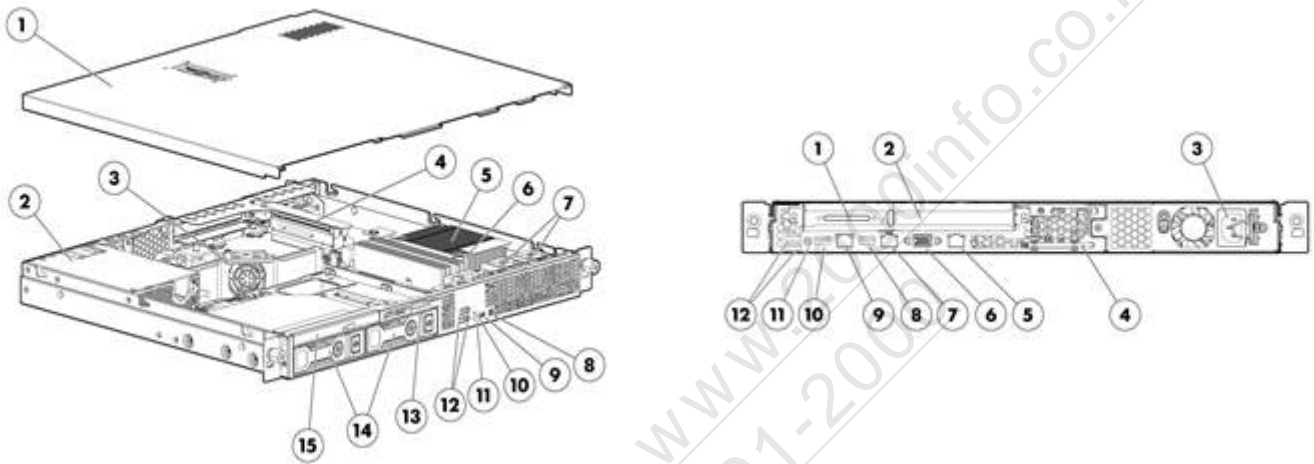Overview

Do you need an entry-level short-depth server utilizing the latest technology to keep you competitive?

The HP ProLiant DL320e Gen8 v2 Server is an entry-level single processor 1U short depth rack server specifically designed to give you the competitive edge you need. The server supports the latest Intel Xeon E3-1200 v3, PCIe 3.0 slots, DDR3 1600 MHz memory, and up to 8 TB internal storage, plus the state of the art HP iLO Management Engine.

It is ideal for small businesses, chain stores, telecommunications firms, or others that require a low-cost, compact server. The DL320e Gen8 v2 is versatile enough to handle a variety of workloads, including single/dedicated IT services such as networking, security, file/print, and web serving/hosting.

Front View:
1. Access Panel
2. Power Supply
3. Fan Assembly
4. PCI Riser Cage
5. Processor
6. DIMMS
7. Fan Assembly
8. Power On/Standby button and LED
9. UID LED button
10. Health LED
11. NIC status LED
12. 2 USB Connectors
13. Serial number/iLO information pull tab
14. Hard Drive Bays
15. Optical drive

Rear View:
1. Expansion slot 2, PCIe x8
2. Expansion slot 1, PCIe x16
3. Integrated Power Supply
4. T-10/T-15 Torx screwdriver
5. NIC1/shared iLO connector
6. Video Connector
7. NIC Connector 2
8. USB 3.0 Connector
9. iLO4 Connector
10. USB 3.0 Connector
11. NIC link LED
12. USB2.0 Connectors

What's New

- New HDD offering, addition of new short friction rail kit
- New HP Care Pack Services

QuickSpecs

Standard Features

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

Processor One of the following depending on model	**Entry Processors** Intel®Pentium®G3240 (3.1GHz/2-core/3MB/54W) Processor Intel®Pentium®G3220 (3.0GHz/2-core/3MB/54W) Processor **NOTE:** Intel ®Pentium®G3220 processor, performance for 1600MHz memory is clocked down to 1333MHz. Intel®Pentium®G3420 (3.2GHz/2-core/3MB/54W) Processor **NOTE:** Intel®Pentium®G3420 Processor supports up to 1600MHz DDR3 memory speeds. **Base Processors** **NOTE:** All support up to1600MHz DDR3 memory speeds. Intel®Core ™ i3-4150 (3.5GHz/2-core/3MB/54W, HT) Processor Intel®Core ™ i3-4130 (3.4GHz/2-core/3MB/54W, HT) Processor Intel®Core ™ i3-4130T (2.9GHz/2-core/3MB/35W, HT) Processor **Performance Processors** **NOTE:** All support up to 1600MHz DDR3 memory speeds. Intel®Xeon®E3-1220v3 (3.1GHz/4-core/8MB/80W) Intel®Xeon®E3-1231v3 (3.4GHz/4-core/8MB/80W, HT) Intel®Xeon®E3-1241v3 (3.5GHz/4-core/8MB/80W, HT) Intel®Xeon®E3-1271v3 (3.6GHz/4-core/8MB/80W, HT) Intel®Xeon®E3-1281v3 (3.7GHz/4-core/8MB/82W, HT) Intel®Xeon®E3-1230v3 (3.3GHz/4-core/8MB/80W, HT) Intel®Xeon®E3-1230Lv3 (1.8GHz/4-core/8MB/25W, HT) Intel®Xeon®E3-1240v3 (3.4GHz/4-core/8MB/80W, HT) Intel®Xeon®E3-1265Lv3 (2.5GHz/4-core/8MB/45W, HT) Intel®Xeon®E3-1270v3 (3.5GHz/4-core/8MB/80W, HT) Intel®Xeon®E3-1280v3 (3.6GHz/4-core/8MB/82W, HT) **NOTE:** HT indicates that the processor model supports Intel®/Hyper-Threading Technology (depends on the processor). **NOTE:** DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs and CPU installed (options for 1600MHz, 1333MHz).
Cache Memory One of the following depending on model	8MB (1x8MB) Level 3 **NOTE:** For Quad-core processors.
Chipset	Intel®C222 Series Chipset **NOTE:** For more information regarding Intel®chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/.

Standard Features

Upgradeability	Up to 4 DIMM slots available for higher Memory capacity
	Up to 4 bay SFF Hot plug Drive Cage; Or 2 bay LFF Hot plug or Non hot plug Drive Cages
	2 PCIe 3.0 expansion slots
	Optical Drive Bay

On System Management Processor

HP iLO (Firmware: HP iLO 4)

NOTE: For more information, visit: http://www.hp.com/go/ilo.

Memory Protection　　ECC

Memory
One of the following depending on model

Type	HP SmartMemory
	Unbuffered (UDIMM)
DIMM Slots Available	4 DIMMs (2 Channels/ 2 DIMMs per channel)
Maximum Capacity (UDIMM)	32GB (4 x 8GB@1600MHz)

NOTE: HP memory from previous generation servers are not fully compatible with the HP ProLiant DL320e Gen8 Servers.
NOTE: 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_div/14225_div.html
NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1600MHz, or 1333MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: http://www.hp.com/go/ddr3memory-configurator.

Network Controller

HP Ethernet 1Gb 2-port NC332i Adapter
NOTE: The HP ProLiant DL320e Gen8 v2 server has an embedded dual-port network adapter. The server can be further upgraded with various networking products

Expansion Slots

Expansion Slots #	Technology	Bus Width*	Connector Width	Form Factor	Notes
1	PCIe 3.0	x8	x16	Half-length, full-height slot	
2	PCIe 3.0	x4	x8	Low profile slot	

*Indicates the number of physical electrical lanes running to the connector.

Standard Features

HP Server ROM	HP ROM (Read Only Memory) is now digitally signed using HP's Corporate Signing Service. This signature is verified before the flash process starts, reducing accidental programming and preventing malicious efforts to corrupt system ROM.

HP ROM provides for essential initialization and validation of hardware components before control is passed to the customer-installed operating system. The ROM also provides the capability of booting from various fixed media (HDD, CD-ROM) and removable media (USB), to continue operation to the operating system.

HP ROM performs very early configuration of the video controller, to allow monitoring of initialization progress via an attached monitor. If configuration or hardware errors are discovered during this early phase of hardware initialization, suitable messages are now displayed on the connected monitor. Additionally, these configuration or hardware errors are logged to the Integrated Management Log (IML) to assist in diagnosis.

HP's ProLiant ROM is used to configure the following:

- Processor and chipset status registers
- System memory, memory map, and memory initialization
- System hardware configuration (Integrated PCI devices and optional PCIe cards).
- Customer-specific BIOS configuration (using the HP ROM-Based Setup Utility (RBSU).

NOTE: For further information, please refer to HP's RBSU (ROM based setup utility) user guide: http://www.hp.com/support/rbsu.

Storage Controller
One of the following depending on model

Base Models	HP Dynamic Smart Array B120i Controller **NOTE:** B120i has the following performance with regards to drive speed: 6Gb/s - in 2LFF and 4SFF only with port 0 & 1 installed; 3Gb/s - in 4SFF with more than 2 drives installed. For full 6 Gb.0/s speed a stand up card/smart array controller must be used. **NOTE:** B120i supports RAID 0/1/10 only. It does not have FBWC support so cannot support advanced RAID (5 onwards). For FBWC, a standup Smart Array Controller card must be configured.
Performance Models	HP Smart Array P222/512MB FBWC controller **NOTE:** P222 can support RAID 0/1/10/5/50. More advanced options available with Smart Array Advanced Pack 2.0.

NOTE: The DL320e Gen8 v2 can support other advanced controllers as well, depending on model and configuration
NOTE: For set up instructions for HP Smart Array B120i SATA Controller please refer to the HP ProLiant DL300 series server user guide.
NOTE: For general information about HP Smart Array B120i SATA RAID Controller, please visit: http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/dynamicsmartarray/index.html

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Standard Features

Internal Storage Devices	Diskette Drive	None
	Optical Drive	Optional
		DVD-RW
		NOTE: Slim-type (9.5mm)
	Hard Drives	None ship standard (Base Models and Performance Models)
	Hard Drive Bays	4 SFF drive bays or 2 LFF Non hot plug/Hot plug

NOTE: HP ProLiant DL320e Series servers offer both SFF, and LFF versions in CTO. The Optical Drive bay is available with both models.
NOTE: LFF versions are not an upgradeable option from SFF models, or vice versa, also between Non Hot Plug LFF and Hot Plug LFF.
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 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	Hot Plug SFF SAS	4.8TB	4 x 1.2TB
	Hot Plug SFF SATA	4.0TB	4 x 1TB
	Hot Plug LFF SAS	16.0TB	2 x 8TB
	Hot Plug LFF SATA	16.0TB	2 x 8TB
	Hot Plug SFF SAS SSD	3.2 TB	4 x 800GB
	Hot Plug SFF SATA SSD	3.2 TB	4 x 800GB
	Hot Plug LFF SATA SSD	1.6 TB	2 x 800GB
	Non-Hot Plug LFF SATA	6TB	2 x 3TB

Interfaces	Video	1 Rear standard video
	HP iLO Remote Management Network Port	1Gb Dedicated
	Micro SD slot	1 Internal
		NOTE: The Micro SD slot is not a hot-pluggable device. Customers should not attempt to plug a Micro SD card into the slot while the server is powered.
	USB 2.0 Ports	5 total: 2 rear, 2 front, 1 internal (Optional)
	USB 3.0 Ports	2 total: 2 rear

Industry Standard Compliance	ACPI 2.0b Compliant
	PCIe 3.0
	PXE Support
	WOL Support
	USB 2.0 Compliant
	USB 3.0 Compliant

Standard Features

Server Power Cords

All Pre-configured Models servers ship with a high voltage server to PDU power cord.
NOTE: HP ProLiant DL servers no longer ship standard with a 12-foot NEMA 5-15P to C13 power cords (227099-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU 6-foot C-14 to C13 power cord (142258-001). If a user wishes to power a ProLiant DL server using a110V receptacle (NEMA-15), the 12-foot NEMA 5-15 to C13 power cord must be ordered separately. See Power Cords section for Worldwide Power Cord options.

Power Specifications

To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: http://www.hp.com/go/proliant-energy-efficient or http://www.hp.com/go/hppoweradvisor.

NOTE: Power Specification and Technical Content for supported power supplies can be found at: http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

Common Slot Power Supply

NOTE: The default power supply for DL320e Gen8v2 server is a 250W Non Hot Plug, Non Redundant (ATX) power supply for all regions.

A Common Slot 48V DC power supply (750W, 94% efficiency) supporting NEBS compliance is available only for the 4 SFF configuration.

NOTE: Selecting the 750W power supply requires the HP DL320e Gen8 v2 CS FIO Enablement Kit

NOTE: Power Specification and Technical Content for supported power supplies can be found at: http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

System Fans

2 front fan assemblies and 1 center fan assembly ship standard, non-redundant

Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server
Canonical Ubuntu Server
Red Hat Enterprise Linux (RHEL)
SUSE Linux Enterprise Server (SLES)
VMware

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: http://www.hp.com/support/DL320eGen8v2.

Standard Features

Graphics	Integrated Matrox G200 video standard

- 1280 x 1024 (32 bpp)
- 1920 x 1200 (16 bpp)

HP iLO 4 On System Management Memory

- 16 MB Flash
- 256 MB DDR 3 with ECC (112 MB after ECC and video)

Form Factor
One of the following
depending on model

1U Rack form factor
4 SFF Drive Bay Version:
1.7" (4.32cm) Height x 17.11" (43.46cm) Width x 15.07" (38.30cm) Length
2 LFF Drive Bay Version:
1.7" (4.32cm) Height x 17.11" (43.46cm) Width x 15.07" (38.30cm) Length

**On System
Management**

HP iLO Management
Engine

HP iLO Management Engine is a comprehensive set of embedded management features supporting the complete lifecycle of the server, from initial deployment, through ongoing management, to service alerting and remote support. HP iLO Management Engine comes standard on all HP ProLiant Gen8 servers. The HP iLO Management Engine portfolio includes:

- **HP iLO:** The HP iLO (Integrated Lights-Out) management processor is the core foundation for the HP iLO Management Engine
- **HP Agentless Management:** Provides built in server health monitoring and alerting capability without OS agents, that starts working the moment a power cord and an Ethernet cable are connected.
- **HP Active Health System:** Always on, continuous monitoring for increased stability and shorter downtimes; 100% configuration history; Health and service alerts and easy export and upload to Service and Support.
- **HP Intelligent Provisioning:** Lets customers provision and configure a single server without any separate media. No more SmartStart CDs or Smart Update Firmware DVD are needed.
  - To start Intelligent Provisioning:
    - Press the F10 key during the ProLiant Gen8 server boot process (also known as power on self-test or POST).
    - Please go to the Intelligent Provisioning website at http://www.hp.com/go/intelligentprovisioning for additional information and to view usage videos.
    - Use the Service Pack for ProLiant (SPP) at http://www.hp.com/go/spp to get firmware and software updates.
- **HP iLO Mobile App:** Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: http://www.hp.com/go/ilo/mobileapp

NOTE: For more information, visit: http://www.hp.com/go/ilo or HP iLO

Standard Features

Management Engine technologies whitepaper

HP Insight Management	HP Service Pack for ProLiant (SPP)	HP Service Pack for ProLiant (SPP) and HP Smart Update Manager (HP SUM) version 5 provide a new, comprehensive approach to firmware and system software maintenance. Together they provide better operating stability and ensure maximum uptime. The SPP will be updated at a predictable cadence, typically coinciding with new HP server hardware launches. By enabling all firmware to be updated online and integrating firmware and system software updates in one operation HP SUM and the SPP offer faster updates of individual servers and dramatically faster updates of entire BladeSystem enclosures. Further improving system uptime and stability is the fact that HP provides 12 months of support on each Service Pack for ProLiant.

The user experience around HP SUM and the SPP has been improved in several ways, starting with the web download. A single web page provides access to a single download containing both the latest version of HP SUM version 5 and the latest SPP. Optional smaller subsets with only specific types of servers or specific operating systems are offered to save on download time. The HP SUM application has been re-written to provide a more straightforward, intuitive user interface that guides the user through the steps of discovery, analyses and update, providing comprehensive information on available updates, criticality and interdependencies. This information is also available in reports. By providing the option of multiple local or shared repositories which can be easily updated from hp.com, HP SUM provides the tools to optimize stability and consistency throughout the company. While HP SUM and the SPP will recommend the combinations of firmware and system software that HP has found to be the best practice, the application gives customers the flexibility to set their own specific baseline.

The Service Pack for ProLiant has been rigorously tested with specific attention for interaction between firmware, drivers and agents both within the server as well as in interaction with the BladeSystem enclosure components (Onboard Administrator and Virtual Connect). This testing ensures the highest quality as well as providing the input for HP SUM to deploy updates taking into account all interdependencies, when determining the correct updates and order of update deployment.

NOTE: The Service Pack for ProLiant (which includes HP SUM 5) can be downloaded from http://www.hp.com/go/spp/download. More information can be found: http://www.hp.com/go/spp and http://www.hp.com/go/hpsum

Security	Power-on password
	Administrator's password

Standard Features

Warranty

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

NOTE: Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Optional Features

HP Insight management software	HP Insight Control	HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. HP Insight Control also supports Location and Power Discovery Services to automate many configuration, asset tracking, and power management tasks to speed implementation and prevent downtime. For more information, see http://www.hp.com/go/insightcontrol.

HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, see: http://www.hp.com/services/insight. |
| | HP iLO Essentials | HP iLO Essentials license ideal for small and medium business customers. The specially created HP iLO Essentials (a subset of iLO Advanced functionality) saves SMB customers time and money, by ease of remote server set up through the interactive virtual media, lowering operational costs with remote access via the Integrated Remote Console, and faster time to resolution with email-based proactive notifications. With this newly designed HP iLO Essentials license SMB customers now have the option of a server management package solely design and priced just right for their IT environments. HP iLO Essentials is available on all HP ProLiant Gen8 e-series making this an ideal solution for small business owners. For more information, see: http://www.hp.com/go/iLO/essentials |
| | HP iLO Advanced | HP Integrated Lights-Out Advanced License a product option, providing smart remote server management without compromise. iLO Advanced unlocks the full set of remote administration functionality for all HP ProLiant servers by activating the full Virtual Keyboard Video and Mouse remote console, multi-user collaboration, console record and replay, GUI-based and scripted virtual media and virtual folders, and enhanced security and power management functionality. For more information, see: http://www.hp.com/go/iloadvanced |

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,

●

Optional Features

testing, application development and reporting.
- **Storage Device Management Software**
  Maximize your investment in HP storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HP StoreVirtual VSA**
  With HP StoreVirtual VSA you can use the power of virtualization to turn a set of heterogeneous and disconnected physical disk drives in your servers and storage devices into a single pool of logical storage capacity.

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

HP Insight Online	HP Insight Online is a new addition to the HP Support Center for one stop, secure access to product and HP support information personalized to your IT environment. Insight Online can automatically display devices remotely monitored by HP Insight Remote Support. With Insight Online's easy navigation you can efficiently track your IT support contracts and device status from anywhere and at anytime. http://www.hp.com/go/insightonline
HP Proactive Insight experience	Prevent problems with innovative, automated monitoring tools and proactive services. The HP Proactive Insight experience consist of using Insight Online, Insight Remote Support, and Proactive Care Support Service as one integrated solution. The Proactive Insight experience provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit: http://www.hp.com/go/proactiveinsightexperience
Factory Express Portfolio for Servers and Storage	HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches. For more information on Factory Express services for your specific server model please contact your sales representative or go to: http://www.hp.com/go/factory-express.
HP Simple Configurator	SCE is a guided self service tool to help sales and non technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator

Service and Support

Service and Support	**HP Technology Services for Industry Standard Servers and BladeSystem** HP Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HP to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time. **Protect your business beyond warranty with HP Care Pack Services** HP Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.
Optimized Care	**Supports maintaining servers at optimum performance availability** **HP Proactive Care with 24x7 coverage, three year Care Pack Service** HP Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to HP. This Care Pack Service combines three years' proactive reporting and advice with our 24x7 coverage and enhanced escalation management, four hour hardware response time and two hour call back for software questions on leading industry standard software running on your HP ProLiant server. http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf
Standard Care	**Supports maintaining high level of server availability** **Foundation Care 24x7, three-year Care Pack Service** HP Foundation Care 24x7 connects you to HP 24 hours a day, seven days a week for assistance on resolving issues. Hardware onsite response within four hours if needed; collaborative software included in this Care Pack service provides troubleshooting assistance on industry leading software running on your HP server. Simplify your support experience and make HP your first call for hardware or software questions. http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

Service and Support

Related Services	**HP ProLiant Server Hardware Installation**
	Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.
	http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf
	Factory Express for Servers and storage
	HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. For more information on Factory Express services for your specific server model please contact your sales representative or go to:
	http://www.hp.com/go/factory-express.
	Data Privacy Services
	Protect your data through better media management. HP Data privacy services help manage and protect sensitive data to reduce the risk of unauthorized access to private information and help meet compliance requirements. Our retention services allow you to keep drives and other devices upon failure, our removal services provide convenient data sanitization and our recovery services allow you to safely retire IT assets and capture any remaining value from the hardware.
	http://www.hp.com/services/dataprivacy
	Additional HP Care Pack services can be found at: http://www.hp.com/go/cpc

Get connected to HP to improve your support experience	Connecting products to HP will help prevent problems with 24x7monitoring, prefailure alerts, automatic call logging, and parts dispatch. With Connected products, you can have a dashboard to manage your IT anywhere, anytime, from any device.

HP Support Center	Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more http://www.hp.com/go/hpsc
	HP's Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.
	*HP' Support Center Mobile App is subject to local availability

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.
	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.

Service and Support

For more information   To learn more on HP ProLiant servers and HP BladeSystem servers, please contact your HP sales representative or HP Authorized Channel Partner. Or visit:
http://www.hp.com/services/proliant

Pre-configured Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.
NOTE: Maximum speed supported depends on the CPU installed. Entry model will support maximum speed of 1600 MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: http://www.hp.com/go/ddr3memory-configurator.
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 Gen8 Hard Drive Blank Kit or P/N 666986-B21: HP LFF Gen8 Hard Drive Blank Kit.
NOTE: Not all models are available in all regions. Check with your local country HP offices for availability.

Entry Models

HP ProLiant DL320e Gen8 v2 G3240 1P 2GB-U Non-hot Plug 2 LFF Entry Server 768638-xx1	**Processor(s)**	(1) Intel®Pentium®G3240 (3.1 GHz/2-core/3MB/54W) Processor
	Cache Memory	8MB (1x8MB) Level3
	Memory	2GB (1 x 2GB) Unbuffered DIMMs PC3-12800E (1600MHz)
	Network Controller	HP Ethernet 1Gb 2-port NC332i Adapter
	Storage Controller	HP Dynamic Smart Array B120i Controller **NOTE:** B120i has the following performance with regards to drive speed: 6Gb/s - in 2LFF and 4SFF only with port 0 & 1 installed; 3Gb/s - in 4SFF with more than 2 drives installed. For full 6 Gb.0/s speed a stand up card/smart array controller must be used. **NOTE:** B120i supports RAID 0/1/10 only. It does not have FBWC support so cannot support advanced RAID (5 onwards). For FBWC, a standup Smart Array Controller card must be configured.
	Hard Drive	None ship standard
	Internal Storage	2 bay LFF Non Hot Plug Drive Cage; includes 2LFF Hard Drive blanks
	Optical Drive Bay	None ships standard
	PCI-Express Slots	1 PCIe3 x16 and 1 PCIe3 x8
	Power Supply	250 Watts Non-Hot Plug, Non redundant Power Supply for all regions
	Fans	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
	Management	HP iLO Management Engine (standard) Optional: HP iLO Essentials or HP Insight Control
	Form Factor	1U
	Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. **NOTE:** No rail kits are included with the server. They must be ordered separately.

Pre-configured Models

HP ProLiant DL320e Gen8 v2 G3220 1P 2GB-U NHP 2 LFF Server 743490-xx1	**Processor(s)**	(1) Intel®Pentium®G3220 (3.0 GHz/2-core/3MB/54W) Processor
	Cache Memory	8MB (1x8MB) Level3
	Memory	2GB (1 x 2GB) Unbuffered DIMMs PC3-12800E (1600MHz)
	Network Controller	HP Ethernet 1Gb 2-port NC332i Adapter
	Storage Controller	HP Dynamic Smart Array B120i Controller **NOTE:** B120i has the following performance with regards to drive speed: 6Gb/s - in 2LFF and 4SFF only with port 0 & 1 installed; 3Gb/s - in 4SFF with more than 2 drives installed. For full 6 Gb.0/s speed a stand up card/smart array controller must be used. **NOTE:** B120i supports RAID 0/1/10 only. It does not have FBWC support so cannot support advanced RAID (5 onwards). For FBWC, a standup Smart Array Controller card must be configured.
	Hard Drive	None ship standard
	Internal Storage	2 bay LFF Non Hot Plug Drive Cage; includes 2LFF Hard Drive blanks
	Optical Drive Bay	None ships standard
	PCI-Express Slots	1 PCIe3 x16 and 1 PCIe3 x8
	Power Supply	250 Watts Non-Hot Plug, Non redundant Power Supply for all regions
	Fans	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
	Management	HP iLO Management Engine (standard) Optional: HP iLO Essentials or HP Insight Control
	Form Factor	1U
	Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. **NOTE:** No rail kits are included with the server. They must be ordered separately.

Base Models

HP ProLiant DL320e Gen8 v2 E3-1220v3 1P 4GB-U B120i Server 717170-xx1	**Processor(s)**	(1) Intel®Xeon®E3-1220v3 (3.1GHz/4-core/8MB/80W, HT) Processor
	Cache Memory	8MB (1x8MB) Level3
	Memory	4GB (1 x 4GB) Unbuffered DIMMs PC3-12800E (1600MHz)
	Network Controller	HP Ethernet 1Gb 2-port NC332i Adapter
	Storage Controller	HP Dynamic Smart Array B120i Controller **NOTE:** B120i has the following performance with regards to drive speed: **6Gb/s** - in 2LFF and 4SFF only with port 0 & 1 installed; **3Gb/s** - in 4SFF with more than 2 drives installed. For full 6 Gb.0/s speed a stand up card/smart array controller must be used. **NOTE:** B120i supports RAID 0/1/10 only. It does not have FBWC support so cannot support advanced RAID (5 onwards). For FBWC, a standup Smart Array Controller card must be configured.
	Hard Drive	None ship standard
	Internal Storage	2 bay LFF Hot Plug Drive Cage; includes 1 LFF hard drive blank
	Optical Drive Bay	None ships standard
	PCI-Express Slots	1 PCIe3 x16 and 1 PCIe3 x8
	Power Supply	250 Watts Non-Hot Plug, Non redundant Power Supply for all regions
	Fans	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
	Management	HP iLO Management Engine (standard) Optional: HP iLO Essentials or HP Insight Control

Pre-configured Models

Form Factor	1U	
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response.	
	NOTE: No rail kits are included with the server. They must be ordered separately.	

Performance Models

HP ProLiant DL320e Gen8 v2 E3-1241v3 1P 8GB-U P222 Hot Plug 4 SFF Perf Svr
768645-xx1

Processor(s)	(1) Intel®Xeon®E3-1241v3 (3.5GHz/4-core/8MB/80W, HT) Processor
Cache Memory	8MB (1x8MB) Level3
Memory	8GB (1 x 8GB) Unbuffered DIMMs PC3-12800E (1600MHz)
Network Controller	HP Ethernet 1Gb 2-port NC332i Adapter
Storage Controller	HP Smart Array P222/512MB FBWC Controller
Hard Drive	None ship standard
Internal Storage	4 bay SFF Hot Plug Drive Cage; includes 3 SFF hard drive blanks
Optical Drive Bay	None ships standard
PCI-Express Slots	1 PCIe3 x16 and 1 PCIe3 x8
Power Supply	250 Watts Non-Hot Plug, Non redundant Power Supply for all regions
Fans	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
Management	HP iLO Management Engine (standard) Optional: HP iLO Essentials or HP Insight Control
Form Factor	1U
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. **NOTE:** No rail kits are included with the server. They must be ordered separately.

HP ProLiant DL320e Gen8 v2 E3-1240v3 1P 8GB-U P222 Server
722547-xx1

Processor(s)	(1) Intel®Xeon®E3-1240v3 (3.4GHz/4-core/8MB/80W, HT) Processor
Cache Memory	8MB (1x8MB) Level3
Memory	8GB (1 x 8GB) Unbuffered DIMMs PC3-12800E (1600MHz)
Network Controller	HP Ethernet 1Gb 2-port NC332i Adapter
Storage Controller	HP Smart Array P222/512MB FBWC Controller
Hard Drive	None ship standard
Internal Storage	4 bay SFF Hot Plug Drive Cage; includes 3 SFF hard drive blanks
Optical Drive Bay	None ships standard
PCI-Express Slots	1 PCIe3 x16 and 1 PCIe3 x8
Power Supply	250 Watts Non-Hot Plug, Non redundant Power Supply for all regions
Fans	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
Management	HP iLO Management Engine (standard) Optional: HP iLO Essentials or HP Insight Control
Form Factor	1U
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. **NOTE:** No rail kits are included with the server. They must be ordered separately.

Pre-configured Models

Country Code Key	xx = 00	U.S.
	xx = 20	Brazil
	xx = 29	Japan
	xx = 37	APD
	xx = 42	Europe
	xx = AA	PRC

Configuration Information - Factory Integrated Models

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.

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

HP Models	HP ProLiant DL320e Gen8 v2 Non-hot Plug 2 LFF Configure-to-order Server	722313-B21

Factory Integrated Model ships with:

1U Chassis with 2 LFF Non-Hot Plug Drive Cage
HP Ethernet 1Gb 2-port NC332i Adapter
HP iLO Management Engine (standard)
HP 250W power supply
NOTE: The default power supply for DL320e Gen8 v2 server is either a 250W Non Hot Plug, Non Redundant (ATX) power supply for all regions.
HP Dynamic Smart Array B120i SATA Controller (RAID 0/1/10)
NOTE: For set up instructions for HP Dynamic Smart Array B120i SATA Controller please refer to the HP ProLiant DL300 series server user guide
NOTE: For general information about HP Dynamic Smart Array B120i SATA Controller, please visit:
http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb120i/index.html

HP ProLiant DL320e Gen8 v2 Hot Plug 2 LFF Configure-to-order Server	722314-B21

Factory Integrated Model ships with:

1U Chassis with 2 LFF Hot Plug Drive Cage
HP Ethernet 1Gb 2-port NC332i Adapter
HP iLO Management Engine (standard)
HP Dynamic Smart Array B120i SATA Controller (RAID 0/1/10)
NOTE: For set up instructions for HP Dynamic Smart Array B120i SATA Controller please refer to the HP ProLiant DL300 series server user guide
NOTE: For general information about HP Dynamic Smart Array B120i SATA Controller, please visit:
http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb120i/index.html

HP ProLiant DL320e Gen8 v2 Hot Plug 4 SFF Configure-to-order Server	722315-B21

Factory Integrated Model ships with:

1U Chassis with 4 SFF Hot plug Drive Cage
HP Ethernet 1Gb 2-port NC332i Adapter
HP iLO Management Engine (standard)
HP Dynamic Smart Array B120i SATA Controller (RAID 0/1/10)
NOTE: For set up instructions for HP Dynamic Smart Array B120i SATA Controller please refer to the HP ProLiant DL300 series server user guide
NOTE: For general information about HP Dynamic Smart Array B120i SATA Controller, please visit:
http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb120i/index.html

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

Configuration Information - Factory Integrated Models

HP Processors	**Entry Processors**	
	NOTE: G3220 supports up to 1333MHz DDR3 memory speeds. G3420 supports up to 1600MHz DDR3 memory speeds.	
	HP DL320e Gen8 v2 Intel®Pentium®G3420 (3.2GHz/2-core/3MB/54W) FIO Processor Kit	741419-L21
	Base Processors	
	NOTE: All support up to 1600MHz memory speeds.	
	HP DL320e Gen8 v2 Intel®Core ™ i3-4130T (2.9GHz/2-core/3MB/35W) FIO Processor Kit	741415-L21
	HP DL320e Gen8 v2 Intel®Core ™ i3-4150 (3.5GHz/2-core/3MB/54W) FIO Processor Kit	768916-L21
	Performance Processors	
	NOTE: All support up to 1600MHz DDR3 memory speeds.	
	HP DL320e Gen8 v2 Intel®Xeon®E3-1281v3 (3.7GHz/4-core/8MB/82W) FIO Processor Kit	768917-L21
	HP DL320e Gen8 v2 Intel®Xeon®E3-1271v3 (3. 6GHz/4-core/8MB/80W) FIO Processor Kit	768918-L21
	HP DL320e Gen8 v2 Intel®Xeon®E3-1241v3 (3. 5GHz/4-core/8MB/80W) FIO Processor Kit	768914-L21
	HP DL320e Gen8 v2 Intel®Xeon®E3-1231v3 (3. 4GHz/4-core/8MB/80W) FIO Processor Kit	768915-L21
	HP DL320e Gen8 v2 Intel®Xeon®E3-1230Lv3 (1.8GHz/4-core/8MB/25W) FIO Processor Kit	741411-L21
	HP DL320e Gen8 v2 Intel®Xeon®E3-1220v3 (3.1GHz/4-core/8MB/80W) FIO Processor Kit	718257-L21
	HP DL320e Gen8 v2 Intel®Xeon®E3-1265Lv3 (2.5GHz/4-core/8MB/45W) FIO Processor Kit	718261-L21
HP Memory	**NOTE:** 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_div/14225_div.html (Worldwide)	
	NOTE: HP memory from previous generation servers are not fully compatible with new Active Health features on the DL320e Gen8 v2 Server.	
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713975-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713977-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713979-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
	HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647905-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647907-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21

Configuration Information - Factory Integrated Models

	HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647909-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: http://www.hp.com/go/ddr3memory-configurator. **NOTE:** Depending on the memory configuration and processor model, 1600MHz and 1333MHz memory may operate at a lower speed. Please see the see the "Memory" section later in this document and the Online Memory Configuration Tool for details at http://www.hp.com/go/ddr3memory-configurator. **NOTE:** For additional memory rules and guidelines, see the "Memory" section later in this document. **NOTE:** For more information on ProLiant Energy Efficient Features, see: http://www.hp.com/go/proliant-energy-efficient **NOTE:** PC3L is a low voltage memory.	
HP Power Supplies	**NOTE:** Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: http://www.hp.com/go/hppoweradvisor.	
	HP DL320e Gen8 v2 250W FIO Power Supply Unit Kit	748334-B21
	NOTE: Non redundant Power Supply for all regions	
	HP 750W Common Slot -48VDC Hot Plug Power Supply Kit **NOTE:** Selecting the 750W power supply requires the HP DL320e Gen8 v2 CS FIO Enablement Kit	636673-B21

Step 3: Choose Additional Factory Integratable Options

HP USB Cable Kit	HP Gen8 FIO Internal USB Kit **NOTE:** Required only if USB Flash Media Drive Key is selected.	662961-B21
HP Security	HP DL320eGen8 v2 Entry Rack Ear FIO Kit **NOTE:** DL320e Gen8 v2 ships with thumbscrew ear attachments (BTO and CTO) as standard. The Entry Rack Ear FIO Kit is a Quick Release Ear kit, it also needs to be purchased if you want to have a security bezel installed. HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License. **NOTE:** For more rail kit options see "Additional Options" section of this QuickSpecs.	723903-B21
HP Insight Software	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 **NOTE:** The Electronic software license is available in EMEA only.	C6N36ABE
Converged Infrastructure Management Software	**HP OneView with iLO Advanced - Server hardware required on same purchase order**	
	HP OneView for ProLiant DL Server incl 3yr 24x7 Supp FIO Bundle Physical 1 Svr Lic	E5Y43A

Configuration Information - Factory Integrated Models

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Core Options" and "Additional Options" section 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.

HP Memory		
	NOTE: 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_div/14225_div.html (Worldwide)	
	NOTE: HP memory from previous generation servers are not fully compatible with SmartMemory features in Gen8 Servers.	
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713975-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713977-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713979-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
	HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647905-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647907-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647909-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: http://www.hp.com/go/ddr3memory-configurator.	
	NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: http://www.hp.com/go/proliant-energy-efficient.	
	NOTE: PC3L is a low voltage memory.	

HP Optical Drives	HP 9.5mm SATA DVD-RW JackBlack Optical Drive	652241-B21

HP Hard Drives		
	NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.	
	NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.	
	12G SAS Hot Plug SmartDrive LFF (3.5-inch) Converter Enterprise Drives	

Core Options

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
12G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives	
HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759212-B21
HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759210-B21
HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759208-B21
12G SAS Hot Plug SFF (2.5-inch) Enterprise Drives	
HP 1.2TB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	781518-B21
HP 900GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	785069-B21
HP 600GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	781516-B21
HP 300GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	785067-B21
12G SAS Hot Plug SFF (2.5-inch) SC 512e Drives	
HP 2TB 12G SAS 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive	765466-B21
HP 1TB 12G SAS 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive	765464-B21
HP 1.8TB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 512e 3yr Warranty Hard Drive	791034-B21
12G SAS Hot Plug LFF (3.5-inch) SC HDD	
HP 8TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive	793703-B21
HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive	793699-B21
12G SAS Hot Plug LFF (3.5-inch) Midline (MDL) 512e Drives	
HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765259-B21
HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765257-B21
12G SAS Hot Plug LFF (3.5-inch) SC 512e Performance Drives	
HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive	793671-B21
HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive	793669-B21
6G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise 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 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652583-B21

Core Options

HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652572-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652564-B21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652611-B21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652605-B21

6G SAS Hot Plug SmartDrive SFF (2.5-inch) Midline 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

6G SAS Hot Plug SmartDrive LFF (3.5-inch) Midline Drives

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

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide)

6G SATA Hot Plug with SmartDrive 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

6G SATA Hot Plug LFF (3.5-inch) SC 512e Performance Drives

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

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline (MDL) Drives

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

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

HP 2TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive	765455-B21
HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive	765453-B21

6G SATA Hot Plug LFF (3.5-inch) Midline (MDL) 512e Drives

HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765255-B21
HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765253-B21

6G SATA Hot Plug LFF (3.5-inch) SC HDD

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

Core Options

6G SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	628065-B21
HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659339-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659337-B21
HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659341-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html (Worldwide)

12G SAS High Endurance Hot Plug SFF (2.5-inch) Enterprise Performance Solid State Drives

HP 400GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3yr Wty Solid State Drive	741155-B21

NOTE: This drive supports Gen8 servers only.

12G SAS Mainstream Endurance Hot Plug SFF (2.5-inch) Enterprise Mainstream H2 Solid State Drives

HP 1.6TB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive	779176-B21
HP 400GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive	779168-B21
HP 200GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive	779164-B21

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

HP 400GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive	802582-B21
HP 200GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive	802578-B21

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

HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive	718171-B21
HP 80GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive	734362-B21

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

HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive	717965-B21
HP 80GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive	734360-B21

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

HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717971-B21
HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717969-B21

6G SATA Value Endurance Hot Plug LFF (3.5-inch) SCC EV Solid State Drives

HP 600GB 6G SATA Value Endurance LFF 3.5-in SC Conveter Enterprise Value 3yr Wty Solid State Drive	739900-B21

Core Options

HP 300GB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive	739890-B21
6G SATA Value Endurance Hot Plug SFF (2.5-inch) SC EV Solid State Drives	
HP 600GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	739898-B21
HP 300GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	739888-B21
6G SATA Hot Plug LFF Value Endurance (3.5-inch) Converter Enterprise Value G1 Solid State Drives	
HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756660-B21
HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756639-B21
HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756624-B21
6G SATA Hot Plug LFF Value Endurance (3.5-inch) SCC Enterprise Value Solid State Drives	
HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive	757342-B21
6G SATA Hot Plug SFF Value Endurance (2.5-inch) SC Enterprise Value Solid State Drives	
HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	757339-B21
6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Value G1 Solid State Drives	
HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive	756657-B21
HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive	756636-B21
HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive	756621-B21
6G SATA Value Endurance Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives	
HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	718183-B21
HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	718177-B21
6G SATA Hot Plug SFF Light Endurance (2.5-inch) Enterprise Light G1 Solid State Drives	
HP 960GB 6G SATA Light Endurance SFF 2.5-in SC Enterprise Light 3yr Wty G1 Solid State Drive	756601-B21
6G SATA Hot Plug LFF Light Endurance (3.5-inch) Enterprise Light G1 Solid State Drives	
HP 960GB 6G SATA Light Endurance LFF 3.5-in SC Converter ENT Light 3yr Wty G1 Solid State Drive	756604-B21
6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value M1 Solid State Drive	
HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive	764927-B21
HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive	764925-B21

Core Options

HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive	764923-B21
6G SATA Mainstream Endurance Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives	
HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691868-B21
HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691866-B21
HP 200GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691864-B21
HP 100GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691862-B21
6G SATA Mainstream Endurance Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives	
HP 800GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691860-B21
HP 400GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691856-B21
HP 200GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691854-B21
HP 100GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691852-B21
6G SATA Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives	
HP 960GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive	789155-B21
HP 480GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive	789145-B21
HP 240GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive	789135-B21
6G SATA Hot Plug LFF (3.5-inch) SC Read Intensive Solid State Drives	
HP 960GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive	789157-B21
HP 480GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive	789147-B21
HP 240GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive	789137-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/14038_div/14038_div.html (Worldwide)

Hard Drive Kits
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: The part numbers for single HDD blanks below are provided should the customer require replacement HDD blanks for their server.
NOTE: The mixing of standard SAS drives with SAS SSD drives is supported within the server, but limits the RAID configuration to two separate RAID 0 volumes. Mixing of other drives types is not supported.

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

Core Options

HP Networking	**Gigabit Ethernet Adapters**	
	HP NC112T PCI Express Gigabit Server Adapter	503746-B21
	HP NC365T 4-port Ethernet Server Adapter	593722-B21
	HP Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HP Ethernet 1Gb 2-port 361T Adapter	652497-B21

10 Gigabit Ethernet Adapters
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.

HP NC523SFP 10Gb 2-port Server Adapter	593717-B21
HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21
HP Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21

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

Switches

HP PS1810-24G Switch	J9834A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18004.www1.hp.com/products/quickspecs/14586_div/14586_div.html (Worldwide)

Additional Options

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

HP Insight 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
	NOTE: The Electronic software license is available in EMEA only.	
	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_div/12631_div.html

HP Integrated Lights-Out (iLO)

HP Integrated Lights-Out (iLO) Advanced for ProLiant

HP iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU		E6U59ABE
NOTE: The Electronic software license is available in EMEA only.		
HP iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU		E6U64ABE
NOTE: The Electronic software license is available in EMEA only.		
HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License		512485-B21
HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates		BD505A

HP iLO Essentials

HP Integrated Lights-Out Essentials including 3yr 24x7 Technical Support and Updates E-LTU		E6U61ABE
NOTE: The Electronic software license is available in EMEA only.		
HP Integrated Lights-Out Essentials including 1yr 24x7 Technical Support and Updates E-LTU		E6U62ABE
NOTE: The Electronic software license is available in EMEA only.		
HP Integrated Lights-Out Essentials including 3yr 24x7 Tech Support and Updates Single Svr License		BD774A
HP Integrated Lights-Out Essentials including 1yr 24x7 Tech Support and Updates Single Svr License		BD775A

NOTE: For additional license options please see the QuickSpecs at:
http://h18004.www1.hp.com/products/quickspecs/14276_div/14276_div.html
NOTE: For more information, visit: http://www.hp.com/go/ilo.

Additional Options

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

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/14621_div/14621_div.html (Worldwide)

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

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

HP Insight Cluster Management Utility Media	BD477A

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

HP Security	HP Trusted Platform Module Option	488069-B21

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

HP 1U Security Bezel Kit	664918-B21

NOTE: The Entry Rack Ear FIO Kit (P/N: 723903-B21) needs to be purchased if a security bezel is installed

Additional Options

HP Storage Controllers | **SAS Controllers**

Smart Array P222 Controller

HP Smart Array P222/512 FBWC 6Gb 1-port Int/1-port Ext SAS Controller	631667-B21

Smart Array P421 Controller

HP Smart Array P421/1GB FBWC 6Gb 2-ports Ext SAS Controller	631673-B21
HP Smart Array P421/2GB FBWC 6Gb 2-ports Ext SAS Controller	631674-B21

Smart Array P431 Controller

HP Smart Array P431/4GB FBWC 12Gb 2-ports Ext SAS Controller	698532-B21
HP Smart Array P431/2GB FBWC 12Gb 2-ports Ext SAS Controller	698531-B21

Optional Upgrades

HP SmartCache No Media 24x7 Technical Support 1 Svr License	D7S26A
HP SmartCache No Media 24x7 Technical Support Flexible License	D7S27A
HP SmartCache No Media 24x7 Technical Support Electronic License	D7S27AAE

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/14227_div/14227_div.html (Smart Array P222 Controller)
http://h18000.www1.hp.com/products/quickspecs/14229_div/14229_div.html (Smart Array P421 Controller)
http://h18000.www1.hp.com/products/quickspecs/14625_div/14625_div.html (Smart Array P431 Controller)

Host Bus Adapter

HP H221 PCIe 3.0 SAS Host Bus Adapter	729552-B21
HP H222 Host Bus Adapter	650926-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html (HBA 221)
http://h18004.www1.hp.com/products/quickspecs/14337_div/14337_div.html (HBA 222)

HP Networking Switches

HP PS1810-24G Switch	J9834A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18004.www1.hp.com/products/quickspecs/14586_div/14586_div.html (Worldwide)

Additional Options

HP Tape Backup	**NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: http://www.hp.com/go/tape. For hardware and software compatibility of HP tape backup products see: http://www.hp.com/storage/SPOCK and http://www.hp.com/go/ebs. **NOTE:** For Internal drives to be connected to DL servers please make sure that you order rack mount kit as well.	
	HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit	C0L99A
	HP StoreEver LTO-6 Ultrium 6650 SAS Internal Tape Drive	EH963A
	HP StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive	EH964A
	HP StoreEver LTO-6 Ultrium 6250 Internal Tape Drive	EH969A
	HP StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
	HP StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader	C0H19A
HP Tape Storage Systems	**HP StoreEver MSL6480** HP StoreEver MSL6480 Scalable Base Module	QU625A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/14604_div/14604_div.html (Worldwide)	
HP Disk Backup	**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.	
	HP RDX Removable Disk Backup System	
	HP RDX320 USB3.0 External Disk Backup System	B7B63A
	HP RDX500 USB3.0 Internal Disk Backup System	B7B64A
	HP RDX500 USB 3.0 External Disk Backup System	B7B66A
	HP RDX1000 USB3.0 Internal Disk Backup System	B7B67A
	HP RDX1000 USB 3.0 External Disk Backup System	B7B69A
	NOTE: Please see the QuickSpecs for additional part numbers, Technical Specifications, and additional information: http://h18000.www1.hp.com/products/quickspecs/13036_div/13036_div.html (Worldwide)	
HP Disk Storage Systems	**Disk Enclosures**	
	HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle	E7W32A
	HP D2600 Disk Enclosure	AJ940A
	HP D2700 Disk Enclosure	AJ941A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.html (Worldwide)	
HP Uninterruptible	**HP DirectFlow Three Phase UPS**	

Additional Options

Power Systems	**Power Unit (1U UPS)**	
	NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.	
	HP R12000 DirectFlow - 1U Rackmount Uninterruptible Power System	G9Y75A
	HP R12000 DirectFlow - POD 1U Rackmount Uninterruptible Power System	AF478A
	Input/Output Module Options for 1U UPS	
	NOTE: Choose one I/O Module per UPS.	
	NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.	
	HP 32A 400-415 Volt Three Phase INTL R12000 DirectFlow UPS IEC309 Input/Output Module	AF488A
	HP 30A 400-415 Volt Three Phase NA R10000 DirectFlow UPS IEC309 Input/Output Module	AF489A
	HP 32A 380 Volt Three Phase China R12000 DirectFlow UPS Unterminated Input/Output Module	AF490A
	HP 30A 480 Volt Three Phase NA R12000 DirectFlow UPS L22-30 Input/Output Module	AF491A
	HP 30A 480 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module	AF492A
	HP 30A 400-415 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module	G9Y76A
	NOTE: All Input/Output Modules support dual output outlets except the AF484A.	
	Power Unit (2U UPS)	
	NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.	
	HP R18000 DirectFlow - 2U Rackmount Uninterruptible Power System	AF479A
	Input/Output Module Options for 2U UPS	
	NOTE: Choose one I/O Module per UPS.	
	NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.	
	HP 32A 400-415 Volt Three Phase INTL R18000 DirectFlow UPS IEC309 Input/Output Module	AF483A
	HP 30A 380 Volt Three Phase China R18000 DirectFlow UPS Unterminated Input/Output Module	AF485A
	HP 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	AF486A
	HP 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	AF487A
	HP 30A 400 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	D9Q02A
	HP 30A 400-415V Three Phase NA R18000 DirectFlow UPS 1:1 IEC309 Input/Output Module	AF484A
	NOTE: All Input/Output Modules support dual output outlets except the AF484A.	
	Battery Pack Options	
	NOTE: Choose up to two Battery Packs per UPS (must be the same).	
	NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.	
	HP DirectFlow UPS - 1U Rackmount Lithium-ion Battery Pack	AF480A
	HP DirectFlow UPS - 3U Rackmount VRLA Battery Pack	AF482A

Additional Options

NOTE: Please see the QuickSpecs for additional information:
http://www8.hp.com/h20195/v2/GetHtml.aspx?docname=c04376695
(Worldwide)

HP Rack/Tower UPS

HP R/T2200 G4 UPS Models

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

HP R/T3000 G4 UPS Models

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

HP Rack Models

R1500 G4 Models

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

R7000

HP R7000 4U 50A High Voltage NA/JP Uninterruptible Power System	AF462A

R5000

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

NOTE: Please see the QuickSpecs for additional information:
http://www8.hp.com/h20195/v2/GetHtml.aspx?docname=c04154342
(Worldwide)

NOTE: For additional information on HP Uninterruptible Power Systems please
go to: http://www.hp.com/servers/rackups.

NOTE: For additional information on sizing your HP UPS, please reference:
http://www.upssizer.com

NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection
and Management page. Under Power Cords, click on the "HP Power Cord
Matrix" link. That link will list cable descriptions, requirements, and specifications
for UPS and PDU units. Please see the following link:
http://www.hp.com/products/powercords.

QuickSpecs

Additional Options

HP Basic Power Distribution Units (bPDU)	**HP Basic Power Distribution Unit: 1U/0U Version**	
	HP 1.9kVA 120 Volt L5-20 Input (12xNEMA 5-20R) NA/JP Basic PDU	H5M54A
	HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Basic PDU	H5M56A
	HP Basic Power Distribution Unit: Half Height Version	
	HP 2.8kVA 120 Volt L5-30 Input (18xNEMA 5-20R) NA/JP Basic PDU	H5M55A
	HP 3.6kVA 200-240 Volt Detachable C20 Input (18xC13) WW Basic PDU	H5M57A
	HP 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU	H5M58A
	HP 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU	H5M68A
	HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13) NA/JP Basic PDU	H5M61A
	HP Basic Power Distribution Unit: Mid Height Version	
	HP 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU	H5M59A
	HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU	H5M70A
	HP 8.3kVA 208 Volt CS8265C Input (30xC13/6xC19) NA/JP Basic PDU	H5M60A
	HP 11kVA 230 Volt IEC309 63A Input (30xC13/6xC19) INTL Basic PDU	H5M71A
	HP Hardwired 200-240 Volt Input (30xC13/6xC19) WW Basic PDU	H5M75A
	HP 5.7kVA 208 Volt L21-20 3-Phase Input (24xC13/3xNEMA 5-20R) NA/JP Basic PDU	H5M63A
	HP 8.6kVA 208 Volt L21-30 3-Phase Input (24xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU	H5M64A
	HP 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU	H5M62A
	HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/6xC19) INTL Basic PDU	H5M72A
	HP Basic Power Distribution Unit: Full Height Version	
	HP 11kVA 400 Volt IEC309 16A 3-Phase Input (36xC13/6xC19) INTL Basic PDU	H5M73A
	HP 11kVA 400 Volt IEC309 30A 3-Phase Input (36xC13/6xC19) NA Basic PDU	H5M67A
	HP Basic Power Distribution Unit: 480/277 Volt Version	
	HP 19.9kVA 480 Volt IEC309 30A 3-Phase Input (30 Outlet) NA Basic PDU	H3X08A
	HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14669_div/14669_div.html (Worldwide)	

Additional Options

HP Remote Monitored Power Distribution Units (mPDU)	**HP Remote Monitored Power Distribution Unit: 1U Version**	
	HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU	D9N43A
	HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Monitored PDU	D9N46A
	HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU	D9N44A
	HP Remote Monitored Power Distribution Unit: Half Height Version	
	HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU	D9N45A
	HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU	G9Z05A
	HP 7.3kVA 230 Volt IEC309 32A Input (12xC13) INTL Monitored PDU	G9Z06A
	HP Remote Monitored Power Distribution Unit: Mid Height Version	
	HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU	D9N47A
	HP 7.3kVA 230 Volt IEC309 32A Input (20xC13/4xC19) INTL Monitored PDU	D9N48A
	HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13/3xC19) NA/JP Monitored PDU	D9N51A
	HP 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU	D9N52A
	HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU	D9N53A
	HP 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU	D9N55A
	HP Remote Monitored Power Distribution Unit: Full Height Version	
	HP 8.3kVA 208 Volt CS8265C Input (30xC13/3xC19) NA Monitored PDU	D9N49A
	HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU	D9N50A
	HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU	D9N57A
	HP 14.4kVA 208 Volt CS8365C 3-Phase Input (12xC13/12xC19)NA Monitored PDU	D9N58A
	HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (30xC13/3xC19) NA Monitored PDU	D9N61A
	HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU	D9N54A
	HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU	D9N59A
	HP 22kVA 400 Volt IEC309 32A 3-Phase Input (12xC13/12xC19) INTL Monitored PDU	D9N60A
	HP 22kVA 400 Volt IEC309 32A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU	D9N56A
	HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (12xC13/12xC19) NA Monitored PDU	D9N62A
	HP 19.9kVA 480 Volt 3-Phase (30 Outlet) NA Monitored PDU	D9N63A
	HP Environmental Sensor for Remote Monitored PDUs	
	HP Environmental Sensor for Remote Monitored and Managed PDUs	E2D53A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14669_div/14669_div.html (Worldwide)	

HP Intelligent Power Distribution Units (iPDU)	**iPDU Core Units**	
	HP 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF520A

Additional Options

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 14.4kVA 40A Three Phase NA/JP Intelligent Modular Power Distribution Unit	AF533A
HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF523A
HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit	AF525A
HP 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit	AF526A
HP 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit	AF527A
HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF535A
HP 17.3kVA 24A 415V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF537A
HP 22kVA 32A 400V Three Phase 12 Outlet Core INTL Intelligent Power Distribution Unit	AF538A
iPDU Kits with Standard Extension Bars	
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 Intelligent Modular Power Distribution Kit	AF534A
iPDU Extension Bars	
HP 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A
HP 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A
NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13650_div/13650_div.html (Worldwide)	

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

Additional Options

HP Rack Series	**HP Intelligent Series Racks**	
	HP 636 1075mm Pallet Intelligent Rack	BW895A
	HP 636 1075mm Shock Intelligent Rack	BW896A
	HP 642 1075mm Pallet Intelligent Rack	BW903A
	HP 642 1075mm Shock Intelligent Rack	BW904A
	HP 647 1075mm Pallet Intelligent Rack	BW911A
	HP 647 1075mm Shock Intelligent Rack	BW912A

HP Rack Options	**HP LCD8500 1U Rackmount Console Kit Models**	
	HP LCD8500 1U US Rackmount Console Kit	AF630A
	HP LCD8500 1U UK Rackmount Console Kit	AF631A
	HP LCD8500 1U DE Rackmount Console Kit	AF632A
	HP LCD8500 1U FR Rackmount Console Kit	AF633A
	HP LCD8500 1U JP Rackmount Console Kit	AF642A
	HP LCD8500 1U RU Rackmount Console Kit	AF643A
	HP LCD8500 1U INTL Rackmount Console Kit	AF644A
	HP LCD8500 1U US TAA Rackmount Console Kit	AF645A
	HP LCD8500 1U Rackmount Console Kit Options	
	HP Kit LCD 1.83m Latch Display Port Cable	G7T29A
	HP Location Discovery Services LCD8500 Kit	TL052A

	HP USB Keyboard and Mouse	
	HP USB BFR with PVC Free US Keyboard/Mouse Kit	631341-B21
	HP USB BFR with PVC Free UK Keyboard/Mouse Kit	631344-B21
	HP USB BFR with PVC Free FR Keyboard/Mouse Kit	631346-B21
	HP USB BFR with PVC Free ES Keyboard/Mouse Kit	631348-B21
	HP USB BFR with PVC Free DE Keyboard/Mouse Kit	631358-B21
	HP USB BFR with PVC Free JP Keyboard/Mouse Kit	631360-B21
	HP USB BFR with PVC Free IT Keyboard/Mouse Kit	631362-B21
	HP USB BFR with PVC Free CN Keyboard/Mouse Kit	631364-B21
	HP USB BFR with PVC Free AE Keyboard/Mouse Kit	638212-B21
	HP USB BFR with PVC Free RU Keyboard/Mouse Kit	638214-B21
	HP USB BFR with PVC Free IN Keyboard/Mouse Kit	672097-D63
	HP USB BFR with PVC Free AP-Intl Keyboard/Mouse Kit	672097-373

Additional Options

HP USB BFR with PVC Free Intl Keyboard/Mouse Kit	672097-B33
HP USB BFR with PVC Free PT Keyboard/Mouse Kit	672097-133
HP USB BFR with PVC Free TR Keyboard/Mouse Kit	672097-143
HP USB BFR with PVC Free CZ Keyboard/Mouse Kit	672097-223
HP USB BFR with PVC Free FI Keyboard/Mouse Kit	672097-353
HP USB BFR with PVC Free SE Keyboard/Mouse Kit	672097-103
HP USB BFR with PVC Free CH Keyboard/Mouse Kit	672097-113
HP USB BFR with PVC Free KR Keyboard/Mouse Kit	672097-KD3

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13972_div/13972_div.html
(Worldwide)

HP Server Console Switches

HP 0x1x8 G3 KVM Console Switch	AF651A
HP 0x2x16 G3 KVM Console Switch	AF652A
HP TAA 0x2x16 G3 KVM Console Switch	AF653A
HP USB Remote Access Key for G3 KVM Console Switches	AF650A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/11834_div/11834_div.html
(Worldwide)

HP Server Console Switch G2 with Virtual Media & CAC

HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
KVM USB Cnsl Itfc Adapter 1PK ALL	336047-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13475_div/13475_div.html
(Worldwide)

HP 1x4 USB/PS2 KVM Console Switch

HP 1x4 USB/PS2 KVM Console Switch	AF611A
HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13474_div/13474_div.html
(Worldwide)

Rail Kits

HP 1U Friction Rail Kit	727604-B21
HP 1U Short Friction Rail Kit	775612-B21

Additional Options

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

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13971_div/13971_div.html (Worldwide)

HP Care Pack Services	**Proactive Care**	

NOTE: Collaborative Support plus Proactive services delivered by the onshore, local language Advanced Solution Center (ASC), end-to-end case ownership from a Technical Solution Specialists and Technical Account Manager who remotely delivers firmware/software revision management, proactive scans and incident trend reports. Recommended for customers running a virtualized infrastructure and/or customers who desire an enhanced call support experience.

HP 3 year 4 hour 24x7 ProLiant DL320e Proactive Care Service	U6F03E
HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant DL320e Proactive Care Service	U6F04E
HP 3 year 4-Hour 24x7 with Comprehensive Defective Material Retention DL320e ProactiveCare Service	U9A26E

Foundation Care

HP 3 year 24x7 DL320e Foundation Care Service	U2GH5E
HP 3 year 24x7 with Defective Media Retention DL320e Foundation Care Service	U2GH6E
HP 3 year 24x7 with Comprehensive Defective Material Retention DL320e Foundation Care Service	U2GH7E

Installation Services

NOTE: Reduce the time required to get your system up and running and help minimize disruptions to your business.

HP Installation DL320e/DL120 Service	U6F51E
HP Startup DL320e/DL120 Service	U6F53E

NOTE: For more information, customer/resellers can contact:
http://www.hp.com/services/carepack

Memory

HP SmartMemory

New HP SmartMemory now provides additional protection for your servers. With HP Authentication it can verify that you have true HP Qualified Memory in your HP ProLiant Gen8 server. With HP SmartMemory your new HP ProLiant server can take advantage of additional Gen8 enhancements in performance, durability and future manageability support through HP Active Health System

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:
http://www.hp.com/go/ddr3memory-configurator

Memory Subsystem Architecture
Intel Processor socket supports 2 channels and 2 DIMMs per channel. Total max. memory up to 32GB DDR3 PC3-12800E1600MHz.

Standard Memory Plus Optional Memory
Up to 32 GB memory is available with the optional installation of 4 x 8GB PC3-12800E UDIMM ECC DDR3 UDIMM Memory kits, operating at 1600MHz when fully populated at 2 DIMMs per Channel in 4 slots.
NOTE: The below chart does not represent all possible memory configurations.
NOTE: For best performance, it is recommended that customer installs memory in identical pairs

General Memory Population Rules and Guidelines:

- The HP ProLiant DL320e Gen8v2Server has four memory slots
- There are two channels per server with two DIMM slot per channel
- Memory channel A consists of the two (2) DIMMs that are closest to the processor
- Memory channel B consists of the two (2) DIMMs that are furthest from the processor
- Different types of processors have different types of memory support.
- Support for single/dual-rank 1333/1600 MT/s ECC UDIMM (unbuffered DIMMS)
- The server supports up to 32 GB (4 x 8-GB) for Unbuffered DIMMs
- No support for RDIMMs; Non-ECC UDIMMs
- Do not install DIMMs if the processor is not installed
- Populate DIMMs from heaviest load (double-rank) to lightest load (single-rank)
- Always use HP qualified DIMM

Farthest DIMM (either CHA or CHB) should always be populated first

Memory

The UDIMM installing sequence:

Memory		Slot			
		DIMM4C	**DIMM3A**	**DIMM2D**	**DIMM1B**
Standard (Base Model)	**4 GB**	Empty	4 GB	Empty	Empty
Standard (Performance Model)	**8 GB**	Empty	8 GB	Empty	Empty
Maximum	**32 GB**	8 GB	8 GB	8 GB	8 GB

Memory Speed by Processor Model	
Processor Models	Supported Memory Speeds
E3-1220v3, E3-1230v3, E3-1230Lv3, E3-1240v3, E3-1270v3, E3-1280v3, E3-1265Lv3, i3-4130, i3-4130T, G3420, E3-1231v3, E3-1241v3, E3-1271v3, E3-1281v3, i3-4150, G3240	1600/1333MHz
G3220	1333MHz

Following are memory options available from HP:

HP Memory

NOTE: 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_div/14225_div.html (Worldwide)

NOTE: HP memory from previous generation servers are not fully compatible with the DL320e Gen8 Server.

Unbuffered with ECC DIMMs (UDIMMs)

HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713975-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713977-B21
HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713979-B21

Unbuffered with ECC DIMMs (UDIMMs)

HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647905-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647907-B21
HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647909-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: http://www.hp.com/go/ddr3memory-configurator.
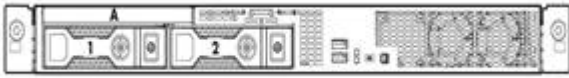
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: http://www.hp.com/go/proliant-energy-

Memory

efficient.
NOTE: PC3L is a low voltage memory.

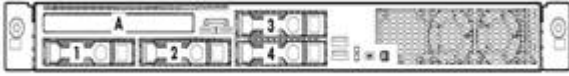## Storage

1 - 2   2 x 3.5" (LFF) SAS/SATA hard drive bays

A   Optical Drive Bay: Optional DVD-RW drive

1 - 4   4 x 2.5" (SFF) SAS/SATA hard drive bays

A   Optical Drive Bay: Optional DVD-RW drive

Technical Specifications

System Unit	Dimensions (H x W x D) 4 SFF		1.7 x 17.11 x 15.07 inches (4.32 x 43.46 x 38.30 cm)
	2 LFF		1.7 x 17.11 x 15.07 inches (4.32 x 43.46 x 38.30 cm)
	Weight (approximate)	Maximum (Processor, HDD+ Common Slot power supply with 2 PCI cards)	4 SFF - 8.0 kg, 17.64 lb
		Minimum (Processor, one NHP hard drive, ATX power supply, without any Power Supply)	2 LFF NHP - 7.0 kg, 15.43 lb
	Input Requirements (HP ProLiant 250 W power supply)	Rated Input Voltage	90 to 264VAC
		Maximum Input Current	6 Amps (at 100VAC) to 3 Amps (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
	Power Supply Output (per power supply)	Rated Steady-State Power	250 W (at 100 VAC), 250 W (at 200 VAC)

NOTE: 250W Power Supplies have approximately 85% efficiency when operating at 230V,50 Hz (under 50% load conditions).

	System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
		Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
	Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
		Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
	Altitude	Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
		Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Acoustic Noise		Listed are the declared A-Weighted sound power levels (LWAd) and

Technical Specifications

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

Idle

LWAd	4.8 B (Base Model)	
	4.9 B (Performance Model)	
LpAm	32 dBA (Base Model)	
	33 dBA (Performance Model)	

Operating

LWAd	4.8 B (Base Model)	
	5.1 B (Performance Model)	
LpAm	32 dBA (Base Model)	
	35 dBA (Performance Model)	

NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels
NOTE: Values are subject to change without notification and are for reference only.
NOTE: Performance of system, options, and ancillary equipment will vary depending on the system configuration.
NOTE: Levels presented do not account for non-Hewlett-Packard installed hardware.

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

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

HP Dynamic Smart Array B120i Controller	**Dimensions**	Embedded
	Disk Drive Interface - Transfer rate	Up to 6Gb/s SATA (Serial ATA)
	SATA Connectors	6 internal SATA connectors
	Server Interface	x4 PCIe 2.0
	SATA Speed	6Gb/s SATA links
	Cache Memory	Zero Memory RAID has no cache memory
	Logical Drives Supported	Up to 8 logical volumes (6 physical drives)
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	Hot Plug Support	Yes
	RAID Support	RAID 0 (Striping), RAID 1 (Mirroring)
		RAID 1+0 (Striping & Mirroring)

Technical Specifications

HP Ethernet 1Gb 2-port NC332i Adapter	**Compatibility**	IEEE 802.3 10Base-T
		IEEE 802.3u 100Base-T
		IEEE 802.3ab 1000Base-T
		IEEE 802.3az 1000Base-T
		NOTE: NC332i is also compliant with the IEEE standard 802.az-2010
	Data Transfer Method	PCI Express, one lanes (x1)
		NOTE: Speed is 5GT/s
	Controller	BCM5720
	Network Transfer Rate	10Base-T (Half and/or Full-Duplex)
		100Base-T (Half and/or Full--Duplex)
		1000Base-T (Half and/or Full-Duplex)
	Connector	RJ-45
	Cable Support	10Base-T
		100Base-TX
		1000BaseTX

Environment-friendly Products and Approach	**End-of-life Management and Recycling**	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
		The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

QuickSpecs

Summary of Changes

Date	Version History	Action	Description of Change:
01-Jun-2015	From Version 19 to 20	Added	New Hard Drives were added to Core Options.
		Changed	Maximun Internal Storage was revised.
		Removed	Obsolete SKUs were removed from Configuration Information - Factory Integrated Models, Core Options, and Additional Options.
23-Apr-2015	From Version 18 to 19	Changed	Common Slot Power Supply, Power Supply in Pre-configured Models, Configuration Information - Factory Integrated Models, HP Uninterruptible Power Systems, and Technical Specifications were revised.
30-Mar-2015	From Version 17 to 18	Added	New Hard Drives added to Core Options.
		Changed	HP Care Pack Services was revised.
		Removed	Removed obsolete SKUs from HP Processors.
01-Mar-2015	From Version 16 to 17	Changed	Common Slot Power and Power Supply information was revised in Standard Features, Pre-Configured Models, and Configuration Information – Factory Integrated Models sections.

Rail Kits was revised in Additional Options section.

Technical Specifications section was revised. |
| | | Removed | HP Tower UPS SKUs were removed from Additional Options section. |
| 09-Feb-2015 | From Version 15 to 16 | Added | New Hard Drives, DirectFlow UPS, Rack and Tower G4 Models, LCD8500 1U Rackmount Models and Options were added to the Additional Options section. |
| | | Changed | What's New was changed to:

Latest 6G SATA Drives, 12G SAS Drives, and 6G SATA Solid State Drives

New DirectFlow Three Phase UPS, Rack and Tower G4 models, and LCD8500 1U Rackmount SKU's |

Summary of Changes

			Service and Support section was revised. HP Uninterruptible Power Systems, HP Rack Options, and HP Care Pack Services in Additional Options section were revised.
01-Dec-2014	From Version 14 to 15	Added	HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive and HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive were added to HP Hard Drives.
		Changed	HP Care Pack Services section has been revised.
29-Sep-2014	From Version 13 to 14	Added	New Solid State Drives were added. HP Managed Power Distribution Units (maPDU) was added to Additional Options.
		Changed	Service and Support section was revised. HP Hard Drives was revised in Core Options section.
18-Aug-2014	From Version 12 to 13	Added	New Hard Drives were added. HP Remote mPDUs half height version were added.
		Changed	Standard Features, Configuration Information - Factory Integrated Models, and Technical Specifications sections were revised.
08-July-2014	From Version 11 to 12	Changed	Common Slot Power Supply in Standard Features was revised. Pre-configured Models, and Technical Specifications were revised. HP Power Supplies, and HP Security were revised in Configuration Information – Factory Integrated Models.
		Removed	HP 200GB 6G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive, and 6G SAS SLC Hot Plug SFF (2.5-inch)

Summary of Changes

			Enterprise Performance Solid State Drives were removed from Core Options.
10-Jun-2014	From Version 10 to 11	Added	768645-xx1 was added to Performance Models.
		Changed	Entry and Based Models were revised. What's new, Standard Features, Configuration Information, Additional Options, Memory and Technical Specifications were revised.
09-May-2014	From Version 9 to 10	Changed	Service and Support, Memory, Hard Drives, Storage Controllers, Disk Enclosures, and Basic and Remote Monitoring Power Distribution Units were revised.
13-Dec-2013	From Version 7 to 8	Changed	HP Insight Control including 1yr 24x7 Support ProLiant MI/DL/BL-bundle FIO Electronic License was added to Step 3 in Configuration Information HP 1.2TB 6G SAS 10k rpm SFF SC Dual Port Enterprise 3yr Warranty Hard Drive was added to Hard Drives HP SmartCache and HP H221 PCIe 3.0 SAS Host Bus Adapter were added to Storage Controllers HP Basic Power Distribution Units and HP Remote Monitoring Power Distribution Units were revised in Additional Options HP Power Distribution Units was removed from Additional Options
30-Sep-2013	From Version 6 to 7	Added	Entry and Base Processors were added Canonical Ubuntu Server was added to Operating Systems and Virtualization Software Support for ProLiant Servers Converged Infrastructure Management Software was added HP Disk Backup was added to

Summary of Changes

			Additional Options
			HP Remote Monitoring Power Distribution Units was added to Additional Options
20-Sep-2013	From Version 5 to 6	Changed	HP Dynamic Smart Array B120i Controller in Technical Specifications was revised.
10-Sep-2013	From Version 4 to 5	Changed	HP Insight Management, Memory, Hard Drives, Networking, High Performance Clusters, Storage Controllers, HP Power Distribution Units, and HP Care Pack Services were revised.
20-Aug-2013	From Version 3 to 4	Changed	Changes made to correct the overview image.
19-Aug-2013	From Version 2 to 3	Changed	Changes made in the North America and Canada versions only.
26-Jul-2013	From Version 1 to 2	Changed	Corrected the second image in the Storage section.