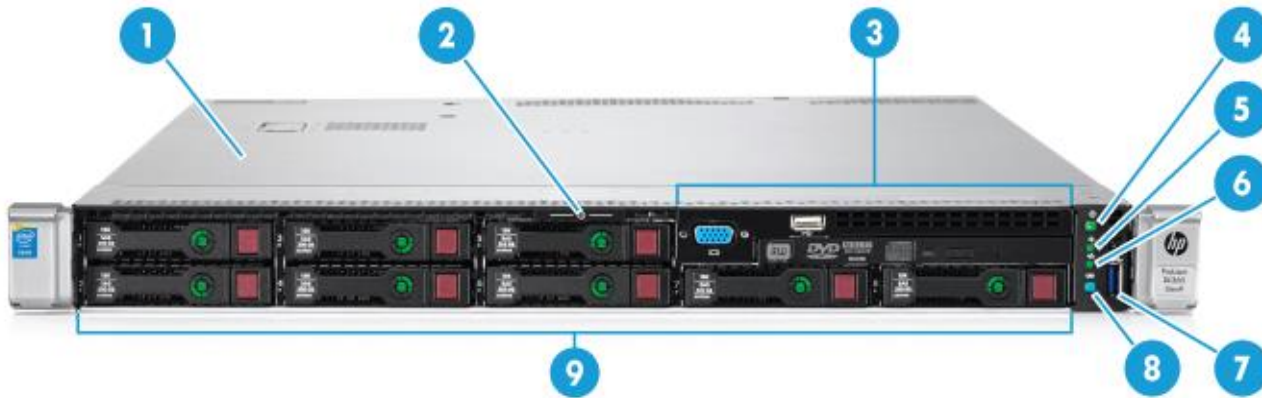Overview
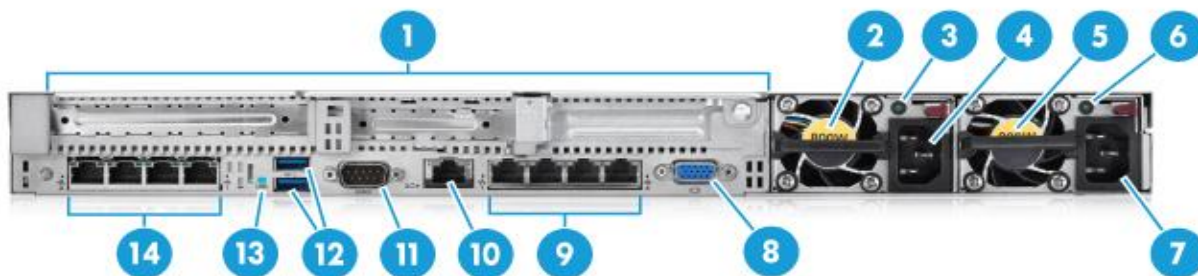
HP ProLiant DL360 Generation9 (Gen9)

HP's leading server for dense general-purpose computing, the HP ProLiant DL360 Gen9 Server delivers increased performance with the best memory and I/O expandability packed in a 1U dense rack design. Reliability, serviceability and always on availability, backed by a comprehensive warranty, make it ideal for the most space constrained server workloads.

Front View

1. Access Panel
2. Serial Label Pull Tab
3. HP Universal Media Bay
   NOTE: Shown w/VGA, USB 2.0 and DVD-RW option.
   Alternative options 2 SFF HDDs or VGA and USB 2.0.
4. Power On/Standby button and system power LED button
5. Health LED
6. NIC Status LED
7. USB 3.0 Connector
8. Unit Identification Button & LED
9. SAS/SATA/SSD Drive Bays
   NOTE: 8SFF Model shown, 4LFF and 8 + 2SFF Models available.
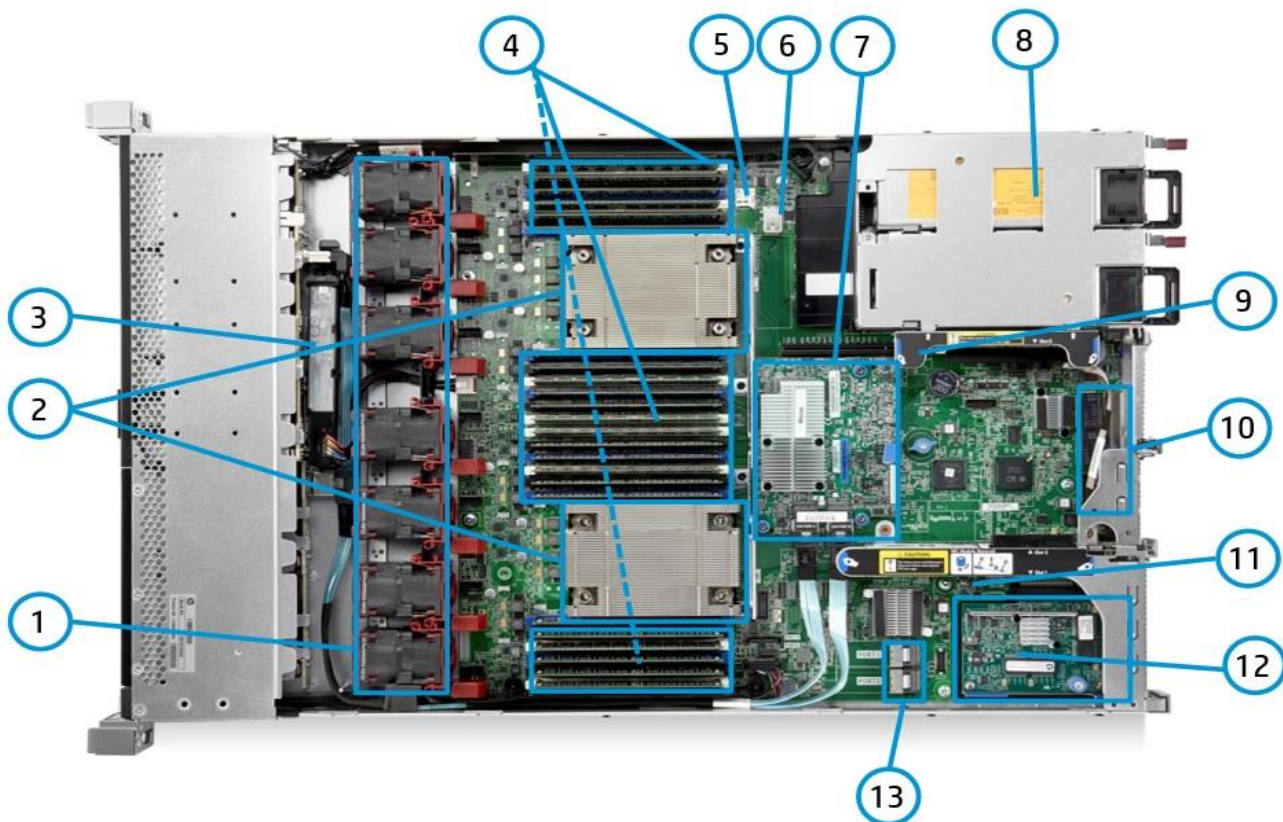
Rear view

1. PCIe 3.0 Slots 1-3
   NOTE: Slot 1 and 2 Riser Ships Standard, Slot 3 Optional
   1 FH /¾ length and two Low Profile slots available
   (shown) or two FH/ ¾ length slots.
2. HP Flexible Slot Power Supply Bay 2

Overview

3. Power Supply 2 Status LED
4. Power Supply 2 C13 Connection
5. HP Flexible Slot Power Supply Bay 1
6. Power Supply 1 Status LED
7. Power Supply 1 C13 Connection
8. Video Connector
9. Embedded 4x1GbE Network Adapter
10. Dedicated iLO 4 connector
11. Serial Port Connector (Optional)
12. USB 3.0 Connectors (2)
13. Unit Identification LED
14. FlexibleLOM bay (Optional)
    NOTE: Shown: 4x1Gbe.

Internal View

1. 5 Standard Fans Ship for 1P and 7 Standard Fans Ship
    for 2P
    NOTE: High Performance Fans also available as an
    option.
2. 2 Processors with HP Smart Socket Guide
3. HP Smart Storage Battery (Optional)
4. 24 DDR4 DIMM slots (12 per processor)
5. MicroSD card slot
6. Dual Internal USB 3.0 connector
7. HP Flexible Smart Array or Smart HBA (Optional)
    NOTE: H240ar shown and P440ar available.
8. 2 HP Flexible Slot Power supplies
9. Secondary PCIe 3.0 riser for PCIe slot 3 (requires CPU 2)

10. Embedded 4x1Gbe NIC
11. Primary PCIe 3.0 riser for PCIe slots 1 & 2
12. FlexibleLOM Bay (Optional)
13. Embedded SATA Controller ports

Standard Features

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

Intel® Xeon® processor E5-2600 v3 product family is designed to deliver the best combination of performance, built-in capabilities, and cost-effectiveness.

Processor

Model	CPU frequency	Cores	L3 Cache	Power	QPI	DDR4 Hz
E5-2699v3	2.3GHz	18	45MB	145W	9.6GT/s	2133
E5-2698v3	2.3GHz	16	40MB	135W	9.6GT/s	2133
E5-2697v3	2.6GHz	14	35MB	145W	9.6GT/s	2133
E5-2695v3	2.3GHz	14	35MB	120W	9.6GT/s	2133
E5-2690v3	2.6GHz	12	30MB	135W	9.6GT/s	2133
E5-2687Wv3	3.1GHz	10	25MB	160W	9.6GT/s	2133
E5-2683v3	2.0GHz	14	35MB	120W	9.6GT/s	2133
E5-2680v3	2.5GHz	12	30MB	120W	9.6GT/s	2133
E5-2670v3	2.3GHz	12	30MB	120W	9.6GT/s	2133
E5-2667v3	3.2GHz	8	20MB	135W	9.6GT/s	2133
E5-2660v3	2.6GHz	10	25MB	105W	9.6GT/s	2133
E5-2650v3	2.3GHz	10	25MB	105W	9.6GT/s	2133
E5-2650Lv3	1.8GHz	12	30MB	65W	9.6GT/s	2133
E5-2643v3	3.4GHz	6	20MB	135W	9.6GT/s	2133
E5-2640v3	2.6GHz	8	20MB	90W	8.0GT/s	1866
E5-2637v3	3.5GHz	4	15MB	135W	9.6GT/s	2133
E5-2630v3	2.4Ghz	8	20MB	85W	8.0GT/s	1866
E5-2630Lv3	1.8GHz	8	20MB	55W	8.0GT/s	1866
E5-2623v3	3.0GHz	4	10MB	105W	8.0GT/s	1866
E5-2620v3	2.4GHz	6	15MB	85W	8.0GT/s	1866
E5-2609v3	1.9GHz	6	15MB	85W	6.4GT/s	1600
E5-2603v3	1.6GHz	6	15MB	85W	6.4GT/s	1600

Chipset

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

On System Management Chipset

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

Memory
One of the following depending on model

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

DIMM Slots Available	24	(12 DIMM slots per processor, 4 channels per processor, 3 DIMMs per channel)
Maximum Capacity (LRDIMM)	1.5TB	(24 x 64GB LRDIMM @2133MHz)
Maximum Capacity (RDIMM)	384GB	(24 x 16GB RDIMM @2133MHz)

NOTE: 64GB LRDIMMs, feature support to be available early 2015.

Memory Protection

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

Standard Features

Expansion Slots

Primary Riser

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCIe 3.0	x16	x16		Full Height, ¾ Length (up to 9.5") Slot	Processor 1
2	PCIe 3.0	x8	x8		Low profile slot	Processor 1

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

Secondary Riser

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Device Number	Form Factor	Notes
3	PCIe 3.0	x16	x16			Low Profile	Processor 2
3	PCIe 3.0	x16	x16			Full Height, ¾ Length (up to 9.5") Slot	Processor 2*

*PCI-E Slot 2 cannot be used in conjunction with the FH/¾ Length option kit (744644-B21)

Storage Controller
One of the following depending on model

Entry Models	HP Dynamic Smart Array B140i Controller
Base Models	HP H240ar Smart Host Bus Adapter
Performance Models	HP Flexible Smart Array P440ar/2GB

Internal Storage Devices
One of the following depending on model

Optical Drives
8 SFF with optional Universal Media bay
NOTE: Option Kit 764632-B21 VGA, USB 2.0, and DVD-RW kit.
4 LFF
NOTE: Two option kits available for optical drive: 726536-B21 or 726537-B21; Optical cable kit required for optical drives: 766203-B21.

Hard Drives
None ship standard

Hard Drive Bays
8 SFF with optional Universal Media bay
4 LFF
10 SFF; 8 SFF Model with optional 2 SFF SAS/SATA kit: 764630-B21
NOTE: HP ProLiant DL360 Series servers offer both SFF and LFF models.
NOTE: All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HP SFF Hard Drive Blank Kit or P/N 666986-B21: HP LFF Hard Drive Blank Kit. 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 SSD	16.0TB	10 x 1.6TB
Hot Plug SFF SATA SSD	8.0TB	10 x 800GB
Hot Plug LFF SATA SSD	3.2TB	4 x 800GB
Hot Plug LFF SAS SSD	6.4TB	4 x 1.6TB
Hot Plug SFF SAS	12.0TB	10 x 1.2TB
Hot Plug SFF SATA	10.0TB	10 x 1TB
Hot Plug LFF SAS	24.0TB	4 x 6TB
Hot Plug LFF SATA	24.0TB	4 x 6TB

Power Supply
One of the following depending on model

HP 500W Flex Slot Platinum Hot Plug Power Supply
HP 800W Flex Slot Platinum Hot Plug Power Supply
HP 1400W Flex Slot Platinum Plus Hot Plug Power Supply
NOTE: Mixing of power supplies in the same server is not supported. All power supplies must be of the same input voltage, output rating, and efficiency rating. If non-matching power supplies are installed, you may receive an error message and/or experience operational issues with your server.

HP Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HP ProLiant Gen9 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

Standard Features

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

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

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

System Fans
One of the following depending on model

	Non-redundant	Redundant
1P model	N/A	5 fans
	Non-redundant	**Redundant**
2P model	N/A	7 fans

NOTE: The second processor option kit contains two fans.
NOTE: High Performance Fan Kit, 766201-B21, is available to meet some extended ambient operating temperatures above 35° C. Qualifications for extended ambient configurations are detailed at: https://www.hp.com/servers/ashrae.

Interfaces

Serial	1

NOTE: Optional kit: 764646-B21.

Video	1 rear (Standard) 1 front (Optional)

NOTE: Front VGA options available for 8SFF and 4LFF models as detailed in the core options section of this QuickSpecs.

Network RJ-45 (Ethernet)	Both the SFF and LFF models have an embedded 4x1GB NIC and a FlexibleLOM bay. (See HP Networking section below for more details and options).
HP iLO Remote Management Network Port	1Gb Dedicated
SD Connector	1 micro SD Internal

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

USB 3.0	5 total: 2 rear, 1 front, 2 internal

Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server
Canonical Ubuntu
Red Hat Enterprise Linux (RHEL)
SUSE Linux Enterprise Server (SLES)
Oracle Solaris
VMware
Citrix XenServer

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

Upgradeability

Upgradeable to two processors (36 Cores)
Up to 24 DIMM slots available for higher Memory capacity
Up to 10 SFF Hard Drive Bays; or 4 LFF Hard Drive Bays
FlexibleLOM slot for 1Gigabit or 10 Gigabit Ethernet or QDR/FDR InfiniBand networking options
3 PCIe 3.0 I/O slots for additional communications and storage expansion
NOTE: Slot 1 and 2 Riser Shipped Standard, Slot 3 Optional 1 FH / ¾ length and two Low Profile slots available (shown) or two FH/ ¾ length slots.
Redundant Power Supplies
Optical Drive supported via Universal Media Bay
NOTE: 8SFF Model via VGA, USB 2.0 and DVD-RW Option kit: 764732-B21; 4LFF Model via DVD-RW 726537-B21, DVD 726536-B21 and the Optical Cable: 766203-B21.

Standard Features

Industry Standard Compliance	ACPI 2.0b Compliant PCIe 3.0 Compliant PXE Support WOL Support Microsoft® Logo certifications USB 3.0 Support Energy Star ASHRAE A3/A4 **NOTE:** High Performance Fan Kit, 766201-B21, is available to meet some extended ambient operating temperatures above 35° C. Qualifications for extended ambient configurations are detailed at: https://www.hp.com/servers/ashrae.
Graphics	Integrated Matrox G200 video standard • 1280 x 1024 (32 bpp) • 1920 x 1200 (16 bpp)
HP Server UEFI/Legacy ROM	**HP Server UEFI /Legacy ROM** Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secured configuration while interacting with your server at boot time. HP ProLiant Gen9 platform defaults to UEFI and can be factory or field configured for Legacy BIOS Boot Mode. **NOTE:** The UEFI System Utilities function is analogous to the HP ROM-Based Setup Utility (RBSU) of legacy BIOS. For more information, please visit http://www.hp.com/go/proliantuefi/docs. UEFI enables numerous new capabilities specific to HP ProLiant servers such as: • Secure Boot • Operating system specific functionality • Support for > 2.2 TB (using GPT) boot drives • USB 3.0 Stack • Embedded UEFI Shell • Mass Configuration Deployment Tool using HP RESTful API. • PXE boot support for IPv6 networks • Boot support for option cards that only support a UEFI option ROM **For more information please visit http://www.hp.com/go/proliant/uefi.** **NOTE:** For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI. **NOTE:** HP UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory.
Form Factor One of the following depending on model	1U Rack form factor 8 SFF Drive Bay Version and 10 SFF Drive Bay Version: 1.7" (4.32cm) Height x 17.11" (43.47cm) Width x 27.5" (69.85cm) Length 4 LFF Drive Bay Version: 1.7" (4.32cm) Height x 17.11" (43.47cm) Width x 29.5" (74.67cm) Length

Embedded Management	**HP Integrated Lights-Out (HP iLO)**	Monitor your servers for ongoing management, service alerting, reporting and remote management with iLO. Learn more at http://www.hp.com/go/ilo.
	UEFI	Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI). Learn more at http://www.hp.com/go/ProLiant/uefi.
	HP RESTful API	RESTful API is an application programming interface. RESTful Web Service API served by iLO's web server. Learn more at http://www.hp.com/go/restfulapi.

Standard Features

	Intelligent Provisioning	Provision servers by discovering and deploying 1 to few servers with Intelligent Provisioning. Learn more at http://www.hp.com/go/intelligentprovisioning.
	Embedded Remote Support	HP's embedded remote support, used with Insight Online direct connect or HP Insight Remote Support, allows HP ProLiant servers to transmit hardware events directly to HP or an HP Authorized Partner for automated phone home support. Learn more at http://www.hp.com/go/insightonline/info.
Server utilities	HP Smart Update	Optimize firmware and driver updates with HP Smart Update solutions. Learn more at http://www.hp.com/go/smartupdate.
	HP Systems Insight Manager (HP SIM)	HP SIM allows you to monitor the health of your HP ProLiant Servers and HP Integrity Servers, and also provides you with basic support for non-HP servers. HP SIM also integrates with HP SUM to provide quick and seamless firmware updates. Learn more at http://www.hp.com/go/sim.
	HP OneView Standard	HP OneView Standard can inventory, monitor, alert, and report on your G6, G7, Gen8, and Gen9 servers, while using the HP OneView user interface. Annual support is optionally available. Learn more at http://www.hp.com/go/oneview.
	Scripting Tool Kit and Windows PowerShell	Provision 1 to many servers using your own scripts to discover and deploy them with HP Scripting Tool Kit for Windows and Linux or HP Scripting Tools for Windows PowerShell. Learn more at http://www.hp.com/go/ProLiantSTK or http://www.hp.com/go/powershell.
	HP RESTful Interface Tool	HP RESTful Interface tool is a scripting tool to provision servers using RESTful API Interface to discover and deploy servers at scale. Learn more at http://www.hp.com/go/restfulapi.
	HP iLO Mobile Application	Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: http://www.hp.com/go/ilo/mobileapp.
	HP Insight Online	HP Insight Online, available at no additional cost as part of your HP warranty, Care Pack or contractual support agreement with HP, is a personalized dashboard for simplified tracking of IT operations and support information from anywhere, anytime. Learn more at http://www.hp.com/go/insightonline/info.

Security	Power-on password
	Keyboard password
	QuickLock, Network Server Mode
	Serial interface control
	Administrator's password
	iLO 4 (Integrated Lights-Out 4) has 12 customizable user accounts and SSL encryption
	iLO 4 can be disabled via a Global Setting
	iLO Advanced supports directory services integration
	TPM 1.2
	UEFI

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

Optional Features

Server Management	**HP Insight Control**	HP Insight Control, lets you deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, see http://www.hp.com/go/insightcontrol.
	HP OneView Advanced	HP OneView Advanced is converged management that eliminates infrastructure complexity with automation simplicity. This modern architecture is designed to accelerate your IT operations across servers, storage, and network resources using software-defined approaches and automation, see http://www.hp.com/go/oneview.
	HP Insight Cluster Management Utility (CMU)	HP Insight Cluster Management Utility is a hyperscale-optimized management framework that includes software for the provisioning, control, performance management and monitoring of groups of nodes and infrastructure. Learn more at http://www.hp.com/go/cmu.

Rack and Power Infrastructure	HP Rack and Power Infrastructure products and services create highly efficient and intelligent solutions for existing or new IT data centers. HP Rack and Power infrastructure solutions – rack infrastructure, power protection and management, performance optimized data centers (PODs) – are the foundation you are looking for to help secure your long-term IT success. These products are designed to help you react to changes in the industry. They deliver efficient, easy-to-use capabilities to manage, monitor, deploy and provision infrastructure from entry to enterprise. As an industry leader, HP is uniquely positioned to address the key concerns of power, cooling, cable management and system access. Learn more at HP Rack and Power Infrastructure.

High Performance Clusters	**HP Insight Cluster Management Utility (CMU)**	HP Insight Cluster Management Utility is a Hyperscale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at http://www.hp.com/go/cmu.

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

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

- **Data Protection and Recovery Software**
  Whether you're a large enterprise or a smaller business, HP data protection and recovery software will cost-effectively protect you against disaster and ensure business continuity.
- **Data Archive and Migration Software**
  HP's storage software enables you to comply with data retention and retrieval requirements, improve application performance, and reduce costs by efficiently migrating infrequently accessed or less valuable data to lower cost storage.
- **Storage Resource Management Software (SRM)**
  HP's storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.
- **Data Replication Software**
  HP offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.
- **Storage Device Management Software**
  Maximize your investment in HP storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HP StoreVirtual VSA**
  With HP StoreVirtual VSA you can use the power of virtualization to create a virtual array within your host server. Manage it as a single pool of shared storage capacity, and scale it to match your evolving

Optional Features

needs. HP ProLiant Gen9 servers include a 3-year limited license for HP StoreVirtual VSA software with 1TB of capacity at no extra cost. Simply select to install HP StoreVirtual VSA software during server setup within Intelligent Provisioning. More information, instructional videos, and free console management software are available at http://www.hp.com/go/vsa1TB.

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

One Config Simple (SCE) SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator.

Service and Support

HP Technology Services	HP Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HP to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.
Protect your business beyond warranty with HP Care Pack Services	HP Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.
Optimized Support recommendation	**HP Proactive Care - Call to Repair commitment, 24x7 coverage, three year Care Pack Service** Prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to HP. Includes enhanced escalation management and the industry's highest level of hardware support commitment – hardware will be returned to operating conditions within six (6) hours after you open your case. Comes with collaborative software call management with two hour call back to reduce troubleshooting. As a leading global support provider for Microsoft, Red Hat, VMware, SUSE and other operating systems, HP is able to simplify and shorten your time to resolution with one call for hardware or software questions. http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf **HP ProLiant Server Hardware Installation** Help ensure your new HP ProLiant hardware is installed smoothly, efficiently and with minimal disruption to your IT and business operations. http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf
Standard Support recommendation	**HP Proactive Care** - 24x7 coverage, three year Care Pack Service This service helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to HP. Includes four hour response for hardware, and collaborative call management for software with a two hour callback. http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf **HP ProLiant Hardware Installation** Help ensure your new HP ProLiant hardware is installed smoothly, efficiently and with minimal disruption to your IT and business operations. http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf
Related Services	**Data Center Platform Consulting Services** These services help modernize key systems and leverage new technology to support a changing business climate and prepare you for the new style of IT. HP understands the needs of the data center of the future and will serve as your guide for the journey. http://www.hp.com/services/consulting **Data Privacy Services** Protect your data through better media management. HP Data privacy services help manage and protect sensitive data. http://www.hp.com/services/dataprivacy **Factory Express for Servers and storage** HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Choose how your factory solutions are built, tested, integrated, shipped and deployed. http://www.hp.com/go/factory-express **HP Foundation Care** Hardware and software support services provide easy connection to HP to resolve support issues quickly. Includes collaborative call management for industry leading software; full software support may also be purchased, giving you one place to call for help. http://www.hp.com/services/foundationcare Additional HP Care Pack services can be found at: http://www.hp.com/go/cpc
Parts and Materials	HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Service and Support

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

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

Pre-configured Models

For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
1. Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
2. HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
3. If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

NOTE: All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HP SFF Hard Drive Blank Kit or P/N 666986-B21: HP LFF Hard Drive Blank Kit.
NOTE: All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the ProLiant Power Cables web page.

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

	Entry Models		Base Models
[SKU Number]	755260-B21	755261-B21	755262-B21
Model Name	HP ProLiant DL360 Gen9 E5-2603v3 1P 8GB-R B140i 500W PS Entry SATA Server	HP ProLiant DL360 Gen9 E5-2603v3 1P 8GB-R H240ar 500W PS Entry SAS Server	HP ProLiant DL360 Gen9 E5-2630v3 1P 16GB-R P440ar 500W PS Base SAS Server
Processor	Intel® Xeon® E5-2603v3		Intel® Xeon® E5-2630v3
Number of Processors	One		
Memory	8GB (1x8GB Registered DIMMs, 2133 MHz) **NOTE:** The DIMM will operate at 1600 MHz with the E5-2603v3 Processor.	8GB (1x8GB Registered DIMMs, 2133 MHz) **NOTE:** The DIMM will operate at 1600 MHz with the E5-2603v3 Processor	16GB (1x16GB Registered DIMMs, 2133 MHz) **NOTE:** The DIMM will operate at 1866 MHz with the E5-2603v3 Processor
Network Controller	HP Embedded 1Gb Ethernet 4-port 331i Adapter		
Storage Controller	HP Dynamic Smart Array B140i	HP H240ar Smart Host Bus Adapter	HP Flexible Smart Array P440ar/2GB
Hard Drive	None ship standard **NOTE:** Only Supports SATA HDD unless HP Smart HBA or HP Smart Array Controller is added.	None ship standard	
Internal Storage	8 SFF HDD Bays		
Optical Drive Bay	Optional via Universal Media Bay		
PCI-Express Slots	2 Standard (1-FH/¾ L, 1-LP) PCIe 3.0		
Power Supply	(1) HP 500W Flex Slot Platinum Power Supply		
Fans	5 Standard hot plug fans, redundant		
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional), HP OneView (optional)		
Form Factor	Rack (1U), HP Easy Install Rails		
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response		

	Performance Models
[SKU Number]	755263-B21
Model Name	HP ProLiant DL360 Gen9 E5-2650v3 2P 32GB-R P440ar 800W RPS Performance SAS Server
Processor	Intel® Xeon® E5-2650v3
Number of Processors	Two
Memory	32GB (2x16GB Registered DIMMs, 2133 MHz)
Network Controller	HP Embedded 1Gb Ethernet 4-port 331i Adapter
Storage Controller	HP Flexible Smart Array P440ar/2GB
Hard Drive	None ship standard
Internal Storage	8 SFF HDD Bays
Optical Drive Bay	Optional via Universal Media Bay
PCI-Express Slots	2 Standard (1-FH/¾ L, 1-LP) PCIe 3.0

QuickSpecs

HP ProLiant DL360 Generation9 (Gen9)

Pre-configured Models

Power Supply	(2) HP 800W Flex Slot Platinum Power Supply
Fans	7 standard hot plug fans, redundant
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (standard), HP OneView (optional)
Form Factor	Rack (1U), HP Easy Install Rails
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-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, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.
1. Factory Integrated Models must start with a CTO Server.
2. FIO indicates that this option is only available as a factory installable option.
3. All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.
4. Some options may not be integrated at the factory. Contact your local sales representative for additional information.

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

[Chassis]	HP ProLiant DL360 Gen9 4LFF Configure-to-order Server	HP ProLiant DL360 Gen9 8SFF Configure-to-order Server
SKU Number	755259-B21	755258-B21
Processor	2 (optional) x HP Smart Socket Guides	
DIMMSlots	24 DIMM slots for RDIMM, LRDIMM DDR4 Memory	
Storage Controller	HP Dynamic Smart Array B140i	
PCIe	2 PCIe 3.0 Slots: Slot 1, FH / ¾ Length; Slot 2, Low Profile	
Drive Cage	4LFF Hot Plug	8SFF Hot Plug
Network Controller	HP Embedded 1Gb Ethernet 4-port 331i Adapter	
Fans	5 Standard hot plug fans, redundant	
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional), HP OneView (optional)	
USB	1 front, 2 internal, 2 rear	
Ears	HP Quick Release Ears	

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.
NOTE: Factory Integrated Models must start with a CTO Server.
NOTE: FIO indicates that this option is only available as a factory installable option.
NOTE: All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.
NOTE: 4LFF CTO Server includes 1 SATA Cable, option kit: 766213-B21, which attaches to the B140i controller.
NOTE: 8SFF CTO Server includes two 4 x Mini-SAS Cables, option kit: 766209-B21, which attaches to an optional HP Smart HBA H240ar or HP Smart Array P440ar controller.

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

HP Processors	**Entry Processors- E5-2600v3 series Processors**	
	HP DL360 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) FIO Processor Kit	755374-L21
	HP DL360 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) FIO Processor Kit	755378-L21
	Base Processors- E5-2600v3 series Processors	
	HP DL360 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) FIO Processor Kit	755382-L21
	HP DL360 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) FIO Processor Kit	755376-L21
	HP DL360 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) FIO Processor Kit	755384-L21
	HP DL360 Gen9 Intel® Xeon® E5-2637v3 (3.5GHz/4-core/15MB/135W) FIO Processor Kit	755404-L21
	HP DL360 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) FIO Processor Kit	755386-L21
	HP DL360 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) FIO Processor Kit	764097-L21
	Performance Processors- E5-2600v3 series Processors	
	HP DL360 Gen9 Intel® Xeon® E5-2643v3 (3.4GHz/6-core/20MB/135W) FIO Processor Kit	755406-L21
	HP DL360 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) FIO Processor Kit	755388-L21
	HP DL360 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) FIO Processor Kit	755390-L21
	HP DL360 Gen9 Intel® Xeon® E5-2667v3 (3.2GHz/8-core/20MB/135W) FIO Processor Kit	755408-L21

Configuration Information - Factory Integrated Models

HP DL360 Gen9 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) FIO Processor Kit	755392-L21
HP DL360 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit	755394-L21
HP DL360 Gen9 Intel® Xeon® E5-2683v3 (2GHz/14-core/35MB/120W) FIO Processor Kit	755398-L21
HP DL360 Gen9 Intel® Xeon® E5-2690v3 (2.6GHz/12-core/30MB/135W) FIO Processor Kit	755396-L21
HP DL360 Gen9 Intel® Xeon® E5-2695v3 (2.3GHz/14-core/35MB/120W) FIO Processor Kit	755400-L21
HP DL360 Gen9 Intel® Xeon® E5-2697v3 (2.6GHz/14-core/35MB/145W) FIO Processor Kit	755402-L21
HP DL360 Gen9 Intel® Xeon® E5-2698v3 (2.3GHz/16-core/40MB/135W) FIO Processor Kit	764099-L21
HP DL360 Gen9 Intel® Xeon® E5-2699v3 (2.3GHz/18-core/45MB/145W) FIO Processor Kit	780003-L21
HP DL360 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) FIO Processor Kit	764101-L21
HP DL360 Gen9 Intel® Xeon® E5-2687Wv3 (3.1GHz/10-core/25MB/160W) FIO Processor Kit	755410-L21

NOTE: If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21.

NOTE: Up to 2 processors supported. Mixing different processor models is not supported.

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

HP Memory

NOTE: Select one or more memory from section below.

NOTE: LRDIMM, RDIMM are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen9 servers support LRDIMM and RDIMM.

NOTE: HP memory from previous generation servers are not qualified or warranted with this HP ProLiant server. HP SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen9.

NOTE: If only one processor is installed, only half of the total DIMM slots are available. When populating with two processors all DIMM slots are available.

NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: http://www.hp.com/go/proliant-energy-efficient .

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 2133MHz, 1866MHz or 1600MHz. Please see Memory Population Table or Online Memory Configuratino Tool at: http://www.hp.com/go/ddr4config .

Registered DIMMs (RDIMMs) for E5-2600v3 Series

HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726718-B21
HP 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726717-B21
HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726719-B21
HP 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit	759934-B21

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

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

HP Power Supplies

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

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

HP Flex Slot Platinum Hot-plug Power Supplies

HP 500W Flex Slot Platinum Hot Plug Power Supply Kit	720478-B21
HP 800W Flex Slot Platinum Hot Plug Power Supply Kit	720479-B21
HP 1400W Flex Slot Platinum Plus Hot Plug Power Supply Kit	720620-B21

Step 3: Choose Additional Factory Integratable Options

HP Storage Controllers

NOTE: The embedded B140i controller will be used as the primary controller if no controller has been selected from the list below. Embedded SATA controller can support up to 8 SATA hard drives. Cable kit may be required.

HP Smart Array Controllers

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

Configuration Information - Factory Integrated Models

	NOTE: Provides support for up to 8 internal SAS/SATA drives without using a PCIe slot.	
	HP Smart Array P440/4GB FBWC 12Gb 1-port Int FIO SAS Controller	761872-B21
	NOTE: Provides support for up to 8 internal SAS/SATA drives, consumes 1 PCIe slot.	
	NOTE: Includes the HP Smart Storage Battery	
	HP Smart Host Bus Adapters	
	HP H240ar 12Gb 2-ports Int FIO Smart Host Bus Adapter	749976-B21
	NOTE: Provides support for up to 8 internal SAS/SATA drives without using a PCIe slot.	
	HP H240 12Gb 2-ports Int FIO Smart Host Bus Adapter	761873-B21
	HP Cable Options	
	HP DL360 Gen9 LFF Smart Array P440ar/H240ar SAS Cable	766211-B21
	NOTE: Required with PN: 749974-B21 or PN: 749976-B21 if using the HP ProLiant DL360 Gen9 4LFF CTO Server (PN: 755259-B21).	
	HP DL360 Gen9 SFF Embedded SATA Cable	766207-B21
	NOTE: Required with HP ProLiant DL360 Gen9 8SFF CTO Server (PN: 755258-B21) if using the embedded B140i as primary controller.	
	HP DL360 Gen9 SFF Smart Array P440/H240 SAS Cables	775927-B21
	NOTE: Required with PN: 761872-B21 or PN: 761873-B21 if using the HP ProLiant DL360 Gen9 8SFF CTO Server (PN: 755258-B21).	
	HP DL360 Gen9 LFF Smart Array P440/H240 SAS Cables	775929-B21
	NOTE: Required with PN: 761872-B21 or PN: 761873-B21 if using the HP ProLiant DL360 Gen9 4LFF CTO Server (PN: 755259-B21).	
BIOS Mode	HP Legacy FIO Mode Setting	758959-B22
	NOTE: If selected, then B140i will not be supported and can no longer be a primary controller therefore, SAS internal controller must be selected to be the primary controller.	
Controller State	HP FIO Enable B140i Setting	784308-B21
	NOTE: Must be selected when B140i is used as the primary controller and RAID is desired.	
	HP Mfg FIO Enable HBA Mode Setting	792962-B21
	NOTE: When selected if H240ar/H240 are used as the primary controller then RAID is not allowed.	
Embedded Management	**HP iLO Advanced**	
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	C6N36A
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO E-LTU	C6N36ABE
HP Converged Infrastructure Management Software	HP OneView for ProLiant DL Server incl 3yr 24x7 Supp FIO Bundle Physical 1 Svr Lic	E5Y43A

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

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

Core Options

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

HP Unique Options	HP DL360 Gen9 2SFF SAS/SATA Universal Media Bay Kit **NOTE:** Required when upgrading an 8SFF config to a 10SFF config, not supported in 4LFF Model; when this option kit is installed it cannot be used in conjunction with the optical drive or USB 2.0/VGA option kits. **NOTE:** Adds 2SFF drives to the 8SFF model for a total of 10SFF SAS/SATA drives. This kit comes with the cable needed to attach the 2 drives to the internal B140i SATA controller. For SAS, an alternate storage controller and its associated cable kit are required.	764630-B21
	HP DL360 Gen9 SFF DVD/USB Universal Media Bay Kit **NOTE:** DVD RW (Drive Included), USB 2.0, and VGA; when this option kit is installed it cannot be used in conjunction with the 2 SFF SAS/SATA option kit.	764632-B21
	HP DL360 Gen9 SFF USB/VGA Universal Media Bay Kit **NOTE:** Front USB 2.0 and VGA, when this option kit is installed it cannot be used in conjunction with the 2 SFF SAS/SATA option kit.	764634-B21
	HP DL360 Gen9 Location Discovery Services Ear Kit **NOTE:** Requires ProLiant Location Discovery Services Infrastructure within server racks.	764757-B21
	HP DL360 Gen9 Serial Cable	764646-B21
	HP DL360 Gen9 SFF Systems Insight Display Kit **NOTE:** For the 8SFF or 10SFF models, adds a System Insight Display for improved diagnosis capabilities.	764636-B21
	HP DL360 Gen9 LFF USB/VGA Kit **NOTE:** Adds front VGA and USB 2.0 ports to LFF.	764638-B21
	HP DL360 Gen9 LFF Systems Insight Display Kit **NOTE:** For the 8SFF or 10SFF models, adds a System Insight Display for improved diagnosis capabilities. **NOTE:** Options noted with "DL360 Gen9 SFF..." are options only compatible with the 8 SFF Chassis; and Options noted with "DL360 Gen9 LFF..." are options only compatible with the 4LFF Chassis.	764640-B21

HP Processors	**Entry Processors - E5-2600v3 series Processors**	
	HP DL360 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) Processor Kit	755374-B21
	HP DL360 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) Processor Kit	755378-B21
	Base Processors - E5-2600v3 series Processors	
	HP DL360 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) Processor Kit	755382-B21
	HP DL360 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) Processor Kit	755376-B21
	HP DL360 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) Processor Kit	755384-B21
	HP DL360 Gen9 Intel® Xeon® E5-2637v3 (3.5GHz/4-core/15MB/135W) Processor Kit	755404-B21
	HP DL360 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) Processor Kit	755386-B21
	HP DL360 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) Processor Kit	764097-B21
	Performance Processors - E5-2600v3 series Processors	
	HP DL360 Gen9 Intel® Xeon® E5-2643v3 (3.4GHz/6-core/20MB/135W) Processor Kit	755406-B21
	HP DL360 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) Processor Kit	755388-B21
	HP DL360 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) Processor Kit	755390-B21
	HP DL360 Gen9 Intel® Xeon® E5-2667v3 (3.2GHz/8-core/20MB/135W) Processor Kit	755408-B21
	HP DL360 Gen9 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) Processor Kit	755392-B21
	HP DL360 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) Processor Kit	755394-B21
	HP DL360 Gen9 Intel® Xeon® E5-2683v3 (2GHz/14-core/35MB/120W) Processor Kit	755398-B21
	HP DL360 Gen9 Intel® Xeon® E5-2690v3 (2.6GHz/12-core/30MB/135W) Processor Kit	755396-B21
	HP DL360 Gen9 Intel® Xeon® E5-2695v3 (2.3GHz/14-core/35MB/120W) Processor Kit	755400-B21
	HP DL360 Gen9 Intel® Xeon® E5-2697v3 (2.6GHz/14-core/35MB/145W) Processor Kit	755402-B21

Core Options

	HP DL360 Gen9 Intel® Xeon® E5-2698v3 (2.3GHz/16-core/40MB/135W) Processor Kit	764099-B21
	HP DL360 Gen9 Intel® Xeon® E5-2699v3 (2.3GHz/18-core/45MB/145W) Processor Kit	780003-B21
	HP DL360 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) Processor Kit	764101-B21
	HP DL360 Gen9 Intel® Xeon® E5-2687Wv3 (3.1GHz/10-core/25MB/160W) Processor Kit	755410-B21

NOTE: Processor XXXXXX-B21 option kits include 1 heat sink and two additional fans for 2P configs.

HP Memory	**Registered DIMMs (RDIMMs) for E5-2600v3 Series**	
	HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726718-B21
	HP 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726717-B21
	HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726719-B21
	HP 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit	759934-B21
	Load Reduced DIMMs (LRDIMMs) for E5-2600v3 Series	
	HP 32GB (1x32GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726722-B21
	HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726720-B21

NOTE: Memory speeds will vary by processor model, please see memory section of QuickSpecs.

HP Optical Drives	HP 9.5mm SATA DVD-ROM JackBlack Gen9 Optical Drive	726536-B21
	NOTE: Supported only with the 4LFF Models & requires cable kit 766203-B21.	
	HP 9.5mm SATA DVD-RW JackBlack G9 Optical Drive	726537-B21
	NOTE: Supported only with the 4LFF Models & requires cable kit 766203-B21.	
	HP DL360 Gen9 LFF Optical Cable	766203-B21
	HP DL360 Gen9 SFF DVD/USB Universal Media Bay Kit	764632-B21
	NOTE: Front DVD-RW, USB 2.0 and VGA, and optical cable.	
	HP Mobile USB Non Leaded System DVD RW Drive	701498-B21
	NOTE: External USB Drive.	

HP Drives	**SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives**	
	HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive	718162-B21
	HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652589-B21
	HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759212-B21
	HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652583-B21
	HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759210-B21
	HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652572-B21
	HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759208-B21
	HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652564-B21
	HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652605-B21
	SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
	HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	652749-B21
	HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	652745-B21
	SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives	
	HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	765424-B21
	HP 450GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	737394-B21
	HP 300GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	737261-B21
	SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
	HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	761477-B21
	HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	695510-B21
	HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652766-B21
	HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652757-B21

Core Options

HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652753-B21
SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655710-B21
HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655708-B21
SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	753874-B21
HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	693687-B21
HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	628061-B21
HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	658079-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	657750-B21
HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	658071-B21
12G SAS Hot Plug SFF (2.5-inch) Enterprise Performance Solid State Drives	
HP 800GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3yr Wty Solid State Drive	741159-B21
HP 400GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3yr Wty Solid State Drive	741155-B21
HP 200GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3yr Wty Solid State Drive	741151-B21
12G SAS Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives	
HP 800GB 12G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	741146-B21
HP 400GB 12G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	741142-B21
HP 200GB 12G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	741138-B21
12G SAS Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives	
HP 1.6TB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	762263-B21
HP 800GB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	762261-B21
12G SAS Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives	
HP 1.6TB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	762272-B21
HP 800GB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	762270-B21
6G SATA Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives	
HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691868-B21
HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691866-B21
HP 200GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691864-B21
HP 100GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691862-B21
6G SATA Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives	
HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	757339-B21
HP 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717973-B21
HP 600GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	739898-B21
HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717971-B21

Core Options

HP 300GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	739888-B21
HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717969-B21
6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Value G1 Solid State Drives	
HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive	756657-B21
HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive	756636-B21
HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive	756621-B21
HP 960GB 6G SATA Light Endurance SFF 2.5-in SC Enterprise Light 3yr Wty G1 Solid State Drive	756601-B21
6G SATA Hot Plug SFF (2.5-inch) Enterprise Boot Solid State Drives	
HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive	717965-B21
HP 80GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive	734360-B21
6G SATA Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives	
HP 800GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691860-B21
HP 400GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691856-B21
HP 200GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691854-B21
HP 100GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691852-B21
6G SATA Hot Plug LFF Value Endurance (3.5-inch) Converter Enterprise Value G1 Solid State Drives	
HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756660-B21
HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756639-B21
HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756624-B21
6G SATA Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives	
HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive	757342-B21
HP 800GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	718189-B21
HP 600GB 6G SATA Value Endurance LFF 3.5-in SC Conveter Enterprise Value 3yr Wty Solid State Drive	739900-B21
HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	718183-B21
HP 300GB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive	739890-B21
HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	718177-B21
6G SATA Hot Plug LFF (3.5-inch) Enterprise Light G1 Solid State Drives	
HP 960GB 6G SATA Light Endurance LFF 3.5-in SC Converter ENT Light 3yr Wty G1 Solid State Drive	756604-B21
6G SATA Hot Plug LFF (3.5-inch) Enterprise Boot Solid State Drives	
HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive	718171-B21
HP 80GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive	734362-B21
Hard Drive Blank Kits	

	HP Large Form Factor Hard Drive Blank Kit	666986-B21
	HP Small Form Factor Hard Drive Blank Kit	666987-B21
	Hard Drive Kits	
	HP DL360 Gen9 2SFF SAS/SATA Universal Media Bay Kit	764630-B21

NOTE: Not supported in the 4LFF Models, required for 10SFF config, when added to the 8SFF Model.

HP Networking	**1 Gigabit Ethernet adapters**	
	HP Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HP Ethernet 1Gb 2-port 361T Adapter	652497-B21
	HP Ethernet 1Gb 2-port 332T Adapter	615732-B21
	10 Gigabit Ethernet adapters	
	HP Ethernet 10Gb 2-port 530T Adapter	656596-B21
	HP Ethernet 10Gb 2-port 561T Adapter	716591-B21
	HP Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
	HP Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
	FlexibleLOM Adapters	
	HP FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
	HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
	HP FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter	727060-B21
	HP Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21
	HP Ethernet 1Gb 4-port 331FLR Adapter	629135-B22
	HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
	HP Ethernet 1Gb 4-port 366FLR Adapter	665240-B21

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

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

NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13078_na/13078_na.html.

HP I/O Expansion Options	HP DL360 Gen9 Low Profile PCIe Slot CPU2 Kit	764642-B21

NOTE: Add 3rd PCIe slot into server connected to CPU 2.
NOTE: After installation sever will have 1 FH / ¾ Length, and 2 Low Profile PCIe 3.0 Slots, requires second CPU.

	HP DL360 Gen9 Full Height PCIe Slot CPU2 Kit with GPU Power Cable	764644-B21

NOTE: After installation the server will have 2 FH / ¾ Length PCIe 3.0 Slots, requires second CPU.
NOTE: Includes GPU power cable and bracket; when this option kit is installed the Low Profile PCIe3.0 riser is not useable.

HP Power Supplies	**HP Flex Slot Platinum Hot-plug Power supplies**	
	HP 500W Flex Slot Platinum Hot Plug Power Supply Kit	720478-B21
	HP 800W Flex Slot Platinum Hot Plug Power Supply Kit	720479-B21
	HP 1400W Flex Slot Platinum Plus Hot Plug Power Supply Kit	720620-B21

NOTE: 1400W Power Supply contains intelligent power discovery feature.
NOTE: Mixing of power supplies in the same server is not supported. All power supplies must be of the same input voltage, output rating, and efficiency rating. If non-matching power supplies are installed, you may receive an error message and/or experience operational issues with your server.

Core Options

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

HP Computation and Graphics Accelerators	HP NVIDIA Quadro K4200 Graphics Accelerator	J0G90A

NOTE: HP DL360 Gen9 supports up to two K4200 GPU cards. A single K4200 card installed in the primary PCI-e slot requires the Gen9 GPU Cable for CPU1 Kit 766199-B21. Two cards installed in the both the primary and secondary PCI-e slots require an HP DL360 Gen9 Full Height PCIe Slot CPU2 Kit 764644-B21, and if the HDD need to be RAIDed, the HP Smart Array P440ar for two GPUS needs to be installed, option kit 726740-B21.

HP NVIDIA Quadro K2200 Graphics Accelerator — J0G89A

NOTE: Supports up to two cards. Two cards installed in the both the primary and secondary PCI-e slots require an HP DL360 Gen9 Full Height PCIe Slot CPU2 Kit 764644-B21. If two K2200 GPU cards are installed it does not require HP Smart Array P440ar for two GPU option kits for RAIDed HDDs.

HP DL360 Gen9 GPU Cable for CPU1 Kit — 766199-B21
NOTE: Includes GPU power cable and brackets.

NOTE: Only the above listed Graphics cards are HP standard supported options in this server.
NOTE: The NVIDIA Quadro modules are supported only on 64-bit versions of Linux and Windows operating systems as well as on Virtual Machine client operating systems. The supported bare metal operating systems are RHEL6, SLES 11 and Windows Server 2012 R2.

HP Cooling Options — HP DL360 Gen9 High Performance Fan Kit — 766201-B21
NOTE: High Performance Fan Kit, is available to meet some extended ambient operating temperatures above 35° C. Qualifications for extended ambient configurations are detailed at: https://www.hp.com/servers/ashrae.

Additional Options

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

HP Insight Software	**HP Insight Control**	
	HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License	C6N27A
	HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License	C6N28ABE
	HP Insight Control Server Provisioning Media Kit	BD883A
	HP Insight Management Media Kit	C6N31A

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

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

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

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

Embedded Management	**HP iLO Advanced**	
	HP iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU	E6U64ABE
	HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates	BD505A
	HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License	512485-B21
	HP iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU	E6U59ABE

HP Converged Infrastructure Management Software	**HP OneView Advanced (with HP iLO Advanced)**	
	HP OneView incl 3yr 24x7 Supp Phys 1 Svr Lic	E5Y34A
	HP OneView incl 3yr 24x7 Supp Flex Qty E-LTU	E5Y35AAE
	HP OneView incl 3yr 24x7 Supp Bundle 1 Svr E-LTU	E5Y43AAE
	HP OneView Advanced (without HP iLO Advanced)	
	HP OneView w/o iLO Adv incl 3yr 24x7 Supp Phys 1 Svr Lic	E5Y38A
	HP OneView w/o iLO Adv inc 3yr 24x7 Supp Flex Qty E-LTU	E5Y39AAE
	HP OneView Media Kit Phys No Lic	E5Y37A

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

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

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

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

High Performance Clusters	**HP Cluster Management Utility**	
	HP Insight Cluster Management Utility 1yr 24x7 Flexible License	QL803B
	HP Insight Cluster Management Utility 3yr 24x7 Flexible License	BD476A

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

	HP Insight Cluster Management Utility Media	BD477A

NOTE: For additional license kits please see the QuickSpecs at
http://h18004.www1.hp.com/products/quickspecs/12612_na/12612_na.html.

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

Additional Options

HP 6.4TB FH/HL Value Endurance (VE) PCIe Workload Accelerator	763840-B21
HP 3.2TB HH/HL Value Endurance (VE) PCIe Workload Accelerator	763838-B21
HP 1.6TB HH/HL Value Endurance (VE) PCIe Workload Accelerator	763836-B21
HP 1.3TB HH/HL Value Endurance (VE) PCIe Workload Accelerator	763834-B21
Light Endurance (LE) PCIe Workload Accelerators	
HP 5.2TB FH/HL Light Endurance (LE) PCIe Workload Accelerator	775672-B21
HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator	775670-B21
HP 1.3TB HH/HL Light Endurance (LE) PCIe Workload Accelerator	775668-B21
HP 1.0TB HH/HL Light Endurance (LE) PCIe Workload Accelerator	775666-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/14528_na/14528_na.html

---

HP Security

HP 1U Security Bezel Kit	664918-B21
HP Trusted Platform Module Option	488069-B21

NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: http://www.hp.com/go/TPM.
NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.
NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

HP Storage Controllers

SAS Controllers
HP Smart Array Controllers

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

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

HP DL360 Gen9 Smart Array P840 SAS Card with Cable Kit	766205-B21

NOTE: Includes the P840 Smart Array controller with 4GB integrated cache, HP Smart Storage Battery, and associated cabling to attach it to a 10SFF chassis configuration.

HP DL360 Gen9 Smart Array P440ar Controller for 2 GPU Configurations	726740-B21

NOTE: This controller is specific for the DL360 Gen9 with 2 GPUs installed. It has a unique heatsink that will allow the 2nd GPU to fit.

HP Smart Array P441/4GB FBWC 12Gb 2-ports Ext SAS Controller	726825-B21
HP Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller	726821-B21

NOTE: Provides support for up to 8 internal SAS/SATA drives, consumes 1 PCIe slot.
NOTE: Includes the HP Smart Storage Battery.

HP Smart Host Bus Adapters

HP H240ar 12Gb 2-ports Int Smart Host Bus Adapter	726757-B21

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

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

HP Cable Options

HP DL360 Gen9 LFF Smart Array P440ar/H240ar SAS Cable	766211-B21

NOTE: Required for an upgrade from a B140i SATA controller to a HP Smart HBA 240ar or HP Smart Array P440ar.

HP DL360 Gen9 SFF Embedded SATA Cable	766207-B21

NOTE: Needed only when attaching drive bays to the B140i controller in a 8 SFF Model

HP DL360 Gen9 SFF Smart Array P440/H240 SAS Cables	775927-B21

Additional Options

NOTE: Required for use with the HP Smart Array P440 (PCIe Controllers) 726821-B21 or 761872-B21, the option kit documentation details out cable placement with the HP Smart Array P440 in PCIe 3.0 Slots 1 or 2 connecting to the 8SFF backplane or the 2 SFF SAS/SATA option kit.

HP DL360 Gen9 LFF Smart Array P440/H240 SAS Cables	775929-B21

NOTE: Required for use with the HP Smart Array P440 (PCIe Controllers) 726821-B21 or 761872-B21, the option kit documentation details out cable placement with the HP Smart Array P440 in PCIe 3.0 Slots 1 or 2 connecting to the 4LFF backplane.

HP DL360 Gen9 SFF Smart Array P440ar/H240ar SAS Cable	766209-B21
HP DL360 Gen9 LFF Embedded SATA Cable	766213-B21

NOTE: Options noted with "DL360 Gen9 SFF..." are options only compatible with the 8 SFF Model; and Options noted with "DL360 Gen9 LFF..." are options only compatible with the 4LFF Model.

Optional Upgrades

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

HP Tape Backup

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

Tape Drives

HP StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader	C0H19A
HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit	C0L99A
HP StoreEver LTO-4 Ultrium 1760 SAS (1) in 1U Rack-mount Kit	EH946C
HP StoreEver LTO-5 Ultrium 3000 SAS Tape Drive in 1U Rack-mount	EJ014B
HP StoreEver LTO-5 Ultrium 3280 SAS Tape Drive in 3U Rack-mount	EJ013B
HP StoreEver 1U SAS Rack-mount Kit	AE459B

HP Tape Storage Systems

HP StoreEver MSL6480

HP StoreEver MSL6480 Scaleable Expansion Module	QU626A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/14604_na/14604_na.html

HP StoreEver MSL6480 Scalable Base Module	QU625A
HP MSL2024 0-Drive Tape Library	AK379A
HP MSL4048 0-Drive Tape Library	AK381A
HP MSL Library Extender Kit	AQ746A

HP Storage Options

Fibre Channel HBA

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

Emulex Fibre Channel HBAs

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

QLogic Fibre Channel HBAs

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

Converged Network Adapter

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

Additional Options

HP Disk Storage Systems	**Disk Enclosures**	
	HP D6000 Dual I/O Module Disk Enclosure	QQ695A
	HP D6000 w/35 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 140TB Bundle	E7W30A
	HP D6000 w/70 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 280TB Bundle	E7W31A
	HP D6000 w/35 2TB 6G SAS 7.2K LFF Dual port MDL HDD 70TB Bundle	QQ697A
	HP D6000 w/70 2TB 6G SAS 7.2K LFF Dual port MDL HDD 140TB Bundle	QQ698A
	HP D6000 w/35 3TB 6G SAS 7.2K LFF Dual port MDL HDD 105TB Bundle	QQ699A
	HP D6000 w/70 3TB 6G SAS 7.2K LFF Dual port MDL HDD 210TB Bundle	QQ700A
	HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle	E7W32A

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

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

	HP Intelligent Series Rack	
	HP 636 1075mm Pallet Intelligent Series Rack	BW895A
	HP 636 1075mm Shock Intelligent Series Rack	BW896A
	HP 642 1075mm Pallet Intelligent Series Rack	BW903A
	HP 642 1075mm Shock Intelligent Series Rack	BW904A
	HP 642 1200mm Pallet Intelligent Series Rack	BW907A
	HP 642 1200mm Shock Intelligent Series Rack	BW908A
	HP 647 1075mm Pallet Intelligent Series Rack	BW911A
	HP 647 1075mm Shock Intelligent Series Rack	BW912A
	HP 647 1200mm Pallet Intelligent Series Rack	BW913A
	HP 647 1200mm Shock Intelligent Series Rack	BW914A
	HP 842 1075mm Pallet Intelligent Series Rack	BW917A
	HP 842 1075mm Shock Intelligent Series Rack	BW918A

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

	HP Value Series Rack	
	HP V142 1075mm deep Pallet 100 series Rack	AF046A

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

HP Power Distribution Units (PDUs)	**HP Basic Power Distribution Unit (bPDU)**	
	HP 1.9kVA 120 Volt L5-20 Input (12xNEMA 5-20R) NA/JP Basic PDU	H5M54A
	HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Basic PDU	H5M56A
	HP 2.8kVA 120 Volt L5-30 Input (18xNEMA 5-20R) NA/JP Basic PDU	H5M55A
	HP 3.6kVA 200-240 Volt Detachable C20 Input (18xC13) WW Basic PDU	H5M57A
	HP 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU	H5M58A

Additional Options

HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13) NA/JP Basic PDU	H5M61A
HP 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU	H5M59A
HP 8.3kVA 208 Volt CS8265C Input (30xC13/6xC19) NA/JP Basic PDU	H5M60A
HP Hardwired 200-240 Volt Input (30xC13/6xC19) WW Basic PDU	H5M75A
HP 5.7kVA 208 Volt L21-20 3-Phase Input (24xC13/3xNEMA 5-20R) NA/JP Basic PDU	H5M63A
HP 8.6kVA 208 Volt L21-30 3-Phase Input (24xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU	H5M64A
HP 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU	H5M62A
HP 11kVA 400 Volt IEC309 30A 3-Phase Input (36xC13/6xC19) NA Basic PDU	H5M67A
HP 13.2kVA 480 Volt IEC309 30A 3-Phase Input (15 Outlet) NA Basic PDU	H3X07A
HP 19.9kVA 480 Volt IEC309 30A 3-Phase Input (30 Outlet) NA Basic PDU	H3X08A
HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A
HP 2.8kVA 24A Low Voltage NA/JP Modular Power Distribution Unit	252663-D71
HP 4.9kVA 24A High Voltage NA/JP Core Modular Power Distribution Unit	252663-D74
HP 8.3kVA 40A High Voltage NA/JP Core Modular Power Distribution Unit	252663-D75
HP 8.6kVA 24A Three Phase NA/JP Modular Power Distribution Unit	AF512A
HP 14.4kVA 40A Three Phase NA/JP Modular Power Distribution Unit	AF519A
HP 17.3kVA 48A Three Phase NA/JP Modular Power Distribution Unit	AF511A

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

HP Monitored Power Distribution Units (mPDU)

HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU	D9N43A
HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Monitored PDU	D9N46A
HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU	D9N44A
HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU	D9N45A
HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU	G9Z05A
HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU	D9N47A
HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13/3xC19) NA/JP Monitored PDU	D9N51A
HP 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU	D9N52A
HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU	D9N53A
HP 8.3kVA 208 Volt CS8265C Input (30xC13/3xC19) NA Monitored PDU	D9N49A
HP 14.4kVA 208 Volt CS8365C 3-Phase Input (12xC13/12xC19)NA Monitored PDU	D9N58A
HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (30xC13/3xC19) NA Monitored PDU	D9N61A
HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (12xC13/12xC19) NA Monitored PDU	D9N62A
HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU	D9N54A
HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU	D9N59A
HP 17.3kVA 208 Volt IEC309 60A 3-Phase Watertight Input (12xC13/12xC19) NA/JP Monitored PDU	G9Z07A
HP 19.9kVA 480 Volt 3-Phase (30 Outlet) NA Monitored PDU	D9N63A
HP Environmental Sensor for Remote Monitored PDUs	E2D53A

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

HP Intelligent Power Distribution Units (iPDU)

HP 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF520A
HP 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF521A
HP 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF522A
HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF523A
HP 11.4kVA 16A 415V Three Phase L22-20 NA Core Intelligent Power Distribution Unit	AF900A

Additional Options

HP 17.3kVA 24A 415V Three Phase IEC309 NA Core Intelligent Power Distribution Unit	AF901A
HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF535A
HP 17.3kVA 24A 415V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF537A
HP 4.9kVA 24A Single Phase NA/JP Intelligent Modular Power Distribution Kit	AF531A
HP 8.6kVA 24A Three Phase NA/JP Intelligent Modular Power Distribution Kit	AF532A
HP 14.4kVA 40A Three Phase NA/JP Intelligent Modular Power Distribution Unit	AF533A
HP 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A
HP 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A

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

HP Managed Power Distribution Units (maPDU)

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

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://www8.hp.com/h20195/v2/GetHtml.aspx?docname=c04376687
NOTE: To learn more, please visit the HP Uninterruptible Power Systems (UPS) web page.

HP Rack Mount Consoles, KVM Switches, and Keyboards

HP Location Discovery Services

HP 36U Location Discovery Kit	BW945A
HP 42U Location Discovery Kit	BW946A
HP 47U Location Discovery Kit	BW947A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/14429_na/14429_na.html

HP Rack Mount Consoles

HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor	AZ870A
HP TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor	AZ885A

NOTE: Please see the HP Rack Console QuickSpecs for information on additional options and product specifications.

HP KVM Switches

HP Server Console 0x2x8 Port Analog Switch	AF616A
HP Server Console 0x2x16 Port Analog Switch	AF617A
HP TAA 0x2x16xKVM Server Console G2 Switch	AF626A
HP KVM Console USB Interface Adapter	AF628A
HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
HP KVM Console USB 2.0 Virtual Media CAC Interface Adapter	AF629A
HP 1x4 USB/PS2 KVM Console Switch	AF611A
HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A

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

HP USB Keyboard and Mouse

HP USB BFR with PVC Free US Keyboard/Mouse Kit	631341-B21

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

Additional Options

Rail Kits	
HP 1U LFF Gen9 Easy Install Rail Kit	789388-B21
HP 1U Small Form Factor Easy Install Rail Kit	734807-B21
HP 1U Cable Management Arm for Easy Install Rail Kit	734811-B21
HP 1U Small Form Factor Ball Bearing Rail Kit	663201-B21
HP 1U Large Form Factor Ball Bearing Rail Kit	663202-B21
HP 1U Cable Management Arm for Ball Bearing Rail Kit	663203-B21

HP Uninterruptible Power Systems (UPS)	**HP Rack-mountable UPS**	
	HP R1500 G3 Uninterruptible Power Supply (UPS)	
	HP R1.5kVA G3 1U NA Uninterruptible Power System	AF469A
	HP R/T3000 G2 Uninterruptible Power System (UPS)	
	HP R/T3000 G2 2U L530 Low Voltage NA/JP Uninterruptible Power System	AF466A
	HP R/T3000 G2 2U L620 High Voltage NA/JP Uninterruptible Power System	AF467A
	R5000 Uninterruptible Power System (UPS)	
	HP R5KVA 3U L630 High Voltage NA/JP Uninterruptible Power System	AF460A
	R7000 Uninterruptible Power System (UPS)	
	HP R7KVA 4U 50A High Voltage NA/JP Uninterruptible Power System	AF462A
	HP T750 G2 UPS Models	
	HP T750 G2 750VA NA Tower Uninterruptible Power System	AF446A
	HP T1500 G3 UPS Models	
	HP T1500 G3 1400VA NA Tower Uninterruptible Power System	AF450A
	NOTE: To learn more, please visit the HP Uninterruptible Power Systems (UPS) web page.	

HP USB and SD Options	**HP Enterprise Mainstream Flash Media Kits for Memory Cards**	
	HP 32GB microSD Enterprise Mainstream Flash Media Kit	700139-B21
	HP 8GB microSD Enterprise Mainstream Flash Media Kit	726116-B21
	HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit	737953-B21

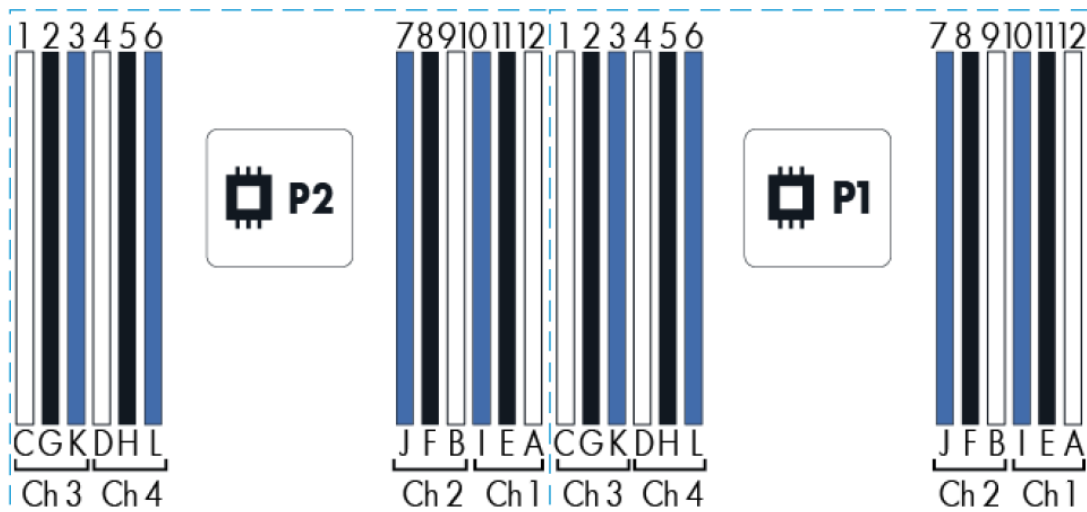|		
HP Care Pack Services	**Installation & Start-up Services**	
	HP Install ProLiant DL36x(p) Service	U4506E
	HP Startup ProLiant DL36x(p) Service	U4507E
	Proactive Care	
	HP 3 year 24x7 DL360 Gen9 w/IC Proactive Care Service	U5HM4E
	HP 3 year 24x7 with Defective Media Retention DL360 Gen9 w/IC Proactive Care Service	U5HM5E
	HP 3 year 24x7 w/Comprehensive Defective Material Retention DL360 Gen9 w/IC Proactive Care Service	U5HM6E
	HP 3 year Call to Repair DL360 Gen9 w/IC Proactive Care Service	U5HN3E
	HP 3 year Call to Repair with Defective Media Retention DL360 Gen9 w/IC Proactive Care Service	U5HN4E
	HP 3 year CTR with Comprehensive Defective Material Retention DL360 Gen9 w/IC Proactive Care Service	U5HN5E
	HP 3 year 24x7 DL360 Gen9 Proactive Care Service	U7AM2E
	HP 3 year 24x7 with Defective Media Retention DL360 Gen9 Proactive Care Service	U7AM3E
	HP 3 year 24x7 with Comprehensive Defective Material Retention DL360 Gen9 Proactive Care Service	U7AM4E
	HP 3 year Call to Repair DL360 Gen9 Proactive Care Service	U7AM8E
	HP 3 year Call to Repair with Defective Media Retention DL360 Gen9 Proactive Care Service	U7AM9E
	HP 3 year CTR with Comprehensive Defective Material Retention DL360 Gen9 Proactive Care Service	U7AN0E

Memory

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

Memory Population guidelines

General Memory Population Rules and Guidelines:

- White DIMM slots denote the first slot of a channel. For 1 DPC (DIMM per channel) populate white slots only.
- A minimum of one DIMM is required per server.
- Install DIMMs only if the corresponding processor is installed.
- When two processors are installed, balance the DIMMs across the two processors.
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel. Heaviest load (DIMM with most ranks) within a channel goes furthest from the processor.
- Do not mix RDIMMs or LRDIMMs.
- DIMMs of different speeds may be mixed in any order; the server will select a common optimal speed.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- The maximum memory capacity is a function of the memory type and number of installed processors.
- HP memory from previous generation servers is not compatible with the DL360 Gen9 Server.
- For memory population rules and additional memory guidelines, please see the DL360 Gen9 user guide at http://www.hp.com/support.
- There are four (4) Memory channels per processor; eight (8) channels per 2 processor server.
- There are three (3) DIMM slots for each memory channel; twenty four (24) total slots for 2 processor server.

Memory

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

Memory Bandwidth and Capacity				
[DIMM Type]	**Registered Dimms (RDIMMs)**		**Load Reduced (LRDIMMs)**	**Unbuffered with ECC DIMMs (UDIMMs)**
DIMM Rank	**Single Rank**	**Dual Rank**		**Quad Rank**
DIMM Capacity	4GB	8GB	16GB	32GB
Voltage	Std Voltage 1.2V			
SLOTS THAT CAN BE POPULATED				
24 slot servers	24			
MAXIMUM CAPACITY (GB)				
	96	192	384	768
1 DIMM Per Channel	2133			
2 DIMM Per Channel	2133			
3 DIMM Per Channel	1600	1600	1600	1600

DIMM slot and configuration diagram	DIMM slot and configuration diagrams
	• Population order; start with "A" first, "B" second, "C" third, etc.
	• When one processor is installed, install DIMMs in sequential alphabetic order: A, B, C, D, E, F ...
	• When two processors are installed, install DIMMs in sequential
	• alphabetic order: CPU1-A, CPU2-A,CPU1-B,CPU2-B,CPU1-C, CP2-C

Memory Speed by Processor Model	Processor Models	Supported Memory Speeds
	E5-2603v3, E5-2609v3,	1600MHz
	E5-2620v3, E5-2623v3, E5-2630v3, E5-2640v3, E5-2630Lv3,	1866MHz
	E5-2637v3, E5-2643v3, E5-2650v3, E5-2660v3, E5-2667v3, E5-2670v3, E5-2680v3, E5-2683v3, E5-2690v3, E5-2695v3, E5-2697v3, E5-2698v3, E5-2699v3, E5-2650Lv3, E5-2687Wv3,	2133MHz

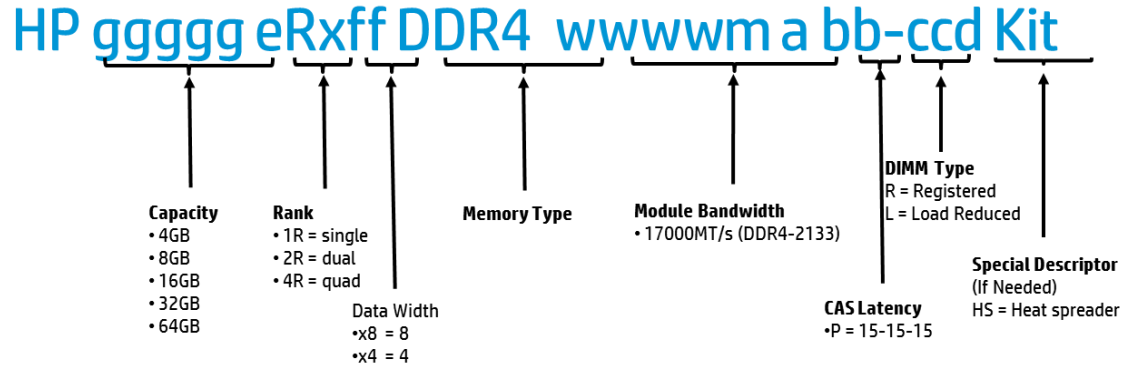| Standard and Maximum Memory Capacity (Pre-configured Models)	Pre-Configured Models	Standard Memory	Maximum Memory Plus Optional Memory	Standard Memory Replaced with Optional Memory
	E5-2603v3,	8GB (1x8GB)	376GB (23x16GB, 1x8GB)	768GB (24x32GB)
	E5-2630v3,	16GB (1x16GB)	384GB (23x16GB, 1x16GB)	768GB (24x32GB)
	E5-2650v3,	32GB (2x16GB)	384GB (22x16GB, 2x16GB)	768GB (24x32GB)

Memory

DDR4 memory options part number decoder

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

- 8GB = 8,192MB
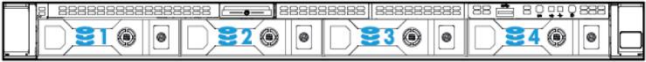- 16GB = 16,384MB
- 32GB = 32,768MB
- 64GB = 65,536MB

HP ggggg eRxff DDR4 wwwwm a bb-ccd Kit

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

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

Data Width
- x8 = 8
- x4 = 4

Memory Type

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

CAS Latency
- P = 15-15-15

DIMM Type
R = Registered
L = Load Reduced

Special Descriptor
(If Needed)
HS = Heat spreader

Storage

1-8   8 x SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays

1-4   4 x LFF SATA/SAS/SSD Hot Pluggable Hard Drives Bays

1-10   10 x SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays

Technical Specifications

System Unit		
	Dimensions (H x W x D)	8 SFF and 10 SFF 1.7 x 17.1 x 27.5 inches (4.32 x 43.47 x 69.85 cm)
		4 LFF - 1.7 x 17.1 x 29.5 inches (4.32 x 43.46 x 75.0 cm)
	Weight (approximate)	**Maximum:** (all hard drives, power supply, and processor installed)
		8 SFF Chassis 33.3 lb. (15.31 kg) NOTE: Includes 2 SFF Option for a total of 10 SFF HDD
		4 LFF Chassis 37 lb. (16.78kg)
	Minimum: (one hard drive, power supply, and processor installed)	8SFF Chassis 27 lb. (12.25 kg)
		4 LFF Chassis 30.36 lb. (13.77 kg)
	Input Requirements	Range Line Voltage
		100 to 120 VAC
		200 to 240 VAC
	BTU Rating	Maximum
		For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only
		For 500W Power Supply: 1979 BTU/hr (at 100 VAC), 1911 BTU/hr (at 200 VAC), 1965 BTU/hr (at 240 VAC) for China Only
	Power Supply Output	Rated Steady-State Power
		For 1400W Power Supply: 1400W (at 100 VAC), 1400W (at 240 VAC), 1400W (at 240 VAC
		For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only
		For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VAC) input for China only
	Maximum Peak Power	For 1400W Power Supply: 1400W (at 100 to 127 VAC), 1400W (at 200 to 240 1VAC), 1400W (at 240 VAC) input for China only
		For 800W Power Supply: 800W (at 100 to 127 VAC), 800W (at 200 to 240 1VAC), 800W (at 240 VAC) input for China only
		For 500W Power Supply: 500W (at 100 to 127 VAC), 500W (at 200 to 240 VAC), 500W (at 240 VAC) input for China only
	System Inlet Temperature	Standard Operating Support
		10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. For approved hardware configurations, the supported system inlet range is extended to be: 5° to 40°C (41° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: http://www.hp.com/servers/Ashrae
		For approved hardware configurations, the supported system inlet range is extended to be: 5° to 45°C (41° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: http://www.hp.com/servers/Ashrae. System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).
	Extended Ambient Operating Support	For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: http://www.hp.com/servers/ashrae

Technical Specifications

		For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: http://www.hp.com/servers/ashrae
		System performance may be reduced if operating in the extended ambient operating range or with a fan fault.
	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
Relative Humidity	Operating	Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity.
(non-condensing)	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Idle

L WAd	(1P non-redundant) 4.6 A Average Bystander
	(2P redundant) 5.5 A Average Bystander
L pAm	(1P non-redundant) 29 dBA
	(2P redundant) 37 dBA

Operating

L WAd	(1P non-redundant) 4.6 A Average Bystander
	(2P redundant) 6.2 C Average Bystander
L pAm	(1P non-redundant) 30 dBA
	(2P redundant) 46 dBA

NOTE: 1P Configuration tested included two Intel E5-2630 v3, 2.3GHz processors, one 500GB SAS HDD, five standard hot plug fans, one 8GB DDR4 RDIMM's 2133MHz, one 500W power supply.
NOTE: 2P Configuration tested included two Intel E5-2650 v3, 2.6GHz processors, one 500GB SAS HDD, seven standard hot plug fans, two 16GB DDR4 RDIMM's 2133MHz, one 500W power supply, P440ar HDD controller PCI card with 2GB cache.
NOTE: Values are subject to change without notification and are for reference only.
NOTE: Performance of system, options, and ancillary equipment will vary depending on the system configuration.
NOTE: Levels presented do not account for non-Hewlett-Packard installed hardware.

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.

HP Dynamic Smart Array B140i Controller	**Number of PCI links**	Four
	PCI link rate	4 Gb/s
	Storage protocol support	SATA

Technical Specifications

SAS/SATA peak data tranfer rate	6 Gb/s	
Number of SAS/SATA links	10 links	
SAS/SATA connectivity	2x4 connectors; 2x1 connectors	
Expander support	No	
Drives supported (max)	Up to 10 Internal Drives	
RAID support	0, 1, 10, 5 SATA	
Software management	HP SSA, SMH, SIM	
Warranty	Server warranty	
HP Secure Encryption license	Not Supported	
HP SmartCache License	Not Supported	
HP Smart Storage Administrator	Supported	

HP Ethernet 1Gb 4-port 331i Adapter	**Network Interface**	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	PCI Express, two lanes (x2)	
	Controller	BCM5719	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s per port, 40 Mb/s combined
		10Base-T (Full-Duplex)	20 Mb/s per port, 80 Mb/s combined
		100Base-TX (Half-Duplex)	100 Mb/s per port, 400 Mb/s combined
		100Base-TX (Full-Duplex)	200 Mb/s per port, 800 Mb/s combined
		1000Base-TX (Half and Full-Duplex)	1000Mb/s per port, 4000 Mb/s combined
		1000Base-TX (Full-Duplex)	2000Mb/s per port, 8000 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 offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. 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 web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

hp.com/qref/dl360gen9

Summary of Changes

Date	Version History	Action	Description of Change
12/01/2014	From Version 3 to 4	Changed	Changes made throughout the QuickSpecs.
10/13/2014	From Version 2 to 3	Added	6G SATA Enterprise Value G1 Solid State Drives were added to Core Option section. HP PCIe Workload Accelerator Options, HP USB and SD options were added to the Additional Options section.
		Changed	Call outs description for images, Standard Features, Optional Features, Pre-Configured Models, Configuration Information - Factory Integrated Models, Core Options, Additional Options, and Memory sections were revised.
9/22/2014	From Version 1 to 2	Changed	Changes made throughout the QuickSpecs.