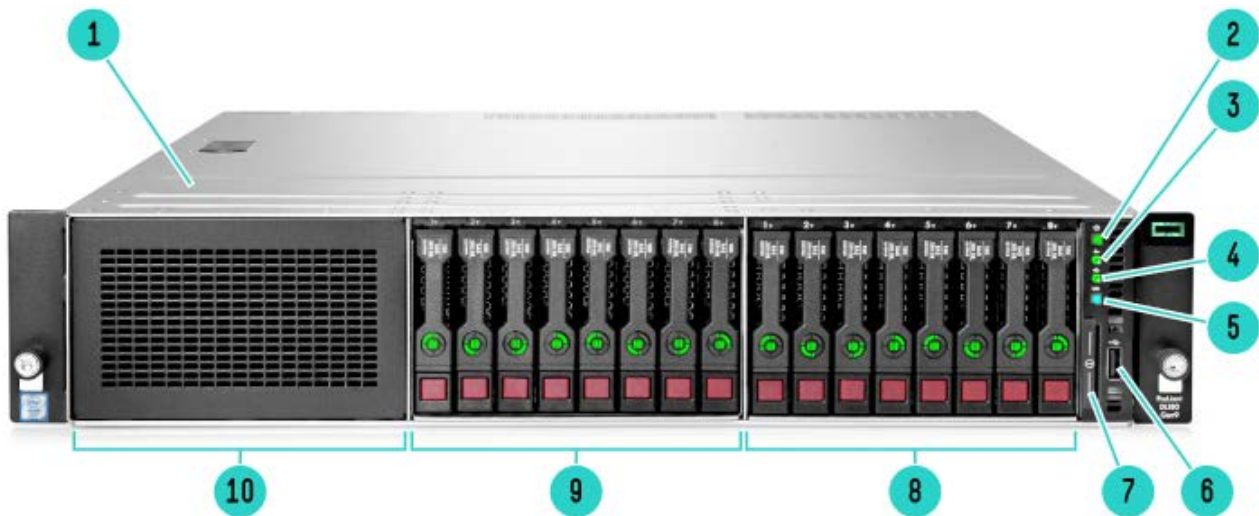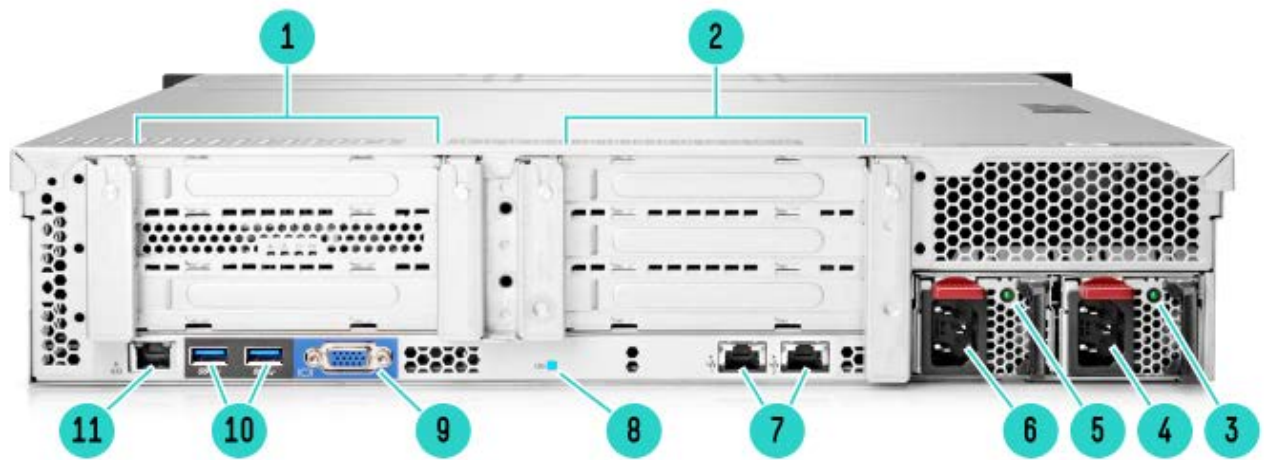## Overview

HPE ProLiant DL180 Generation9 (Gen9)

The new standard for growing data center needs. Delivering an optimized 2U server, designed with the right balance of expandability, performance, reliability, and manageability—all in a new compact chassis. The ideal platform for SMBs and enterprises running applications, which need the right mix of compute and storage.

Front View

1. Access Panel (Top Cover)
2. Power On/Standby button and system power LED
3. Health LED
4. NIC status LED
5. UID button/LED
6. USB 2.0 connector
7. Serial label pull tab
8. Fixed 8-bay SFF drive cage (box 3)
9. 8-bay SFF drive cage bay (box 2, for the second 8-bay SFF drive cage option)
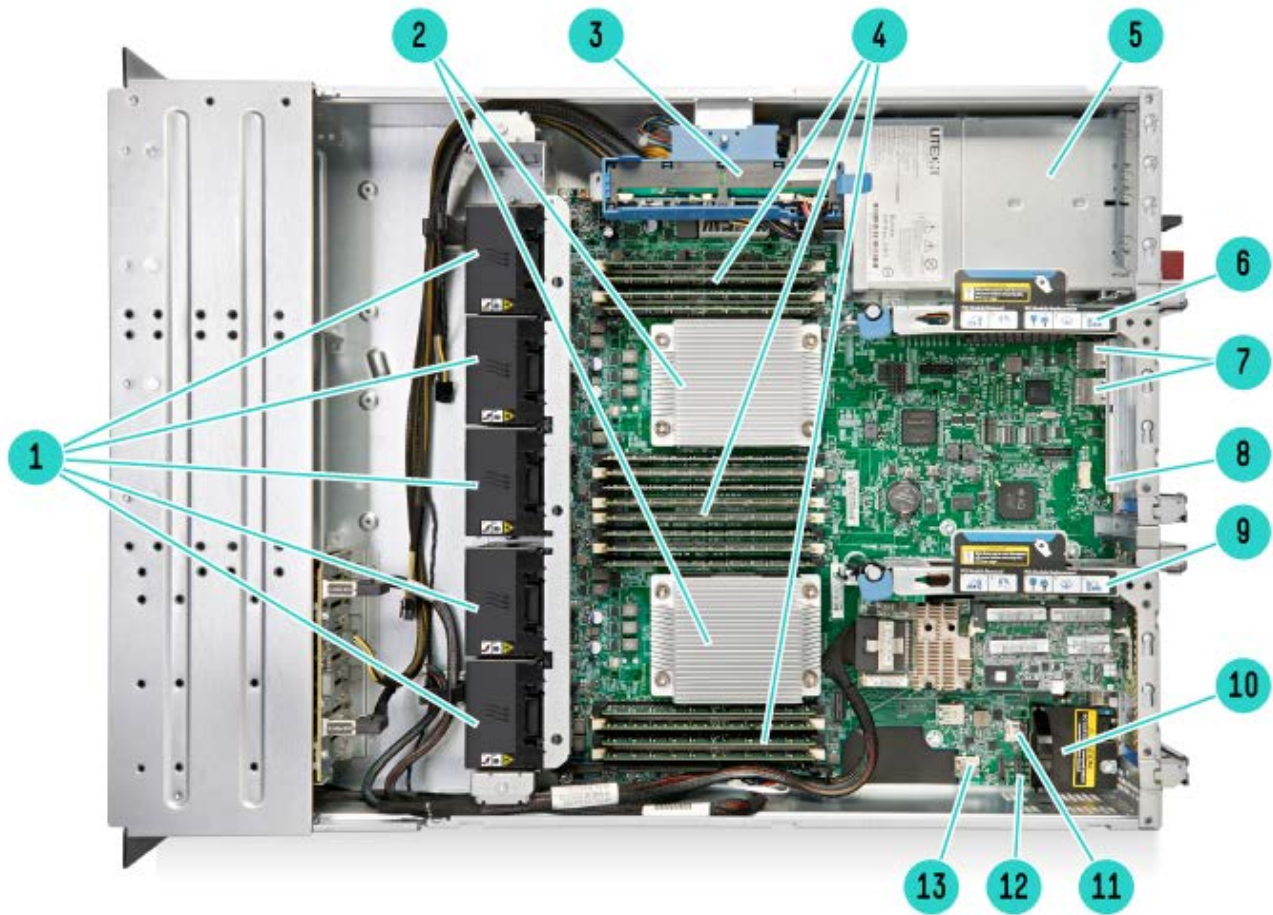10. HPE Media Bay (box 1, for the optical drive cage option)

Overview

Rear View

1. PCIe3 slots 1-3 (primary, associated with processor 1)
2. PCIe3 slots 4-6 (secondary, associated with processor 2)
3. Power Supply 2 LED (Optional)
4. Power Supply 2 Power Connector (Optional)
    NOTE: RPS shown in the picture.
5. Power Supply 1 LED (Optional)
6. Power Supply 1 Power Connector (Optional)
7. NIC connectors
8. UID LED
9. Video Connector
10. USB 3.0 Connectors
11. Dedicated iLO connector (optional)

Overview

Internal View

1. Fan cage shown with 5 Hot-swap fans (for 2P Redundancy)
2. 2 Processors, heatsink showing, with HPE Smart Socket Guide
3. Optional HPE Smart Storage Battery
4. DDR4 DIMM slots. Shown fully populated in 16 slots (8 per processor)
5. Entry level power supply bay (1x900W shown)
   NOTE: RPS (with one module) shown in the picture above.
6. Connection for second (optional) riser (Required second CPU)
8. Flexible LOM sideband signal connector
7. Embedded 2x1GbE NIC
10. Dedicated iLO module connector
9. Primary PCIe riser, standard
12. SATA optical drive connector
11. MicroSD card slot
13. Internal USB 3.0 connector (for USB flash devices)

What's New

- Support for ClearOS – an easy to use OS with an application marketplace

Standard Features

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

Processor
Up to two 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
E5-2695v4	2.1GHz	18	45MB	120W	9.6GT/s	2400
E5-2683v4	2.1GHz	16	40MB	120W	9.6GT/s	2400
E5-2680v4	2.4GHz	14	35MB	120W	9.6GT/s	2400
E5-2660v4	2.0GHz	14	35MB	105W	9.6GT/s	2400
E5-2650v4	2.2GHz	12	30MB	105W	9.6GT/s	2400
E5-2650Lv4	1.7GHz	14	35MB	65W	9.6GT/s	2400
E5-2640v4	2.4GHz	10	25MB	90W	8.0GT/s	2133
E5-2630v4	2.2GHz	10	25MB	85W	8.0GT/s	2133
E5-2630Lv4	1.8GHz	10	25MB	55W	8.0GT/s	2133
E5-2623v4	2.6GHz	4	10MB	85W	8.0GT/s	2133
E5-2620v4	2.1GHz	8	20MB	85W	8.0GT/s	2133
E5-2609v4	1.7GHz	8	20MB	85W	6.4GT/s	1866
E5-2603v4	1.7GHz	6	15MB	85W	6.4GT/s	1866

Chipset
One of the following depending on model

Intel® C610 Series Chipset

Intel® E5-2600v3 Processor Family

Intel® E5-2600v4 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

HPE iLO (Firmware HPE iLO4 2.0 or later) 2GB NAND
NOTE: Read and learn more in the **iLO QuickSpecs**.

Memory
One of the following depending on model

Type:

HPE SmartMemory

DDR4 Registered (RDIMM) or Load Reduced (LRDIMM)

DIMM Slots Available	16	(8 DIMM slots per processor, 4 channels per processor, 2 DIMMs per channel)
Maximum Capacity	1TB	(16 x 64GB LRDIMM @2400MHz)

Standard Features

	(LRDIMM)		
	Maximum Capacity (RDIMM)	512GB	(16 x 32GB RDIMM @2400MHz)

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.
	Mirroring mode	Memory mirroring inter-socket stores a copy of memory with dynamic failover in case of failure. Once a DIMM in a mirrored set is detected as failed, the mirror failover uses its mirrored DIMM.

Network Controller	HPE Ethernet 1Gb 2-Port 361i Adapter

Expansion Slots

Primary Riser (Optional)

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

NOTE: This riser can be used with both CPU 1 and CPU 2.
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	Form Factor	Notes
1	PCIe 3.0	x16	x16	Full-height, full-length slot	
2	PCIe 3.0	x8	x8	Full-height, half-length slot	

NOTE: This riser can be used with both CPU 1 and CPU 2.

Riser with Flexible LOM (Optional)

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
1	PCIe 3.0	x8	x8	Full-height, full-length slot	
2	PCIe 3.0	x8	x8	Full-height, half-length slot	
3	FlexibleLOM			Full-height, half-length slot	Can only be used for FlexibleLOMs

NOTE: This riser is mandatory for installing FlexibleLOMs & can be used only with CPU 1.
NOTE: When populating slots on second riser, a second processor must be installed.
NOTE: One of the 3 risers has to be selected mandatorily.

Storage Controller One of the following	Entry Models	HPE Dynamic Smart Array B140i Controller
	Base Models	HPE Dynamic Smart Array B140i Controller

Standard Features

depending on model		HPE H240 FIO Smart Host Bus Adapter
	Storage Models	HPE Flexible Smart Array P840/4G FIO Controller
	Performance Models	HPE Flexible Smart Array P840/4G FIO Controller

NOTE: B140i provides support for up to 8 SATA drives and data transmission speeds up to 6Gb/s and supports RAID 0, 1 & 5.
NOTE: H240 Provides support for up to 8 SAS/SATA drives, data transmission speeds up to 12Gb/s and supports RAID 0, 1 & 5.
NOTE: P840 Provides support for up to 16 SAS/SATA drives, data transmission speeds up to 12Gb/s.

Internal Storage Devices
One of the following depending on model

Optical Drive	Optional: DVD-ROM, DVD-RW
	NOTE: This option available with all 8SFF drive bay models only.
Hard Drives	None ship standard
Hard Drive Bays	8 SFF drive bays total with Optical Bay
	Optional: +8SFF drive bay (total of 16SFF drive bays)
	NOTE: The Optical Drive bay is not available with +8SFF drive bay optional upgrade.
	8 LFF drive bays total without Optical Bay
	12 LFF drive bays total without Optical Bay
	Up to 4 Non-hot plug SATA 3.5" drives
	NOTE: Optical drive is not supported on LFF Chassis.

Maximum Internal Storage
One of the following depending on model

	CAPACITY	CONFIGURATION
Hot Plug SFF SAS	32TB	16x2TB
Hot Plug SFF SATA	32TB	16x2TB
Hot Plug LFF SAS	120TB	12x10TB
Hot Plug LFF SATA	120TB	12x10TB
Hot Plug SFF SAS SSD	61.4TB	16x3.84TB
Hot Plug SFF SATA SSD	61.4TB	16x3.84TB
Hot Plug LFF SATA SSD	46.08TB	12x3.84TB
Non Hot Plug LFF SATA	32TB	8x4TB

Power Supply
One of the following depending on model

HPE 550W FIO Power Supply

HPE 900W Redundant Power Supply

Looking for high-efficiency power solutions at an entry-level price for your ProLiant Gen9 Essential Server? HPE Entry-Level Power Supplies offer an optimized set of features with options for both redundant and non-redundant power configurations.

The HPE 550W FIO Power Supply offers Silver-certified 80 Plus power efficiency (up to 89%) with an optimized set of features for non-redundant power configurations.

The HPE 900W AC 240VDC 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. Hot-plug AC power input modules allow for better serviceability with fast and easy deployment and replacement.

Standard Features

System Fans
One of the following
depending on model

	Non-redundant	**Redundant**
1P model	2 fans	4 fans
	Non-redundant	**Redundant**
2P model	4 fans	5 fans

NOTE: Customers may separately purchase redundant fans with the 725571-B21 option kit.

NOTE: Additional fans (two) are also included in -B21 processor option kits when upgrading from one processor to two processors.

Interfaces

Video	1 (Vaux Support)
LOM Network Ports	2x1GbE network ports
HPE iLO Remote Management Network Port	1 GbE (Optional)
USB	Up to 4 USB ports (standard); Front: 1xUSB 2.0 std; (1xUSB3.0 optional upgrade with quick release ears) Rear: 2xUSB 3.0 Internal: 1xUSB 3.0
Micro 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.

NOTE: 8LFF & 12LFF drive cage models with Quick release latch rack ears supports front USB 3.0.

Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server

Red Hat Enterprise Linux (RHEL)

SUSE Linux Enterprise Server (SLES)

Oracle Linux

VMware

ClearOS

NOTE: ClearOS allows you to build a fully functional server that is just right for you at no upfront cost. It is available via CTO preload, Intelligent Provisioning or via download. For more information on ClearOS, please visit **http://www.hpe.com/servers/clearos**.

NOTE: For more information on the 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://h20566.www2.hpe.com/hpsc/swd/public/readIndex?sp4ts.oid=7252825**.

Upgradeability
One of the following
depending on model

Upgradeable to 2 processors (36 Cores)
NOTE: Processor upgrade from E5-2600v3 to E5-2600v4 is supported for processors up to 105W.

Up to 16 DIMM slots available
NOTE: To take advantage of DIMMs 9-16, second processor must be installed.

FlexibleLOM slot for 1GbE or 10GbE or QDR/FDR InfiniBand Networking Options

Optional 2 slot riser (x16, x8)
NOTE: To take advantage of the additional 2 PCI slot upgrade, a second processor must be installed.

Redundant Power Supply

Standard Features

Redundant Fan
Optical Drive (8 SFF only)

Industry Standard Compliance	ACPI 2.0b Compliant
	PCIe 3.0 Compliant
	PXE Support
	WOL Support
	Microsoft® Logo certifications
	USB 3.0 Support
	ASHRAE A3/A4

NOTE: Supports A3 & A4 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

Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secured configuration than the legacy ROM while interacting with your server at boot time. HPE ProLiant 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.hpe.com/servers/uefi**.

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

- Secure Boot

- Operating system specific functionality

- Support for > 2.2 TB (using GPT) boot drives

- USB 3.0 Stack

- Embedded UEFI Shell

- Mass Configuration Deployment Tool using RESTful API for iLO 4

- PXE boot support for IPv6 networks

- Boot support for option cards that only support a UEFI option ROM

- Network Stack configurations

NOTE: For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI.
NOTE: UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory for your HPE ProLiant Gen9 Server.

Form Factor   2U Rack form factor

Standard Features

One of the following depending on model	4/8/12 LFF and 8/16 SFF Drive Bay Version: 3.44 (8.75 cm) 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.hpe.com/info/ilo**.
	UEFI	Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI). Learn more at **http://www.hpe.com/servers/uefi**.
	RESTful API	RESTful API for iLO 4 is Redfish 1.0 conformance for simplified server management such as configuration and maintenance tasks based on modern industry standards. Learn more at **http://www.hpe.com/info/restfulapi**.
	Intelligent Provisioning	Hassle free server and OS provisioning for 1 or few servers with Intelligent Provisioning. Learn more at **http://www.hpe.com/servers/intelligentprovisioning**.
	Embedded Remote Support	The 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 Hewlett Packard Enterprise or a Hewlett Packard Enterprise Authorized Partner for automated phone home support. Learn more at **http://www.hpe.com/info/insightonline/explore**.

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.hpe.com/servers/smartupdatemanager**.
	HPE Systems Insight Manager (HPE SIM)	HPE SIM allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers, and also provides you with basic support for non-HPE servers. HPE SIM also integrates with Smart Update Manager to provide quick and seamless firmware updates. Learn more at **http://www.hpe.com/servers/hpsim**.
	Scripting Tool Kit and Windows PowerShell	Provision 1 to many servers using your own scripts to discover and deploy them with Scripting Tool Kit (STK) for Windows and Linux or Scripting Tools for Windows PowerShell. Learn more at **http://www.hpe.com/servers/proliant/stk** or **http://www.hpe.com/servers/powershell**.
	RESTful Interface Tool	RESTful Interface tool is a scripting tool to provision using RESTful API for iLO 4 to discover and deploy servers at scale. Learn more at **http://www.hpe.com/info/resttool**.
	HPE iLO Mobile Application	Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: **http://www.hpe.com/info/ilo/mobileapp**.
	HPE Insight Online	HPE Insight Online, available at no additional cost as part of your Hewlett Packard Enterprise warranty or contractual support agreement with Hewlett Packard Enterprise, is a personalized dashboard for simplified tracking of IT operations and support

Standard Features

information from anywhere, anytime. Learn more at
http://www.hpe.com/info/insightonline/explore.

Security   Power-on password
Serial interface control
Administrator's password
UEFI
TPM 1.2
TPM 2.0
NOTE: TPM 1.2 is not upgradable to TPM 2.0.

Warranty   This product is covered by a global limited warranty and supported by HPE Services and a worldwide
network of HPE Authorized Channel Partners resellers. Hardware diagnostic support and repair is available
for three years from date of purchase. Support for software and initial setup is available for 90 days from
date of purchase. Enhancements to warranty services are available through HPE Care Pack services or
customized service agreements. Hard drives have either a one year or three year warranty; refer to the
specific hard drive QuickSpecs for details.
NOTE: Server Warranty includes 3-Year Parts, 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://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/.

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.hpe.com/servers/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 for the DL 100 and 10 series servers, not available for ML servers. 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.hpe.com/servers/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.hpe.com/servers/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.hpe.com/info/insightcontrol**.
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 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 Hewlett Packard Enterprise 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:

Optional Features

- **Data Protection and Recovery Software**
  Whether you're a large enterprise or a smaller business, Hewlett Packard Enterprise 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 Hewlett Packard Enterprise 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**.

ClearOS	HPE and ClearCenter will help you lower the cost of building on-premise solutions without sacrificing security and ease of use. HPE ProLiant servers with ClearOS give you a simple, secure, and affordable operating system with an intuitive web based graphical user interface that provides a cloud-like experience on- premise, and an Application Marketplace with over 100 apps and growing. Whether you're starting out or scaling, you decide what applications you need and pay as you grow.
One Config Simple (SCE)	SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance. **http://ocs.ext.hpe.com/**.

Service and Support

HPE Support Services	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. HPE Support Services enable you to choose the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement to the support for need for your IT and business.

Connect your devices	Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%[1] reduction in down time, near 100%[2] diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to Hewlett Packard Enterprise support. **1- IDC 2 – HP CSC reports 2014 - 2015**

Recommended Support	**Standard: HPE Foundation Care 24x7, three-year Support Service** HPE Foundation Care 24x7 gives you access to Hewlett Packard Enterprise 24 hours a day, seven days a week for assistance on resolving issues. This service includes need based Hardware onsite response within four hours. In addition, collaborative software support is included in this service that provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make Hewlett Packard Enterprise your first call to help resolve hardware or software problems. **https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en** **Optimized: HPE Proactive Care* with 24x7 coverage, three year Support Service** HPE Proactive Care gives customers an enhanced call experience. When your products are connected to Hewlett Packard Enterprise, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This service combines three years proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a problem. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers. **https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf**

Parts and Materials	Hewlett Packard Enterprise will provide Hewlett Packard Enterprise-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.

Related Services	**HPE Server Hardware Installation** Provides for the basic hardware installation of Hewlett Packard Enterprise branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner. **https://www.hpe.com/h20195/V2/GetPDF.aspx/5981-9356EN.pdf** **HPE Installation and Startup Service** Provides for the installation and startup of Hewlett Packard Enterprise technology including BladeSystems, C-Class enclosure, HPE ProLiant c-Class and Integrity server blades, storage blades, SAN switch blades, HPE Virtual Connect modules (Ethernet and Fibre Channel), Ethernet network interconnects, and

Service and Support

InfiniBand, as well as the installation of one supported operating system type (Windows® or Linux).

HPE Technology Services Support Credits
Offer flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic business.

HPE Education Services	Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment. **http://www.hpe.com/ww/learn**
HPE Support Center	The HPE Support Center is a personalized online support portal with access to information, tools and experts to support 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.hpe.com/support/hpesc** The 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 Support Service or Hewlett Packard Enterprise contractual support agreement. **NOTE:** *HPE Support Center Mobile App is subject to local availability. For more information: **http://www.hpe.com/services**

Pre-configured Models

	Entry Models		Base Models	
[SKU Number]	833970-B21	833971-B21	833972-B21	833973-B21
Model Name	HPE ProLiant DL180 Gen9 E5-2603v4 8GB-R B140i 4LFF NHP 550W PS Entry Server	HPE ProLiant DL180 Gen9 E5-2603v4 8GB-R B140i 8LFF 550W PS Entry Server	HPE ProLiant DL180 Gen9 E5-2609v4 8GB-R H240 8LFF 550W PS Base Server	HPE ProLiant DL180 Gen9 E5-2609v4 8GB-R H240 8SFF 550W PS Base Server
Processor	Intel® Xeon® E5-2603v4		Intel® Xeon® E5-2609v4	
Number of Processors	One			
Memory	8GB (1x8GB Registered DIMMs, 2400 MHz) **NOTE:** Due to processor limitation, these DDR4 DIMMs will operate at 1866 MHz in this model.		8GB (1x8GB Registered DIMMs, 2400 MHz) **NOTE:** Due to processor limitation, these DDR4 DIMMs will operate at 1866 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		None ship standard	
Internal Storage	4 LFF HDD Bays (Non Hot Plug)	8 LFF HDD Bays	8 LFF HDD Bays	8 SFF HDD Bays
Optical Drive Bay	Not Available			1; (Optional: DVD-ROM, DVD-RW)
Optical Drive	None			
PCI-Express Slots	3 Standard (1-FL/FH, 2-FH/HL)			
Power Supply	(1) HPE 550W FIO Power Supply			
Fans	2 hot swap fans, non-redundant			
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Essentials (optional), iLO Scale-out (optional only for DL), iLO Advanced (optional)			
Form Factor	Rack (2U), HPE Easy Install Rails			
Warranty	Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response.			

Pre-configured Models

	Storage Models
[SKU Number]	833974-B21
Model Name	HPE ProLiant DL180 Gen9 E5-2623v4 16GB-R P840 12LFF 900W PS Server
Processor	Intel® Xeon® E5-2623v4
Number of Processors	One
Memory	16GB (1x16GB Registered DIMMs, 2400 MHz) **NOTE:** Due to processor limitation, these DDR4 DIMMs will operate at 2133 MHz in this model.
Network Controller	HPE Embedded Dual Port 361i Adapter Network Interface
Storage Controller	HPE Flexible Smart Array P840/4G Controller
Hard Drive	None ship standard
Internal Storage	12 LFF HDD Bays
Optical Drive Bay	Not Available
PCI-Express Slots	3 Standard (1-FL/FH, 2-FH/HL)
Power Supply	(1) HPE 900W Redundant Power Supply
Fans	4 hot plug fans, redundant
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Essentials (optional), iLO Scale-out (optional only for DL), iLO Advanced (optional)
Form Factor	Rack (2U), HPE Easy Install Rails
Warranty	Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response.

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 an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

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

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

[Chassis]	HPE ProLiant DL180 Gen9 Non-hot Plug LFF Configure-to-order Server	HPE ProLiant DL180 Gen9 Hot Plug 8LFF Configure-to-order Server	HPE ProLiant DL180 Gen9 Hot Plug 8SFF Configure-to-order Server	HPE ProLiant DL180 Gen9 Hot Plug 12LFF Configure-to-order Server
SKU Number	754525-B21	754524-B21	754523-B21	775506-B21
Processor	2 (optional) x HPE Smart Socket Guide			
DIMM Slots	16 DIMM slots for RDIMM, LRDIMM DDR4 Memory			
Storage Controller	HPE Dynamic Smart Array B140i			
PCIe	3 PCIe slots (+3 PCI slots available with upgrade option, second processor required)			
Drive Cage	4LFF or 8LFF Non Hot Plug	8LFF Hot Plug (+4LFF optional field upgradable)	8SFF Hot Plug (+8SFF Optional)	12LFF Hot Plug
Network Controller	HPE Ethernet 1Gb 2-port i350 Adapter			
Fans	2 hot swap fans, non-redundant			
Management	iLO Management (standard), Intelligent Provisioning (standard)			
USB	1 front, 1 internal, 2 rear			
Ears	Optional	HPE Quick Release Ears	HPE Thumbscrew Ears	HPE Quick Release Ears

NOTE: HPE ProLiant DL180 Gen9 Non-hot plug chassis (P/N- 754525-B21) supports both 4LFF and 8LFF configurations.
NOTE: Thumb screw ears are not supported on Hot Plug LFF Chassis.

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.

- UDIMM, RDIMM, and LRDIMM are all distinct memory technologies and cannot be mixed within a

Configuration Information - Factory Integrated Models

server.

- HPE memory options from previous generation servers are not qualified or warranted with Hewlett Packard Enterprise Gen9 systems. 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.
- Depending on the memory configuration and processor model, the memory speed may run at 2400MHz, 2133MHz, 1866MHz or 1600MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: **http://www.hpe.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.hpe.com/info/hppoweradvisor**.
- By RPS Enablement Kit power options, mixing of power supplies in the same RPS enablement kit is not supported. All power supplies must be of the same input voltage, output rating, and efficiency rating. If non-matching power supplies are installed, you may receive an error message and/or experience operational issues with your server.

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 I/O Expansion Options   Select one or more drives from Core Options-HPE Drives 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 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 FlexibleLOM   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:

Configuration Information - Factory Integrated Models

http://www.hpe.com/go/ProLiantNICs.

HPE Networking Select a standup NIC adapter from Core Options-Networking section below.

- Please see the QuickSpecs for Technical Specifications and additional information: **http://www.hpe.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 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 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 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 Hewlett Packard Enterprise 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 an HPE approved configurator. Contact your local sales representative for additional information.

HPE Unique Options	HP DL180 Gen9 Dedicated iLO Management Port Kit	725581-B21
	HP DL180 Gen9 8SFF Hard Drive Cage/Backplane Kit	725572-B21
	HP DL180 Gen9 12LFF Hot Plug Enablement Kit	725574-B21
	NOTE: This can be used only with 8LFF Hot Plug Chassis and contains the controller cables required for upgrade.	
	HP DL180 Gen9 3 Slot x8 PCI-E Riser Kit	725569-B21
	HP DL180 Gen9 x16 PCI-E Riser Kit	725570-B21
	HP Quick-release Latch Rack Ears FIO Kit	725579-B21
	NOTE: This option kit is required for Security Bezel. This option also provides one front USB 3.0 upgrade.	
	HP AHCI-Enable FIO Setting	801845-B21
	NOTE: This needs to be selected when Advanced Host Controller Interface mode is required with B140i controller.	

HPE Processors	**E5-2600v4 series Processors**	
	HPE DL180 Gen9 Intel® Xeon® E5-2609v4 (1.7GHz/8-core/20MB/85W) Processor Kit	801240-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2609v4 (1.7GHz/8-core/20MB/85W) FIO Processor Kit	801240-L21
	HPE DL180 Gen9 Intel® Xeon® E5-2603v4 (1.7GHz/6-core/15MB/85W) Processor Kit	801241-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2603v4 (1.7GHz/6-core/15MB/85W) FIO Processor Kit	801241-L21
	HPE DL180 Gen9 Intel® Xeon® E5-2650Lv4 (1.7GHz/14-core/35MB/65W) Processor Kit	801243-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2650Lv4 (1.7GHz/14-core/35MB/65W) FIO Processor Kit	801243-L21
	HPE DL180 Gen9 Intel® Xeon® E5-2630Lv4 (1.8GHz/10-core/25MB/55W) Processor Kit	801244-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2630Lv4 (1.8GHz/10-core/25MB/55W) FIO Processor Kit	801244-L21
	HPE DL180 Gen9 Intel® Xeon® E5-2620v4 (2.1GHz/8-core/20MB/85W) Processor Kit	801239-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2620v4 (2.1GHz/8-core/20MB/85W) FIO Processor Kit	801239-L21
	HPE DL180 Gen9 Intel® Xeon® E5-2623v4 (2.6GHz/4-core/10MB/85W) Processor Kit	801249-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2623v4 (2.6GHz/4-core/10MB/85W) FIO Processor Kit	801249-L21
	HPE DL180 Gen9 Intel® Xeon® E5-2660v4 (2.0GHz/14-core/35MB/105W) Processor Kit	801235-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2660v4 (2.0GHz/14-core/35MB/105W) FIO Processor Kit	801235-L21
	HPE DL180 Gen9 Intel® Xeon® E5-2650v4 (2.2GHz/12-core/30MB/105W) Processor Kit	801236-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2650v4 (2.2GHz/12-core/30MB/105W) FIO Processor Kit	801236-L21
	HPE DL180 Gen9 Intel® Xeon® E5-2640v4 (2.4GHz/10-core/25MB/90W) Processor Kit	801237-B21
	HPE DL180 Gen9 Intel® Xeon® E5-2640v4 (2.4GHz/10-core/25MB/90W) FIO Processor Kit	801237-L21

Core Options

HPE DL180 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit	825506-B21
HPE DL180 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit	825506-L21
HPE DL180 Gen9 Intel® Xeon® E5-2695v4 (2.1GHz/18-core/45MB/120W) Processor Kit	825510-B21
HPE DL180 Gen9 Intel® Xeon® E5-2695v4 (2.1GHz/18-core/45MB/120W) FIO Processor Kit	825510-L21
HPE DL180 Gen9 Intel® Xeon® E5-2683v4 (2.1GHz/16-core/40MB/120W) Processor Kit	825512-B21
HPE DL180 Gen9 Intel® Xeon® E5-2683v4 (2.1GHz/16-core/40MB/120W) FIO Processor Kit	825512-L21
HPE DL180 Gen9 Intel® Xeon® E5-2630v4 (2.2GHz/10-core/25MB/85W) Processor Kit	801238-B21
HPE DL180 Gen9 Intel® Xeon® E5-2630v4 (2.2GHz/10-core/25MB/85W) FIO Processor Kit	801238-L21
E5-2600v3 series Processors	
HP DL180 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) Processor Kit	733925-B21
HP DL180 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) Processor Kit	733929-B21
HP DL180 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) Processor Kit	733916-B21
HP DL180 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) Processor Kit	733918-B21
HP DL180 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) Processor Kit	733921-B21
HP DL180 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) Processor Kit	763226-B21
HP DL180 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) Processor Kit	779830-B21
HP DL180 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) Processor Kit	733912-B21
HP DL180 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) Processor Kit	733914-B21
HP DL180 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) Processor Kit	763222-B21

NOTE: Processor upgrade from E5-2600v3 to E5-2600v4 is supported for processors up to 105W. Please refer to DL180 Gen9 User Guide for more details.

Memory Selection

To streamline the configuration process for HPE ProLiant Gen9 servers and to provide the best product availability, HPE recommends memory from the list located here: **http://www.hpe.com/products/recommend**.

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

HPE Memory	**Registered DIMMs (RDIMMs) for E5-2600v4 Series**	
	HP 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805347-B21
	HP 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805349-B21
	HPE 16GB (1x16GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	836220-B21
	HP 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805351-B21

NOTE: These Memory DIMMs are supported only on E5-2600v4 processors.

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

NOTE: These Memory DIMMs are supported only on E5-2600v3 processors.

Load Reduced DIMMs (LRDIMMs) for E5-2600v4 Series

HPE 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced Memory Kit	805353-B21

Core Options

	HPE 64GB (1x64GB) Quad Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced Memory Kit	805358-B21

NOTE: These Memory DIMMs are supported only on E5-2600v4 processors.

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

HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726720-B21
HP 32GB (1x32GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726722-B21
HP 64GB (1x64GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726724-B21

NOTE: These Memory DIMMs are supported only on E5-2600v3 processors.

HPE Standard Memory for E5-2600v4 Series

HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Registered Standard Memory Kit	851353-B21

NOTE: These Memory DIMMs are supported only on E5-2600v4 processors.

HPE Standard Memory for E5-2600v3 Series

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

NOTE: These Memory DIMMs are supported only on E5-2600v3 processors.

HPE Optical Drives	HP DL180 Gen9 Optical Disk Drive Enablement Kit	725582-B21
	HP 9.5mm SATA DVD-ROM JackBlack Gen9 Optical Drive	726536-B21
	HP 9.5mm SATA DVD-RW JackBlack G9 Optical Drive	726537-B21
	HP Mobile USB Non Leaded System DVD RW Drive	701498-B21

NOTE: Optical drive is not supported on LFF models.

HPE Drives	**SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives**	
	HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-B21
	HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD	781518-B21
	HPE 900GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD	785069-B21
	HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-B21
	HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD	781516-B21
	HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-B21
	HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD	785067-B21
	HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870759-B21
	HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-B21
	HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD	759212-B21
	HPE 450GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD	759210-B21
	HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21
	HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD	759208-B21

Core Options

SAS Hot Plug SFF (2.5-inch) Enterprise 512e Drives

HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e HDD	791034-B21
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	870765-B21
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	870763-B21
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e HDD	748387-B21

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty HDD	832514-B21

SAS Hot Plug SFF (2.5-inch) Midline 512e Drives

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

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

HPE 600GB SAS 12G Enterprise 15K LFF (3.5in) SC 3yr Wty HDD	765424-B21
HPE 450GB SAS 12G Enterprise 15K LFF (3.5in) SCC 3yr Wty HDD	737394-B21
HPE 300GB SAS 12G Enterprise 15K LFF (3.5in) SCC 3yr Wty HDD	737261-B21

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

HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	846514-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872487-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	818367-B21
HPE 3TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	846528-B21
HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872485-B21
HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	818365-B21
HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	846524-B21

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

HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	819201-B21
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861754-B21

SAS Hot Plug LFF (3.5-inch) 512e Performance Drives

HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861756-B21

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

HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	857644-B21
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861590-B21

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty HDD	655710-B21

SATA Hot Plug SFF (2.5-inch) Midline 512e Drives

HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765455-B21
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765453-B21

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

HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	846510-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872491-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	861678-B21
HPE 3TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	861693-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872489-B21

Core Options

HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	861676-B21
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	861691-B21
HPE 500GB SATA 6G Midline 7.2k LFF (3.5in) SC 1yr Wty HDD	658071-B21

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

HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	819203-B21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861750-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861752-B21

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

HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	857648-B21
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861594-B21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e HDD	793683-B21

SATA Non-hot Plug LFF 7.2K (3.5-inch) Standard Drives

HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801888-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801884-B21
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801882-B21

SSD Selection

To streamline the configuration process for HPE ProLiant Gen9 servers and to provide the best product availability, HPE recommends SSDs from the list located here:
http://www.hpe.com/products/recommend.
Best product availability is limited to US, Canada, and Latin America at this time.

12G SAS Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives

HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD	779176-B21
HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD	779172-B21
HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD	779168-B21
HPE 200GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD	779164-B21
HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD	802586-B21
HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD	802582-B21
HPE 200GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD	802578-B21

12G SAS Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value Solid State

HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872394-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816576-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872392-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816572-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD	802891-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872390-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816568-B21
HPE 480GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816562-B21

12G SAS Mixed Use Hot Plug SFF (2.5-inch) Solid State Drives

HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872386-B21
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD	822567-B21
HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872382-B21
HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD	822563-B21
HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872376-B21

Core Options

HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD	822559-B21
HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD	822555-B21
HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872374-B21

12G SAS Mixed Use Hot Plug LFF (3.5-inch) Solid State Drives

HPE 800GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	872378-B21

6G SATA Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives

HPE 1.6TB SATA 6G WI SFF SC DS SSD	872363-B21
HPE 1.2TB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD	804677-B21
HPE 800GB SATA 6G WI SFF SC DS SSD	872359-B21
HPE 800GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD	804671-B21
HPE 400GB SATA 6G WI SFF SC DS SSD	872355-B21
HPE 400GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD	804665-B21
HPE 200GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD	804639-B21

6G SATA Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives

HPE 3.8TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868830-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	871770-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868826-B21
HPE 1.6TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	869386-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	869384-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868822-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	871768-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	869378-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868818-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	872855-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	764927-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	869376-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868814-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	872853-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	804587-B21
HPE 150GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	869374-B21

6G SATA Hot Plug SFF (2.5-inch) SC Mixed Use Solid State Drives

HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872352-B21
HPE 1.6TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	804631-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872348-B21
HPE 800GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	804625-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872344-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	832414-B21
HPE 200GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	804613-B21

Core Options

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

HPE 1.6TB SATA 6G WI LFF SCC DS SSD	872365-B21
HPE 1.2TB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD	804680-B21
HPE 800GB SATA 6G WI LFF SCC DS SSD	872361-B21
HPE 800GB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD	804674-B21
HPE 400GB SATA 6G WI LFF SCC DS SSD	872357-B21
HPE 400GB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD	804668-B21
HPE 200GB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD	804642-B21

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

HPE 1.6TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	869388-B21
HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	869380-B21
HPE 240GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD	804590-B21

6G SATA Hot Plug LFF (3.5-inch) SC Converter Mixed Use Solid State Drives

HPE 1.6TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	804634-B21
HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	872350-B21
HPE 800GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	804628-B21
HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	872346-B21
HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	832417-B21
HPE 200GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	804616-B21

M.2 SSD

HPE 340GB SATA 6G Read Intensive 3yr Wty M.2 Kit	835563-B21
HPE 340GB SATA 6G Read Intensive 3yr Wty Dual M.2 Kit	835565-B21
HPE 120GB SATA 6G Read Intensive HHHL 3yr Wty M.2 Kit	788028-B21
HP Dual 120GB Value Endurance Solid State M.2 Enablement Kit for ProLiant ML/DL Servers	777894-B21

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

Hard Drive Blank Kits

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

Hard Drive Kits

HP DL180 Gen9 8SFF Hard Drive Cage/Backplane Kit	725572-B21
HP DL180 Gen9 12LFF Hot Plug Enablement Kit	725574-B21

HPE Networking

1 Gigabit Ethernet adapters

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

10 Gigabit Ethernet adapters

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

Core Options

HPE Ethernet 10Gb 2-port 561T Adapter	716591-B21
HPE Ethernet 10Gb 2-port 562SFP+ Adapter	727055-B21

NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.
NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. See cables/options below.

25 Gigabit Ethernet adapters

HPE Ethernet 4x25Gb 1-port 620QSFP28 Adapter	817762-B21

FlexibleLOM Adapters

HPE Ethernet 1Gb 4-port 331FLR Adapter	629135-B22
HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
HPE FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
HPE FlexFabric 10Gb 4-port 536FLR-T Adapter	764302-B21
HPE Ethernet 10Gb 2-port 546FLR-SFP+ Adapter	779799-B21
HPE FlexFabric 10Gb 2-port 556FLR-T Adapter	794525-B21
HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
HPE Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21
HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter	727054-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: **http://www.hp.com/go/ProLiantNICs**.

HPE InfiniBand	HPE InfiniBand FDR 2-port 545QSFP Adapter	702211-B21
	HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21
	HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	764285-B21
	HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter	764286-B21

NOTE: Please see the **HPE InfiniBand Options for HP ProLiant and Integrity Servers QuickSpecs** for additional information.

HPE I/O Expansion Options	HP DL180 Gen9 3 Slot x8 PCI-E Riser Kit	725569-B21
	HP DL180 Gen9 x16 PCI-E Riser Kit	725570-B21
	HP DL180 Gen9 FlexibleLOM Enablement Kit	780965-B21

NOTE: This Enablement Kit is required when FlexibleLOM is selected.

HPE Power Supplies

HPE ProLiant Gen9 Essential Server Power Supplies - Non-Redundant

HPE 550W Standard FIO Power Supply Kit	730941-B21

NOTE: This is a Factory Installed Option (FIO) only.
NOTE: Supports Silver-level efficiency (89%) with a standard C14 inlet connector. No support for HPE Power Discovery Services. Only compatible with select HPE ProLiant Gen9 Essential servers.

HPE ProLiant Gen9 Essential Server Power Supplies - Redundant

HPE 900W Standard AC 240VDC Power Input Module FIO Kit	828734-B21

NOTE: This is a Factory Installed Option (FIO) only.
NOTE: RPS Backplane is mandatory to be chosen with this power input module.

Core Options

	HPE 900W Standard AC 240VDC RPS Power Backplane FIO Kit	828735-B21

NOTE: This is a Factory Installed Option (FIO) only.
NOTE: This RPS backplane is mandatory to be chosen along with 900W RPS input module.

	HPE 900W Standard AC 240VDC Power Input Module	775595-B21

NOTE: This part number can only be bought standalone and is for field integration only.
NOTE: RPS Backplane is mandatorily needed with this power input module.

	HPE 900W Standard AC 240VDC RPS Power Backplane	814835-B21

NOTE: This part number can only be bought standalone and is for field integration only.
NOTE: This RPS backplane is mandatorily needed with 900W RPS input module.

	HPE 900W Standard AC 240VDC Redundant Power Supply Kit	820792-B21

NOTE: This Redundant Power supply kit includes 2 power supply input module and 1 backplane kit.
NOTE: This part number is both factory installed option and filed integrable option.
NOTE: This Power supply supports both 100-240V AC and 240V DC.
NOTE: Supports Gold-level efficiency (92%) with a standard C14 inlet connector. No support for HPE Power Discovery Services. Only compatible with select HPE ProLiant Gen9 Essential servers.
NOTE: HPE 900W Gold (Redundant) AC 240VDC Power Input Module (775595-B21/ 828734-B21) must be used with Power Backplane (814835-B21/828735-B21).
NOTE: Each Redundant Power Supply Backplane can support up to two (2) power input modules.
NOTE: Redundant AC Power Input Modules do not share power. Redundant AC Power Input Module #1 is the primary AC Power Input Module. Redundant AC Power Input Module #2 is the backup AC Power Input Module.

HPE Computation and Graphics Accelerators	HP DL180 Gen9 Graphic Card Adapter Kit	725576-B21

NOTE: Must select 2 processors if 2 graphic cards are selected.
NOTE: Must select 900W non-redundant power supply when 2 graphic cards are selected.
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.hpe.com/info/hppoweradvisor**.

HPE Cooling Options	HPE DL180 Gen9 Redundant Fan FIO Kit	779841-B21

NOTE: Upgrades a non-redundant server with one additional hot-plug fan (FIO only).

	HP DL180 Gen9 Redundant Fan Kit	725571-B21

NOTE: Customers can upgrade to a redundant fan configuration with the purchase of above option kit (contains 2 Fans).

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 an HPE approved configurator. Contact your local sales representative for additional information.

HPE Insight Software	**HPE Insight Control**	
	HPE Insight Control including 1yr 24x7 Technical Support and Updates 1-server LTU	C6N27A
	HPE Insight Management Media Kit	C6N31A
	HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO LTU	C6N36A

NOTE: FIO indicates that this option is only available as a factory installable option.

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 **HPE Insight Control QuickSpecs**.

Embedded Management	**HPE iLO Advanced**	
	HPE iLO Advanced including 1yr 24x7 Technical Support and Updates 1-server LTU	512485-B21
	HPE iLO Advanced including 3yr 24x7 Tech Support and Updates 1-server LTU	BD505A
	HPE iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU	E6U59ABE
	HPE iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU	E6U64ABE
	HPE iLO Essentials	
	HPE iLO Essentials including 3yr 24x7 Tech Support and Updates 1-server LTU	BD774A
	HPE iLO Essentials including 1yr 24x7 Tech Support and Updates 1-server LTU	BD775A
	HPE iLO Essentials including 3yr 24x7 Technical Support and Updates E-LTU	E6U61ABE
	HPE iLO Essentials including 1yr 24x7 Technical Support and Updates E-LTU	E6U62ABE
	HPE iLO Scale-out	
	HPE iLO Scale-Out 3yr 24x7 Tech Support and Updates Flexible Quantity LTU	BD776A
	HPE iLO Scale-Out including 3yr 24x7 Tech Support and Updates Flex Qty E-LTU	BD776AAE
	HPE iLO Scale-Out including 3yr 24x7 Tech Support and Updates Tracking LTU	BD777A
	HPE iLO Scale-Out 1yr 24x7 Tech Support and Updates Flexible Quantity LTU	BD778A
	HPE iLO Scale-Out including 1yr 24x7 Tech Support and Updates Flex Qty E-LTU	BD778AAE
	HPE iLO Scale-Out including 1yr 24x7 Tech Support and Updates Tracking LTU	BD779A

HPE Converged Infrastructure Management Software	**HPE OneView Advanced (with HPE iLO Advanced)**	
	HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A
	HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE
	HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
	HPE OneView Physical Media Kit LTU	E5Y37A
	HPE OneView Advanced (without HPE iLO Advanced)	

Additional Options

HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A
HPE OneView w/o iLO including 3yr 24x7 Support Track 1-server LTU	P8B25A
HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE
HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A

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.hpe.com/info/hpeoneview**.

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

High Performance Clusters

HPE Cluster Management Utility

HPE Insight Cluster Management Utility 1yr 24x7 Flexible LTU	QL803B
HPE Insight Cluster Management Utility 3yr 24x7 Flexible LTU	BD476A
HPE Insight Cluster Management Utility Media	BD477A

NOTE: These part numbers can be used to purchase one certificate for multiple licenses and support with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. Customer also will receive a support agreement.

NOTE: For additional license kits please see the **HPE Insight Cluster Management Utility QuickSpecs**.

HPE PCIe Workload Accelerator Options

HPE Read Intensive PCIe Workload Accelerator

HPE 6.4TB Read Intensive-2 FH/HL PCIe Workload Accelerator	831739-B21
HPE 3.2TB Read Intensive-2 HH/HL PCIe Workload Accelerator	831737-B21
HPE 1.6TB Read Intensive-2 HH/HL PCIe Workload Accelerator	831735-B21
HPE 1.3TB Read Intensive-2 HH/HL PCIe Workload Accelerator	831733-B21

Light Endurance (LE) PCIe Workload Accelerators

HPE 5.2TB FH/HL Light Endurance (LE) PCIe Workload Accelerator	775672-B21

NOTE: Please see the **HPE PCIe Workload Accelerators for ProLiant Servers QuickSpecs** for Technical Specifications and additional information.

HPE Security

HPE 2U Security Bezel Kit	666988-B21

NOTE: Quick Release Ear option kit (P/N 725579-B21) is required for installing security bezel.

HPE DL180 Gen9 Thumbscrew Ear FIO Kit	782641-B21

NOTE: Thumbscrew ears are available on SFF models only.

HP Quick-release Latch Rack Ears FIO Kit	725579-B21

NOTE: Quick-release Latch ears are available on both SFF and LFF models. For 12LFF Models Quick Release Ears are Mandatory.

NOTE: Quick-release latch ears upgrades front USB from USB 2.0 to USB 3.0- It also supports Security Bezel Kit.

Additional Options

HPE Trusted Platform Module 2.0 Kit	745823-B21

NOTE: HPE Trusted Platform Module 2.0 Option works with Gen9 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.
NOTE: HPE Gen9 servers purchased earlier may need the latest firmware update to be compatible with the TPM 2.0 Option.
NOTE: HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

HPE Trusted Platform Module Option	488069-B21

NOTE: The HPE Trusted Platform Module Option (488069-B21) is the TPM 1.2 version. Compatible server platforms include Gen8 and Gen9 servers.
NOTE: HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

HPE Storage Controllers

SAS Controllers

HPE Smart Array Controllers

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

NOTE: Includes the HPE Smart Storage Battery.

HPE 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.

HPE Smart Array P840/4GB FBWC 12Gb 2-ports Int SAS Controller	726897-B21
HP Smart Array P840/4GB FBWC 12Gb 2-ports Int FIO SAS Controller	761874-B21

NOTE: Includes the HPE Smart Storage Battery.

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

HPE Smart Host Bus Adapters

HPE H240 12Gb 2-ports Int Smart Host Bus Adapter	726907-B21
HP H240 12Gb 2-ports Int FIO Smart Host Bus Adapter	761873-B21
HPE H241 12Gb 2-ports Ext Smart Host Bus Adapter	726911-B21

HPE Cable Options

HP DL180 Gen9 8LFF Smart Array Cable Kit	725577-B21
HP DL180 Gen9 8SFF Smart Array Cable Kit	725578-B21
HPE DL180 Gen9 8LFF Hot Plug FIO Cable Kit	774868-B21
HPE DL180 Gen9 8LFF Non-hot Plug FIO Cable Kit	774869-B21
HPE DL180 Gen9 8SFF Hot Plug FIO Cable Kit	774870-B21
HPE DL180 Gen9 4LFF Non-hot Plug FIO Cable Kit	776447-B21

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.

Optional Software

HPE SmartCache No Media 24x7 Technical Support 1-server LTU	D7S26A
HPE SmartCache No Media 24x7 Technical Support Flexible LTU	D7S27A
HPE SmartCache No Media 24x7 Technical Support E-LTU	D7S27AAE

Additional Options

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

HPE Smart Array Secure Encryption/Data at Rest Encryption/per Server Entitlement E-LTU	Q2F26AAE

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 **http://www.hpe.com/storage/BURAcompatibility**.

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

Tape Drives

SAS Rack-Mount Tape Solutions

HPE StoreEver LTO-6 Ultrium 6250 Tape Drive in a 1U Rack Mount Kit	C0L99A
HPE StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
HPE StoreEver LTO-5 Ultrium 3000 SAS Tape Drive in a 1U Rack Mount Kit	EJ014B
HPE StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
HPE StoreEver LTO-4 Ultrium 1760 SAS (1) in a 1U Rack Mount Kit	EH946C
HPE StoreEver LTO-4 Ultrium 1760 SAS External Tape Drive	EH920B
HPE StoreEver 1U SAS Rack Mount Kit	AE459B
HPE StoreEver LTO-7 Ultrium 15000 Internal Tape Drive	BB873A
HPE StoreEver LTO-7 Ultrium 15000 External Tape Drive	BB874A

HPE DAT Autoloader

HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 Fibre Channel Tape Autoloader	C0H19A
HPE StoreEver 1/8 G2 LTO-7 Ultrium 15000 FC Tape Autoloader	N7P34A
HPE StoreEver 1/8 G2 LTO-7 Ultrium 15000 SAS Tape Autoloader	N7P35A

HPE MSL2024 Tape Library

HPE StoreEver MSL2024 0-drive Tape Library	AK379A

HPE MSL4048 Tape Library

HPE StoreEver MSL4048 0-drive Tape Library	AK381A

HPE StoreEver MSL6480

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

NOTE: Please see the **HPE StoreEver MSL6480 Tape Library QuickSpecs** for Technical Specifications and additional information).

HPE Disk Backup

HPE RDX Removable Disk Backup System

HPE RDX 3TB USB 3.0 Internal Disk Backup System	P9L71A
HPE RDX+ 3TB USB 3.0 External Disk Backup System	P9L72A
HP RDX 2TB USB3.0 External Disk Backup System	E7X53B
HP RDX+ 1TB External Backup System	B7B69B
HP RDX+ 500GB External Backup System	B7B66B

Additional Options

HPE RDX+ External Docking System	C8S07B
HPE D3700 Enclosure	QW967A
HPE D3600 Enclosure	QW968A
HPE StoreOnce 5100 48TB System	BB915A
HPE StoreOnce 3540 24TB System	BB914A
HPE StoreOnce 3520 12TB System	BB922A
HPE StoreOnce 3100 8TB System	BB913A

NOTE: For the complete range of RDX drives and media see:
http://www.hp.com/go/rdx. For hardware and software compatibility of HPE disk
backup products see: **http://www.hp.com/storage/SPOCK**.
NOTE: Please see the **HPE RDX Removable Disk Backup System QuickSpecs** for
additional part numbers, Technical Specifications, and additional information

HPE Storage Options	**Emulex Fibre Channel HBAs**

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

QLogic Fibre Channel HBAs

HPE 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ764A
HPE 81Q 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AK344A
HPE StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter	QW971A
HPE StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter	QW972A
HPE StoreFabric SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter	P9D93A
HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A

Converged Network Adapter

HPE StoreFabric CN1200E 10Gb Converged Network Adapter	E7Y06A
HPE StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A
HPE StoreFabric CN1200E 10GBASE-T Dual Port Converged Network Adapter	N3U51A
HPE StoreFabric CN1100R 10GBASE-T Dual Port Converged Network Adapter	N3U52A

HPE Data Center Racks	**HPE Advanced Series Racks**

HPE 42U 600mm x 1075mm Advanced Pallet Rack	H6J65A
HPE 42U 600mm x 1075mm Advanced Shock Rack	H6J66A
HPE 42U 600mm x 1200mm Advanced Pallet Rack	H6J67A
HPE 42U 600mm x 1200mm Advanced Shock Rack	H6J68A
HPE 36U 600mm x 1075mm Advanced Pallet Rack	H6J77A
HPE 36U 600mm x 1075mm Advanced Shock Rack	H6J78A
HPE 14U 600mm x 1075mm Advanced Shock Rack	H6J82A
HPE 22U 600mm x 1075mm Advanced Pallet Rack	H6J83A
HPE 22U 600mm x 1075mm Advanced Shock Rack	H6J84A
HPE 48U 600mm x 1075mm Advanced Pallet Rack	H6J87A
HPE 48U 600mm x 1075mm Advanced Shock Rack	H6J88A

NOTE: Please see the **HPE Advanced Series Racks QuickSpecs** for information on

Additional Options

additional racks options and rack specifications.

HPE Enterprise Series Racks

HP 36U 600mm x 1075mm Enterprise Pallet Rack	BW895A
HP 36U 600mm x 1075mm Enterprise Shock Rack	BW896A
HPE 42U 600mm x 1075mm Enterprise Pallet Rack	BW903A
HP 42U 600mm x 1075mm Enterprise Shock Rack	BW904A
HP 42U 600mm x 1200mm Enterprise Pallet Rack	BW907A
HP 42U 600mm x 1200mm Enterprise Shock Rack	BW908A
HP 47U 600mm x 1075mm Enterprise Pallet Rack	BW911A
HP 47U 600mm x 1075mm Enterprise Shock Rack	BW912A
HP 47U 600mm x 1200mm Enterprise Pallet Rack	BW913A
HP 47U 600mm x 1200mm Enterprise Shock Rack	BW914A
HP 42U 800mm x 1075mm Enterprise Pallet Rack	BW917A
HP 42U 800mm x 1075mm Enterprise Shock Rack	BW918A

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

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.

HPE Power Distribution Units (PDUs)	**HPE Basic Power Distribution Units (PDU)**	
	HPE Basic 1.9kVA/L5-20P 16A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU	H5M54A
	HPE Basic 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal WW PDU	H5M56A
	HPE Basic 2.8kVA/L5-30P 24A/120V Outlets (18) 5-20R/Vertical NA/JP PDU	H5M55A
	HPE Basic 4.9kVA/60320 C20 Detachable 16A/230V Outlets (20) C13/Vertical WW PDU	H5M57A
	HPE Basic 4.9kVA/L6-30P 24A/208V Outlets (20) C13/Vertical NA/JP PDU	H5M58A
	HPE Basic 7.3kVA/60309 5-wire 32A/230V Outlets (20) C13/Vertical INTL PDU	H5M68A
	HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13/Vertical NA/JP PDU	H5M61A
	HPE Basic 4.9kVA/L6-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP PDU	H5M59A
	HPE Basic 7.3kVA/60309 3-wire 32A/230V Outlets (24) C13 (6) C19/Vertical INTL PDU	H5M70A
	HPE Basic 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (6) C19/Vertical NA PDU	H5M60A
	HPE Basic 11kVA/60309 63A 3-wire 48A/230V Outlets (30) C13 (6) C19/Vertical INTL PDU	H5M71A
	HPE Basic 9.2kVA/50A Terminal Block 40A/230V Outlets (30) C13 (6) C19/Vertical WW PDU	H5M75A
	HPE Basic 3Ph 5.7kVA/ L21-20P 16A/120-208V Outlets (24) C13 (3) 5-20R/Vertical NA/JP PDU	H5M63A
	HPE Basic 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (24) C13 (3) C19 (3) 5-20R/Vertical NA/JP PDU	H5M64A
	HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP PDU	H5M62A
	HPE Basic 3Ph 11kVA/60309 5-wire 16A/230V Outlets (24) C13 (6) C19/Vertical INTL PDU	H5M72A
	HPE Basic 3Ph 11kVA/60309 5-wire 16A/230V Outlets (36) C13 (6) C19/Vertical INTL PDU	H5M73A
	HPE Basic 3Ph 11kVA/60309 16A/240V Outlets (36) C13 (6) C19/Vertical NA PDU	H5M67A

Additional Options

HPE Basic Modular 2.8kVA/L5-30P 24A/120V Outlets (4) C19/Horizontal NA/JP PDU	252663-D71
HPE Basic Modular 4.9kVA/L6-30P 24A/208V Outlets (4) C19/Horizontal NA/JP Core Only PDU	252663-D74
HPE Basic Modular 8.3kVA/CS8265C 40A/208V Outlets (4) C19/Horizontal NA/JP PDU	252663-D75
HPE Basic Modular 7.3kVA/60309 3-wire 32A/230V Outlets (4) C19/Horizontal INTL Core Only PDU	252663-B33
HPE Basic Modular 9.2kVA/60309 63A 3-wire 40A/230V Outlets (4) C19/Horizontal INTL PDU	252663-B34
HPE Basic Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF512A
HPE Basic Modular 3Ph 11kVA/60309 5-wire 16A/230V Outlets (6) C19/Horizontal INTL PDU	AF513A
HPE Basic Modular 3Ph 14.4kVA/CS8365C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF519A
HPE Basic Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF511A
HPE Basic Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF518A
HPE 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A

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

HPE Metered Power Distribution Units (PDU)

HPE Metered 2.8kVA/L5-30P 24A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU	D9N43A
HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal WW PDU	D9N46A
HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Horizontal NA/JP PDU	D9N44A
HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (16) C13/Vertical WW PDU	D9N45A
HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Vertical NA/JP PDU	G9Z05A
HPE Metered 7.3kVA/60309 3-wire 32A/230V Outlets (12) C13/Vertical INTL PDU	G9Z06A
HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (4) C19/Vertical NA/JP PDU	D9N47A
HPE Metered 7.3kVA/60309 32A 3-wire/230V Outlets (20) C13 (4) C19/Vertical INTL PDU	D9N48A
HPE Metered 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (3) C19/Vertical NA/JP PDU	D9N51A
HPE Metered 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (18) C13 (3) C19 (3) 5-20R/Vertical NA/JP PDU	D9N53A
HPE Metered 3Ph 11kVA/60309 5-wire 16A/230V Outlets (18) C13 (3) C19/Vertical INTL PDU	D9N55A
HPE Metered 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (3) C19/Vertical NA PDU	D9N49A
HPE Metered 7.3kVA/60309 32A 3-wire/230V Outlet (32) C13 (4) C19/Vertical INTL PDU	D9N50A
HPE Metered 3Ph 11kVA/60309 5-wire 16A/230V Outlets (30) C13 (3) C19/Vertical INTL PDU	D9N57A
HPE Metered 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	D9N58A
HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (30) C13 (3) C19/Vertical NA/JP PDU	D9N61A
HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (12) C13 (12)	D9N62A

Additional Options

C19/Vertical NA/JP PDU

HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (24) C13 (3) C19/Vertical NA/JP PDU	D9N54A
HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	D9N59A
HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	G9Z07A
HPE Metered 3Ph 19.9kVA/L22-30P 24A/277V Outlets (30) RF-203P-HP/Vertical NA PDU	D9N63A
HPE Metered 3Ph 22kVA/60309 5-wire 32A/230V Outlet (30) C13 (3) C19/Vertical INTL PDU	D9N56A
HPE Metered 3Ph 22kVA/60309 5-wire 32A/230V Outlets (12) C13 (12) C19/Vertical INTL PDU	D9N60A
HPE Metered 3Ph 22kVA/60309 5-wire WT 32A/230V Outlets (12) C13 (12) C19/Vertical INTL PDU	G9Z08A
HP Environmental Sensor for Remote Monitored and Managed PDUs	E2D53A

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

HPE Intelligent Power Distribution Unit (PDU)

HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF520A
HPE Intelligent Modular 8.3kVA/CS8265C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF521A
HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF522A
HPE Intelligent Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V (6) C19/Horizontal NA/JP PDU	AF523A
HPE Intelligent Modular 3Ph 17.3kVA/60309 30A 5-wire 24A/240V (6) C19/Horizontal NA/JP PDU	AF901A
HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF525A
HPE Intelligent Modular 3Ph 11kVA/60309 5-wire 16A/230V Outlets (6) C19/Horizontal INTL PDU	AF526A
HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF527A
HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 60A 4-wire 48A/208V (12) C19/Horizontal NA/JP PDU	AF535A
HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (12) C19/Horizontal INTL PDU	AF538A
HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (6) C19/Horizontal NA/JP PDU	AF531A
HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (20) C13 (6) C19/Horizontal NA/JP PDU	AF532A
HPE Intelligent Modular 3Ph 14.4kVA/CS8365C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF533A
HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU Kit	AF534A
HPE 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A
HPE 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A

Additional Options

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

HPE Metered and Switched Power Distribution Units (PDU)

HPE Metered Switched 2.8kVA/L5-30P 24A/120V Outlets (24) 5-20R /Vertical NA/JP PDU	H8B48A
HPE Metered Switched 3.6kVA/60320 C20 Detachable 16A/230V Outlets (7) C13 (1) C19/Vertical WW PDU	H8B49A
HPE Metered Switched 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (4) C19/Vertical NA/JP PDU	H8B50A
HPE Metered Switched 7.3kVA/60309 3-wire 32A/230V Outlets (20) C13 (4) C19/Vertical INTL PDU	H8B51A
HPE Metered Switched 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (6) C19/Vertical NA/JP PDU	H8B52A
HPE Metered Switched 3Ph 8.6kVA/L21-30P 24A/208V Outlets (20)C13 (3)C19 (1)5-20R/Vertical NA/JP PDU	H8B53A
HPE Metered Switched 3Ph 11kVA/60309 5-wire 16A/230V Outlets (21) C13 (3) C19/Vertical INTL PDU	H8B54A
HPE Metered Switched 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	H8B55A
HPE Metered Switched 3Ph 17.3kVA/60309 4-wire 48A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	H8B56A

NOTE: Please see the **HPE Metered and Switched Power Distribution Units (PDU) 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 Switches, and Keyboards

HPE Location Discovery Services

HPE Location Discovery Services LCD8500 Kit	TL052A

NOTE: Please see the **HPE Location Discovery Services QuickSpecs** for information on additional options and product specifications.

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

Additional Options

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

HPE USB US Keyboard/Mouse Kit	631341-B21
HPE USB INTL Keyboard/Mouse Kit	672097-B33

Rail Kits

HP 1U Small Form Factor Easy Install Rail Kit	734807-B21

NOTE: This applies to both LFF and SFF models and it does not include cable management arm.

HP 1U Cable Management Arm for Easy Install Rail Kit	734811-B21
HP 1U Short Friction Rail Kit	775612-B21

HPE Other Options

HPE Rack LED Light Kit	BW939A
HP Kit LCD 1.83m Latch Display Port Cable	G7T29A
HP ConvergedSystem Door Branding Kit	TK815A
HP ConvergedSystem Rack Light Kit	TK816A
HP ConvergedSystem Rack Side Panel 1075mm Kit	TK817A

HPE Uninterruptible Power Systems (UPS)	**HPE DirectFlow Three Phase UPS**	
	Power Unit (1U UPS)	
	HPE R12000 DirectFlow - 1U Rackmount Uninterruptible Power System	G9Y75A
	HPE R12000 DirectFlow - POD 1U Rackmount Uninterruptible Power System	AF478A
	HPE RP12000/3 12000VA Three Phase INTL 6U Rackmount Uninterruptible Power System	AF437A
	Input/Output Module Options for 1U UPS	
	HPE 32A 400-415 Volt Three Phase INTL R12000 DirectFlow UPS IEC309 Input/Output Module	AF488A
	HPE 30A 400-415 Volt Three Phase NA R10000 DirectFlow UPS IEC309 Input/Output Module	AF489A
	HPE 32A 380 Volt Three Phase China R12000 DirectFlow UPS Unterminated Input/Output Module	AF490A
	HPE 30A 480 Volt Three Phase NA R12000 DirectFlow UPS L22-30 Input/Output Module	AF491A
	HPE 30A 480 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module	AF492A
	HPE 30A 400-415 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module	G9Y76A
	HPE DirectFlow UPS Management Card	AF493A
	Power Unit (2U UPS)	
	HPE R18000 DirectFlow - 2U Rackmount Uninterruptible Power System	AF479A
	Input/Output Module Options for 2U UPS	
	HPE 32A 400-415 Volt Three Phase INTL R18000 DirectFlow UPS IEC309 Input/Output Module	AF483A

Additional Options

HPE 30A 380 Volt Three Phase China R18000 DirectFlow UPS Unterminated Input/Output Module	AF485A
HPE 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	AF486A
HPE 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	AF487A
HPE 30A 400 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	D9Q02A
HPE 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.

Battery Pack Options

HPE DirectFlow UPS - 1U Rackmount Lithium-ion Battery Pack	AF480A
HPE DirectFlow UPS - 3U Rackmount VRLA Battery Pack	AF482A
HPE 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

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

HPE T1000 G4 UPS Models

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

HPE T1500 G4 UPS Models

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

HPE Rack/Tower UPS

HPE R/T2200 G4 UPS Models

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

HPE R/T3000 G4 UPS Models

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

R1500 G4 Models

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

R7000 Uninterruptible Power System (UPS)

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

R5000 Uninterruptible Power System (UPS)

HPE R5000 3U L630 High Voltage NA/JP Uninterruptible Power System	AF460A
HPE 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

HPE R/T2200 G4 Extended Runtime Module	J2R09A

Additional Options

HPE R/T3000 G4 Extended Runtime Module	J2R10A
HPE 2U Rack/Tower UPS Shipping Kit	L4Q11A

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

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

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

HPE Support Services

Foundation Care

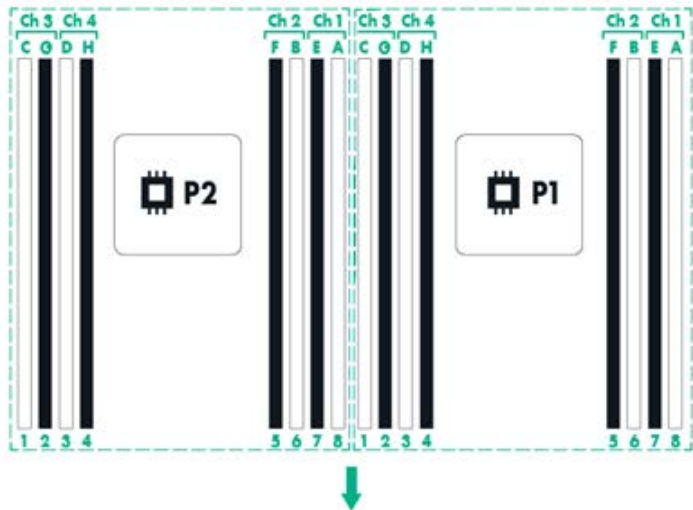|	
HPE 3 year Foundation Care 24x7 DL180 Gen9 Service	U7AT3E
HPE 3 year Foundation Care 24x7 wDMR DL180 Gen9 Service	U7AT4E
HPE 3 year Foundation Care 24x7 wCDMR DL180 Gen9 Service	U7AT5E

Proactive Care

HPE 3 year Proactive Care 24x7 DL180 Gen9 Service	U7AT6E
HPE 3 year Proactive Care 24x7 with DMR DL180 Gen9 Service	U7AT7E
HPE 3 year Proactive Care 24x7 with CDMR DL180 Gen9 Service	U7AT8E

Installation & Start-up Services

HPE Installation ProLiant DL180/DL380e Service	U6E81E
HPE Installation and Startup DL180 DL380e Service	U6E83E

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.

. Place the DIMMs with the highest number of ranks in the white slot when mixing DIMMs of different ranks on the same channel.

. Do not mix RDIMMs or LRDIMMs.

. Quad rank RDIMMs are not supported in HPE ProLiant DL180 Gen9 servers.

. Quad rank LRDIMMs are capable of up to two DIMMs per channel.

. 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® E5-2600v4 Series Processor Family

Memory Bandwidth and Capacity						
[DIMM Type]	Registered DIMMs (RDIMMs)				Load Reduced (LRDIMMs)	
HPE SKU P/N	805347-B21	805349-B21	836220-B21	805351-B21	805353-B21	805358-B21
DIMM Rank	Single Rank	Single Rank	Dual Rank	Dual Rank	Dual Rank	Quad Rank
DIMM Capacity	8GB	16GB	16GB	32GB	32GB	64GB
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
DRAM Depth [bit]	1G	2G	1G	2G	2G	2G

Memory

DRAM Width [bit]	x8	x4	x4	x4	x4	x4
DRAM Density	8Gb	8Gb	4Gb	8Gb	8Gb	8Gb
CAS Latency	17-17-17	17-17-17	17-17-17	17-17-17	17-17-17	17-17-17
DIMM Native Speed (MT/s)	2400	2400	2400	2400	2400	2400
SLOTS THAT CAN BE POPULATED						
16 slot servers	16	16	16	16	16	16
MAXIMUM CAPACITY (GB)						
	128	256	256	512	512	1024
POPULATED DIMM SPEED (MT/s)						
1 DIMM Per Channel	2400	2400	2400	2400	2400	2400
2 DIMM Per Channel	2133	2133	2133	2133	2400	2400
3 DIMM Per Channel	n/a	n/a	n/a	n/a	n/a	n/a

NOTE: DL180 has 2 DIMMs per channel and hence 3 DIMMs per channel memory speeds are not applicable on DL180.

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)**		
HPE SKU P/N	726717-B21	726718-B21	759934-B21	726719-B21	728629-B21	726720-B21	726722-B21	726724-B21
DIMM Rank	Single Rank	Single Rank	Dual Rank	Dual Rank	Dual Rank	Dual Rank	Quad Rank	Quad Rank
DIMM Capacity	4GB	8GB	8GB	16GB	32GB	16GB	32GB	64GB
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	Std Voltage 1.2V
DRAM Depth [bit]	512M	1G	512M	1G	1G	2G	2G	2G
DRAM Width [bit]	x8	x4	x8	x4	x4	x4	x4	x4
DRAM Density	4Gb	4Gb	4Gb	4Gb	4Gb	8Gb	8Gb	8Gb
CAS Latency	15-15-15	15-15-15	15-15-15	15-15-15	15-15-15	15-15-15	15-15-15	15-15-15
DIMM Native Speed (MT/s)	2133	2133	2133	2133	2133	2133	2133	2133
SLOTS THAT CAN BE POPULATED								
16 slot servers	16	16	16	16	16	16	16	16
MAXIMUM CAPACITY (GB)								
	64	128	128	256	512	256	512	1024
POPULATED DIMM SPEED (MT/s)								
1 DIMM Per Channel	2133	2133	2133	2133	2133	2133	2133	2133

Memory

2 DIMM Per Channel	2133	2133	2133	2133	2133	2133	2133	2133
3 DIMM Per Channel	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

NOTE: DL180 has 2 DIMMs per channel and hence 3 DIMMs per channel memory speeds are not applicable on DL180.

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 RIGHT – LOOKING FROM FRONT OF SERVER

		CPU 1		**CPU 2**		
	Slot #	Population order	Slot #	Population order	
Chnl 3	1	C	1	C	Chnl3
	2	G	2	G	

		CPU 1		**CPU 2**		
	Slot #	Population order	Slot #	Population order	
Chnl 4	3	D	4	D	Chnl 4
	4	H	5	H	

		CPU 1		**CPU 2**		
	Slot #	Population order	Slot #	Population order	
Chnl 2	5	F	7	F	Chnl 2
	6	B	8	B	

		CPU 1		**CPU 2**		
	Slot #	Population order	Slot #	Population order	
Chnl 1	7	E	10	E	Chnl 1
	8	A	11	A	

Memory Speed by Processor Model	

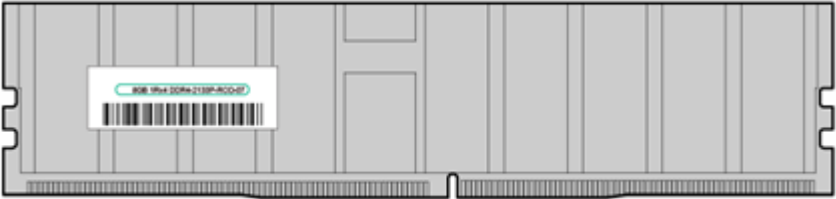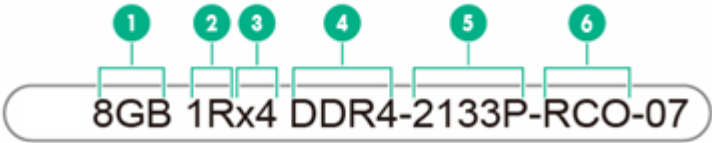| Processor Models	Supported Memory Speeds
E5-2609v3, E5-2603v3	1600MT/s
E5-2640v3, E5-2630v3, E5-2620v3, E5-2630Lv3, E5-2623v3	1866MT/s
E5-2660v3, E5-2650v3, E5-2650Lv3	2133MT/s
E5-2609v4, E5-2603v4	1866MT/s
E5-2630Lv4, E5-2620v4, E5-2623v4, E5-2640v4, E5-2630v4	2133MT/s
E5-2650Lv4, E5-2660v4, E5-2650v4, E5-2680v4, E5-2695v4, E5-2683v4	2400MT/s

Memory

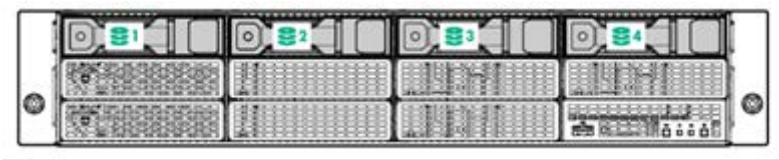| Standard and Maximum Memory Capacity (Pre-configured Models)	Pre Configured Models	Standard Memory	Maximum Memory Plus Optional Memory	Standard Memory Replaced with Optional Memory
	E5-2623v4	16GB (1x16GB)	496GB (15x32GB, 1x16GB)	1024GB (16x64GB)
	E5-2609v4, E5-2609v3, E5-2603v4, E5-2603v3	8GB (1x8GB)	488GB (15x32GB, 1x8GB)	1024GB (16x64GB)

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

Storage

4-bay LFF non-hot-plug drive model

1-4   4 x LFF SATA Non-Hot Pluggable Hard Drive Bays
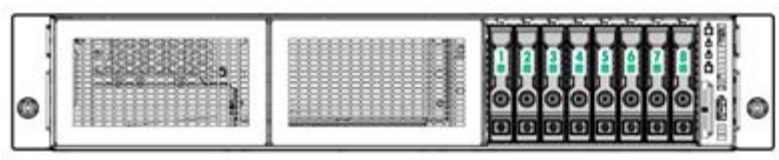
8-bay LFF hot-plug drive model

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

8-bay SFF hot-plug drive model

1-8   8 x SFF SATA/SAS/SDD Hot Pluggable Hard drive bays

16-bay SFF hot-plug drive model

1-16   16 x SFF SATA/SAS/SDD Hot Pluggable Hard drive bays

Technical Specifications

System Unit	Dimensions (with bezel)	SFF Drives: 3.44 x 17.54 x 23.9 in (8.75 x 44.55 x 60.7cm)
		LFF Drives: 3.44 x 17.54 x 23.9 in (8.75 x 44.55 x 60.7 cm)
	Weight (approximate)	Maximum: (all hard drives: front + rear, full power supply, and processor installed) — 47.6 lb (21.59 kg)
		Minimum: (one SFF hard drive, single power supply, and processor installed. HDD not installed) — 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 100 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.hpe.com/info/hppoweradvisor** - Click on the system of interest. Example: DL180 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

Technical Specifications

		(10,000 ft). The approved hardware configurations for this system are listed at the URL: **http://www.hpe.com/servers/ashrae** For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: **http://www.hpe.com/servers/ashrae** System performance may be reduced if operating in the extended ambient operating range or with a fan fault. **NOTE:** Supports A3 and A4 extended ambience.
	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	
	LWAd	Entry NHP: 5.3 B Entry HP: 5.3 B Base LFF: 5.3 B Base SFF: 5.2 B 12 LFF: 4.9 B
	LpAm	Entry NHP: 37 dBA Entry HP: 37 dBA Base LFF: 37 dBA Base SFF: 36 dBA 12 LFF: 32 dBA

Technical Specifications

	Operating	
	LWAd	Entry NHP: 5.3 B
		Entry HP: 5.3 B
		Base LFF: 5.3 B
		Base SFF: 5.2 B
		12 LFF: 4.9 B
	LpAm	Entry NHP: 38 dBA
		Entry HP: 37 dBA
		Base LFF: 37 dBA
		Base SFF: 37 dBA
		12 LFF: 33 dBA

NOTE: Entry NHP Configuration included one Intel E5-2603v4 processor, two 6TB 6G LFF midline SATA non-hot-pluggable HDD, one 8GB DDR4 RDIMMs 2400 MHz, two system fans, one 550W ATX power supply.

NOTE: Entry HP Configuration included one Intel E5-2603v4 processor, two 6TB 6G LFF midline SATA HDD, one 8GB DDR4 RDIMMs 2400 MHz, two system fans, one 550W ATX power supply.

NOTE: Base LFF Configuration included one Intel E5-2609v4 processor, two 6TB 6G LFF midline SAS HDD, one 8GB DDR4 RDIMMs 2400 MHz, two system fans, one 550W ATX power supply, one H240 HBA controller.

NOTE: Base SFF Configuration included one Intel E5-2609v4 processor, two 600GB 12G SFF enterprise SAS HDD, one 8GB DDR4 RDIMMs 2400 MHz, two system fans, one 550W ATX power supply, one H240 HBA controller.

NOTE: 12 LFF Configuration included one Intel E5-2623v4 processor, two 6TB 6G LFF midline SAS HDD, one 16GB DDR4 RDIMMs 2400 MHz, four system fans, one 800W/900W gold AC power input module, one P840 smart array controller with one 4GB cache module, one smart storage 96W battery.

NOTE: Values are subject to change without notification and are for reference only.

NOTE: Performance of system, options, and ancillary equipment will vary depending on the system configurations.

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	4Gb/s	
Storage protocol support	SATA	
SAS/SATA peak data transfer rate	6Gb/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)	
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
	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)	1000 Mb/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 product return, trade-in, and recycling programs, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.	
	http://www.hpe.com/recycle	
	The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities.	

Technical Specifications

This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

http://www.hpe.com/recycle

Summary of Changes

Date	Version History	Action	Description of Change
5-Jun-2017	From Version 23 to 24	Added	Added new Solid State Drives to the HPE Drives section.
8-May-2017	From Version 22 to 23	Added	Added support for ClearOS in Operating Systems and Virtualization Software Support for ProLiant Servers and Optional Features sections.
		Changed	HPE Drives was revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
27-Mar-2017	From Version 21 to 22	Added	Added new Hard Drives.
17-Feb-2017	From Version 20 to 21	Changed	HPE Memory section under Core Options was revised.
13-Feb-2017	From Version 19 to 20	Added	Added new HDD and SSD offering to the HPE Drives section.
		Changed	HPE InfiniBand, HPE Converged Infrastructure Management Software, and HPE USB and SD Options were revised.
		Removed	SKUs 778452, 778453, 778454, and 778455 were removed from the Pre-configured Models section. Obsolete SKUs were removed from the HPE Processors.
28-Nov-2016	From Version 18 to 19	Added	Added new Hard Drives offering. Added new HPE Tape Backup options.
		Changed	Maximum Internal Storage
		Removed	Obsolete SKUs were removed from the QuickSpecs.
28-Oct-2016	From Version 17 to 18	Removed	Obsolete Hard Drives were removed from the QuickSpecs.
26-Sep-2016	From Version 16 to 17	Added	Added new 10TB SATA LFF Hard Drives offering.
		Changed	Maximum Internal Storage, HPE PCIe Workload Accelerator Options, and HPE Storage Options were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
10-Jun-2016	From Version 15 to 16	Removed	HPE Dual 32GB microSD Enterprise Midline USB Kit was removed from the QuickSpecs.
6-Jun-2016	From Version 14 to 15	Added	Added new HDD offering to the HPE Drives section. New options added to the HPE Storage Controllers and HPE Disk Backup section.
		Changed	Memory, Memory Protection, Expansion Slots, Maximum Internal Storage, Interfaces, Upgradeability, HPE Networking, HPE Converged Infrastructure Management Software, and HPE Tape Backup were revised.
6-May-2016	From Version 13 to 14	Changed	Memory, Maximum Internal Storage, and Technical Specifications sections were revised.
8-Apr-2016	From Version 12 to 13	Changed	HPE Processors section was revised.
31-Mar-2016	From Version 11 to 12	Added	Added new HPE Smart Memory 2400 MHz memory,

Summary of Changes

			Intel Xeon E5-2600v4 processor support, new HPE Trusted Platform Module (TPM) 2.0, new 900W AC/ 240VDC power supply, and new HDD offerings.
		Changed	Power Supplies, Upgradeability, Embedded Management, Service and Support, Pre-configured Models, HPE Security, and Memory sections were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
16-Feb-2016	From Version 10 to 11	Added	New HDD offering was added to HPE Drives.
		Changed	HPE Power Supplies, HPE Computation and Graphics Accelerators, HPE Tape Backup, HPE Disk Backup, HPE Data Center Racks, and HPE Power Distribution Units (PDUs) were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
1-Dec-2015	From Version 9 to 10	Added	New HDD offering was added to HPE Drives. New options added to HPE PCIe Workload Accelerator Options.
		Changed	On System Management Chipset, Embedded Management, and Server utilities were revised. Product images were updated.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
28-Sep-2015	From Version 8 to 9	Added	Added new 6Gb SATA Solid State Drives. Added new HPE OneView management software.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
17-Aug-2015	From Version 7 to 8	Added	New Solid State Drives offering was added to Core Options.
		Changed	Maximum Internal Storage was revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
1-Jun-2015	From Version 6 to 7	Added	New Hard Drives offering. New HPE OneView licenses added to HPE Converged Infrastructure Management Software. New RDX+ external backup options were added.
		Changed	Maximum Internal Storage was revised. Core options and Additional Options were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
30-Mar-2015	From Version 5 to 6	Added	New Hard Drives offering. Optional Software added to HPE Storage Controllers.
		Changed	HPE Memory, HPE Power Supplies, HPE Storage Controllers, and HPE Disk Storage Systems were revised.
9-Feb-2015	From Version 4 to 5	Added	Added Network controller, new HPE Drives, and new G4 UPS models.
		Changed	HPE Drives, HPE Computation and Graphics

Summary of Changes

			Accelerators, HPE Tape Backup, HPE Disk Backup, HPE Rack Mount Consoles, KVM Switches, and Keyboards, HPE Uninterruptible Power Systems (UPS), HPE Networking, and HPE Power Distribution Units (PDUs) sections were revised.
1-Dec-2014	From Version 3 to 4	Changed	Changes made throughout the entire QuickSpecs.
13-Oct-2014	From Version 2 to 3	Added	6G SATA Enterprise Value G1 Solid State Drives were added to Core Option section. HPE PCIe Workload Accelerator Options, HPE USB and SD options were added to the Additional Options section.
		Changed	Standard Features, Optional Features, Configuration Information - Factory Integrated Models, and Memory sections were revised. Warranty was revised in Standard Features section.
19-Sep-2014	From Version 1 to 2	Changed	Changes made throughout the entire QuickSpecs.

hpe.com/qref/dl180gen9

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