFlow UPS IEC309 Input/Output Module	AF488A
HP 30A 400-415 Volt Three Phase NA R10000 DirectFlow UPS IEC309 Input/Output Module	AF489A
HP 32A 380 Volt Three Phase China R12000 DirectFlow UPS Unterminated Input/Output Module	AF490A
HP 30A 480 Volt Three Phase NA R12000 DirectFlow UPS L22-30 Input/Output Module	AF491A
HP 30A 480 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module	AF492A
HP 30A 400-415 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module	G9Y76A

Power Unit (2U UPS)

HP R18000 DirectFlow - 2U Rackmount Uninterruptible Power System	AF479A

Input/Output Module Options for 2U UPS

HP 32A 400-415 Volt Three Phase INTL R18000 DirectFlow UPS IEC309 Input/Output Module	AF483A
HP 30A 380 Volt Three Phase China R18000 DirectFlow UPS Unterminated Input/Output Module	AF485A
HP 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	AF486A
HP 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	AF487A
HP 30A 400 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	D9Q02A
HP 30A 400-415V Three Phase NA R18000 DirectFlow UPS 1:1 IEC309 Input/Output Module	AF484A

NOTE: All Input/Output Modules support dual output outlets except the AF484A.

Additional Options

Battery Pack Options

HP DirectFlow UPS - 1U Rackmount Lithium-ion Battery Pack	AF480A
HP DirectFlow UPS - 3U Rackmount VRLA Battery Pack	AF482A
HP WW DirectFlow Secondary Battery Cable	AF497A

NOTE: Please see the HPE DirectFlow Three Phase Uninterruptible Power System QuickSpecs for information on additional options and product specifications.

HPE Tower UPS

HPE T750 G4 UPS Models

HP T750 G4 NA/JP Uninterruptible Power System	J2P85A
HP T750 G4 INTL Uninterruptible Power System	J2P88A

HPE T1000 G4 UPS Models

HP T1000 G4 NA/JP Uninterruptible Power System	J2P86A
HP T1000 G4 INTL Uninterruptible Power System	J2P89A

HPE T1500 G4 UPS Models

HP T1500 G4 NA/JP Uninterruptible Power System	J2P87A
HP T1500 G4 INTL Uninterruptible Power System	J2P90A

HPE Rack/Tower UPS

HPE R/T2200 G4 UPS Models

HP R/T2200 G4 NA/JP Uninterruptible Power System	J2R00A

HPE R/T3000 G4 UPS Models

HP R/T3000 G4 Low Voltage NA/JP Uninterruptible Power System	J2R01A
HP R/T3000 G4 High Voltage NA/JP Uninterruptible Power System	J2R02A
HP R/T3000 G4 High Voltage INTL Uninterruptible Power System	J2R04A

R1500 G4 Models

HP R1500 G4 NA Uninterruptible Power System	J2Q99A
HP R1500 G4 JP/TWN Uninterruptible Power System	J2R05A
HP R1500 G4 INTL Uninterruptible Power System	J2R03A

R7000 Uninterruptible Power System (UPS)

HP R7000 4U 50A High Voltage NA/JP Uninterruptible Power System	AF462A
HP R7000 4U IEC-32A High Voltage INTL Uninterruptible Power System	AF463A

R5000 Uninterruptible Power System (UPS)

HP R5000 3U L630 High Voltage NA/JP Uninterruptible Power System	AF460A
HP R5000 3U IEC309-32A High Voltage INTL Uninterruptible Power System	AF461A

NOTE: Please see the HPE Line Interactive Single Phase UPS QuickSpecs for information on additional options and product specifications.

HPE UPS Options

HP R/T2200 G4 Extended Runtime Module	J2R09A
HP R/T3000 G4 Extended Runtime Module	J2R10A
HP 2U Rack/Tower UPS Shipping Kit	L4Q11A
HP DirectFlow UPS Management Card	AF493A

HPE T750 G2 UPS Models

|	
HP T750 G2 750VA NA Tower Uninterruptible Power System	AF446A
HP T750 G2 750VA INTL Tower Uninterruptible Power System	AF447A

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

Additional Options

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

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

HPE Care Pack Services

Installation & Start-up Services

HPE Installation ML/DL Series 10 Service	U7WZ5E
HPE Startup ML/DL Series 10 Service	U7WZ7E

Foundation Care

HPE 3 year Foundation Care Next business day DL80 Gen9 Service	U7WG1E
HPE 3 year Foundation Care Next business day with DMR DL80 Gen9 Service	U7WG2E
HPE 3 year Foundation Care Next business day with CDMR DL80 Gen9 Service	U7WG3E
HPE 3 year Foundation Care 24x7 DL80 Gen9 Service	U7WG4E
HPE 3 year Foundation Care 24x7 wDMR DL80 Gen9 Service	U7WG5E
HPE 3 year Foundation Care 24x7 wCDMR DL80 Gen9 Service	U7WG6E

Proactive Care

HP 3 year 24x7 DL80 Gen9 Proactive Care Service	U7WK1E
HP 3 year 24x7 with Defective Media Retention DL80 Gen9 Proactive Care Service	U7WK2E
HP 3 year 24x7 w/ComprehensiveDefectiveMaterialRetention DL80 Gen9 Proactive Care SVC	U7WK3E

Memory

Memory Population guidelines
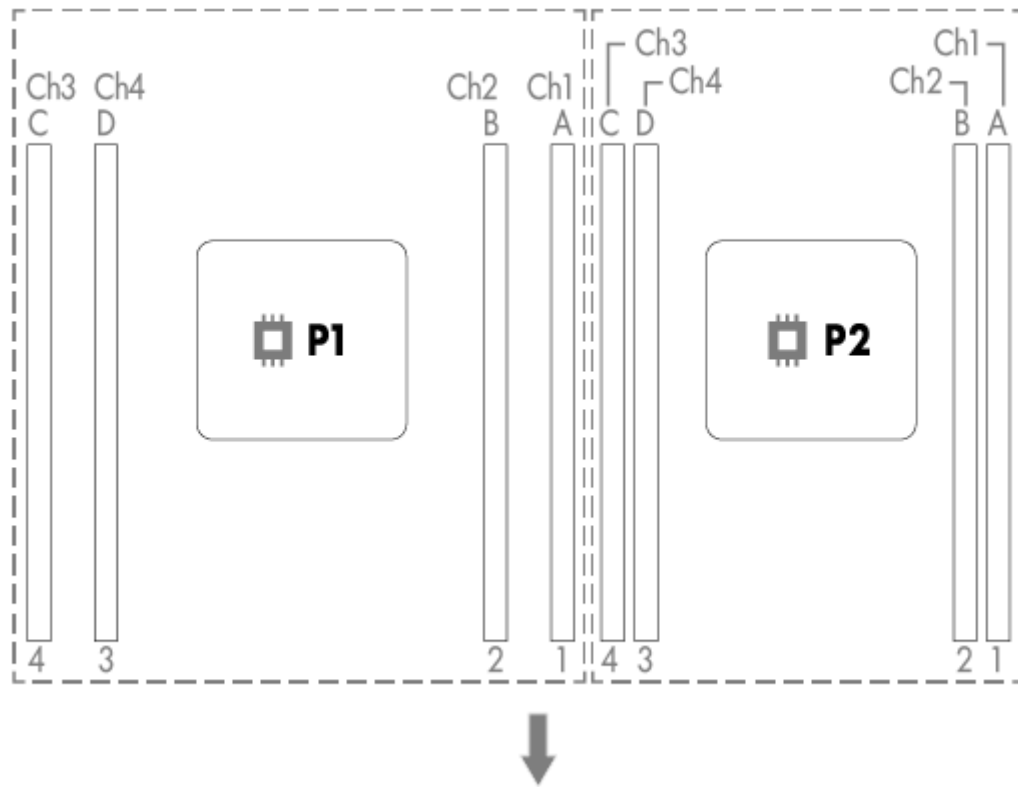
General Memory Population Rules and Guidelines:

. 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.

. Do not mix RDIMMs or LRDIMMs.

. Quad rank RDIMMs are not supported in HPE ProLiant DL80 Gen9 servers.

. 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, HPE SmartMemory is required.

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

Memory Bandwidth and Capacity		
[DIMM Type]	**Registered DIMMs (RDIMMs)**	**Load Reduced (LRDIMMs)**

Memory

DIMM Rank	Single Rank	Single Rank	Dual Rank	Dual Rank	Dual Rank	Dual Rank	Quad Rank
DIMM Capacity	4GB	8GB	8GB	16GB	32GB	16GB	32GB
DIMM Native Speed (MT/s)	2133	2133	2133	2133	2133	2133	2133
Voltage	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V
SLOTS THAT CAN BE POPULATED							
8 slot servers	8	8	8	8	8	8	8
MAXIMUM CAPACITY (GB)							
	32	64	64	128	256	128	256
POPULATED DIMM SPEED (MT/s)							
1 DIMM Per Channel	2133	2133	2133	2133	2133	2133	2133
2 DIMM Per Channel	2133	2133	2133	2133	2133	2133	2133
3 DIMM Per Channel	1600	1600	1600	1600	1600	1866	1866

DIMM slot and configuration diagram

DIMM slot and configuration diagrams

Basic memory slot & population 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, CP2-C

CPU #1 IS PROCESSOR ON LEFT - LOOKING FROM FRONT OF SERVER

	CPU 1		**CPU 2**	
	Slot #	population order	Slot #	population order
Chnl 1	1	A1	1	A1

	CPU 1		**CPU 2**	
	Slot #	population order	Slot #	population order
Chnl 2	2	B2	2	B2

	CPU 1		**CPU 2**	
	Slot #	population order	Slot #	population order
Chnl 4	3	D3	3	D3

	CPU 1	

Memory

	Slot #	population order	CPU 2		
			Slot #	population order	
Chnl 3	4	C4	4	C4	

Memory Speed by Processor Model

Processor Models	Supported Memory Speeds
E5-2603v3, E5-2609v3	1600MHz
E5-2620v3, E5-2630v3, E5-2630Lv3, E5-2640v3, E5-2623v3	1866MHz
E5-2650v3, E5-2660v3, E5-2650Lv3	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
E5-2603v3	4GB (1x4GB)	228GB (7x32GB, 1x4GB)	256GB (8x32GB)
E5-2609v3	8GB (1x8GB)	232GB (7x32GB, 1x8GB)	256GB (8x32GB)

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

HP ggggg eRxff DDR4 wwwwm a bb-ccd Kit

Capacity
- 4GB
- 8GB
- 16GB
- 32GB
- 64GB

Rank
- 1R = single
- 2R = dual
- 4R = quad

Data Width
- x8 = 8
- x4 = 4

Memory Type

Module Bandwidth
- 17000MT/s (DDR4-2133)

CAS Latency
- P = 15-15-15

DIMM Type
R = Registered
L = Load Reduced

Special Descriptor
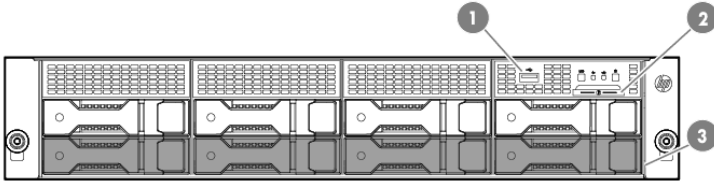(If Needed)
HS = Heat spreader
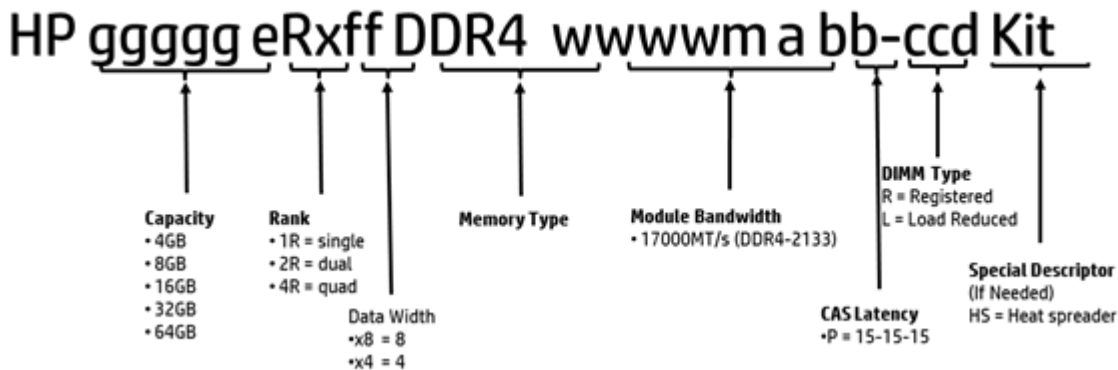
Storage

4-bay LFF non-hot-plug drive model
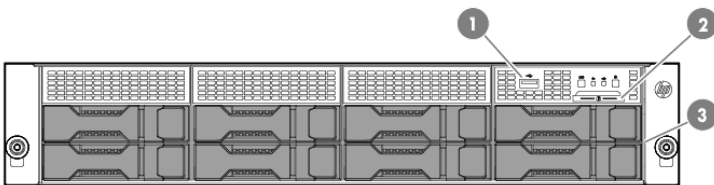

1-4   4 x LFF SATA Non-Hot Pluggable Hard Drive Bays

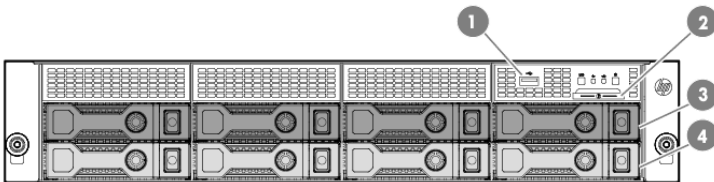8-bay LFF non-hot plug drive model

1-8   8 x LFF SATA Non- Hot Pluggable Hard Drive Bays
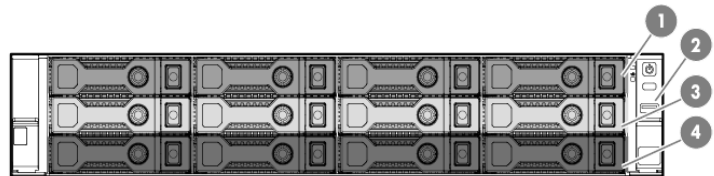
8-bay LFF hot-plug drive model

1-8   8 x LFF SATA/SAS/SDD Hot Pluggable Hard Drive Bays

12-bay LFF hot-plug drive model

1-12   12 x LFF SATA/SAS/SDD Hot Pluggable Hard drive bays

Technical Specifications

System Unit			
	Dimensions (with bezel)	3.45 x 18.98 x 24.97 in (8.75 x 44.55 x 60.7 cm)	
	Weight (approximate)	Maximum: Minimum:	47/6 lb (21.59 kg) 36.58 lb (16.59 kg)
	Input Requirements	Rated Line Voltage	100 to 240 VAC
		Rated Input Current	For 550W Power Supply: 6.7 A (at 100 VAC) 3.3 A (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	For 550 W Power Supply: < 670 W (at 100 VAC), < 660 W (at 200 VAC),
	BTU Rating	Maximum	For 550 W Power Supply: 2201 BTU/hr (at 100 VAC), 2153 BTU/hr (at 200 VAC)
	Power Specifications	To review typical system power ratings use the Power Advisor which is available via the online tool located at URL: http://www.hp.com/go/proliant-energy-efficient or http://www.hp.com/go/hppoweradvisor - Click on the system of interest. Example: DL80 Gen9- Follow the instructions of the next screens.	
	Power Supply Output	Rated Steady-State Power	For 550 W Power Supply: 550 W (at 100 VAC), 550 W (at 200 VAC),
		Maximum Peak Power	For 550 W Power Supply: 550 W (at 100 VAC), 550 W (at 200 VAC),
	System Inlet Temperature	Standard Operating Support	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).
		Extended Ambient Operating Support	For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: http://www.hp.com/servers/ashrae

Technical Specifications

		System performance may be reduced if operating in the extended ambient operating range or with a fan fault.
		NOTE: Supports A3 extended ambient.
	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-condensing)	Non-operating	5% to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise
Listed are the declared A-Weighted sound power levels (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	Entry: 4.8 B
	Base: 4.7 B
L pAm	Entry: 34 dBA
	Base: 33 dBA

Operating

L WAd	Entry: 4.9 B
	Base: 4.9 B
L pAm	Entry: 34 dBA
	Base: 36 dBA

NOTE: The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

Emissions Classification (EMC)	FCC Rating	Class A
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS14336-1; CNS13438; GB4943; GB9254; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

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.
NOTE: The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

Technical Specifications

HPE 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	HPE SSA, SMH, SIM
	Warranty	Server warranty
	HPE Secure Encryption license	Not Supported
	HPE SmartCache License	Not Supported
	HPE Smart Storage Administrator	Supported

HPE Embedded Dual Port 361i Adapter	**Network Interface**	10Base-T/100Base-TX/1000Base-TX
	Compatibility	IEEE 802.3 10Base-T
		IEEE 802.3ab 1000Base-T
		IEEE 802.3u 100Base-TX
		IEEE 1588, IEEE 802.1AS
		IEEE 802.3az - Energy Efficient Ethernet (EEE)
	Ports	
	Data Transfer Method	PCI Express v 2.0, 5.0 GT/s, two lanes (x2)
	Controller	Intel I350 Powerville
	Network 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

Technical Specifications

	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
	1000Base-TX (Half and Full-Duplex)	1000Mb/s per port, 4000 Mb/s combined
Connector	Two RJ-45	
Cable Support	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 Enterprise offers end-of-life Hewlett Packard Enterprise 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 Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

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

Summary of Changes

Date	Version History	Action	Description of Change
01-Dec-2015	From Version 8 to 9	Added	New options added to HPE Disk Backup, HPE Disk Storage Systems, and HPE Power Distribution Units (PDUs).
		Changed	On System Management Chipset, Maximum Internal Storage, Embedded Management, and Server utilities were revised. Product images were updated.
		Removed	Obsolete SKUs were removed from QuickSpecs.
28-Sep-2015	From Version 7 to 8	Added	Added new 6Gb SATA Solid State Drives. Added new HP OneView management software.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
17-Aug-2015	From Version 6 to 7	Added	New Solid State Drives offering was added to Core Options.
		Changed	Maximum Internal Storage was revised.
		Removed	Obsolete SKUs were removed from QuickSpecs.
10-Jun-2015	From Version 5 to 6	Added	Added new HP Drives: HP 8TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive HP 8TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive
01-Jun-2015	From Version 4 to 5	Added	New Hard Drives were added to Core Options. Added new HP Power Supplies options. Added new HP OneView LTUs to HP Converged Infrastructure Management Software. New RDX+ backup external backup options added to HP Disk Backup.

Summary of Changes

		Changed	Core Options and Additional Options were revised.
		Removed	Obsolete SKUs were removed from QuickSpecs.
24-Apr-2015	From Version 3 to 4	Added	Added 813534-B21 and 813535-B21 to HP Power Supplies.
30-Mar-2015	From Version 2 to 3	Added	New Hard Drives offering. Optional Software added to HP Storage Controllers.
		Changed	HP Memory, HP Disk Storage Systems, HP USB and SD Options, HP Storage Controllers, and HP Disk Storage Systems were updated.
09-Feb-2015	From Version 1 to 2	Added	Added HP Insight Software. Added new G4 UPS models.
		Changed	HP Memory, HP Tape Backup, HP Disk Backup, HP Rack Mount Consoles, KVM Switches, and Keyboards, and HP Uninterruptible Power Systems (UPS) sections were revised.

hp.com/qref/dl80gen9

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