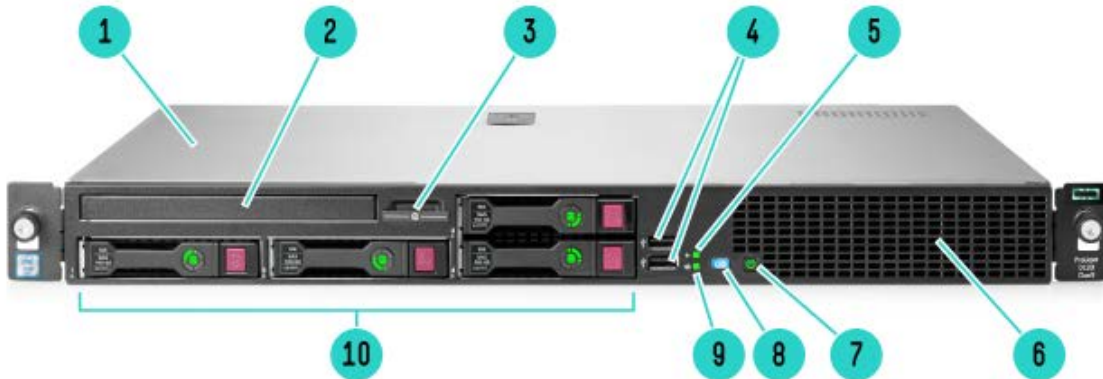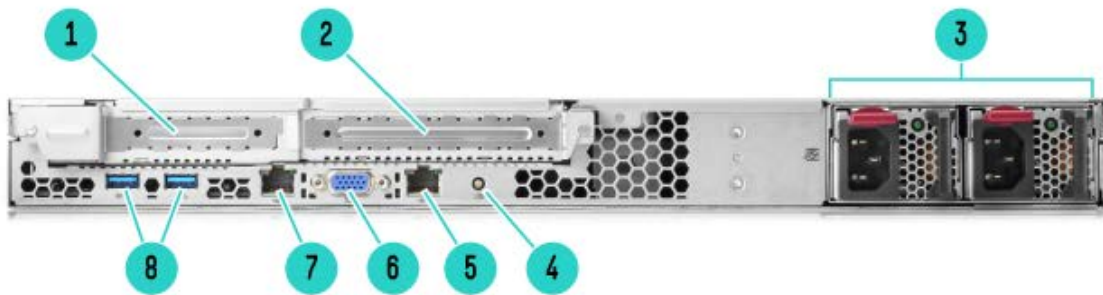## Overview

HPE ProLiant DL20 Generation9 (Gen9)

The dense and compact HPE ProLiant DL20 Gen9 Server powered by Intel Pentium, Core i3 and E3-1200v5 processors provides a unique blend of enterprise class capabilities & value. It offers outstanding configuration flexibility to cater to a wide variety of business requirements at an affordable price point.
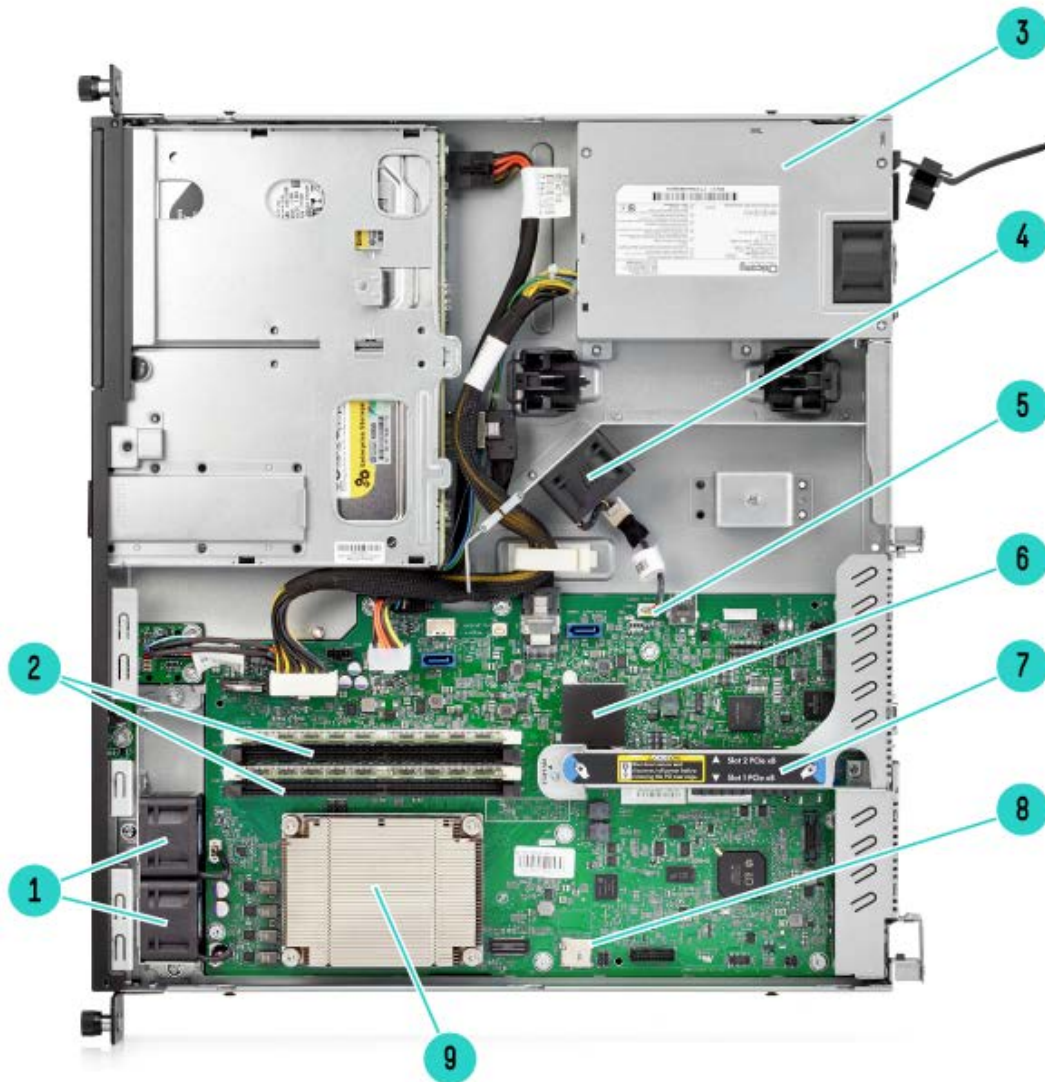
Front View

1. Access Panel
2. Optical Drive
3. Serial number/iLO information pull tab
4. 2 USB 2.0 connectors
5. Health LED
6. Front 2 Fan Assembly
7. Power On/Standby button and system power LED button
8. UID LED
9. NIC status LED
10. Hard Drive Bays

Rear View

1. Expansion Slot 1, PCIe x 8
2. Expansion Slot 2, PCIe x 16
3. Redundant Power Supply (only on SFF Chassis)
4. UID LED
5. NIC Connector 2
6. Video Connector
7. NIC1/shared iLO connector
8. USB 3.0 Connector

Hewlett Packard
Enterprise

Overview

Internal View

1. Fan cage shown with 2 fans
2. DDR4 DIMM slots. 4 slots
3. (Under) Power supply (1x 290W power supply shown)
4. Central Fan Assembly
5. Internal USB 3.0 connector
6. Embedded HPE Smart Array B140i controller
7. PCIe Riser
8. MicroSD card slot
9. 1 Processor, heatsink showing, with HP Smart Socket Guide

What's New

- New SSD offering.

Standard Features

Intel® Xeon® processor E3-1200v5 quad core processor family is designed to deliver the best combination of performance, built-in capabilities, and cost-effectiveness. The product also supports Intel® Pentium® and Intel® Core-i3 dual core processors. Choose one of the following processors based on the model:

Processor
One of the following depending on model

Model	CPU frequency	Cores	L3 Cache	Power	DDR4 Hz
G4400	3.3GHz	2	3MB	54W	2133
G4500	3.5GHz	2	3MB	51W	2133
i3-6100	3.7GHz	2	3MB	51W	2133
i3-6300	3.8GHz	2	4MB	51W	2133
E3-1220v5	3.0GHz	4	8MB	80W	2133
E3-1225v5	3.3GHz	4	8MB	80W	2133
E3-1230v5	3.4GHz	4	8MB	80W	2133
E3-1240v5	3.5GHz	4	8MB	80W	2133
E3-1270v5	3.6GHz	4	8MB	80W	2133
E3-1280v5	3.7GHz	4	8MB	80W	2133
E3-1240Lv5	2.1GHz	4	8MB	25W	2133
E3-1260Lv5	2.9GHz	4	8MB	45W	2133
G4560	3.5GHz	2	3MB	54W	2400
G4600	3.6GHz	2	3MB	51W	2400
i3-7100	3.9GHz	2	3MB	51W	2400
i3-7300	4.0GHz	2	3MB	51W	2400
E3-1220v6	3.0GHz	4	8MB	72W	2400
E3-1225v6	3.3GHz	4	8MB	73W	2400
E3-1230v6	3.5GHz	4	8MB	72W	2400
E3-1240v6	3.7GHz	4	8MB	72W	2400
E3-1270v6	3.8GHz	4	8MB	72W	2400
E3-1280v6	3.9GHz	4	8MB	72W	2400

Chipset   Intel® C232 Chipset

NOTE: For more information regarding Intel® chipsets, please see the following URL: **http://www.intel.com/products/server/chipsets/**

On System Management Chipset   HPE iLO (Firmware HPE iLO4 2.3) 4GB NAND

NOTE: 1GB USB user space configurable via UEFI and accessible via iLO. Read and learn more in the **iLO QuickSpecs**.

Memory
One of the following depending on model

Type:

DDR4 Unbuffered (UDIMM)

Unbuffered (UDIMM)

DIMM Slots Available	4	4 DIMM slots per processor; 2 channels per processor, 2 DIMMs per channel
Maximum Capacity (UDIMM)	64GB	(4 x 16GB UDIMM @2400MHz)

Memory Protection   ECC

Standard Features

Network Controller   HPE Ethernet 1Gb 2-port 332i network Adapter or BCM5720.

The HPE ProLiant DL20 Gen9 server offers the customer a dual-port NIC standard with the option to upgrade with a variety of networking options.

Expansion Slots

Dual side Low profile riser

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCIe 3.0	X8	X8		Half length/half height	
2	PCIe 3.0	X8	X8		Half length/full height	

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

FlexibleLOM Riser

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	Flexible LOM	x8	x8		Half length/half height	
2	PCIe 3.0	x8	x8		Half length/full height	

NOTE: This riser is mandatory for installing FlexibleLOMs.

GPU Riser

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1						
2	PCIe 3.0	x16	x16		Half length/full height	

NOTE: It is mandatory to choose one of the above risers.

Storage Controller
One of the following depending on model

Entry Models	HPE Dynamic Smart Array B140i Controller
Base Models	HPE Dynamic Smart Array B140i Controller
Performance Models	HPE H240 FIO Smart Host Bus Adapter

NOTE: B140i provides support for up to 4 SATA drives, data transmission speeds up to 6Gb/s and supports RAID 0, 1 & 5 on DL20 Gen9.
NOTE: H240 provides support for up to 4 SAS/SATA drives, data transmission speeds up to 12Gb/s and supports RAID 0, 1 & 5 on DL20 Gen9.
NOTE: DL20 Gen9 also supports other controller options like P440; read additional option to know more.

Standard Features

Internal Storage Devices One of the following depending on model	Optical Drive	Ships standard in Performance Models Optional: DVD-ROM, DVD-RW
	Optical Drives	Optional: DVD-ROM, DVD-RW
	Hard Drives	None ship standard
	Hard Drive Bays	4 SFF drive bays total with Optical Bay
		2 LFF drive bays total with Optical Bay

NOTE: HPE ProLiant DL20 Gen9 server offers Hot plug LFF, Non hot plug LFF and SFF versions. The Optical Drive bay is available with all models.
NOTE: Drive cage changes are not supported.
NOTE: All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either HPE SFF Gen9 Hard Drive Blank Kit (654961-B21) or HPE LFF Gen9 Hard Drive Blank Kit (689745-B21) or HPE LFF Gen9 Hard Drive Blank kit (654963-B21). These part numbers for single HDD blanks below are also provided should the customer require replacement HDD blanks for their server.

Maximum Internal Storage	**CAPACITY**	**CONFIGURATION**
Hot Plug SFF SAS	8TB	4 x 2TB
Hot Plug SFF SATA	8TB	4 x 2TB
Hot Plug LFF SAS	20TB	2 x 10TB
Hot Plug LFF SATA	20TB	2 x 10TB
Hot Plug SFF SAS SSD	15.36TB	4 x 3.84TB
Hot Plug SFF SATA SSD	15.36TB	4 x 3.84TB
Hot Plug LFF SATA SSD	15.36TB	4 x 3.84TB
Non Hot Plug LFF SATA	8TB	2 x 4TB

Power Supply
One of the following depending on model

HPE 290W FIO Power Supply

HPE 900W AC 240V DC Redundant Power Supply

NOTE: HPE 900W Redundant Power Supply supports100VAC to 240VAC and also supports 240VDC.

HPE Entry-Level Power Supplies provide lower-cost options for customers trying to balance their need for enterprise class efficiency and reliability while maintaining lowest possible hardware costs. The above mentioned Entry-Level power supply options have been designed specifically for HPE ProLiant DL20 Gen9 Server.
The HPE 290W FIO Power Supply is the standard, non-redundant AC power supply with 80Plus Silver Certification. It features 92% power efficiency with a set of features optimized for the DL20 Gen9 rack server.

The HPE 900W Gold (Redundant) AC/240V DC 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. The power backplane option can support up to two (2) hot-plug AC power input modules. This Redundant power supply option is only supported on DL20 Gen9 SFF chassis model.

All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit.

To review the power requirements for your selected system, please use the HPE Power Advisor Tool

Standard Features

located at **http://www.hpe.com/info/hppoweradvisor**.

System Fans		Non-redundant	Redundant
One of the following depending on model	1P model	3 fans	NA

NOTE: DL20 has 3 fans, 2 front fan assemblies and 1 center fan assembly which ship standard, non-redundant.

Interfaces	Video	1 rear video connector
	USB	5 USB ports (standard) Front: 2xUSB 2.0 Rear: 2xUSB 3.0 Internal: 1x USB 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.

	LOM Network Ports	2x1GbE ports

NOTE: Customers can upgrade to next generation network (10 GbE) by installing a FlexibleLOM riser.

Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server

Red Hat Enterprise Linux (RHEL)

SUSE Linux Enterprise Server (SLES)

VMware

ClearOS

NOTE: VMWare availability is dependent on General availability from the vendor. DL20 supports VMWare 5.5U3 and 6.0 U1.

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.hpe.com/info/ossupport** and our **driver download page**.

Upgradeability
One of the following depending on model

FlexibleLOM connector for 1 Gigabit or 10 Gigabit networking options

Up to 4 DIMM slots available for higher memory capacity

Up to 4SFF Drive bays or 2LFF Drive bays

HPE Smart Array or Smart HBA Controller

Redundant Power Supply

NOTE: RPS is only compatible with DL20 SFF Model. Customer can upgrade from DL20 Gen9 on SFF model with 290W PSU to 900W redundant power supply.

Industry Standard Compliance

UEFI (Unified Extensible Firmware Interface Forum)

PCIe 3.0 Compliant

PXE Support

WOL Support

Microsoft® Logo certifications

USB 3.0 Support

ASHRAE A3

Standard Features

NOTE: Refer to technical specifications section for more details.

Graphics	Integrated Matrox G200 video standard On board graphics: Integrated Matrox G200 video standard • 1280 x 1024 (32 bpp) • 1920 x 1200 (16 bpp) HP iLO 4 On System Management Memory • 16 MB Flash • 256 MB DDR 3 with ECC (112 MB after ECC and video) HPE NVIDIA Quadro M2000 GPU Module **NOTE:** Install GPU riser option to support GPU card. A GPU enablement kit 811271-B21 is mandatory to support GPU.
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 One of the following depending on model	1U Rack form factor 4SFF and 2LFF version: 1.70" (4.32cm) Height x 15.05" (38.22cm) Depth x 17.11" (43.46cm) Length **NOTE:** Depth of the chassis is measured from rear to ear at 15.05". Depth from rear to bezel is 15.5".
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**.

Standard Features

	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 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	

Standard Features

APCI 2.0b

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

NOTE: Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: **http://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. **https://www.hpe.com/us/en/solutions/hpc-high-performance-computing/hpc-software.html**
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: **https://www.hpe.com/info/hpc/solutions**.
Storage 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.

Optional Features

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 – HPE CSC reports 2014 - 2015

Recommended Support

Basic: HPE Foundation Care NBD, three-year Support Service

HPE Foundation Care Next Business Day connects you to Hewlett Packard Enterprise during business hours for assistance on resolving issues – This service features need based next business day hardware onsite response and software call back within two hours. In addition, Collaborative software support and 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

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.

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

Service and Support

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 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.

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

For more information: **http://www.hpe.com/services**

Pre-configured Models

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

1. Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.

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

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

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

NOTE: All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the **ProLiant Power Cables** web page.

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

	Entry Models		Base Models	
[SKU Number]	829889-B21	871428-B21	823556-B21	871429-B21
Model Name	HPE ProLiant DL20 Gen9 G4400 4GB-U Non-hot Plug 2LFF 290W PS Entry Server	HPE ProLiant DL20 Gen9 G4560 8GB-U Non-hot Plug 2LFF 290W PS Entry Server	HPE ProLiant DL20 Gen9 E3-1220v5 8GB-U B140i 2LFF 290W PS Base Server	HPE ProLiant DL20 Gen9 E3-1220v6 8GB-U B140i 2LFF 290W PS Base Server
Processor	Intel® Pentium® G4400	Intel® Pentium® G4560	Intel® Xeon® E3-1220v5	Intel® Xeon® E3-1220v6
Number of Processors	One			
Memory	4GB (1x4GB UDIMMs, 2133 MHz)	8GB (1x8GB UDIMM, 2400 MHz)	8GB (1x8GB UDIMMs, 2133 MHz)	8GB (1x8GB UDIMM, 2400 MHz)
Network Controller	HPE embedded 1Gb 2-port 332i network Adapter			
Storage Controller	HPE Dynamic Smart Array B140i			
Hard Drive	None ship standard; includes 2 LFF hard drive blanks		None ship standard	
Internal Storage	2 LFF HDD Bays (Non Hot Plug)		2 LFF HDD Bays (Hot Plug)	
Optical Drive Bay	1; (Optional: DVD-ROM, DVD-RW)			
Optical Drive	None			
PCI-Express Slots	2 PCIe 3.0 slots			
Power Supply	(1) 290W Non Hot Plug Power Supply			
Fans	3 non hot plug, 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 (1U), HPE Short Friction Rail Kit			
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response			

Pre-configured Models

	Performance Models			
[SKU Number]	823559-B21	823562-B21	871430-B21	871431-B21
Model Name	HPE ProLiant DL20 Gen9 E3-1240v5 8GB-U H240 4SFF 290W PS Performance Server	HPE ProLiant DL20 Gen9 E3-1240v5 8GB-U H240 4SFF 900W RPS Performance Server	HPE ProLiant DL20 Gen9 E3-1240v6 16GB-U H240 4SFF 290W PS Performance Server	HPE ProLiant DL20 Gen9 E3-1240v6 8GB-U H240 4SFF 900W RPS Performance Server
Processor	Intel® Xeon® E3-1240v5		Intel® Xeon® E3-1240v6	
Number of Processors	One			
Memory	8GB (1x8GB UDIMMs, 2133 MHz)		16GB (1x16GB UDIMMs, 2400 MHz)	
Network Controller	HPE embedded 1Gb 2-port 332i network Adapter			
Storage Controller	HPE H240 Smart Host Bus Adapter			
Hard Drive	None ship standard			
Internal Storage	4 SFF HDD Bays			
Optical Drive Bay	1; (Optional: DVD-ROM, DVD-RW)			
Optical Drive	None			
PCI-Express Slots	2 PCIe 3.0 slots			
Power Supply	(1) 290W Non Hot Plug Power Supply	(1) HPE 900W Redundant Power Supply and RPS Backplane kit	(1) 290W Non Hot Plug Power Supply	(1) HPE 900W Redundant Power Supply and RPS Backplane kit
Fans	3 non hot plug, non-redundant			
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Essentials (optional), iLO Scale-out (optional only for DL), iLO Advanced (optional)			
Energy Star		Meets Energy Star requirements		Meets Energy Star requirements
Form Factor	Rack (1U), HPE Short Friction Rail Kit			
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response			

NOTE: For 823562-B21 Model, add additional 900W Redundant Power supply input module for redundancy. This model includes the backplane cable kit and need not be added additionally.

Smart Buy Models

	E3-1200v5 Series Smart Buy Models		
[SKU Number]	830697-S01	830698-S01	830699-S01
Model Name	HPE ProLiant DL20 Gen9 E3-1220v5 NHP US Svr/S-Buy	HPE ProLiant DL20 Gen9 E3-1240v5 LFF US Svr/S-Buy	HPE DL20 Gen9 E3-1220v5 SFF US Svr/S-Buy
Processor	Intel® Xeon® E3-1220v5	Intel® Xeon® E3-1240v5	Intel® Xeon® E3-1220v5
Number of Processors	One		
Memory	8GB (1x8GB UDIMMs, 2133 MHz)		
Network Controller	HPE embedded 1Gb 2-port 332i network Adapter		
Storage Controller	HPE Dynamic Smart Array B140i		
Hard Drive	None ship standard		
Internal Storage	2 LFF NHP HDD Bays	2 LFF HDD Bays	4 SFF HDD Bays
Optical Drive Bay	1; (Optional: DVD-ROM, DVD-RW)		
Optical Drive	None		
PCI-Express Slots	2 PCIe 3.0 slots		
Power Supply	(1) 290W Non-Hot Plug Power Supply		(1) HPE 900W Redundant Power Supply
Fans	3 non hot plug, non-redundant		
Management	Integrated Lights-Out 4 (iLO 4) ships standard		
Form Factor	Rack (1U), HPE Short Friction Rail kit		
Warranty	1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response		

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)

CTO Server	HPE ProLiant DL20 Gen9 Non-hot Plug 2LFF Configure-to-order Server	HPE ProLiant DL20 Gen9 2LFF Configure-to-order Server	HPE ProLiant DL20 Gen9 4SFF Configure-to-order Server
SKU Number	819784-B21	819785-B21	819786-B21
Processor	1	1	1
DIMM Slots	4 DIMM slots for UDIMM DDR4 Memory		
Storage Controller	HPE Dynamic Smart Array B140i		
PCIe	2 PCIe 3.0 Slots		
Drive Cage	2LFF Non Hot Plug	2LFF Hot Plug	4SFF Hot Plug
Network Controller	HPE embedded 1Gb 2-port 332i network Adapter		
Fans	3 non hot plug, non-redundant		
Management	iLO Management (standard), Intelligent Provisioning (standard)		
USB	2 front, 1 internal, 2 rear		
Ears	HPE Thumbscrew Ears		

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

HPE Processors   **E3-1200v6 series Processors**

HPE DL20 Gen9 E3-1220v6 (3.0GHz/4-core/8MB/72W) FIO Processor Kit   871049-L21
HPE DL20 Gen9 E3-1225v6 (3.3GHz/4-core/8MB/73W) FIO Processor Kit   872140-L21
NOTE: On E3-1225v6 we do not support Intel's embedded graphics capability.
HPE DL20 Gen9 E3-1230v6 (3.5GHz/4-core/8MB/72W) FIO Processor Kit   871051-L21
HPE DL20 Gen9 E3-1240v6 (3.7GHz/4-core/8MB/72W) FIO Processor Kit   871053-L21
HPE DL20 Gen9 E3-1270v6 (3.8GHz/4-core/8MB/72W) FIO Processor Kit   871055-L21
HPE DL20 Gen9 E3-1280v6 (3.9GHz/4-core/8MB/72W) FIO Processor Kit   871057-L21

E3-1200v5 series Processors

HPE DL20 Gen9 E3-1220v5 (3.0GHz/4-core/8MB/80W) FIO Processor Kit   822425-L21
HPE DL20 Gen9 E3-1225v5 (3.3GHz/4-core/8MB/80W) FIO Processor Kit   836037-L21
NOTE: On E3-1225v5 we do not support Intel's embedded graphics capability.
HPE DL20 Gen9 E3-1230v5 (3.4GHz/4-core/8MB/80W) FIO Processor Kit   822427-L21
HPE DL20 Gen9 E3-1240v5 (3.5GHz/4-core/8MB/80W) FIO Processor Kit   822429-L21
HPE DL20 Gen9 E3-1270v5 (3.6GHz/4-core/8MB/80W) FIO Processor Kit   822431-L21
HPE DL20 Gen9 E3-1280v5 (3.7GHz/4-core/8MB/80W) FIO Processor Kit   822433-L21

Configuration Information - Factory Integrated Models

HPE DL20 Gen9 E3-1260Lv5 (2.9GHz/4-core/8MB/45W) FIO Processor Kit	822437-L21
HPE DL20 Gen9 E3-1240Lv5 (2.1GHz/4-core/8MB/25W) FIO Processor Kit	822435-L21

Intel® Core i3-7000 series Processors

HPE ProLiant DL20 Gen9 Intel® Core™ i3-7100 (3.9GHz/2-core/3MB/51W) FIO Processor Kit	871059-L21
HPE ProLiant DL20 Gen9 Intel® Core™ i3-7300 (4.0GHz/2-core/3MB/51W) FIO Processor Kit	871061-L21

Intel® Core i3-6000 series Processors

HPE ProLiant DL20 Gen9 Intel® Core™ i3-6100 (3.7GHz/2-core/3MB/51W) FIO Processor Kit	840012-L21
HPE ProLiant DL20 Gen9 Intel® Core™ i3-6300 (3.8GHz/2-core/3MB/51W) FIO Processor Kit	840010-L21

Intel® Pentium® G4000 series Processors

HPE ProLiant DL20 Gen9 Intel® Pentium® G4560 (3.5GHz/2-core/3MB/54W) FIO Processor Kit	871063-L21
HPE ProLiant DL20 Gen9 Intel® Pentium® G4600 (3.6GHz/2-core/3MB/51W) FIO Processor Kit	871061-L21
HPE ProLiant DL20 Gen9 Intel® Pentium® G4500 (3.5GHz/2-core/3MB/51W) FIO Processor Kit	840016-L21
HPE ProLiant DL20 Gen9 Intel® Pentium® G4400 (3.3GHz/2-core/3MB/54W) FIO Processor Kit	840018-L21

NOTE: DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

NOTE: For the Intel® C232 Chipset E3-1200 Series, the letter preceding the model number indicates the Product Line (E3, E5, E7); 1200x v#, 1 is the number of the CPU, 2 is socket type/segment designation, 00=processor SKU, x=L for low power SKUs and v# (not yet designated) is the version number.

HPE Memory

NOTE: Select one or more memory.

NOTE: HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server.

NOTE: HPE Standard Memory (UDIMM) is required to realize the memory performance improvements and enhanced functionality listed in this document for this HPE ProLiant Server.

NOTE: With one processor installed, four DIMMs slots are available

NOTE: For more information on ProLiant Energy Efficient Features, see:
http://www.hpe.com/go/proliant-energy-efficient

NOTE: Depending on the memory configuration and processor model, the memory speed would run at 2133MHz. Please see Memory Population Table or the Online Memory Configuration Tool at:
http://www.hpe.com/go/ddr4config

Unbuffered DIMMs (UDIMMs) – 2400 MHz

NOTE: The following memory is supported by the E3-1200v6, i3-7000 and G4560 and G4600 processors only

HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862974-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862976-B21

Unbuffered DIMMs (UDIMMs) – 2133 MHz

HPE 16GB (1x16GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805671-B21
HPE 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805669-B21

Configuration Information - Factory Integrated Models

	HPE 8GB (1x8GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	819880-B21
	HPE 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805667-B21
	NOTE: Depending on the processor selected these memory will run at 2133MHz.	
HPE I/O Expansion Options	HPE DL20 Gen9 PCIe Low Profile Riser FIO Kit	854846-B21
	HPE DL20 Gen9 Flexible LOM Riser Kit	811259-B21
	HPE DL20 Gen9 GPU Enablement Kit	811271-B21

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

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

HPE Entry-Level Power Supplies

HPE DL20 Gen9 290W FIO Power Supply Unit Kit	816283-B21
HPE 900W AC 240VDC Power Input FIO Module	828734-B21

NOTE: HP Server RPS FIO Backplane Kit (828735-B21) is required for this power supply.
NOTE: Up to two of these option kits can be installed in one system.

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

NOTE: One is required when one or two HPE 900W AC 240VDC Power Input FIO Modules (828734-B21) are ordered.

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

NOTE: This Redundant Power supply kit includes 2 power supply input module and 1 backplane kit.

HPE DL20 Gen9 Redundant Power Supply Cable Kit	820306-B21

NOTE: This RPS backplane Cable kit is mandatory to be chosen along with 900W RPS Input Module (828734-B21).

Step 3: Choose Additional Factory Integratable Options (only one of the following from each list unless otherwise noted)

HPE Storage Controllers **NOTE:** All CTO Server models include mini-SAS cables required to connect drives to the embedded B140i SATA controller or H240 Smart Host Bus Adapter.

SAS Controllers

HPE Smart Array Controllers

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

NOTE: Includes 96W Smart Storage Battery.
NOTE: P440 needs to be populated in slot 2 (Full Height).

HPE Smart Host Bus Adapters

HP H240 12Gb 2-ports Int FIO Smart Host Bus Adapter	761873-B21

NOTE: H240 needs to be populated in slot 2 (Full Height).

HPE Cable Options

HPE DL20 Gen9 2LFF Mini SAS P440 Cable Kit	811279-B21
HPE DL20 Gen9 4SFF Mini SAS P440 Cable Kit	811282-B21

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

Configuration Information - Factory Integrated Models

BIOS Mode	HP Legacy FIO Mode Setting	758959-B22
	NOTE: If B140i is the only controller, then this option cannot be selected.	
Controller State	HP Mfg FIO Enable HBA Mode Setting	792962-B21
	NOTE: If H240 is the primary controller with this option then RAID is not allowed.	
	HP AHCI-Enable FIO Setting	801845-B21
	NOTE: If B140i is the primary controller with this option then RAID is not allowed.	
HPE Insight Software	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	C6N36A
HPE Security Kits	HPE DL20 Gen9 Quick Release Ear FIO Kit	811254-B21
	NOTE: HPE ProLiant DL20 Gen9 ships with thumbscrew ear attachments as standard. The Quick Release Ear kit needs to be purchased if you want to have a security bezel installed.	

Step 4: Choose Additional Options for Factory Integration from Core and Additional Options sections below

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

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	HPE DL20 Gen9 2LFF Mini SAS P440 Cable Kit	811279-B21
	NOTE: This cable kit is required to support P440 controller on 2LFF model.	
	HPE DL20 Gen9 4SFF Mini SAS P440 Cable Kit	811282-B21
	NOTE: This cable kit is required to support P440 controller on 4SFF model.	
	HPE DL20 Gen9 Smart Storage Battery Holder	822451-B21
	NOTE: This holder is required to install the HPE Smart Storage battery (727258-B21) on P440 controller with FBWC (820834-B21, 726821-B21).	
	HPE DL20 Gen9 Redundant Power Supply Backplane Cable Kit	820306-B21
	NOTE: It is mandatory to choose this back plane cable kit to support 828734-B21, 775595-B21 Redundant Power Supply Input Module. This cable kit is required in instances of single or double 900W PSU unit.	
	HPE DL20 Gen9 M.2 RA and Optical Disk Drive Power Cable Kit	816284-B21
	NOTE: This cable kit is required to support M.2 and or ODD.	
	HPE DL20 Gen9 Flexible LOM Riser Kit	811259-B21
	NOTE: This option is required to upgrade to next generation networking capabilities like 10GbE.	
	HPE DL20 Gen9 GPU Enablement Kit	811271-B21
	NOTE: It is mandatory to choose the GPU enablement kit to support qualified GPU card.	
HPE Memory	**Unbuffered DIMMs (UDIMMs) – 2400 MHz**	
	NOTE: The following memory is supported by the E3-1200v6, i3-7000 and G4560 and G4600 processors only	
	HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862974-B21
	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862976-B21
	Unbuffered DIMMs (UDIMMs) – 2133 MHz	
	NOTE: The following memory is supported by the E3-1200v5, i3-6000 and G4500 and G4400 processors only	
	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805671-B21
	HPE 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805669-B21
	HPE 8GB (1x8GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	819880-B21
	HPE 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805667-B21
	NOTE: Depending on the processor selected these memory will run at 2133MHz.	
HPE Optical Drives	HPE 9.5mm SATA DVD-ROM JackBlack Gen9 Optical Drive	726536-B21
	HPE 9.5mm SATA DVD-RW JackBlack G9 Optical Drive	726537-B21

Core Options

HPE Drives	**SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives**	
	HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801882-B21
	HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801884-B21
	HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801888-B21

SATA Non-Hot Plug LFF (3.5-inch) Entry (ETY) Drives

HPE 500GB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843264-B21
HPE 1TB SATA 6G Entry 7.2K LFF (3.5in) RW 1yr Wty HDD	843266-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843268-B21
HPE 3TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843270-B21
HPE 4TB SATA 6G Entry 5.9K LFF (3.5in) RW 1yr Wty HDD	815635-B21

NOTE: These Entry drives will have lower performance and workload rating in comparison to HPE enterprise drives.

6G SATA SC Hot Plug LFF 7.2K (3.5-inch) Standard Drives

HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	858594-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	858596-B21

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

HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	861691-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872489-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	861676-B21
HPE 3TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	861693-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861752-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 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861750-B21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	846510-B21
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	861594-B21
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	819203-B21
HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	857648-B21

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

HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-B21
HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD	759208-B21
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD	785067-B21
HPE 450GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD	759210-B21
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-B21
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-B21
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD	759212-B21
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD	781516-B21
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	870763-B21

Core Options

HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870759-B21
HPE 900GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD	785069-B21
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	870765-B21
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 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e HDD	791034-B21
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21
HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-B21

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

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

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

HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	846524-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 3TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	846528-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861756-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 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	846514-B21
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861754-B21
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	861590-B21
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	819201-B21
HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	857644-B21

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

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

6G SATA Hot Plug SFF (2.5-inch) SC 512e Drives

HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765453-B21
HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765455-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:
https://ssd.hpe.com/recommend.

Core Options

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

HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	880295-B21
HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875483-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877776-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 Digitally Signed Firmware SSD	875470-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877782-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872348-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875474-B21
HPE 1.6TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	804631-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877788-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872352-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875478-B21

12G SAS Hot Plug SFF (2.5-inch) SC 512e Drives

HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e HDD	748387-B21
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765464-B21
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	832514-B21
HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765466-B21

12G SAS Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives

HPE 480GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875311-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 Digitally Signed Firmware SSD	875313-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 Digitally Signed Firmware SSD	875326-B21
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 Digitally Signed Firmware SSD	875330-B21

12G SAS Hot Plug SFF (2.5-inch) SC Write Intensive Solid State Drives

HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873351-B21
HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873355-B21
HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873357-B21

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

HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873359-B21
HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872374-B21
HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873363-B21
HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872376-B21

Core Options

HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873365-B21
HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872382-B21
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873367-B21
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872386-B21

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

HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	875472-B21
HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	872346-B21
HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	877784-B21
HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	875476-B21
HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	872350-B21
HPE 1.6TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	804634-B21
HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	877790-B21
HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	875480-B21

Mixed Use - 6G SATA - M.2 - Solid State Drives

HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	875488-B21
HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	875490-B21
HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	875492-B21

6G SATA Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives

HPE 150GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	869374-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877740-B21
HPE 240GB SATA 6G RI SFF SC DS SSD	868814-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	875503-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877746-B21
HPE 480GB SATA 6G RI SFF SC DS SSD	868818-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	875509-B21
HPE 960GB SATA 6G RI SFF SC DS SSD	868822-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	869384-B21

Core Options

HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875511-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	877752-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	871768-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877758-B21
HPE 1.92TB SATA 6G RI SFF SC DS SSD	868826-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	875513-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877764-B21
HPE 3.84TB SATA 6G RI SFF SC DS SSD	868830-B21
HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	870144-B21
6G SATA Hot Plug LFF (3.5-inch) SC Read Intensive Solid State Drives	
HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	877748-B21
HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	869380-B21
HPE 960GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	877754-B21
HPE 1.6TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	869388-B21
HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	877760-B21
Read Intensive - 6G SATA - M.2 - Solid State Drives	
HPE 150GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	875317-B21
HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	875319-B21
HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	875498-B21
HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	875500-B21
6G SATA Hot Plug SFF (2.5-inch) SC Write Intensive Solid State Drives	
HPE 400GB SATA 6G WI SFF SC DS SSD	872355-B21
HPE 800GB SATA 6G WI SFF SC DS SSD	872359-B21
HPE 1.6TB SATA 6G WI SFF SC DS SSD	872363-B21
6G SATA Hot Plug LFF (3.5-inch) SC Write Intensive Solid State Drives	
HPE 400GB SATA 6G WI LFF SCC DS SSD	872357-B21
HPE 800GB SATA 6G WI LFF SCC DS SSD	872361-B21
HPE 1.6TB SATA 6G WI LFF SCC DS SSD	872365-B21
M.2 SSD	
HPE Universal SATA HHHL 3yr Wty M.2 Kit	878783-B21
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

Core Options

	HPE DL20 Gen9 M.2 RA and Optical Disk Drive Power Cable Kit	816284-B21

NOTE: 816284-B21 cable kit is a mandatory option required to support M.2 SSDs.

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

Hard Drive Blank Kits

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

HPE Networking	**1 Gigabit Ethernet adapters**	
	HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21

NOTE: This networking card can NOT be selected with P440, H240, and P841. As an alternate solution the 4-port FlexibleLOM Adapter 629135-B21 can be chosen with P440, H240 or P841.

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

NOTE: This networking card can NOT be selected with P440, H240, and P841. As an alternate solution the 4-port FlexibleLOM Adapter 665240-B21 can be chosen with P440, H240 or P841.

HPE PS1810-24G Switch	J9834A

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 557SFP+ Adapter	788995-B21
HPE Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
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.

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-SFP+ Adapter	727060-B21
HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
HPE Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21

Please see the related NIC QuickSpecs for Technical Specifications and additional information: **http://www.hpe.com/servers/ProLiantNICs**.

Core Options

HPE I/O Expansion Options	HPE DL20 Gen9 Flexible LOM Riser Kit	811259-B21
	HPE DL20 Gen9 GPU Enablement Kit	811271-B21

HPE Power Supplies	**HPE ProLiant Gen9 Essential Server Power Supplies - Redundant**	
	HPE 900W Standard AC 240VDC Redundant Power Supply Kit	820792-B21

NOTE: This Redundant Power supply kit includes 2 power supply input modules and 1 backplane kit. Backplane cable kit (820306-B21) is mandatory for this option.

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.

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: The backplane kit and the backplane cable kit (820306-B21) are mandatory with the power input module.

HPE DL20 Gen9 Redundant Power Supply Backplane Cable Kit	820306-B21

NOTE: This RPS backplane Cable kit is mandatory to be chosen along with 900W backplane.

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) must be used with Power Backplane (814835-B21).
NOTE: Each Redundant Power Supply Backplane can support up to two (2) power input modules.
NOTE: DL20 Gen9 Backplane cable kit is a mandatory option with the backplane for DL20 Gen9.
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	HPE NVIDIA Quadro M2000 Graphics Accelerator	P8Y48A

NOTE: 1 GPU supported per Server.
NOTE: 1 GPU Enablement kit 779611-B21 must be selected when adding a GPU option.
NOTE: Only the above listed Graphics cards are Hewlett Packard Enterprise 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.

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

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 24 x 7 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: **https://www.hpe.com/info/insightmanagement**.
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 1yr 24x7 Technical Support and Updates Flexible Quantity LTU	512486-B21
	HPE iLO Advanced including 1yr 24x7 Technical Support and Updates Tracking LTU	512487-B21
	HPE iLO Advanced including 3yr 24x7 Tech Support and Updates 1-server LTU	BD505A
	HPE iLO Advanced including 3yr 24x7 Tech Support and Updates Flexible Quantity LTU	BD506A
	HPE iLO Advanced including 3yr 24x7 Tech Support and Updates Tracking LTU	BD507A
	HPE iLO 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 (without HPE iLO Advanced)**	
	HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A
	HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE
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

Additional Options

HPE Insight Cluster Management Utility Media	BD477A

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

HPE Security		
	HPE Trusted Platform Module 2.0 Kit	745823-B21
	HPE Trusted Platform Module Option	488069-B21
	HPE 1U Security Bezel Kit	664918-B21

NOTE: Quick Release Ear FIO option kit (811254-B21) is mandatory for installing security bezel.

HPE Storage Controllers

SAS Controllers

HPE Smart Array Controllers

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

NOTE: The above SKUs include 96W Smart Storage Battery.

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

NOTE: The option requires a 96W Smart Storage Battery p/n 727258-B21.

HPE Smart Array P441/4GB FBWC 12Gb 2-ports Ext SAS Controller	726825-B21
HPE Smart Array P841/4GB FBWC 12Gb 4-ports Ext SAS Controller	726903-B21

NOTE: P440 needs to be populated in slot 2 (Full Height).

HPE Smart Host Bus Adapters

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

NOTE: H240 needs to be populated in slot 2 (Full Height).

HPE Cable Options

HPE DL20 Gen9 2LFF Mini SAS P440 Cable Kit	811279-B21
HPE DL20 Gen9 4SFF Mini SAS P440 Cable Kit	811282-B21

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

NOTE: All the server models include mini-SAS cables required to connect drives to embedded B140i SATA controller or HBA240 controller (HBA240 is optional).

Optional Software

HP Secure Encryption per Svr Entitlement	C9A82AAE
HPE Smart Array SR SmartCache (Single Key/Single Server) LTU	D7S26A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU	D7S27A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU	D7S27AAE
HPE Smart Array SR 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.

Battery Holder

HPE DL20 Gen9 Smart Storage Battery Holder	822451-B21

NOTE: This holder is mandatorily required with Smart Storage Battery.

Additional Options

HPE Tape Backup   **NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: **http://www.hpe.com/storage/storeever**. For hardware and software compatibility of Hewlett Packard Enterprise 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-7 Ultrium 15000 External Tape Drive	BB874A
HPE StoreEver MSL LTO-7 Ultrium 15000 SAS Drive Upgrade Kit	N7P37A
HPE StoreEver MSL LTO-7 Ultrium 15000 FC Drive Upgrade Kit	N7P36A
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 MSL LTO-6 Ultrium 6250 SAS Drive Upgrade Kit	C0H27A
HPE StoreEver MSL LTO-6 Ultrium 6250 Fibre Channel Drive Upgrade Kit	C0H28A
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 MSL LTO-5 Ultrium 3000 SAS Drive Upgrade Kit	BL540B
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 DAT Autoloader

HPE StoreEver 1/8 G2 LTO-7 Ultrium 15000 SAS Tape Autoloader	N7P35A
HPE StoreEver 1/8 G2 LTO-7 Ultrium 15000 FC Tape Autoloader	N7P34A
HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 Fibre Channel Tape Autoloader	C0H19A
HPE StoreEver 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader	BL536B

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 4TB USB 3.0 External Disk Backup System	Q2R33A
HPE RDX+ 3TB USB 3.0 External Disk Backup System	P9L72A
HPE RDX 3TB USB 3.0 Internal Disk Backup System	P9L71A
HPE RDX 2TB USB3.0 External Disk Backup System	E7X53B
HP RDX+ 1TB External Backup System	B7B69B
HP RDX+ 500GB External Backup System	B7B66B
HPE RDX+ External Docking System	C8S07B

HPE StoreOnce Backup systems

HPE StoreOnce 3100 8TB System	BB913A
HPE StoreOnce 3520 12TB System	BB922A

Additional Options

HPE StoreOnce 3540 24TB System	BB914A
HPE StoreOnce 5100 48TB System	BB915A
D2D Backup	
HPE D3700 Enclosure	QW967A
HPE D3600 Enclosure	QW968A

NOTE: For the complete range of RDX drives and media see: **https://www.hpe.com/us/en/product-catalog/storage/disk-based-backup-systems.html**. For hardware and software compatibility of Hewlett Packard Enterprise disk backup products see: **http://www.hpe.com/storage/spock**.

HPE Storage Options	**Emulex Fibre Channel HBAs**	
	HPE 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ763B
	HPE StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter	C8R39A
	QLogic Fibre Channel HBAs	
	HPE 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ764A
	HPE StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter	QW972A

HPE Data Center Racks	**HPE Advanced Series Racks**	
	HPE 48U 600mm x 1075mm Advanced Pallet Rack	H6J87A
	HPE 48U 600mm x 1075mm Advanced Shock Rack	H6J88A
	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 22U 600mm x 1075mm Advanced Pallet Rack	H6J83A
	HPE 22U 600mm x 1075mm Advanced Shock Rack	H6J84A
	HPE 14U 600mm x 1075mm Advanced Shock Rack	H6J82A

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

HPE Enterprise Series Racks

HP 47U 600mm x 1200mm Enterprise Pallet Rack	BW913A
HP 47U 600mm x 1200mm Enterprise Shock Rack	BW914A
HP 42U 600mm x 1200mm Enterprise Pallet Rack	BW907A
HP 42U 600mm x 1200mm Enterprise Shock Rack	BW908A
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.

HPE Power Distribution Units (PDUs)	**HPE Basic Power Distribution Units (PDU)**	
	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 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Horizontal NA/JP PDU	D9N44A

Additional Options

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 (20) C13 (4) C19/Vertical NA/JP PDU	D9N47A
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 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) C19/Vertical NA/JP PDU	D9N62A
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
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 3Ph 17.3kVA/IEC 60309 60A 4-wire 48A/208V (12) C19/Horizontal NA/JP PDU	AF535A
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 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A
HPE 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A

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)

Additional Options

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 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 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 US TAA Rackmount Console Kit	AF645A

HPE KVM Switches

HP 0x1x8 G3 KVM Console Switch	AF651A
HP 0x2x16 G3 KVM Console Switch	AF652A
HP TAA 0x2x16 G3 KVM Console Switch	AF653A
HP USB Remote Access Key for G3 KVM Console Switches	AF650A
HP KVM Console USB Interface Adapter	AF628A
HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
HP KVM Console USB 2.0 Virtual Media CAC Interface Adapter	AF629A
HP 1x4 USB/PS2 KVM Console Switch	AF611A
HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A
HPE KVM Console USB/Display Port Interface Adapter	AF654A
HPE KVM Console USB 8-pack Interface Adapter	AF655A

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

Rail Kits

HP 1U Short Friction Rail Kit	775612-B21

HPE Other Options

Additional 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

Input/Output Module Options for 1U UPS

HPE 30A 400-415 Volt Three Phase NA R10000 DirectFlow UPS IEC309 Input/Output Module	AF489A
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 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 T1000 G4 UPS Models

HPE T1000 G4 NA/JP Uninterruptible Power System	J2P86A

HPE T1500 G4 UPS Models

HPE T1500 G4 NA/JP Uninterruptible Power System	J2P87A

HPE Rack-mountable UPS

Additional Options

	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
	R1500 G4 Models	
	HPE R1500 G4 NA Uninterruptible Power System	J2Q99A
	R7000 Uninterruptible Power System (UPS)	
	HPE R7000 4U 50A High Voltage NA/JP Uninterruptible Power System	AF462A
	R5000 Uninterruptible Power System (UPS)	
	HPE R5000 3U L630 High Voltage NA/JP Uninterruptible Power System	AF460A
	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
	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
	HPE 8GB microSD Enterprise Mainstream Flash Media Kit	726116-B21
	HPE 8GB USB Enterprise Mainstream Flash Media Drive Key Kit	737953-B21
	HPE Dual 8GB microSD Enterprise Midline USB Kit	741279-B21
HPE Support Services	**Installation & Start-up Services**	
	HPE Installation ML/DL Series 10 Service	U7WZ5E
	HPE Startup ML/DL Series 10 Service	U7WZ7E
	Foundation Care	
	HPE 3 year Foundation Care Next business day DL20 Gen9 Service	H1AH3E
	HPE 3 year Foundation Care Next business day with DMR DL20 Gen9 Service	H1AH4E
	HPE 3 year Foundation Care 24x7 DL20 Gen9 Service	H1AH9E
	HPE 3 year Foundation Care 24x7 with DMR DL20 Gen9 Service	H1AJ0E
	HPE 3 year Foundation Care 24x7 with CDMR DL20 Gen9 Service	H1AP0E
	HPE 3 year Foundation Care Next business day with CDMR DL20 Gen9 Service	H1AN7E
	Proactive Care	
	HPE 3 year Proactive Care 24x7 DL20 Gen9 Service	H1AJ1E
	HPE 3 year Proactive Care 24x7 with DMR DL20 Gen9 Service	H1AJ2E
	HPE 3 year Proactive Care 24x7 with CDMR DL20 Gen9 Service	H1AP1E

Memory

HPE Standard Memory UDIMMs has passed the rigorous Hewlett Packard Enterprise qualification and testing processes.

The memory subsystem in this server supports UDIMMs. The server supports single-rank and dual-rank DDR4 UDIMMs operating at up to 2133 MHz DIMM speeds.

Memory Population guidelines The server supports two channels per processor with two DIMMs per channel for a total of four DIMMs per DL20 Gen9 Server.

General Memory Population Rules and Guidelines:

. Only UDIMMs are supported on DL20 Gen9. No support for RDIMMs and LRDIMMs.

. All the channels in a system run at the fastest common frequency.

. Both single DIMM per channel and dual DIMMs per channel are supported at 2133MHz.

Intel Gen9 Supported Memory Bandwidth for HPE ProLiant Gen9 Intel® Xeon® E3-1200v5 Series Processor Family

Memory Bandwidth and Capacity				
[DIMM Type]	**Unbuffered with ECC DIMMs (UDIMMs)**			
HPE SKU P/N	805667-B21	819880-B21	805669-B21	805671-B21
DIMM Rank	Single Rank	Single Rank	Dual Rank	Dual Rank
DIMM Capacity	4GB	8GB	8GB	16GB
Voltage	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V
DIMM Native Speed (MT/s)	2133	2133	2133	2133
SLOTS THAT CAN BE POPULATED				
4 slot servers	4	4	4	4
MAXIMUM CAPACITY (GB)				
	16	32	32	64
POPULATED DIMM SPEED (MT/s)				
1 DIMM Per Channel	2133	2133	2133	2133
2 DIMM Per Channel	2133	2133	2133	2133
3 DIMM Per Channel		n/a		

Memory

Intel Gen9 Supported Memory Bandwidth for HPE ProLiant Gen9 Intel® Xeon® E3-1200v6 Series Processor Family

[DIMM Type]	Unbuffered with ECC DIMMs (UDIMMs)	
HPE SKU P/N	862974-B21	862976-B21
DIMM Rank	Single Rank	Dual Rank
DIMM Capacity	8GB	16GB
Voltage	Std Voltage 1.2V	Std Voltage 1.2V
DIMM Native Speed (MT/s)	2400	2400
SLOTS THAT CAN BE POPULATED		
4 slot servers	4	4
MAXIMUM CAPACITY (GB)		
	32	64
POPULATED DIMM SPEED (MT/s)		
1 DIMM Per Channel	2400	2400
2 DIMM Per Channel	2400	2400
3 DIMM Per Channel	n/a	n/a

DIMM slot and configuration diagram

UDIMM maximum configuration (1 CPU model)

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

CPU 1		
	Slot #	Population order
Chnl 2	1	B
	2	D

CPU 1		
	Slot #	Population order
Chnl 1	3	A
	4	C

Memory

Memory Speed by Processor Model	Processor Models	Supported Memory Speeds
	E3-1220v5, E3-1225v5, E3-1230v5, E3-1240v5, E3-1270v5, E3-1280v5, E3-1260Lv5, E3-1240Lv5, i3-6100, i3-6300, G4500, G4400	2133MT/s
	E3-1220v6, E3-1225v6, E3-1230v6, E3-1240v6, E3-1270v6, E3-1280v6, i3-7100, i3-7300, G4560, G4600	2400MT/s

Standard and Maximum Memory Capacity (Pre-configured Models)	Pre-Configured Models	Standard Memory	Maximum Memory Plus Optional Memory	Standard Memory Replaced with Optional Memory
	G4400	4GB (1x4GB)	52GB (3x16GB, 1x4GB)	64GB (4x16GB)
	E3-1240v5	8GB (1x8GB)	56GB (3x16GB, 1x8GB)	64GB (4x16GB)
	E3-1220v5	8GB (1x8GB)	56GB (3x16GB, 1x8GB)	64GB (4x16GB)
	G4560	8GB (1x8GB)	56GB (3x16GB, 1x8GB)	64GB (4x16GB)
	E3-1220v6	8GB (1x8GB)	56GB (3x16GB, 1x8GB)	64GB (4x16GB)
	E3-1240v6	16GB (1x16GB)	64GB (4x16GB)	64GB (4x16GB)

DDR4 memory options part number decoder

NOTE: Capacity references are rounded to the common gigabyte (GB) values.
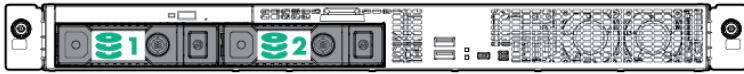
- 4GB = 4,096MB
- 8GB = 8,192MB
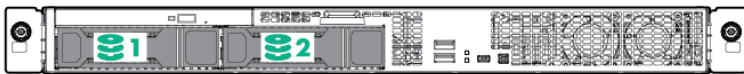- 16GB = 16,384MB
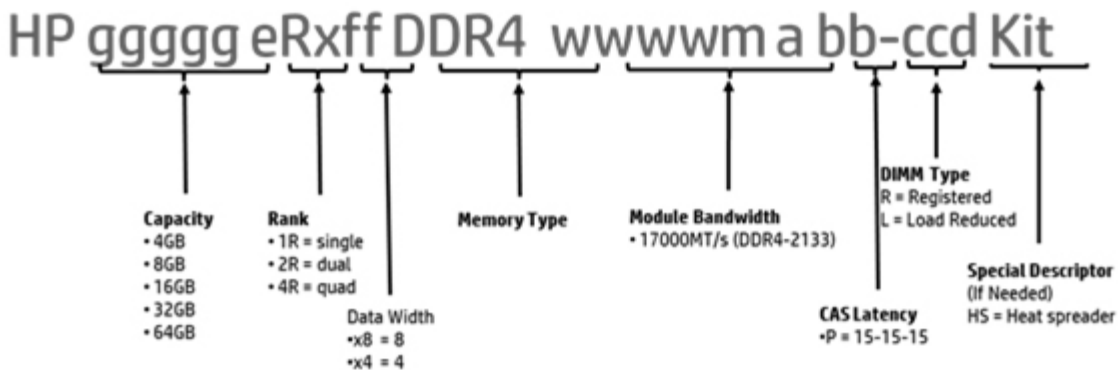
Storage

1-4   4 x SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays

1-2   2 x LFF SATA/SAS/SSD Hot Pluggable and Non hot Pluggable Hard Drives Bays

1-2   2 x LFF SATA Non hot Pluggable Hard Drives Bays

Technical Specifications

System Unit	**Dimensions** (H x W x D)	4 SFF - 1.70 x 17.11 x 15.05 inches (4.32 x 43.46 x 38.22 cm)
		2 LFF - 1.70 x 17.11 x 15.05 inches (4.32 x 43.46 x 38.22 cm)
	Weight (approximate)	Non hot Plug 2 LFF fully loaded (all hard drives, power supplies, and processors installed)
		17.37lb (7.88kg)
		Hot Plug 2LFF fully loaded (one hard drive, power supply, and processor installed)
		17.41lb (7.9kg)

290W Non-hot Plug Power Supply

Input Requirements	Range Input Voltage	100 to 240 VAC
	Rated Input Current	5.5 A max (at 100 VAC)
	Rated Input Frequency	50 to 60 Hz
	Rated Input Power	550 W (at 100 VAC)
BTU Rating	Maximum	1130 BTU per hr (at 115 VAC)
		1126 BTU per hr (at 230 VAC)
Power Specifications		To review typical system power ratings use the Power Advisor which is available via the online tool located at: **http://www.hpe.com/info/hppoweradvisor** - Click on the system of interest. Example: DL20 Gen9- Follow the instructions of the next screens.
Power Supply Output	Rated Steady-State Power	290 W Max
	Maximum Peak Power	366 W within 10 seconds

900W Redundant Power Supply

Input Requirements	Rated Input Voltage	100 to 127 VAC
		200 to 240VAC
	Rated Input Frequency	50 to 60 Hz
	Rated Input Current	6.3 A at 100 V AC
		4.9 A at 200 V AC
	Maximum rated input power	619 W at 100 VAC
		976 W at 200 VAC
	BTUs per hour non redundant	2112 at 100 VAC
		3329 at 200 VAC
Power Specifications		To review typical system power ratings use the Power Advisor which is available via the online tool located at: **http://www.hpe.com/info/hppoweradvisor** - Click on the system of interest. Example: DL20 Gen9- Follow the instructions of the next screens.
Power Supply Output	Rated Steady-State Power	550 W at 100 VAC to 127 VAC input
		900 W at 200 VAC to 240 VAC input
	Maximum Peak Power	550 W at 100 VAC to 127 VAC input
		900 W at 200 VAC to 240 VAC input
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

Technical Specifications

		per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).
	Extended Ambient Operating Support	For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: **http://www.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 extended ambient.
	Non-operating	-30°C to 65°C (-22°F to 149°F)
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.
Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Acoustic Noise		Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).
	Idle	
	LWAd	Entry 3.7 B
		Base 3.8 B
		Performance 3.4B
	LpAm	Entry 20.0 dBA
		Base 20.0 dBA
		Performance 18.0 dBA
	Operating	
	LWAd	Entry 3.7 B
		Base 4.7 B
		Performance 5.6 B

Technical Specifications

	LpAm	Entry 20.0 dBA	
		Base 30.0 dBA	
		Performance 34.0 dBA	
	Emissions Classification (EMC)	FCC Rating	Class A
		Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

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.
NOTE: The above power supply also supports 240VDC.

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 Ethernet 1Gb 2-port 332i Adapter	**Network Interface Compatibility**	10Base-T/100Base-TX/1000Base-TX	
		IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
		Energy Efficient Ethernet (EEE) compliant with IEEE Std 802.3az (default is disabled)	
	Data Transfer Method	PCI Express, two lanes (x2)	
	Controller	BCM5720	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s per port, 20 Mb/s Combined
		10Base-T (Full-Duplex)	20 Mb/s per port, 40 Mb/s Combined
		100Base-TX (Half-Duplex)	100 Mb/s per port, 200 Mb/s Combined
		100Base-TX (Full-Duplex)	200 Mb/s per port, 400 Mb/s Combined

Technical Specifications

		1000Base-TX (Half-Duplex)	1000 Mb/s per port, 2000 Mb/s Combined
		1000Base-TX (Full-Duplex)	2000 Mb/s per port, 4000 Mb/s Combined
	Connector	Four 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. 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
16-Oct-2017	From Version 24 to 25	Changed	Smart Buy models section was revised (NA version only).
25-Sep-2017	From Version 23 to 24	Added	New SSD offering was added to the HPE Drives section. Added new Storage options.
		Changed	Core Options and Additional Options were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
4-Sep-2017	From Version 22 to 23	Changed	Product descriptions were updated throughout the QuickSpecs.
7-Aug-2017	From Version 21 to 22	Added	Added new Solid State Drives to the HPE Drives section.
11-Jul-2017	From Version 20 to 21	Changed	Operating Systems and Virtualization Software Support for ProLiant Servers section was revised.
5-Jun-2017	From Version 19 to 20	Added	Added new Solid State Drives to the HPE Drives section.
8-May-2017	From Version 18 to 19	Added	New Intel Pentium Core i3 and E3-1200v6 processors were added. Added new 2400 MT/s UDIMMs. Added support for ClearOS. Added new Pre-Configured Models.
		Changed	Processor, Memory, Operating Systems and Virtualization Software Support for ProLiant Servers, and Graphics under Standard Features were revised. HPE Processors, HPE Memory, HPE Drives, HPE Computation and Graphics Accelerators, HPE Data Center Racks, and Memory were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
3-Apr-2017	From Version 17 to 18	Changed	HPE Processors section was revised.
27-Mar-2017	From Version 16 to 17	Added	Added new Hard Drives.
17-Feb-2017	From Version 15 to 16	Changed	HPE Memory section under Core Options was revised.
13-Feb-2017	From Version 14 to 15	Added	Added new HDD ans SSD offering to the HPE Drives section.
09-Dec-2016	From Version 13 to 14	Changed	Smart Buy models section in the NA version was revised.
28-Nov-2016	From Version 12 to 13	Added	Added new Hard Drives offering. Added new M2000 GPU option.
		Changed	Maximum Internal Storage, Graphics, HPE Computation and Graphics Accelerators, and HPE Disk Backup were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
28-Oct-2016	From Version 11 to 12	Removed	Obsolete Hard Drives were removed from the QuickSpecs.
26-Sep-2016	From Version 10 to 11	Added	Added new LFF 10TB SATA drives offering.
		Changed	Maximum Internal Storage and Pre-configured Models were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.

Summary of Changes

15-Aug-2016	From Version 9 to 10	Changed	HPE Networking section was revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
10-Jun-2016	From Version 8 to 9	Removed	HPE Dual 32GB microSD Enterprise Midline USB Kit was removed from the QuickSpecs.
6-Jun-2016	From Version 7 to 8	Added	Added new HDD offering to the HPE Drives section.
		Changed	HPE Networking, HPE Converged Infrastructure Management Software, and HPE Disk Backup were revised.
6-May-2016	From Version 6 to 7	Changed	Energy Star certification in Pre-Configured Models section was revised.
8-Apr-2016	From Version 5 to 6	Changed	HPE Processors section was revised.
31-Mar-2016	From Version 4 to 5	Added	Added new HPE Non-hot Plug Entry drives and Hot plug standard drives. Added new 8Gb and 16Gb Fiber Channel HBA support. Added new TPM 2.0 security module.
		Changed	Maximum Internal Storage, Graphics, Embedded Management, Security, Service and Support, Pre-configured Models, Power Supplies, and Storage Options sections were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
16-Feb-2016	From Version 3 to 4	Added	New HDD offering was added to HPE Drives.
		Changed	HPE Data Center Racks, HPE Power Distribution Units (PDUs), and HPE Uninterruptible Power Systems (UPS) were revised.
12-Jan-2016	From Version 2 to 3	Changed	Upgradeability and HPE Power Supplies were revised.
17-Dec-2015	From Version 1 to 2	Added	Smart Buy models were added to the NA version.
		Changed	Power Supply, Upgradeability, and Technical Specifications were revised.

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Summary of Changes

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