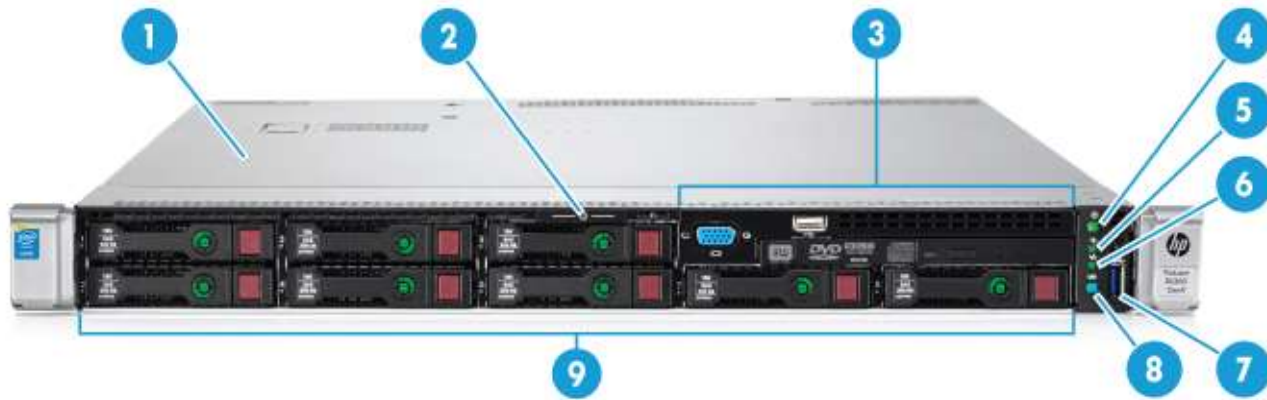


### Overview

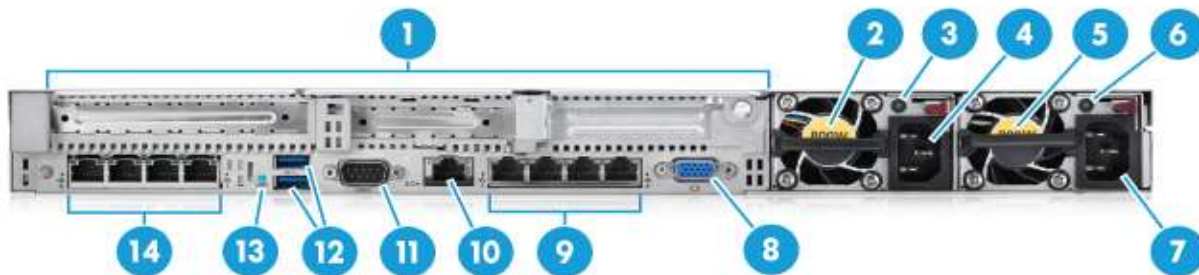
### HP ProLiant DL360 Generation9 (Gen9)

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



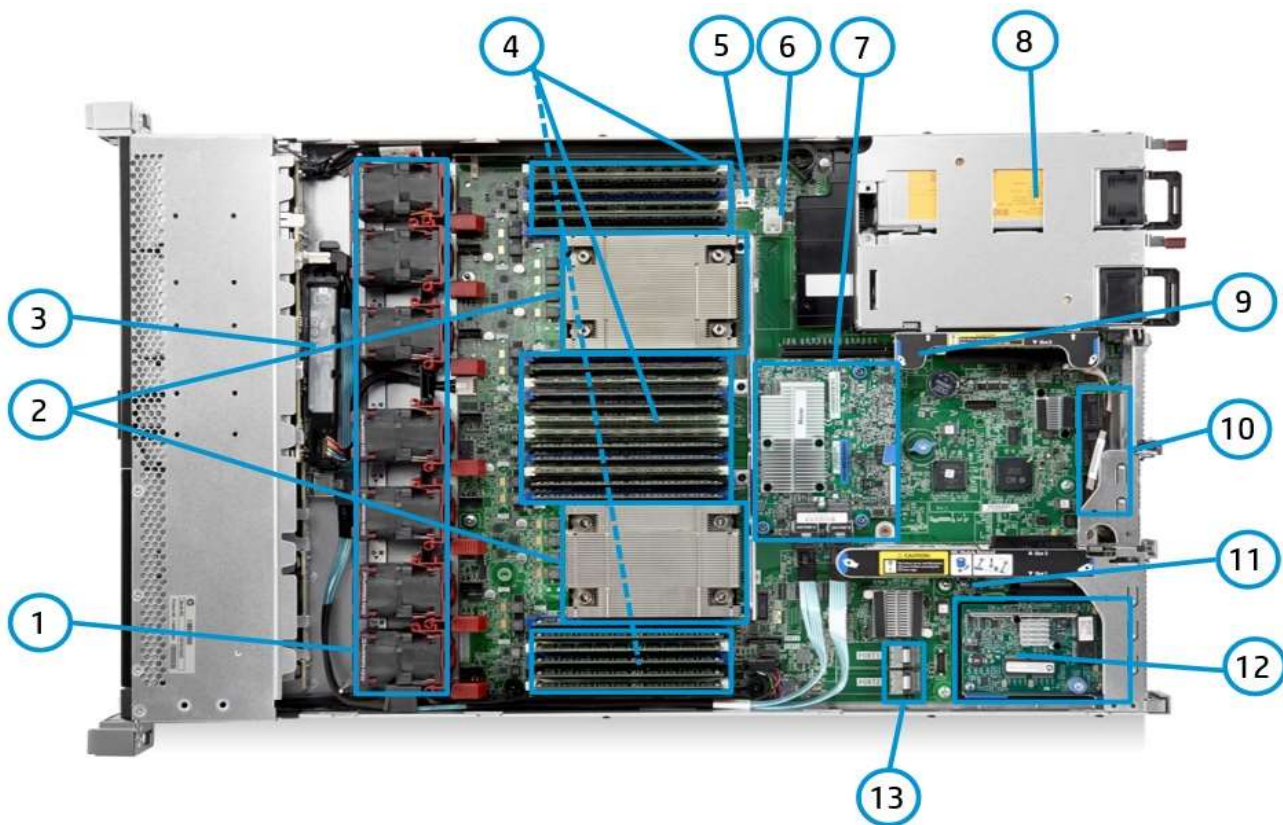
#### Rear view

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.

### Overview

2. HP Flexible Slot Power Supply Bay 2
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 4 x 1GbE 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: 4 x 1Gbe.



### 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

### Overview

9. Secondary CPU 2 PCIe 3.0 Riser (Optional and also a GPU version available)
  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 URL:  
<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:  
[www.intel.com/products/server/chipsets/](http://www.intel.com/products/server/chipsets/).

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

**Memory** Type: HP SmartMemory  
 One of the following depending on Model 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)  
**NOTE:** 64GB LRDIMMs, feature support to be available early 2015  
 Maximum Capacity (RDIMM) 384GB (24 x 16GB RDIMM @2133MHz)

**Memory Protection** Advanced ECC Advanced ECC uses single device data correction to detect and correct single and all multi-bit 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	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*

#### 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 <b>NOTE:</b> Option Kit 764632-B21 VGA, USB 2.0, and DVD-RW kit. 4 LFF <b>NOTE:</b> 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 <b>NOTE:</b> HP ProLiant DL360 Series servers offer both SFF and LFF versions in CTO. <b>NOTE:</b> 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 Gen8 Hard Drive Blank Kit or P/N 666986-B21: HP LFF Gen8 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 1.6 TB
Hot Plug SFF SATA SSD	8.0TB	10 x 800GB
Hot Plug LFF SATA SSD	3.2TB	4 x 800GB (with optional LFF drive cage)
Hot Plug LDD SAS SSD	6.4 TB	4 x 1.6TB (with optional LFF drive cage)
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 (with optional LFF drive cage)
Hot Plug LFF SATA	24.0TB	4 x 6TB (with optional LFF drive cage)

#### Power Supply

One of the following depending on Model

HP 500W Flex Slot Platinum Hot Plug Power Supply
HP 800W Flex Slot Platinum Hot Plug Power Supply
HP 1400W Flex Slot Platinum Plus Hot Plug Power Supply
HP Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HP ProLiant Gen9 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for



### Standard Features

specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

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

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

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

**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.

#### System Fans

One of the following depending on Model

1P model

#### Redundant

5 fans

2P model

#### Redundant

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 Chassis have an embedded 4 x 1GB NIC and a FlexibleLOM bay. (See HP Networking section below for more details and options).

HP iLO Remote Management Network Port

1Gb Dedicated NAND Flash

SD Connector

1 micro SD Internal Secure

**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





### Standard Features

**NOTE:** Slot 1 and 2 Riser Shipped Standard, Slot 3 Optional 1 FH /  $\frac{3}{4}$  length and two Low Profile slots available (shown) or two FH /  $\frac{3}{4}$  length slots.

Redundant Power Supplies

Optical Drive supported via Universal Media Bay

**NOTE:** 8SFF Chassis via VGA, USB 2.0 and DVD-RW Option kit: 764732-B21; 4LFF Chassis via DVD-RW 726537-B21, DVD 726536-B21 and the Optical Cable: 766203-B21.

#### 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 [www.hp.com/go/proliant/uefi](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

### Standard Features

<b>Embedded Management</b>	<b>HP Integrated Lights-Out (HP iLO)</b>	Monitor your servers for ongoing management, service alerting, reporting and remote management with iLO. Learn more at <a href="http://www.hp.com/go/ilo">www.hp.com/go/ilo</a> .
	<b>UEFI</b>	Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI). Learn more at <a href="http://www.hp.com/go/ProLiant/uefi">www.hp.com/go/ProLiant/uefi</a> .
	<b>HP RESTful API</b>	RESTful API is an application programming interface. RESTful Web Service API served by iLO's web server. Learn more at <a href="http://www.hp.com/go/restfulapi">www.hp.com/go/restfulapi</a> .
	<b>Intelligent Provisioning</b>	Provision servers by discovering and deploying 1 to few servers with Intelligent Provisioning. Learn more at <a href="http://www.hp.com/go/intelligentprovisioning">www.hp.com/go/intelligentprovisioning</a> .
	<b>Embedded Remote Support</b>	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 <a href="http://www.hp.com/go/insightonline/info">www.hp.com/go/insightonline/info</a> .
<b>Server utilities</b>	<b>HP Smart Update</b>	Optimize firmware and driver updates with HP Smart Update solutions. Learn more at <a href="http://www.hp.com/go/smartupdate">www.hp.com/go/smartupdate</a> .
	<b>HP Systems Insight Manager (HP SIM)</b>	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 <a href="http://www.hp.com/go/sim">www.hp.com/go/sim</a> .
	<b>Scripting Tool Kit and Windows PowerShell</b>	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 <a href="http://www.hp.com/go/ProLiantSTK">www.hp.com/go/ProLiantSTK</a> or <a href="http://www.hp.com/go/powershell">www.hp.com/go/powershell</a> .
	<b>HP RESTful Interface Tool</b>	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 <a href="http://www.hp.com/go/restfulapi">www.hp.com/go/restfulapi</a> .
	<b>HP iLO Mobile Application</b>	Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: <a href="http://www.hp.com/go/ilo/mobileapp">www.hp.com/go/ilo/mobileapp</a> .
	<b>HP Insight Online</b>	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 <a href="http://www.hp.com/go/insightonline/info">www.hp.com/go/insightonline/info</a> .

### 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





### Standard Features

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.

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### Optional Features

<b>Server Management</b>	<b>HP Insight Control</b>	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 <a href="http://www.hp.com/go/insightcontrol">http://www.hp.com/go/insightcontrol</a> .
	<b>HP OneView</b>	Powerful converged management of servers, storage, and network for IT service automation and infrastructure simplicity, see <a href="http://www.hp.com/go/oneview">www.hp.com/go/oneview</a> . <b>NOTE:</b> HP OneView support for HP ProLiant Gen9 rack (DL) and blade (BL) servers will be available with HP OneView 1.20 in Dec 2014. Customers may purchase HP OneView licenses now, and will be granted rights to use HP Insight Control software and transition to HP OneView with a free upgrade, when available. Customers also have the option to purchase HP Insight Control.
	<b>HP Insight Cluster Management Utility (CMU)</b>	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 <a href="http://www.hp.com/go/cmu">www.hp.com/go/cmu</a> .

**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 [www.hp.com/go/cmu](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.

### Optional Features

- **HP StoreVirtual VSA**

With HP StoreVirtual VSA you can use the power of virtualization to create a virtual array within your host server. Manage it as a single pool of shared storage capacity, and scale it to match your evolving needs. HP ProLiant Gen9 servers include a 3-year limited license for HP StoreVirtual VSA software with 1TB of capacity at no extra cost. Simply select to install HP StoreVirtual VSA software during server setup within Intelligent Provisioning. More information, instructional videos, and free console management software are available at [www.hp.com/go/vsa1TB](http://www.hp.com/go/vsa1TB).

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

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#### **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>.

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### 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 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. [www.hp.com/services/consulting](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. [www.hp.com/services/dataprivacy](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. [www.hp.com/services/foundationcare](http://www.hp.com/services/foundationcare).

Additional HP Care Pack services can be found at: [www.hp.com/go/cpc](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.
4. Not all models are available in all regions. Check with your local country HP offices for availability.

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

**NOTE:** All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (AOK02A). 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) <b>NOTE: The DIMM will operate at 1600 MHz and 1866 MHz with the E5-2603v3 Processor.</b>		16GB (1x16GB Registered DIMMs, 2133 MHz)
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 <b>NOTE: Only Supports SATA HDD unless HP Smart HBA or HP Smart Array Controller is added.</b>	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





### Pre-configured Models

<b>Power Supply</b>	(2) HP 800W Flex Slot Platinum Power Supply
<b>Fans</b>	7 standard hot plug fans, redundant
<b>Management</b>	iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (standard), HP OneView (optional)
<b>Form Factor</b>	Rack (1U), HP Easy Install Rails
<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

### Smart Buys

[SKU Number]	780017-S01	780018-S01	780019-S01	780020-S01
<b>Model Name</b>	HP ProLiant DL360 Gen9 E5-2609v3 1P 8GB-R H240ar 500W PS Server/S-Buy	HP ProLiant DL360 Gen9 E5-2620v3 1P 16GB-R H240ar 2x500W PS Server/S-Buy	HP ProLiant DL360 Gen9 E5-2640v3 2P 16GB-R P440ar 500W RPS Server/S-Buy	HP ProLiant DL360 Gen9 E5-2660v3 1P 16GB-R P440ar 800W RPS Server/S-Buy
<b>Processor</b>	Intel® Xeon® E5-2609v3	Intel® Xeon® E5-2620v3	Intel® Xeon® E5-2640v3	Intel® Xeon® E5-2660v3
<b>Number of Processors</b>	One		Two	One
<b>Memory</b>	8GB (1x8GB Registered DIMMs, 2133 MHz) <b>Note:</b> The DIMM will operate at 1600MHz with the E5-2609v3 Processor.	16GB (2x8 GB Registered DIMMs, 2133 MHz) <b>Note:</b> The DIMM will operate at 1866MHz with the E5-2620v3 Processor.		16GB (1x16 GB Registered DIMMs, 2133 MHz)
<b>Network Controller</b>	HP Embedded 1Gb Ethernet 4-port 331i Adapter			
<b>Storage Controller</b>	HP H240ar Smart Host Bus Adapter		HP Flexible Smart Array P440ar/2GB	
<b>Hard Drive</b>	None ship standard			
<b>Internal Storage</b>	8 SFF HDD Bays			
<b>Optical Drive Bay</b>	Optional via Universal Media Bay			
<b>PCI-Express Slots</b>	2 Standard (1-FH/¾ L, 1-LP) PCIe 3.0		3 Standard (1-FH/HL, 2-LP) PCIe 3.0	2 Standard (1-FH/¾ L, 1-LP) PCIe 3.0
<b>Power Supply</b>	(1) HP 500W Flex Slot Platinum Power Supply	(2) HP 500W Flex Slot Platinum Power Supply		(2) HP 800W Flex Slot Platinum Power Supply
<b>Fans</b>	5 standard hot plug fans, redundant		7 standard hot plug fans, redundant	5 standard hot plug fans, redundant
<b>Management</b>	iLO Management (standard)			
<b>Form Factor</b>	Rack (1U), HP Easy Install Rails			
<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response			

[SKU Number]	780021-S01	780022-S01	784657-S01
<b>Model Name</b>	HP ProLiant DL360 Gen9 E5-2690v3 1P 32GB-R P440ar 800W RPS Server/S-Buy	HP ProLiant DL360 Gen9 E5-2670v3 2P 64GB-R P440ar 800W RPS Server/S-Buy	HP ProLiant DL360 Gen9 E5-2680v3 2P 64GB-R P440ar 500W RPS Server/S-Buy
<b>Processor</b>	Intel® Xeon® E5-2690v3	Intel® Xeon® E5-2670v3	Intel® Xeon® E5-2680v3
<b>Number of Processors</b>	One	Two	Two
<b>Memory</b>	32GB (2x16 GB Registered DIMMs, 2133 MHz)	64GB (4x16 GB Registered DIMMs, 2133 MHz)	
<b>Network Controller</b>	HP Embedded 1Gb Ethernet 4-port 331i Adapter plus HP FlexFabric 10Gb 2-port 533FLR-T Adapter		HP Embedded 1Gb Ethernet 4-port 331i Adapter
<b>Storage Controller</b>	HP Flexible Smart Array P440ar/2GB		
<b>Hard Drive</b>	None ship standard		Includes 2x80GB 6G SATA VE SC EB SSD Drives
<b>Internal Storage</b>	8 SFF HDD Bays		
<b>Optical Drive Bay</b>	Optional via Universal Media Bay		
<b>PCI-Express Slots</b>	2 Standard (1-FH/¾ L, 1-LP) PCIe 3.0	3 Standard (1-FH/¾ L, 2-LP) PCIe 3.0	2 Standard (1-FH/¾ L, 1-LP) PCIe 3.0
<b>Power Supply</b>	(2) HP 800W Flex Slot Platinum Power Supply		(2) HP 500W Flex Slot Platinum Power Supply
<b>Fans</b>	5 standard hot plug fans, redundant	7 standard hot plug fans, redundant	
<b>Management</b>	iLO Management (standard)		iLO Management (standard); Includes iLO Advanced License
<b>Form Factor</b>	Rack (1U), HP Easy Install Rails		
<b>Warranty</b>	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)

<b>[Chassis]</b>	HP ProLiant DL360 Gen9 4LFF Configure-to-order Server	HP ProLiant DL360 Gen9 8SFF Configure-to-order Server
<b>SKU Number</b>	755259-B21	755258-B21
<b>Processor</b>	2 (optional) x HP Smart Socket Guides	
<b>DIMMSlots</b>	24 DIMM slots for RDIMM, LRDIMM DDR4 Memory	
<b>Storage Controller</b>	HP Dynamic Smart Array B140i	
<b>PCIe</b>	2 PCIe 3.0 Slots: Slot 1, FH / ¾ Length; Slot 2, Low Profile	
<b>Drive Cage</b>	4LFF Hot Plug	8SFF Hot Plug
<b>Network Controller</b>	HP Embedded 1Gb Ethernet 4-port 331i Adapter	
<b>Fans</b>	5 Standard hot plug fans, redundant	
<b>Management</b>	iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional), HP OneView (optional)	
<b>USB</b>	1 front, 2 internal, 2 rear	
<b>Ears</b>	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 Chassis includes 1 SATA Cable, option kit: 766213-B21, which attaches to the B140i controller

**NOTE:** 8SFF CTO Chassis 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 (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
HP DL360 Gen9 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) FIO Processor Kit	755392-L21



### Configuration Information - Factory Integrated Models

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 are 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® C610 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, 4 is socket/segment designation, 00 = Processor SKU, x = L for low power SKUs and v# (not yet designated) = version number.

#### 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 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726719-B21
HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726719-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
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**NOTE:** Select one or more memory kits from list above.

**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: [www.hp.com/go/proliant-energy-efficient](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, 1600MHz or 1333MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: [www.hp.com/go/ddr4memory-configurator](http://www.hp.com/go/ddr4memory-configurator)

#### 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](http://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 (one of the following from each list unless otherwise noted)

#### Embedded B140i Settings

HP FIO Enable Kit Hamer BIOS Setting	784308-B21
<b>NOTE:</b> This part enables the embedded B140i controller for RAID and Hot-plug capabilities	
HP Legacy FIO Mode Setting	758959-B22



## Configuration Information - Factory Integrated Models

**NOTE:** UEFI is the default, this part can be used to enable Legacy mode. If Legacy FIO Mode Setting is selected, then the embedded B140i will no longer be a primary controller and an HP Storage Controller must be selected.

<b>HP Storage Controllers</b>	<b>SAS Controllers</b>		
	<b>HP Smart Array Controllers</b>		
	HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller		749974-B21
	HP Smart Array P440/4GB FBWC 12Gb 1-port Int FIO SAS Controller		761872-B21
	<b>HP Host Bus Adapter</b>		
	HP H240ar 12Gb 1-port Int FIO Smart Host Bus Adapter		749976-B21
<b>Embedded Management</b>	<b>HP iLO Advanced</b>		
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License		C6N36A
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License		C6N36ABE
<b>HP Converged Infrastructure Management Software</b>	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.**

### 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.

<b>HP Unique Options</b>	HP DL360 Gen9 2SFF SAS/SATA Universal Media Bay Kit	764630-B21
	<b>NOTE:</b> Required when upgrading an 8SFF model to a 10SFF model, not supported in 4LFF CTO Server; when this option kit is installed it cannot be used in conjunction with the optical drive or USB2.0 /VGA option kits.	
	HP DL360 Gen9 SFF DVD/USB Universal Media Bay Kit	764632-B21
	<b>NOTE:</b> DVD RW, 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.	
	HP DL360 Gen9 SFF USB/VGA Universal Media Bay Kit	764634-B21
	<b>NOTE:</b> 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.	
	HP DL360 Gen9 Location Discovery Services Ear Kit	764757-B21
	HP DL360 Gen9 Serial Cable	764646-B21
	HP DL360 Gen9 SFF Systems Insight Display Kit	764636-B21
	HP DL360 Gen9 LFF USB/VGA Kit	764638-B21
	<b>NOTE:</b> Front USB 2.0 VGA Kit.	
	HP DL360 Gen9 LFF Systems Insight Display Kit	764640-B21
	<b>NOTE:</b> Options noted with "DL360 Gen9 SFF..." are options only compatible with the 8 SFF Models; and Options noted with "DL360 Gen9 LFF..." are options only compatible with the 4LFF Models.	

### 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
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:** xxxxxx-B21 processor 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 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726719-B21

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





### Core Options

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

#### 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  
 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



### Core Options

HP 200GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3yr Wty Solid State Drive	741151-B21
<b>12G SAS Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives</b>	
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
<b>12G SAS Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives</b>	
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
<b>12G SAS Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives</b>	
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
<b>6G SATA Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives</b>	
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
<b>6G SATA Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives</b>	
HP 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717973-B21
HP 600GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	739898-B21
HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717971-B21
HP 300GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	739888-B21
HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717969-B21
<b>6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Value G1 Solid State Drives</b>	
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
<b>6G SATA Hot Plug SFF (2.5-inch) Enterprise Light G1 Solid State Drives</b>	
HP 960GB 6G SATA Light Endurance SFF 2.5-in SC Enterprise Light 3yr Wty G1 Solid State Drive	756601-B21
<b>6G SATA Hot Plug SFF (2.5-inch) Enterprise Boot Solid State Drives</b>	
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
<b>6G SATA Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives</b>	
HP 800GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691860-B21

### Core Options

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
<b>6G SATA Hot Plug LFF Value Endurance (3.5-inch) Converter Enterprise Value G1 Solid State Drives</b>	
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
<b>6G SATA Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives</b>	
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 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 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
<b>6G SATA Hot Plug LFF (3.5-inch) Enterprise Light G1 Solid State Drives</b>	
HP 960GB 6G SATA Light Endurance LFF 3.5-in SC Enterprise Light 3yr Wty G1 Solid State Drive	756604-B21
<b>6G SATA Hot Plug LFF (3.5-inch) Enterprise Boot Solid State Drives</b>	
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
<b>Hard Drive Blank Kits</b>	
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
<b>NOTE: Not supported in the 4LFF Chassis, required for 10SFF config, when added to the 8SFF Chassis.</b>	

### 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

**NOTE:** A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.

**NOTE:** Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. See cables/options below.

#### FlexibleLOM Adapters

HP FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
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### Core Options

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:** For the following FlexibleLOM Network Adapters, only 1 FlexibleLOM can be added to the server, which is selected in Step 2 of the "Configuration Information - Factory Integrated Models" section. These options are for upgrade or change from original configuration after the server is shipped.

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

<b>HP InfiniBand</b>	HP InfiniBand FDR 2-port 545QSFP Adapter	702211-B21
	<b>NOTE:</b> Please see the QuickSpecs for additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/13078_na/13078_na.html">http://h18000.www1.hp.com/products/quickspecs/13078_na/13078_na.html</a> .	

<b>HP I/O Expansion Options</b>	HP DL360 Gen9 Low Profile PCIe Slot CPU2 Kit	764642-B21
	<b>NOTE:</b> 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	764644-B21
	<b>NOTE:</b> after installation the server will have 2 FH / ¾ Length PCIe 3.0 Slots, requires second CPU.	
	<b>NOTE:</b> Includes GPU power cable and bracket; when this option kit is installed the Low Profile PCIe3.0 riser is not useable.	

<b>HP Power Supplies</b>	<b>NOTE:</b> 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.	
	<b>NOTE:</b> 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: <a href="http://www.hp.com/go/hppoweradvisor">www.hp.com/go/hppoweradvisor</a> .	
	<b>HP Flex Slot Platinum Hot-plug Power supplies</b>	
	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

<b>HP Computation and Graphics Accelerators</b>	HP NVIDIA Quadro K4200 Graphics Accelerator	J0G90A
	<b>NOTE:</b> 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
	<b>NOTE:</b> 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
	<b>NOTE:</b> Includes GPU power cable and brackets	
	<b>NOTE:</b> Only the above listed Graphics cards are HP standard supported options in this server.	
	<b>NOTE:</b> 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.	

<b>HP Cooling Options</b>	HP DL360 Gen9 High Performance Fan Kit	766201-B21
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## Core Options

**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 configuration. 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 24 x 7 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](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 Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	C6N36A
HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License	C6N36ABE
HP iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU	E6U59ABE
HP iLO Advanced Electronic License with 3yr 24x7 Tech Support and Updates	BD506AAE
HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License	TA850AAE

#### HP Converged Infrastructure Management Software

##### HP OneView

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

#### 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
<b>NOTE:</b> 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
<b>NOTE:</b> For additional license kits please see the QuickSpecs at <a href="http://h18004.www1.hp.com/products/quickspecs/12612_na/12612_na.html">http://h18004.www1.hp.com/products/quickspecs/12612_na/12612_na.html</a> .	

#### HP Security

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





### Additional Options

**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: [www.hp.com/go/TPM](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 Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller 749974-B21

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

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 Smart Array P440ar/2GB FBWC 12Gb 1-port Int SAS Controller for DL360 Gen9 726740-B21

**NOTE:** This controller is specific for the DL360 Gen9 with 2 GPUs installed. It has a unique heatsink that will allow the 2<sup>nd</sup> 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

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

**NOTE:** When ordering controllers, please reference the HP Cable Options below for the required cable.

**NOTE:** FIO indicates factory integrated option via CTO.

##### HP Smart Host Bus Adapters

HP H240ar 12Gb 1-port Int Smart Host Bus Adapter 726757-B21

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

HP H240ar 12Gb 1-port Int FIO Smart Host Bus Adapter 749976-B21

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

**NOTE:** FIO indicates factory integrated option via CTO.

##### HP 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 Chassis

HP DL360 Gen9 SFF Internal SAS Cable 775927-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 8SFF backplane or the 2 SFF SAS/SATA option kit.

HP DL360 Gen9 LFF Internal SAS Cable 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.



### Additional Options

**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.

#### 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 [www.hp.com/go/ebs](http://www.hp.com/go/ebs).

##### Tape Drives

HP StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive	EH964A
HP StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader	COH19A
HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit	COL99A
HP StoreEver LTO-4 Ultrium 1760 SAS External Tape Drive	EH920B
HP StoreEver LTO-4 Ultrium 1760 SAS (1) in 1U Rack-mount Kit	EH946C
HP StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
HP StoreEver LTO-5 Ultrium 3000 SAS Tape Drive in 1U Rack-mount	EJ014B
HP StoreEver LTO-5 Ultrium 3280 SAS External Tape Drive	EH900B
HP StoreEver LTO-5 Ultrium 3280 SAS Tape Drive in 3U Rack-mount	EJ013B
HP StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
HP StoreEver 1U SAS Rack-mount Kit	AE459B
HP StoreEver LTO-4 Ultrium 1760 SCSI External Tape Drive	EH922B

##### HP Tape Storage Systems

###### HP StoreEver MSL6480

HP StoreEver MSL6480 Scalable Expansion Module	QU626A
<b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/14604_na/14604_na.html">http://h18000.www1.hp.com/products/quickspecs/14604_na/14604_na.html</a> (Worldwide).	
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 Disk Backup

##### HP RDX Removable Disk Backup System

HP RDX1000 USB3.0 External Disk Backup System	B7B69A
HP RDX 2TB USB3.0 External Disk Backup System	E7X53A

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

**NOTE:** Please see the QuickSpecs for additional part numbers, Technical Specifications, and additional information: [http://h18000.www1.hp.com/products/quickspecs/13036\\_na/13036\\_na.html](http://h18000.www1.hp.com/products/quickspecs/13036_na/13036_na.html) (Worldwide).

#### 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



### Additional Options

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
<b>Converged Network Adapter</b>	
HP StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A
HP StoreFabric CN1200E 10Gb Converged Network Adapter	E7Y06A

#### 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
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### Additional Options

**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 4.9kVA 24A High Voltage NA/JP Core Modular Power Distribution Unit	252663-D74
HP 8.3kVA 40A High Voltage NA/JP Core Modular Power Distribution Unit	252663-D75
HP 7.3kVA 32A High Voltage INTL Core Modular Power Distribution Unit	252663-B33
HP 17.3kVA 48A Three Phase NA/JP Modular Power Distribution Unit	AF511A
HP 22kVA 32A Three Phase INTL Core Modular Power Distribution Unit	AF518A
HP 3.6kVA 200-240 Volt Detachable C20 Input ( 12xC13) WW Basic PDU	H5M56A
HP 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU	H5M58A
HP 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU	H5M68A
HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU	H5M70A

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

##### HP Monitored Power Distribution Units (mPDU)

HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU	D9N43A
HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU	D9N45A
HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU	D9N47A
HP 7.3kVA 230 Volt IEC309 32A Input (20xC13/4xC19) INTL Monitored PDU	D9N48A
HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU	D9N50A
HP 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU	D9N55A
HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU	D9N57A
HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU	D9N59A
HP 22kVA 400 Volt IEC309 32A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU	D9N56A
HP 22kVA 400 Volt IEC309 32A 3-Phase Input (12xC13/12xC19) INTL Monitored PDU	D9N60A

**NOTE:** Please see the [HP Monitored Power Distribution Units QuickSpecs](#) for information on additional options and product specifications.

##### HP Intelligent Power Distribution Units (iPDU)

HP 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF520A
HP 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF521A
HP 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF522A
HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF523A
HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF535A
HP 4.9kVA 24A Single Phase NA/JP Intelligent Modular Power Distribution Kit	AF531A
HP 8.6kVA 24A Three Phase NA/JP Intelligent Modular Power Distribution Kit	AF532A
HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit	AF525A
HP 7.3kVA 32A Single Phase INTL Intelligent Modular Power Distribution Kit	AF534A

**NOTE:** Please see the [HP Intelligent Power Distribution Units QuickSpecs](#) for information on additional options and product specifications.

**NOTE:** To learn more, please visit the [HP Uninterruptible Power Systems \(UPS\) web page](#).

#### HP USB and SD options

HP 32GB SD Enterprise Mainstream Flash Media Kit	700136-B21
HP 8GB SD Enterprise Mainstream Flash Media Kit	726113-B21
HP 8GB microSD EM Flash Media Kit	726116-B21
HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit	737953-B21

#### HP Rack Mount Consoles, KVM Switches, and Keyboards

##### HP Rack Mount Consoles

HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor	AZ870A
HP TFT7600 G2 KVM Console Rackmount Keyboard Intl Monitor	AZ884A



### Additional Options

**NOTE:** Please see the [HP Rack Console QuickSpecs](#) for information on additional options and product specifications.

#### HP KVM Switches

HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
HP Server Console 0x2x8 Port Analog Switch	AF616A
HP Server Console 0x2x16 Port Analog Switch	AF617A
HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
HP 1x4 USB/PS2 KVM Console Switch	AF611A

**NOTE:** To learn more, please visit the [HP KVM Switches web page](#).

#### HP 1U Rackmount Keyboard with USB

HP 1U US Rackmount Keyboard with USB	AG072A
HP 1U INT Rackmount Keyboard with USB	AG086A

**NOTE:** Please see the [HP 1U Rackmount Keyboard QuickSpecs](#) for information on additional options and product specifications.

#### HP USB Keyboard and Mouse

HP USB BFR with PVC Free US Keyboard/Mouse Kit	631341-B21
HP USB BFR with PVC Free Intl Keyboard/Mouse Kit	672097-B33

**NOTE:** Please see the [HP USB Keyboard and Mouse QuickSpecs](#) for information on additional options and product specifications.

#### 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 R1.5kVA G3 1U INTL Uninterruptible Power System	AF471A
HP R1.5kVA G3 1U JP/TW Uninterruptible Power System	AF470A
HP R/T3000 G2 2U L530 Low Voltage NA/JP Uninterruptible Power System	AF466A
HP R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System	AF468A
HP R5KVA 3U IEC309-32A High Voltage INTL Uninterruptible Power System	AF461A
HP R7KVA 4U IEC-32A High Voltage INTL Uninterruptible Power System	AF463A

**NOTE:** To learn more, please visit the [HP Uninterruptible Power Systems \(UPS\) web page](#).

#### HP Care Pack Services

HP Install ProLiant DL36x(p) Service	U4506E
HP Startup ProLiant DL36x(p) Service	U4507E
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



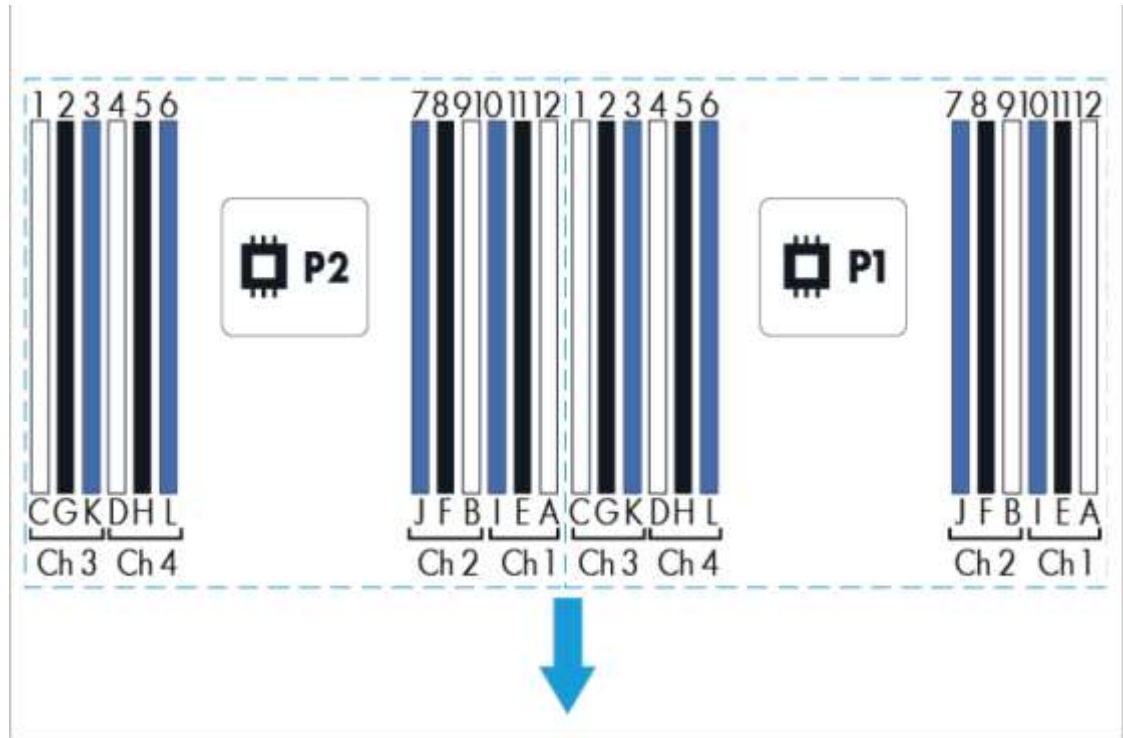
### Additional Options

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



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

### General Memory Population Rules and Guidelines:

- 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 and will not work with the DL360 Gen9 Server.
- To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at: [http://h18000.www1.hp.com/products/quickspecs/14225\\_na/14225\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14225_na/14225_na.html).



### Memory

- 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.

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)		
DIMM Rank	Single Rank	Dual Rank	
DIMM Capacity	8GB	16GB	
Voltage			Std Voltage 1.2V
<b>SLOTS THAT CAN BE POPULATED</b>			
24 slot servers			24
<b>MAXIMUM CAPACITY (GB)</b>			
	192	384	
<b>1 DIMM Per Channel</b>			2133
<b>2 DIMM Per Channel</b>			2133
<b>3 DIMM Per Channel</b>	1600	1600	

#### 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

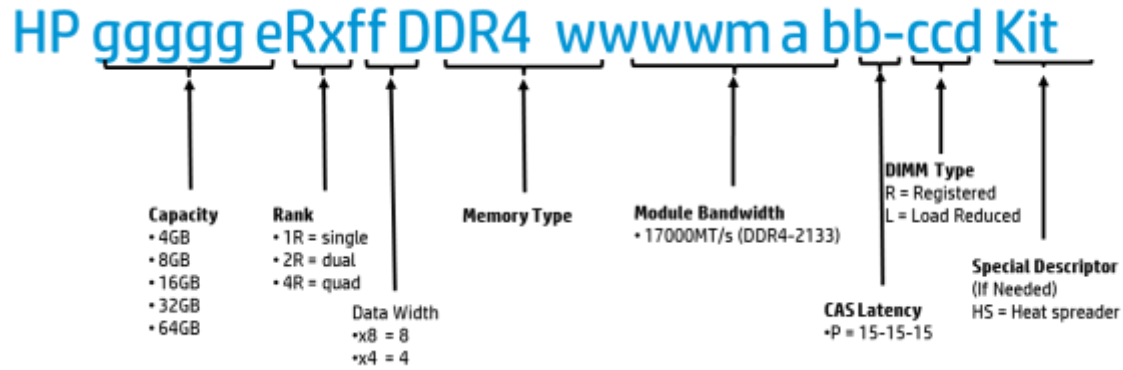
DDR4 memory options part number decoder

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

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



### Memory



### 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

<b>System Unit</b>	<b>Dimensions</b> (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)
	<b>Weight</b> (approximate)	<p>Maximum: (all hard drives, power supply, and processor installed) 8 SFF Chassis 33.3 lb. (15.31 kg) <b>NOTE: Includes 2 SFF Option for a total of 10 SFF HDD</b></p> <p>Minimum: (one hard drive, power supply, and processor installed) 4 LFF Chassis 37 lb. (16.78kg) 8SFF Chassis 27 lb. (12.25 kg)</p> <p>4 LFF Chassis 30.36 lb. (13.77 kg)</p>
	<b>Input Requirements</b>	Range Line Voltage 100 to 120 VAC 200 to 240 VAC
	<b>BTU Rating</b>	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
	<b>Power Supply Output</b>	<p>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</p> <p>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</p>
	<b>System Inlet Temperature</b>	<p>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: <a href="http://www.hp.com/servers/ashrae">www.hp.com/servers/ashrae</a></p> <p>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: <a href="http://www.hp.com/servers/ashrae">www.hp.com/servers/ashrae</a></p> <p>Extended Ambient Operating Support Non-operating -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).</p>
	<b>Relative Humidity</b>	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.

### Technical Specifications

(non-condensing)	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
<b>Altitude</b>	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).
<b>Acoustic Noise</b>	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).	
	<b>Idle</b>	
	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
	<b>Operating</b>	
	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
	<b>NOTE:</b> 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.	
	<b>NOTE:</b> 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.	
	<b>NOTE:</b> Values are subject to change without notification and are for reference only.	
<b>NOTE:</b> Performance of system, options, and ancillary equipment will vary depending on the system configuration.		
<b>NOTE:</b> Levels presented do not account for non-Hewlett-Packard installed hardware.		
<b>Emissions Classification (EMC)</b>	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
<b>NOTE:</b> 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

<b>Number of PCI links</b>	Four
<b>PCI link rate</b>	4 Gb/s
<b>Storage protocol support</b>	SATA
<b>SAS/SATA peak data transfer rate</b>	6 Gb/s
<b>Number of SAS/SATA links</b>	10 links
<b>SAS/SATA connectivity</b>	2x4 connectors; 2x1 connectors
<b>Expander support</b>	No
<b>Drives supported (max)</b>	Up to 10 Internal Drives
<b>RAID support</b>	0, 1, 10, 5 SATA



### Technical Specifications

<b>Software management</b>	HP SSA, SMH, SIM
<b>Warranty</b>	Server warranty
<b>HP Secure Encryption license</b>	Not Supported
<b>HP SmartCache License</b>	Not Supported
<b>HP Smart Storage Administrator</b>	Supported

<b>HP Ethernet 1Gb 4-port 331i Adapter</b>	<b>Network Interface</b>	10Base-T/100Base-TX/1000Base-TX	
	<b>Compatibility</b>	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	<b>Ports</b>		
	<b>Data Transfer Method</b>	PCI Express, two lanes (x2)	
	<b>Controller</b>	BCM5719	
	<b>Network Transfer Rate</b>	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	
<b>Connector</b>	Four RJ-45		
<b>Cable Support</b>	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)	

<b>Environment-friendly Products and Approach</b>	<b>End-of-life Management and Recycling</b>	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: <a href="http://www.hp.com/go/green">http://www.hp.com/go/green</a> . To recycle your product, please go to: <a href="http://www.hp.com/go/green">http://www.hp.com/go/green</a> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
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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/gen9](http://www.hp.com/go/gen9)

### Summary of Changes

Date	Version History	Action	Description of Change
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. Smart Buys section was added to NA version.
		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.

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