

# QuickSpecs

## HPE ProLiant DL320e Generation 8 (Gen8) v2

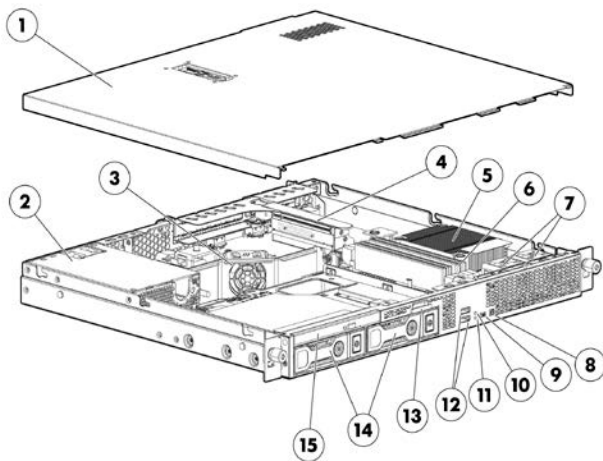
### Overview

### HPE ProLiant DL320e Generation 8 (Gen8) v2

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

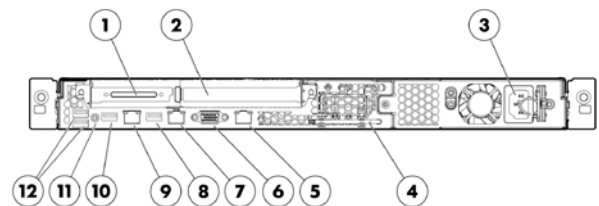
The HPE ProLiant DL320e Gen8 v2 Server is an entry-level single processor 1U short depth rack server specifically designed to give you the competitive edge you need. The server supports the latest Intel Xeon E3-1200 v3, PCIe 3.0 slots, DDR3 1600 MHz memory, and up to 8 TB internal storage, plus the state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

## 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 to 1600MHz 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).

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### Cache Memory

One of the following depending on model

8MB (1x8MB) Level 3

**NOTE:** For Quad-core processors.

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### Chipset

Intel® C222 Series Chipset

**NOTE:** For more information regarding Intel® chipsets, please see the following URL:

<http://www.intel.com/products/server/chipsets/>.

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### 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

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## Standard Features

**On System Management** HPE iLO (Firmware: HPE iLO 4)

**Processor** **NOTE:** For more information, visit: <http://www.hp.com/go/ilo>.

**Memory Protection** ECC

**Memory**

One of the following depending on model

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

**NOTE:** HPE memory from previous generation servers are not fully compatible with the HPE ProLiant DL320e Gen8 Servers.

**NOTE:** To realize the performance memory capabilities listed in this document, HPE SmartMemory is required. For additional information, please see the [HPE SmartMemory QuickSpecs](#).

**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** HPE Ethernet 1Gb 2-port NC332i Adapter

**NOTE:** The HPE 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.

**HPE Server ROM**

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

HPE 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.

HPE 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.

The HPE 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).

## Standard Features

- Customer-specific BIOS configuration (using the HPE ROM-Based Setup Utility (RBSU)).

**NOTE:** For further information, please refer to the HPE RBSU (ROM based setup utility) user guide: <http://www.hp.com/support/rbsu>.

### Storage Controller

One of the following depending on model

Base Models

HPE 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

HPE 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 HPE Smart Array B120i SATA Controller please refer to the HPE ProLiant DL300 series server user guide.

**NOTE:** For general information about HPE Smart Array B120i SATA RAID Controller, please visit: <http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/dynamicsmartarray/index.html>

### Internal Storage Devices

Diskette Drive

None

Optical Drive

Optional

DVD-RW & DVD-ROM

**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:** HPE ProLiant DL320e Series servers offer both SFF, and LFF versions. 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: HPE SFF Gen8 Hard Drive Blank Kit or P/N 666986-B21: HPE 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

**Standard Features**

Non-Hot Plug LFF SATA 6TB 2 x 3TB

**Interfaces**

Video 1 Rear standard video  
 HPE 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

**Server Power Cords**

All Pre-configured Models servers ship with a high voltage server to PDU power cord.  
**NOTE: HPE 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 Power Cord options.**

**Power Specifications**

To review typical system power ratings use the HPE 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: <https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111541>**

**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 HPE DL320e Gen8 v2 CS FIO Enablement Kit.**

**NOTE: Power Specification and Technical Content for supported power supplies can be found at: <https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111541>**

**System Fans**

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

**Operating Systems and Virtualization Software**

**Microsoft Windows Server**  
**Canonical Ubuntu Server**  
**Red Hat Enterprise Linux (RHEL)**

## Standard Features

### Support for ProLiant Servers

SUSE Linux Enterprise Server (SLES)  
VMware

**NOTE:** For more information on the HPE 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 Hewlett Packard Enterprise, please visit our OS Support Site at: <http://www.hp.com/go/ossupport> and our driver download page: <http://www.hp.com/support/DL320eGen8v2>.

### Graphics

Integrated Matrox G200 video standard

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

HPE 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

HPE iLO Management Engine

HPE 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. HPE iLO Management Engine comes standard on all HPE ProLiant Gen8 servers. The HPE iLO Management Engine portfolio includes:

- **HPE iLO:** The HPE iLO (Integrated Lights-Out) management processor is the core foundation for the HPE iLO Management Engine
- **HPE 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.
- **HPE 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.
- **HPE 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

## Standard Features

videos.

- Use the Service Pack for ProLiant (SPP) at <http://www.hp.com/go/spp> to get firmware and software updates.
- **HPE 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 HPE iLO Management Engine technologies [whitepaper](#)

### HPE Insight Management

HPE Service Pack for ProLiant (SPP)

HPE Service Pack for ProLiant (SPP) and HPE Smart Update Manager (HPE 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 HPE server hardware launches. By enabling all firmware to be updated online and integrating firmware and system software updates in one operation HPE 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 Hewlett Packard Enterprise provides 12 months of support on each Service Pack for ProLiant.

The user experience around HPE 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 HPE 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 HPE 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 [hpe.com](http://hpe.com), HPE SUM provides the tools to optimize stability and consistency throughout the company. While HPE SUM and the SPP will recommend the combinations of firmware and system software that Hewlett Packard Enterprise 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 HPE 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 HPE 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>

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## Standard Features

### Security

Power-on password  
Administrator's password

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### Warranty

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

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

**<http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>**



## Optional Features

### HPE Insight management software

HPE Insight Control

HPE 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. HPE 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>.

HPE Insight Control includes one year of 24 x 7 HPE Software Technical Support and Update Service ensuring rapid access to Hewlett Packard Enterprise support staff and proactive delivery of software updates. For more information about this service, see: <http://www.hp.com/services/insight>.

HPE iLO Essentials

HPE iLO Essentials license ideal for small and medium business customers. The specially created HPE 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 HPE iLO Essentials license SMB customers now have the option of a server management package solely design and priced just right for their IT environments. HPE iLO Essentials is available on all HPE ProLiant Gen8 e-series making this an ideal solution for small business owners. For more information, see: <http://www.hp.com/go/iLO/essentials>

HPE iLO Advanced

HPE 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 HPE 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 HPE 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, HPE data protection and recovery software will cost-effectively protect you against disaster and ensure business continuity.
- **Data Archive and Migration Software**  
The HPE 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)**  
The HPE 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**

## Optional Features

Hewlett Packard Enterprise offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.

- **Storage Device Management Software**

Maximize your investment in HPE storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.

- **HPE StoreVirtual VSA**

With HPE StoreVirtual VSA you can use the power of virtualization to 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>.

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### HPE Insight Online

HPE Insight Online is a new addition to the HPE Support Center for one stop, secure access to product and Hewlett Packard Enterprise support information personalized to your IT environment. Insight Online can automatically display devices remotely monitored by HPE 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>

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### HPE Proactive Insight experience

Prevent problems with innovative, automated monitoring tools and proactive services. The HPE 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>

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### Factory Express Portfolio for Servers and Storage

HPE Factory Express offers configuration, customization, integration and deployment services for HPE 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. Hewlett Packard Enterprise products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE ProLiant Server Blades, HPE BladeSystem, HPE 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>.

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### HPE 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 the Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance. <http://www.hp.com/products/configurator>

## Service and Support

### Service and Support

#### **HPE Technology Services for Industry Standard Servers and BladeSystem**

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. 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 HPE Pointnext operational services**

HPE Pointnext operational 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**

#### **HPE Proactive Care with 24x7 coverage, three year Care Pack Service**

HPE Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to Hewlett Packard Enterprise. 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 HPE ProLiant server. <https://www.hpe.com/h20195/v2/getpdf.aspx/4aa3-8855enw.pdf>

### Standard Care

#### **Supports maintaining high level of server availability**

#### **Foundation Care 24x7, three-year Care Pack Service**

HPE Foundation Care 24x7 connects you to Hewlett Packard Enterprise 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 HPE server. Simplify your support experience and make Hewlett Packard Enterprise your first call for hardware or software questions.

<https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en>

### Related Services

#### **HPE ProLiant Server Hardware Installation**

Provides for the basic hardware installation of HPE 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**

HPE Factory Express offers configuration, customization, integration and deployment services for HPE 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. HPE 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 HPE Pointnext operational services can be found at: <http://www.hp.com/go/cpc>

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## Service and Support

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### **Get connected to Hewlett Packard Enterprise to improve your support experience**

Connecting products to Hewlett Packard Enterprise will help prevent problems with 24x7 monitoring, 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.

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### **HPE Support Center**

Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more

<http://www.hp.com/go/hpsc>

The HPE Support Center Mobile App\* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Care Pack or Hewlett Packard Enterprise contractual support agreement.

**NOTE: \*The HPE Support Center Mobile App is subject to local availability**

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### **Parts and Materials**

Hewlett Packard Enterprise will provide HPE-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 Hewlett Packard Enterprise due to malfunction.

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### **For more information**

To learn more on HPE ProLiant servers and HPE BladeSystem servers, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise 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:** Hewlett Packard Enterprise 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: HPE SFF Gen8 Hard Drive Blank Kit or P/N 666986-B21: HPE LFF Gen8 Hard Drive Blank Kit.

## Entry Models

<b>HP ProLiant DL320e Gen8 v2 G3240 1P 2GB-U Non-hot Plug 2 LFF Entry Server</b> 768638-001	<b>Processor(s)</b>	(1) Intel® Pentium® G3240 (3.1 GHz/2-core/3MB/54W) Processor
	<b>Cache Memory</b>	8MB (1x8MB) Level3
	<b>Memory</b>	2GB (1 x 2GB) Unbuffered DIMMs PC3-12800E (1600MHz)
	<b>Network Controller</b>	HPE Ethernet 1Gb 2-port NC332i Adapter
	<b>Storage Controller</b>	HPE Dynamic Smart Array B120i Controller <b>NOTE: B120i has the following performance with regards to drive speed: 6Gb/s - in 2LFF and 4SFF only with port 0 &amp; 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.</b> <b>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.</b>
	<b>Hard Drive</b>	None ship standard
	<b>Internal Storage</b>	2 bay LFF Non Hot Plug Drive Cage; includes 2LFF Hard Drive blanks
	<b>Optical Drive Bay</b>	None ships standard
	<b>PCI-Express Slots</b>	1 PCIe3 x16 and 1 PCIe3 x8
	<b>Power Supply</b>	250 Watts Non-Hot Plug, Non redundant Power Supply
	<b>Fans</b>	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
	<b>Management</b>	HPE iLO Management Engine (standard) Optional: HPE iLO Essentials or HPE Insight Control
	<b>Form Factor</b>	1U
	<b>Warranty</b>	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. <b>NOTE: No rail kits are included with the server. They must be ordered separately.</b>

## Pre-configured Models

### Base Models

**HP ProLiant DL320e  
Gen8 v2 E3-1220v3 1P  
4GB-U B120i Server**  
717170-001

<b>Processor(s)</b>	(1) Intel® Xeon® E3-1220v3 (3.1GHz/4-core/8MB/80W, HT) Processor
<b>Cache Memory</b>	8MB (1x8MB) Level3
<b>Memory</b>	4GB (1 x 4GB) Unbuffered DIMMs PC3-12800E (1600MHz)
<b>Network Controller</b>	HPE Ethernet 1Gb 2-port NC332i Adapter
<b>Storage Controller</b>	HPE Dynamic Smart Array B120i Controller <b>NOTE: B120i has the following performance with regards to drive speed: 6Gb/s - in 2LFF and 4SFF only with port 0 &amp; 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.</b> <b>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.</b>
<b>Hard Drive</b>	None ship standard
<b>Internal Storage</b>	2 bay LFF Hot Plug Drive Cage; includes 1 LFF hard drive blank
<b>Optical Drive Bay</b>	None ships standard
<b>PCI-Express Slots</b>	1 PCIe3 x16 and 1 PCIe3 x8
<b>Power Supply</b>	250 Watts Non-Hot Plug, Non redundant Power Supply
<b>Fans</b>	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
<b>Management</b>	HPE iLO Management Engine (standard) Optional: HPE iLO Essentials or HPE Insight Control
<b>Form Factor</b>	1U
<b>Warranty</b>	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. <b>NOTE: No rail kits are included with the server. They must be ordered separately.</b>

## Pre-configured Models

### Performance Models

<b>HP ProLiant DL320e Gen8 v2 E3-1241v3 1P 8GB-U P222 Hot Plug 4 SFF Perf Svr</b> 768645-001	<b>Processor(s)</b>	(1) Intel® Xeon® E3-1241v3 (3.5GHz/4-core/8MB/80W, HT) Processor
	<b>Cache Memory</b>	8MB (1x8MB) Level3
	<b>Memory</b>	8GB (1 x 8GB) Unbuffered DIMMs PC3-12800E (1600MHz)
	<b>Network Controller</b>	HPE Ethernet 1Gb 2-port NC332i Adapter
	<b>Storage Controller</b>	HPE Smart Array P222/512MB FBWC Controller
	<b>Hard Drive</b>	None ship standard
	<b>Internal Storage</b>	4 bay SFF Hot Plug Drive Cage; includes 3 SFF hard drive blanks
	<b>Optical Drive Bay</b>	None ships standard
	<b>PCI-Express Slots</b>	1 PCIe3 x16 and 1 PCIe3 x8
	<b>Power Supply</b>	250 Watts Non-Hot Plug, Non redundant Power Supply
	<b>Fans</b>	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
	<b>Management</b>	HPE iLO Management Engine (standard) Optional: HPE iLO Essentials or HPE Insight Control
	<b>Form Factor</b>	1U
	<b>Warranty</b>	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. <b>NOTE: No rail kits are included with the server. They must be ordered separately.</b>

## Smart Buy Models

**HP ProLiant DL320e  
Gen8 v2 E3-1220v3 1P  
4GB-U B120i LFF 300W  
PS Svr/S-Buy  
736663-S01**

<b>Processor(s)</b>	(1) Intel® Xeon® E3-1220v3 (3.1GHz/4-core/8MB/80W, HT) Processor
<b>Cache Memory</b>	8MB (1x8MB) Level3
<b>Memory</b>	4GB (1 x 4GB) Unbuffered DIMMs PC3-12800E (1600MHz)
<b>Network Controller</b>	HPE Ethernet 1Gb 2-port NC332i Adapter
<b>Storage Controller</b>	HPE Dynamic Smart Array B120i Controller <b>NOTE: B120i has the following performance with regards to drive speed: 6Gb/s - in 2LFF and 4SFF only with port 0 &amp; 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.</b> <b>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.</b>
<b>Hard Drive</b>	None ship standard
<b>Internal Storage</b>	2 bay LFF Hot Plug Drive Cage; includes 1 LFF hard drive blank
<b>Optical Drive Bay</b>	None ships standard
<b>PCI-Express Slots</b>	1 PCIe3 x16 and 1 PCIe3 x8
<b>Power Supply</b>	300 Watts Non-Hot Plug, Non redundant Power Supply
<b>Fans</b>	2 front fan assemblies and 1 center fan assembly ship standard, non-redundant
<b>Management</b>	HPE iLO Management Engine (standard) Optional: HPE iLO Essentials or HPE Insight Control
<b>Form Factor</b>	1U
<b>Warranty</b>	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. <b>NOTE: No rail kits are included with the server. They must be ordered separately.</b>



## 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, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise 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)

<b>HPE Models</b>	HP ProLiant DL320e Gen8 v2 Non-hot Plug 2 LFF Configure-to-order Server	722313-B21
	<b>Factory Integrated Model ships with:</b> 1U Chassis with 2 LFF Non-Hot Plug Drive Cage HPE Ethernet 1Gb 2-port NC332i Adapter HPE iLO Management Engine (standard) HPE 250W power supply <b>NOTE:</b> The default power supply for DL320e Gen8 v2 server is either a 250W Non Hot Plug, Non Redundant (ATX) power supply for all regions. HPE Dynamic Smart Array B120i SATA Controller (RAID 0/1/10) <b>NOTE:</b> For set up instructions for HPE Dynamic Smart Array B120i SATA Controller please refer to the HPE ProLiant DL300 series server user guide <b>NOTE:</b> For general information about HPE Dynamic Smart Array B120i SATA Controller, please visit: <a href="http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb120i/index.html">http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb120i/index.html</a>	
	HP ProLiant DL320e Gen8 v2 Hot Plug 2 LFF Configure-to-order Server	722314-B21
	<b>Factory Integrated Model ships with:</b> 1U Chassis with 2 LFF Hot Plug Drive Cage HPE Ethernet 1Gb 2-port NC332i Adapter HPE iLO Management Engine (standard) HPE Dynamic Smart Array B120i SATA Controller (RAID 0/1/10) <b>NOTE:</b> For set up instructions for HPE Dynamic Smart Array B120i SATA Controller please refer to the HPE ProLiant DL300 series server user guide <b>NOTE:</b> For general information about HPE Dynamic Smart Array B120i SATA Controller, please visit: <a href="http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb120i/index.html">http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb120i/index.html</a>	
	HPE ProLiant DL320e Gen8 v2 Hot Plug 4 SFF Configure-to-order Server	722315-B21
	<b>Factory Integrated Model ships with:</b> 1U Chassis with 4 SFF Hot plug Drive Cage HPE Ethernet 1Gb 2-port NC332i Adapter HPE iLO Management Engine (standard) HPE Dynamic Smart Array B120i SATA Controller (RAID 0/1/10) <b>NOTE:</b> For set up instructions for HPE Dynamic Smart Array B120i SATA Controller please refer to the HPE ProLiant DL300 series server user guide <b>NOTE:</b> For general information about HPE Dynamic Smart Array B120i SATA Controller, please visit: <a href="http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/">http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/</a>	

**Configuration Information - Factory Integrated Models**

[smartarrayb120i/index.html](http://smartarrayb120i/index.html)

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

**HPE Processors**

**Base Processors**

**NOTE:** All support up to 1600MHz memory speeds.

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

**HPE Memory**

**NOTE:** To realize the performance memory capabilities listed in this document, HPE SmartMemory is required. For additional information, please see the [HPE SmartMemory QuickSpecs](#).

**NOTE:** HPE 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)**

HPE 2GB(1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669320-B21

HP 2GB (1x2GB) Single Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP Memory 647905-B21

**Configuration Information - Factory Integrated Models**

HPE 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP Memory Kit	647907-B21
HPE 8GB (1x8GB) Dual Rank x8 PC3- 12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
HP 8GB (1x8GB) Dual Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP 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 "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.

**HPE Power Supplies**

**NOTE:** Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to determine the right size power supply for your server configuration. The HPE Power Advisor is located at:

<http://www.hp.com/go/hppoweradvisor>.

HPE DL320e Gen8 v2 250W FIO Power Supply Unit Kit	748334-B21
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**NOTE:** Non redundant Power Supply for all regions

HPE 750W Common Slot -48VDC Hot Plug Power Supply Kit NOTE:NOTE: Selecting the 750W power supply requires the HPE DL320e Gen8 v2 CS FIO Enablement Kit	636673-B21
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HP DL320e Gen8 v2 CS FIO Enablement Kit	718144-B21
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**Step 3: Choose Additional Factory Integratable Options**

<b>HPE USB Cable Kit</b>	HP Gen8 FIO Internal USB Kit <b>NOTE:</b> Required only if USB Flash Media Drive Key is selected.	662961-B21
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<b>HPE Security</b>	HP DL320eGen8 v2 Entry Rack Ear FIO Kit <b>NOTE:</b> DL320e Gen8 v2 ships with thumbscrew ear attachments 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. <b>NOTE:</b> For more rail kit options see "Additional Options" section of this QuickSpecs.	723903-B21
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## Configuration Information - Factory Integrated Models

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<b>HPE Insight Software</b>	HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO LTU	C6N36A
	HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO E-LTU	C6N36ABE

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<b>Converged Infrastructure Management Software</b>	<b>HPE OneView with iLO Advanced - Server hardware required on same purchase order</b>	
	HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
	<b>HPE OneView without iLO Advanced - Server hardware required on same purchase order</b>	
	HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A

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### 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, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

**HPE Memory**

**NOTE:** To realize the performance memory capabilities listed in this document, HPE SmartMemory is required. For additional information, please see the [HPE SmartMemory QuickSpecs](#).

**NOTE:** HPE 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)**

HPE 2GB(1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669320-B21

HP 2GB (1x2GB) Single Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP Memory 647905-B21

HPE 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669322-B21

HP 4GB (1x4GB) Dual Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP Memory Kit 647907-B21

HPE 8GB (1x8GB) Dual Rank x8 PC3- 12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669324-B21

HP 8GB (1x8GB) Dual Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP 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.

**HPE Optical Drives**

HPE 9.5mm SATA DVD-RW JackBlack Optical Drive 652241-B21

HPE 9.5mm SATA DVD-ROM JackBlack Optical Drive 652238-B21

## Core Options

### HPE 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

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

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

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

#### 12G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives

HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD 759212-B21

HPE 450GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD 759210-B21

HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD 759208-B21

#### 12G SAS Hot Plug SFF (2.5-inch) Enterprise Drives

HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD 781518-B21

HPE 900GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD 785069-B21

HPE 600GB SAS 12G Enterprise 10K SFF (2.5in ) SC 3yr Wty HDD 781516-B21

HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD 785067-B21

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

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

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

HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e HDD 791034-B21

HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e HDD 748387-B21

#### 12G SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

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

#### 12G SAS Hot Plug LFF (3.5-inch) SC HDD

HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e HDD 793703-B21

HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e HDD 793699-B21

Core Options

**12G SAS Hot Plug LFF (3.5-inch) Midline (MDL) 512e Drives**

HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD 765259-B21

HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD 765257-B21

**12G SAS Hot Plug LFF (3.5-inch) SC 512e Performance Drives**

HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD 793671-B21

HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive 793669-B21

**12G SAS Hot Plug LFF (3.5in) 7.2K MDLSC HDD**

HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD 818367-B21

HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD 818365-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

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**

HPE 1TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive 652749-B21

HPE 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:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111744>

**6G SATA Hot Plug with SmartDrive SFF (2.5-inch) Midline (MDL) Drives**

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

HPE 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive 655708-B21

**6G SATA 2.5in WI-PLP SCC SSD**

HPE 1.2TB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD 804680-B21

HPE 800GB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD 804674-B21

Core Options

HPE 400GB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD 804668-B21

HPE 200GB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD 804642-B21

**6G SATA 2.5in MU-PLP SCC SSD**

HPE 1.6TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD 804634-B21

HPE 800GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD 804628-B21

HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD 832417-B21

HPE 200GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD 804616-B21

**6G SATA 2.5in RI-PLP SCC SSD**

HPE 1.6TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD 804608-B21

HPE 800GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD 804602-B21

HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD 804596-B21

HPE 240GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD 804590-B21

HPE 120GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD 804584-B21

HPE 80GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD 804578-B21

**6G SATA 2.5in WI-PLP SC SSD**

HPE 1.2TB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD 804677-B21

HPE 800GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD 804671-B21

HPE 400GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD 804665-B21

HPE 200GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD 804639-B21

**6G SATA 2.5in MU-PLP SC SSD**

HPE 1.6TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD 804631-B21

HPE 800GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD 804625-B21

HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD 832414-B21

HPE 200GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD 804613-B21

**6G SATA 2.5in RI-PLP SC SSD**

HPE 1.6TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD 804605-B21

HPE 800GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD 804599-B21



Core Options

HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	804593-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	804587-B21
HPE 120GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	804581-B21
HPE 80GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	804575-B21
<b>6G SATA Hot Plug MU-3 SFF (2.5-inch) SC Solid State Drives</b>	
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	817011-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	816995-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	816985-B21
HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	816975-B21
HPE 120GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	816965-B21
<b>6G SATA Hot Plug RI-3 SFF (2.5-inch) SC Solid State Drives</b>	
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816929-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816919-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816909-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816899-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816889-B21
HPE 120GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816879-B21
<b>6G SATA Hot Plug LFF (3.5-inch) RI-3 SCC SSD</b>	
HPE 3.84TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD	816933-B21
HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD	816923-B21
HPE 960GB SATA 6G Read Intensive LFF (2.5in) SC 3yr Wty SSD	816913-B21
HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD	816903-B21
HPE 240GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD	816893-B21
HPE 120GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty SSD	816883-B21
<b>6G SATA Hot Plug LFF (3.5-inch) MU-3 SCC SSD</b>	
HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	817015-B21

Core Options

HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	816999-B21
HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	816989-B21
HPE 240GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	816979-B21
HPE 120GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD	816969-B21
<b>6G SATA Hot Plug LFF (3.5-inch) SC 512e Performance Drives</b>	
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
<b>6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline (MDL) Drives</b>	
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	693687-B21
HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	628061-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	658079-B21
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	657750-B21
HPE 500GB SATA 6G Midline 7.2k LFF (3.5in) SC 1yr Wty HDD	658071-B21
<b>6G SATA Hot Plug SFF (2.5-inch) SC 512e Drives</b>	
HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765455-B21
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765453-B21
<b>6G SATA Hot Plug LFF (3.5-inch) Midline (MDL) 512e Drives</b>	
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	765255-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	765253-B21
<b>6G SATA Hot Plug LFF (3.5-inch) SC HDD</b>	
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e HDD	793695-B21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e HDD	793683-B21
<b>6G SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives</b>	
HPE 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	628065-B21
HPE 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659339-B21
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	659337-B21

Core Options

HPE 500GB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD 659341-B21

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111725>

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

HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 779168-B21

HPE 200GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 779164-B21

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

HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 802582-B21

HPE 200GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 802578-B21

**12G SAS SFF (2.5in) RI-3 SC Solid State Drives**

HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 816576-B21

HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 816572-B21

HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 816568-B21

HPE 480GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 816562-B21

**12G SAS SFF (2.5in) MU-3 SC Solid State Drives**

HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD 822567-B21

HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD 822563-B21

HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD 822559-B21

HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD 822555-B21

**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 717971-B21

Core Options

State Drive	
HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717969-B21
<b>6G SATA Value Endurance Hot Plug LFF (3.5-inch) SCC EV Solid State Drives</b>	
HP 600GB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive	739900-B21
HP 300GB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive	739890-B21
<b>6G SATA Value Endurance Hot Plug SFF (2.5-inch) SC EV Solid State Drives</b>	
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
<b>6G SATA Hot Plug LFF Value Endurance (3.5-inch) Converter Enterprise Value G1 Solid State Drives</b>	
HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive	756660-B21
<b>6G SATA Hot Plug LFF Value Endurance (3.5-inch) SCC Enterprise Value Solid State Drives</b>	
HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive	757342-B21
<b>6G SATA Hot Plug SFF Value Endurance (2.5-inch) SC Enterprise Value Solid State Drives</b>	
HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	757339-B21
<b>6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Value G1 Solid State Drives</b>	
HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive	756657-B21
<b>6G SATA Value Endurance Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives</b>	
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
<b>6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value M1 Solid State Drive</b>	
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	764927-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	764925-B21
HPE 120GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	764923-B21
<b>6G SATA Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives</b>	
HP 480GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive	789145-B21
<b>6G SATA Hot Plug LFF (3.5-inch) SC Read Intensive Solid State Drives</b>	
HP 480GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State	789147-B21

## Core Options

Drive

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154378>

### 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.

HPE Large Form Factor Hard Drive Blank Kit 666986-B21

HPE Small Form Factor Hard Drive Blank Kit 666987-B21

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## HPE Networking

### Gigabit Ethernet Adapters

HPE NC365T 4-port Ethernet Server Adapter 593722-B21

HPE Ethernet 1Gb 2-port 332T Adapter 615732-B21

HPE 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

HPE 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

HPE PS1810-24G Switch J9834A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111385>

## Additional Options

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

HPE Insight Software HPE Insight Control

### HPE Insight Software HPE Insight Control

HPE Insight Control including 1yr 24x7 Technical Support and Updates 1-server LTU	C6N27A
HPE Insight Control including 1yr 24x7 TSU E-LTU	C6N28ABE
HP Insight Control Server Provisioning Media Kit	BD883A
HPE 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 HPE Software Technical Support and Update Service.

**NOTE:** Licenses ship without media. The HPE Insight Control Media Kit can be ordered separately, or can be downloaded at:

<http://www.hp.com/go/insightupdates>.

**NOTE:** For additional license options please see the QuickSpecs at:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123391>

### HPE Integrated Lights-Out (iLO)

#### HPE Integrated Lights-Out (iLO) Advanced for ProLiant

HPE iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU	E6U59ABE
HPE iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU	E6U64ABE
HPE iLO Advanced including 1yr 24x7 Technical Support and Updates 1-server LTU	512485-B21
HPE iLO Advanced including 3yr 24x7 Tech Support and Updates 1-server LTU	BD505A

#### HPE iLO Essentials

HPE iLO Essentials including 3yr 24x7 Technical Support and Updates E-LTU	E6U61ABE
HPE iLO Essentials including 1yr 24x7 Technical Support and Updates E-LTU	E6U62ABE
HPE iLO Essentials including 3yr 24x7 Tech Support and Updates 1-server LTU	BD774A
HPE iLO Essentials including 1yr 24x7 Tech Support and Updates 1-server LTU	BD775A

**NOTE:** For additional license options please see the QuickSpecs at:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154343>

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

## Additional Options

### Converged Infrastructure Management Software

#### HPE OneView

##### HPE OneView with iLO Advanced

HPE OneView Physical Media Kit LTU E5Y37A

HPE OneView including 3yr 24x7 Support Physical 1-server LTU E5Y34A

HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU E5Y35AAE

##### HPE OneView without iLO Advanced

HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU P8B24A

HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU P8B26AAE

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111367>

### High Performance Clusters

#### HPE Cluster Management Utility

HPE Insight Cluster Management Utility 1yr 24x7 Flexible LTU QL803B

HPE Insight Cluster Management Utility 3yr 24x7 Flexible LTU BD476A

NOTE: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.

HPE Insight Cluster Management Utility Media BD477A

**NOTE:** For additional license kits please see the QuickSpecs at

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111735>

### HPE Security

HPE 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

**Additional Options**

**retained. Misplacing or losing the key could result in data loss.**

HPE 1U Security Bezel Kit 664918-B21  
 NOTE:NOTE: The Entry Rack Ear FIO Kit (P/N: 723903-B21) needs to be purchased if a security bezel is installed

**HPE Storage Controllers**

**SAS Controllers**

**Smart Array P222 Controller**

HPE 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**

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

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

**Optional Upgrades**

HPE Smart Array SR SmartCache (Single Key/Single Server) LTU D7S26A

HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU D7S27A

HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU D7S27AAE

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111474>  
 (Smart Array P222 Controller)

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111533>  
 (Smart Array P421 Controller)

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111365>  
 (Smart Array P431 Controller)

**Host Bus Adapter**

HPE H221 PCIe 3.0 SAS Host Bus Adapter 729552-B21

HPE H222 Host Bus Adapter 650926-B21

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111475>  
 (HBA 221)

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111514>  
 (HBA 222)

**HPE Networking Switches**

HPE PS1810-24G Switch J9834A



## Additional Options

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111385>

### HPE 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 HPE disk backup products see: <http://www.hp.com/storage/SPOCK>.

HPE RDX 2TB USB3.0 External Disk Backup System	E7X53B
HP RDX+ 1TB External Backup System	B7B69B
HP RDX+ 500GB External Backup System	B7B66B
HPE RDX+ External Docking System	C8S07B

**NOTE:** Please see the QuickSpecs for additional part numbers, Technical Specifications, and additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111633>

### HPE Uninterruptible Power Systems

#### HPE DirectFlow Three Phase UPS Power Unit (1U UPS)

**NOTE:** #0D1 will appear after the part number on the sales order if HPE factory integration is indicated.

HPE R12000 DirectFlow - 1U Rackmount Uninterruptible Power System	G9Y75A
HPE R12000 DirectFlow - POD 1U Rackmount Uninterruptible Power System	AF478A

#### Input/Output Module Options for 1U UPS

**NOTE:** Choose one I/O Module per UPS.

HPE 30A 400-415 Volt Three Phase NA R10000 DirectFlow UPS IEC309 Input/Output Module	AF489A
HPE 30A 480 Volt Three Phase NA R12000 DirectFlow UPS L22-30 Input/Output Module	AF491A
HPE 30A 480 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module	AF492A
HPE 30A 400-415 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module	G9Y76A

**NOTE:** All Input/Output Modules support dual output outlets except the AF484A.

#### Power Unit (2U UPS)

HPE R18000 DirectFlow - 2U Rackmount Uninterruptible Power System	AF479A
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#### Input/Output Module Options for 2U UPS

**NOTE:** Choose one I/O Module per UPS.

HPE 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module	AF486A
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## Additional Options

HPE 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module AF487A

HPE 30A 400 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module D9Q02A

HPE 30A 400-415V Three Phase NA R18000 DirectFlow UPS 1:1 IEC309 Input/Output Module AF484A

**NOTE:** All Input/Output Modules support dual output outlets except the AF484A.

### Battery Pack Options

**NOTE:** Choose up to two Battery Packs per UPS (must be the same).

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

HPE DirectFlow UPS - 3U Rackmount VRLA Battery Pack AF482A

**NOTE:** Please see the QuickSpecs for additional information:

<https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04376694>

### HPE Rack/Tower UPS

#### HPE R/T2200 G4 UPS Models

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

#### HPE R/T3000 G4 UPS Models

HPE R/T3000 G4 Low Voltage NA/JP Uninterruptible Power System J2R01A

HPE R/T3000 G4 High Voltage NA/JP Uninterruptible Power System J2R02A

### HPE Rack Models

#### R1500 G4 Models

HPE R1500 G4 NA Uninterruptible Power System J2Q99A

#### R7000

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

#### R5000

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

**NOTE:** Please see the QuickSpecs for additional information:

<https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04155328>

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

**NOTE:** For additional information on sizing your HPE UPS, please reference:

<http://www.upssizer.com>

**NOTE:** Please see the UPS and PDU cable matrix's on the HPE Power Protection

**Additional Options**

and Management page. Under Power Cords, click on the "HPE 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>.

**HPE Basic Power Distribution Units (PDU)**

**HPE Basic Power Distribution Unit: 1U/0U Version**

HPE Basic 1.9kVA/L5-20P 16A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU	H5M54A
HPE Basic 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal WW PDU	H5M56A

**HPE Basic Power Distribution Unit: Half Height Version**

HPE Basic 2.8kVA/L5-30P 24A/120V Outlets (18) 5-20R/Vertical NA/JP PDU	H5M55A
HPE Basic 4.9kVA/60320 C20 Detachable 16A/230V Outlets (20) C13/Vertical WW PDU	H5M57A
HPE Basic 4.9kVA/L6-30P 24A/208V Outlets (20) C13/Vertical NA/JP PDU	H5M58A
HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13/Vertical NA/JP PDU	H5M61A

**HPE Basic Power Distribution Unit: Mid Height Version**

HPE Basic 4.9kVA/L6-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP PDU	H5M59A
HPE Basic 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (6) C19/Vertical NA PDU	H5M60A
HPE Basic 9.2kVA/50A Terminal Block 40A/230V Outlets (30) C13 (6) C19/Vertical WW PDU	H5M75A
HPE Basic 3Ph 5.7kVA/ L21-20P 16A/120-208V Outlets (24) C13 (3) 5-20R/Vertical NA/JP PDU	H5M63A
HPE Basic 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (24) C13 (3) C19 (3) 5-20R/Vertical NA/JP PDU	H5M64A
HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP PDU	H5M62A

**HPE Basic Power Distribution Unit: Full Height Version**

HPE Basic 3Ph 11kVA/60309 16A/240V Outlets (36) C13 (6) C19/Vertical NA PDU	H5M67A
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**HPE Basic Power Distribution Unit: 480/277 Volt Version**

HPE 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A
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**NOTE:** Please see the QuickSpecs for additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111250>

**HPE Metered Power Distribution Units**

**HPE Remote Monitored Power Distribution Unit: 1U Version**

HPE Metered 2.8kVA/L5-30P 24A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU	D9N43A
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**Additional Options**

**(PDU)**

HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal WW PDU D9N46A

HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Horizontal NA/JP PDU D9N44A

**HPE Remote Monitored Power Distribution Unit: Half Height Version**

HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (16) C13/Vertical WW PDU D9N45A

HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Vertical NA/JP PDU G9Z05A

**HPE Remote Monitored Power Distribution Unit: Mid Height Version**

HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (4) C19/Vertical NA/JP PDU D9N47A

HPE Metered 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (3) C19/Vertical NA/JP PDU D9N51A

HPE Metered 3Ph 5.7kVA/L21-20P 16A/120-208V Outlets (13) C13 (3) 5-20R/Vertical NA/JP PDU D9N52A

HPE Metered 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (18) C13 (3) C19 (3) 5-20R/Vertical NA/JP PDU D9N53A

**HPE Remote Monitored Power Distribution Unit: Full Height Version**

HPE Metered 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (3) C19/Vertical NA PDU D9N49A

HPE Metered 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU D9N58A

HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (30) C13 (3) C19/Vertical NA/JP PDU D9N61A

HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (24) C13 (3) C19/Vertical NA/JP PDU D9N54A

HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU D9N59A

HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (12) C13 (12) C19/Vertical NA/JP PDU D9N62A

HPE Metered 3Ph 19.9kVA/L22-30P 24A/277V Outlets (30) RF-203P-HP/Vertical NA PDU D9N63A

**HPE Environmental Sensor for Remote Monitored PDUs**

HP Environmental Sensor for Remote Monitored and Managed PDUs E2D53A

**NOTE:** Please see the QuickSpecs for additional information:

**<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04229513>**

**Additional Options**

**HPE Intelligent Power iPDU Core Units**

<b>HPE Intelligent Power Distribution Unit (PDU)</b>	HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF520A
	HPE Intelligent Modular 8.3kVA/CS8265C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF521A
	HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF522A
	HPE Intelligent Modular 3Ph 14.4kVA/CS8365C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF533A
	HPE Intelligent Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V (6) C19/Horizontal NA/JP PDU	AF523A
	HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 60A 4-wire 48A/208V (12) C19/Horizontal NA/JP PDU	AF535A
	HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 30A 5-wire 24A/240V (12) C19/Horizontal NA/JP PDU	AF537A

**iPDU Kits with Standard Extension Bars**

HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (6) C19/Horizontal NA/JP PDU	AF531A
HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (20) C13 (6) C19/Horizontal NA/JP PDU	AF532A

**iPDU Extension Bars**

HPE 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A
HPE 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04128194>

**HPE Metered and Switched Power Distribution Units (PDU)**

**Half Height Models**

HPE Metered Switched 3.6kVA/60320 C20 Detachable 16A/230V Outlets (7) C13 (1) C19/Vertical WW PDU	H8B49A
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**Full Height Models**

HPE Metered Switched 2.8kVA/L5-30P 24A/120V Outlets (24) 5-20R /Vertical NA/JP PDU	H8B48A
HPE Metered Switched 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (4) C19/Vertical NA/JP PDU	H8B50A

**Additional Options**

HPE Metered Switched 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (6) C19/Vertical NA/JP PDU	H8B52A
HPE Metered Switched 3Ph 8.6kVA/L21-30P 24A/208V Outlets (20)C13 (3)C19 (1)5-20R/Vertical NA/JP PDU	H8B53A
HPE Metered Switched 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	H8B55A
HPE Metered Switched 3Ph 17.3kVA/60309 4-wire 48A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	H8B56A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
<https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04376687>

**HPE Rack Series**

**HPE Intelligent Series Racks**

HP 36U 600mm x 1075mm Enterprise Pallet Rack	BW895A
HP 36U 600mm x 1075mm Enterprise Shock Rack	BW896A
HPE 42U 600mm x 1075mm Enterprise Pallet Rack	BW903A
HP 42U 600mm x 1075mm Enterprise Shock Rack	BW904A
HP 47U 600mm x 1075mm Enterprise Pallet Rack	BW911A
HP 47U 600mm x 1075mm Enterprise Shock Rack	BW912A

**NOTE:** Please see the QuickSpecs for Technical Specifications such as height, width, depth, weight, and color:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04128240>

**HPE Rack Options**

**HPE LCD8500 1U Rackmount Console Kit Models**

HP LCD8500 1U US Rackmount Console Kit	AF630A
HP LCD8500 1U US TAA Rackmount Console Kit	AF645A

**HPE LCD8500 1U Rackmount Console Kit Options**

HP Kit LCD 1.83m Latch Display Port Cable	G7T29A
HPE Location Discovery Services LCD8500 Kit	TL052A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154398>

**HPE USB Keyboard and Mouse**

HPE USB US Keyboard/Mouse Kit	631341-B21
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**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04168349>

**HPE 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

**Additional Options**

HP USB Remote Access Key for G3 KVM Console Switches AF650A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04128391>

**HPE 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

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04168373>

**HPE 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:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04230853>

**Rail Kits**

HPE 1U Friction Rail Kit 727604-B21

HP 1U Short Friction Rail Kit 775612-B21

**HPE USB and SD Options**

**HPE Flash Media Kits for USB Drives**

HPE 8GB USB Enterprise Mainstream Flash Media Drive Key Kit 737953-B21

**HPE Enterprise Mainstream Flash Media Kits for Memory Cards**

HPE 8GB microSD Enterprise Mainstream Flash Media Kit 726116-B21

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123175>

**HPE Pointnext operational 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.

HPE 3 year Proactive Care 24x7 ProLiant DL320e Service U6F03E

HPE 3 year Proactive Care 24x7 with DMR ProLiant DL320e Service U6F04E

HPE 3 year Proactive Care 24x7 with CDMR DL320e Service U9A26E

**Foundation Care**

HPE 3 year Foundation Care 24x7 DL320e Service U2GH5E

## Additional Options

HPE 3 year Foundation Care 24x7 wDMR DL320e Service	U2GH6E
HPE 3 year Foundation Care 24x7 wCDMR DL320e Service	U2GH7E

### Installation Services

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

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

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



## Memory

### HPE SmartMemory

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

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

The UDIMM installing sequence:					
Memory		Slot			
		DIMM4C	DIMM3A	DIMM2D	DIMM1B
<b>Standard</b> (Base Model)	<b>4 GB</b>	Empty	4 GB	Empty	Empty
<b>Standard</b> (Performance Model)	<b>8 GB</b>	Empty	8 GB	Empty	Empty
<b>Maximum</b>	<b>32 GB</b>	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

## Memory

Following are memory options available from Hewlett Packard Enterprise:

### HPE Memory

**NOTE:** To realize the performance memory capabilities listed in this document, HPE SmartMemory is required. For additional information, please see the HPE SmartMemory QuickSpecs at: <https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111535>

**NOTE:** HPE 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)

HPE 2GB(1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669320-B21

HP 2GB (1x2GB) Single Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP Memory 647905-B21

HPE 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669322-B21

HP 4GB (1x4GB) Dual Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP Memory Kit 647907-B21

HPE 8GB (1x8GB) Dual Rank x8 PC3- 12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669324-B21

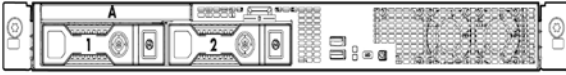
HP 8GB (1x8GB) Dual Rank x8 PC3L-10600(DDR3-1333) Unbuffered CAS-9 LP Memory Kit 647909-B21

**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>.

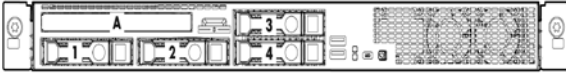
**NOTE:** Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: <http://www.hp.com/go/proliant-energy-efficient>.

**NOTE:** PC3L is a low voltage memory.

## 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

<b>System Unit</b>	<b>Dimensions</b> (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)
	<b>Weight</b> (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
	<b>Input Requirements</b> (HPE 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
	<b>Power Supply Output</b> (per power supply)	Rated Steady-State Power	250 W (at 100 VAC), 250 W (at 200 VAC)
<b>NOTE: 250W Power Supplies have approximately 85% efficiency when operating at 230V,50 Hz (under 50% load conditions).</b>			
	<b>System Inlet Temperature</b>	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).
	<b>Relative Humidity</b> (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.
	<b>Altitude</b>	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).
	<b>Acoustic Noise</b>	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels	

Technical Specifications

(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 Enterprise 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.

**HPE Dynamic Smart Array B120i Controller**

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

## Technical Specifications

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

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

Date	Version History	Action	Description of Change
23-Oct-2017	From Version 26 to 27	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
16-Feb-2016	From Version 25 to 26	Added	New Hard Drives offering was added to HPE Hard Drives section.
		Changed	Additional Options section was revised.
		Removed	Obsolete SKUs were removed from the HPE Hard Drives, HPE Tape Backup, HPE Tape Storage Systems, and HPE Disk Storage Systems.
17-Dec-2015	From Version 24 to 25	Added	Smart Buy models were added to the NA version.
01-Dec-2015	From Version 23 to 24	Added	New Hard Drives offering was added to HPE Hard Drives section.
		Changed	What's New was updated.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
09-Oct-2015	From Version 22 to 23	Removed	Server model 722547-xx1 was removed from Pre-configured Models.
28-Sep-2015	From Version 21 to 22	Added	Added new 6Gb SATA Solid State Drives. Added new HPE OneView management software.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
17-Aug-2015	From Version 20 to 21	Added	New optical drive option was added to HPE Optical Drives. New Solid State Drives offering was added to HPE Hard Drives section.
		Changed	Internal Storage Devices section was revised.
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, HPE 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	HPE Pointnext operational services was revised.
		Removed	Removed obsolete SKUs from HPE 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	HPE 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 Service and Support section was revised. HPE Uninterruptible Power Systems, HPE Rack Options, and

Summary of Changes

			HPE Pointnext operational services in Additional Options section were revised.
01-Dec-2014	From Version 14 to 15	Added	HPE 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive and HPE 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive were added to HPE Hard Drives.
		Changed	HPE Pointnext operational services section has been revised.
29-Sep-2014	From Version 13 to 14	Added	New Solid State Drives were added. HPE Managed Power Distribution Units (maPDU) was added to Additional Options.
		Changed	Service and Support section was revised. HPE Hard Drives was revised in Core Options section.
18-Aug-2014	From Version 12 to 13	Added	New Hard Drives were added. HPE 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. HPE Power Supplies, and HPE Security were revised in Configuration Information – Factory Integrated Models.
		Removed	HPE 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) 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	HPE Insight Control including 1yr 24x7 Support ProLiant MI/DL/BL-bundle FIO Electronic License was added to Step 3 in Configuration Information HPE 1.2TB 6G SAS 10k rpm SFF SC Dual Port Enterprise 3yr Warranty Hard Drive was added to Hard Drives HPE SmartCache and HPE H221 PCIe 3.0 SAS Host Bus Adapter were added to Storage Controllers HPE Basic Power Distribution Units and HPE Remote Monitoring Power Distribution Units were revised in Additional Options HPE 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 HPE Disk Backup was added to Additional Options HPE Remote Monitoring Power Distribution Units was added to Additional Options
20-Sep-2013	From Version 5 to 6	Changed	HPE Dynamic Smart Array B120i Controller in Technical Specifications was revised.
10-Sep-2013	From Version 4 to 5	Changed	HPE Insight Management, Memory, Hard Drives, Networking,



## Summary of Changes

			High Performance Clusters, Storage Controllers, HPE Power Distribution Units, and HPE Pointnext operational 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.



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

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