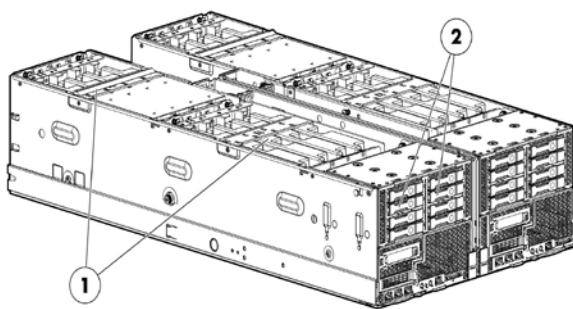# QuickSpecs

Overview

HPE ProLiant SL270s Generation 8 (Gen8)

The HPE ProLiant SL270s Gen8 Server is part of the HPE ProLiant SL6500 Scalable System of server solutions designed for the Hyperscale and High Performance Computing (HPC) market segments. It reduces solution costs, maximizes power efficiency, and eases customer serviceability.
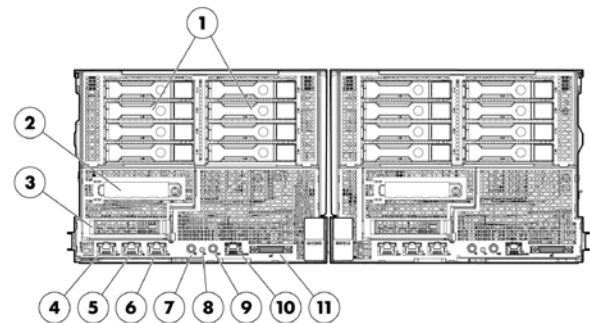
The HPE ProLiant s6500 Chassis can accommodate two 2U, half-width SL270s Gen8 Servers, each individually serviceable. The SL270s Gen8 is designed for extreme rack level graphics processing unit (GPU) density, with up to 16 accelerators capable of being implemented in one chassis, reducing the complexity of required adapters and cabling.

The chassis features front cabling and common slot power supplies and fans for ease of service. The HPE ProLiant SL270s Server is ideal for HPC applications in Oil & Gas, Life Sciences, Manufacturing, Research, and Finance.

4U Open View:
1. Eight accelerator location
2. Eight front SFF Hot Plug drives

4U Front View:
1. Eight front SFF Hot Plug drives
2. FlexibleLOM Slot
3. PCIe Expansion Slot
4. Dedicated iLO4 Management Port
5. (1) 1GbE Ports
6. (1) 1GbE Ports
7. Power Button
8. Health LED
9. UID LED
10. Serial Port
11. SUV (Serial/USB/Video)

What's New
- Updated information pertaining to availability of various options

Hewlett Packard Enterprise

Standard Features

NOTE: The SL270 Gen8 (Node SKU's 654947-B21, 654948-B21) accommodates E5-2600 processors. Any time an SL270 Gen8 SE server (Node SKU's 739055-B21, 739056-B21) is mentioned, this document is referring to the version of that server that accommodates E5-2600v2 processors.
NOTE: For the Standard Features shipped in the Factory Integrated Models, please see the "Configuration Information - Factory Integrated Models" section.
NOTE: The HPE ProLiant SL270s Gen8 Server can accommodate E5-2600 series processors, while the HPE ProLiant SL270s Gen8 SE Server can accommodate E5-2600v2 series processors.

Processor	**E5-2600 v2 series Processors**
One of the following depending on Model	**Entry Processors** **NOTE:** All support up to 1333MHz DDR3 memory speeds.
	Intel® Xeon® E5-2609 v2 (2.5GHz/4-core/10MB/6.4GT-s QPI/80W)
	Base Processors **NOTE:** All support up to1600MHz DDR3 memory speeds.
	Intel® Xeon® E5-2630 v2 (2.6GHz/6-core/15MB/7.2GT-s QPI/80W, DDR3-1600, HT, Turbo2-3/3/3/3/4/5)
	Intel® Xeon® E5-2650L v2 (1.7GHz/10-core/25MB/8.0GT-s QPI/70W, DDR3-1600, HT, Turbo2-2/2/2/2/2/2/2/2/3/4)
	Performance Processors **NOTE:** For 130W CPU support and configuration, please contact your HPE account team. **NOTE:** For 115W CPU support, customers must use the HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply Kit (684532-B21). **NOTE:** All support up to 1866MHz DDR3 memory speeds.
	Intel® Xeon® E5-2695 v2 (2.4GHz/12-core/30MB/8.0GT-s QPI/115W, DDR3-1866, HT, Turbo2-4/4/4/4/4/4/4/4/5/6/7/8)
	Intel® Xeon® E5-2680 v2 (2.8GHz/10-core/25MB/8.0GT-s QPI/115W, DDR3-1866, HT, Turbo2-3/3/3/3/3/4/5/6/7/8)
	Intel® Xeon® E5-2670 v2 (2.5GHz/10-core/25MB/8.0GT-s QPI/115W, DDR3-1866, HT, Turbo2-4/4/4/4/4/4/5/6/7/8)
	Intel® Xeon® E5-2660 v2 (2.2GHz/10-core/25MB/8.0GT-s QPI/95W, DDR3-1866, HT, Turbo2-4/4/4/4/4/4/5/6/7/8)
	Intel® Xeon® E5-2650 v2 (2.6GHz/8-core/20MB/8.0GT-s QPI/95W, DDR3-1866, HT, Turbo2-4/4/4/4/5/6/7/8)
	E5-2600 series Processors
	Entry Processors **NOTE:** All support up to 1066MHz memory speeds.
	Intel® Xeon® E5-2609 (2.4GHz/4-core/10MB/6.4GT-s QPI/80W)
	Intel® Xeon® E5-2603 (1.8GHz/4-core/10MB/6.4GT-s QPI/80W)
	Base Processors **NOTE:** All support up to1333MHz DDR3 memory speeds.
	Intel® Xeon® E5-2640 (2.5GHz/6-core/15MB/7.2GT-s QPI/95W, DDR3-1333, HT, Turbo2-3/3/4/4/5/5)
	Intel® Xeon® E5-2630 (2.3GHz/6-core/15MB/7.2GT-s QPI/95W, DDR3-1333, HT, Turbo2-3/3/4/4/5/5)
	Intel® Xeon® E5-2620 (2.0GHz/6-core/15MB/7.2GT-s QPI/95W, DDR3-1333, HT, Turbo2-3/3/4/4/5/5)
	Intel® Xeon® E5-2630L (2.0GHz/6-core/15MB/8.0GT-s QPI/60W, DDR3-1333, HT, Turbo2-3/3/4/4/5/5)

Standard Features

Performance Processors

NOTE: For 130W CPU support and configuration, please contact your HPE account team.

NOTE: For 115W CPU support, customers must use the HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply Kit (684532-B21).

NOTE: All support up to 1600MHz DDR3 memory speeds.

Intel® Xeon® E5-2670 (2.6GHz/8-core/20MB/8.0GT-s QPI/115W, DDR3-1600, HT, Turbo2-4/4/5/5/6/6/7/7)

Intel® Xeon® E5-2665 (2.4GHz/8-core/20MB/8.0GT-s QPI/115W, DDR3-1600, HT, Turbo2-4/4/5/5/6/6/7/7)

Intel® Xeon® E5-2660 (2.2GHz/8-core/20MB/8.0GT-s QPI/95W, DDR3-1600, HT, Turbo2-5/5/6/6/7/7/8/8)

Intel® Xeon® E5-2650 (2.0GHz/8-core/20MB/8.0GT-s QPI/95W, DDR3-1600, HT, Turbo2-4/4/5/5/5/7/8/8)

Intel® Xeon® E5-2650L (1.8GHz/8-core/20MB/8.0GT-s QPI/70W, DDR3-1600, HT, Turbo2-2/2/3/3/4/4/5/5)

Intel® Xeon® E5-2637 (3.0GHz/2-core/5MB/8.0GT-s QPI/80W, DDR3-1600, HT, Turbo2- 5/5)

NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology.

NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 8, 7, 6, 5, 4, 3, 2 or 1 core(s) active.

NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

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

NOTE: For the Intel® C600 Chipset E5-2600 Series, the letter preceding the model number indicates the Product Line (E3, E5, E7); 2600x, 2 = number of CPUs in a Node, 6 is socket/segment designation, 00 = Processor SKU, and x = L for low power SKUs.

Cache Memory One of the following depending on Model	30MB (1x30MB) Level 3 **NOTE:** For Twelve-core processors. 25MB (1x25MB) Level 3 **NOTE:** For Ten-core processors. 20MB (1x20MB) Level 3 **NOTE:** For Eight-core processors. 15MB (1x15MB) Level 3 **NOTE:** For Six-core processors. 10MB (1x10MB) Level 3 **NOTE:** For Quad-core processors. 5MB (1x5MB) Level 3 **NOTE:** For Dual-core processors.
Chipset	Intel® E5-2600 Processor Family Intel® E5-2600v2 Processor Family **NOTE:** For more information regarding Intel® chipsets, please see the following URL: **http://www.intel.com/products/server/chipsets/** .
Upgradeability	Upgradeable to two processors
On System Management Chipset	HPE iLO (Firmware: HPE iLO 4) **NOTE:** For more information, visit: **http://www.hp.com/go/ilo**.
Memory Protection	Advanced ECC (multi-bit error protection)

Standard Features

Memory	Type	HPE SmartMemory
		DDR3 Registered (RDIMM) or Unbuffered (UDIMM)
	DIMM Slots Available	16 total DIMM Slots available
	Standard (Base Models)	8GB (2x 4G) Registered DIMMs (1333MHz)
	Maximum (RDIMM) (per server tray)	256GB (16 x 16GB) Registered memory configurations
	Maximum (UDIMM) (per server tray)	128GB (16 x 8GB)
	Maximum (LRDIMM) (per server tray)	512GB (16 x 32GB) LRDIMM memory configurations

NOTE: HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. To realize the performance memory capabilities listed in this document, HPE SmartMemory is required. For additional information, please see the HPE SmartMemory QuickSpecs at: **http://h18000.www1.hp.com/products/QuickSpecs/14225_div/14225_div.html**
NOTE: RDIMM and UDIMMs are all distinct memory technologies and cannot be mixed within a server.
NOTE: HPE certified SmartMemory must be used to guarantee full 1600MHz speeds.
NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1866MHz, 1600MHz, 1333MHz, or 1066MHz. Please see the Online Memory Configuration Tool at: **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**

Network Controller	HPE Ethernet 1Gb 2-port 361i Adapter

Expansion Slots	Expansion Slots	Technology	Bus Width*	Connector Width	Form Factor	Notes
	Low Profile	PCIe 3.0	x8	x8	Half-length, half-height	Front Panel Access
	FlexibleLOM	PCIe 3.0	x8	x8	FlexibleLOM	Front Panel Access
	All 8 GPU Slots	PCIe 3.0	x16	x16	Full-length, full height	GPU only

*Indicates the number of physical electrical lanes running to the connector
NOTE: NVIDIA Tesla K2 runs at PCIe Gen3.0. All other accelerators run at Gen2.0.

HPE Server ROM   HPE ROM (Read Only Memory) is now digitally signed using HPE's 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.

Standard Features

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

- Processor and chipset status registers
- System memory, memory map, and memory initialization
- System hardware configuration (Integrated PCI devices and optional PCIe cards).
- Customer-specific BIOS configuration (using the 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	HPE H220i Host Bus Adapter (B320i Dynamic Smart Array with FW update)		

Internal Storage Devices	Diskette Drives	Via USB through the SUV port, external support only	
	Optical Drives	Via USB through the SUV port, external support only	
	Hard Drives	None ship standard	

Maximum Internal Storage	**4U Half Width tray**		
	Hot Plug SATA SFF 2.5"	8.0 TB	8 x 1TB
	Hot Plug SAS SFF 2.5"	9.6TB	8 x 1.2TB
	Hot Plug SATA SSD 2.5"	6.4TB	8 x 800GB
	Hot Plug SAS SSD 2.5"	6.4TB	8 x 800GB

Interfaces	Network RJ-45	Two 1GbE NIC ports
	FlexibleLOM	ProLiant Gen8 servers offer a new networking technology - Flexible Network Technology. The SL270s Gen8 server offers the customer the choice of 1Gigabit, 10Gigabit or InfiniBand FlexibleLOM solutions depending on workload. For further details on the choices, see FlexibleLOM in the Networking Section of this document for further details.
	KVM	Serial USB Video Port (SUV)
	Micro SD	1 (internal)
	USB Ports	1 (internal)
	HPE iLO Remote Management Network Port	1 Gb Dedicated
	Health LED	1 front
	Power	1 front
	UID	1 front

Industry Standard Compliance	ACPI 2.0b Compliant
	PCIe 3.0 Compliant
	WOL Support
	Microsoft® Logo certifications
	PXE Support
	USB 1.1 and 2.0 Compliant
	SMBIOS 2.6.1

Server Power Cords	One 6' Highline (IEC-IEC) power cord ships standard
	NOTE: HPE ProLiant SL servers are primarily connected to PDU's in data center racks so they ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant SL server

Standard Features

using a 110V receptacle (NEMA-15), the NEMA power cord must be ordered separately.
NOTE: If customers require a local power cord, they can check the power cord matrix for the appropriate cord. Please see the following power cord matrix:
http://www.hp.com/go/powercordmatrix .

Power Specifications	To review typical system power ratings, use the HPE Power Advisor which is available via download at URL: **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 Supplies	**NOTE:** Mixing of power supplies in the same server is not supported. All power supplies inside a server must be exactly the same model. Mixing Gold, Platinum, and Platinum Plus certified power supplies is not supported. HPE's Common Slot (CS) power supplies allow for commonality of power supplies across a wide range of ProLiant and Integrity servers, as well as HPE Storage solutions, and are designed to provide the highest power supply efficiency without degrading system performance. HPE CS power supplies are tested by the Electric Power Research Institute (EPRI) and certified through the ECOS 80 Plus power supply program. HPE CS power supply options provide efficiency ratings of up to 94% and are available in three power output options - 750W, 1200W and 1500W - allowing the customer to "right-size" a power supply for their specific server configuration. All HPE Common Slot power sources are UL, CE Mark Compliant, hot-plug and support redundant configurations. **NOTE:** Mixing of power supplies in the same server is not supported. All power supplies must be of the same output and efficiency rating. If non-matched power supplies are inserted you will get errors and operation will fail. It is highly recommended that you use the HPE Power Advisor in defining the "Right-Size" power supply for your needs. HPE Power Advisor can be accessed at: **http://www.hp.com/go/hppoweradvisor**. **NOTE:** The 80 PLUS program is a unique forum that unites electric utilities, the computer industry, and consumers in an effort to bring energy efficient technology solutions to the marketplace. 80 Plus independently tests power supply efficiency and publicly posts the results on 80Plus.org. Redundant Power: Optional (1+ 1 or n+n redundant) power supplies can be purchased through power supply option kits (see Power Supplies for part numbers). **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	HPE s6500 Redundant Fan Kit **NOTE:** This kit includes only 1 fan, but the chassis requires 8 fans **NOTE:** This selection must be ordered in quantities of 8 (PN 617856-B21) HPE s6500 Non-Redundant Fan Kit **NOTE:** This kit includes only 1 fan, but the chassis requires 8 fans **NOTE:** This selection must be ordered in quantities of 8 (PN 617858-B21) **NOTE:** all 8 fan bays must be populated with either redundant or non-redundant fans **NOTE:** mixing and matching of fans is not allowed
Operating Systems and Virtualization Software Support for ProLiant Servers	**Microsoft Windows Server** **Canonical Ubuntu** **Red Hat Enterprise Linux (RHEL)** **SUSE Linux Enterprise Server (SLES)** VMWare Citrix XenServer **NOTE:** For more information on Hewlett Packard Enterprise's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your

Standard Features

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/SL270sGen8**

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	Fully configured SL270 is 4U, half-width
	Fully configured s6500 chassis is 4U, full-width

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 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) provide a 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 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

Standard Features

support for each Service Pack for ProLiant release.

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 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 provides a straightforward, intuitive user interface that guides the user through the steps of discovery, analyses and update, providing comprehensive information on available updates, criticality and interdependencies. This information is also available in reports. By providing the option of multiple local or shared repositories which can be easily updated from hp.com, HPE SUM provides the tools to optimize stability and consistency throughout the company. While HPE SUM and the SPP 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 interdepencies, when determining the correct updates and order of update deployment.

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

Security	Power-on password
	Keyboard password
	QuickLock, Network Server Mode
	Serial interface control
	Administrator's password
	iLO 4 (Integrated Lights-Out 4) has 12 customizable user accounts and SSL encryption
	iLO 4 can be disabled via a Global Setting
	iLO Advanced supports directory services integration
Warranty	This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners. Hardware diagnostic support and repair is available for one year 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 Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty.

NOTE: Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site 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

Standard Features

support is available at:

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

Optional Features

HPE Insight Management	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. 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 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/iloadvance**
	HPE iLO Scale-Out	The HPE iLO Scale-Out license ideal for web/hosting/cloud service providers and High Performance Computing environments. This license is a specific subset of iLO Advanced functionality, provides fast remote access through Text Console via SSH, lower operational cost with Dynamic power capping, and faster time to resolution through Email-based Alerting and proactive notifications. With this newly designed HPE iLO Scale-Out license HPC customers now have a server management package solely design and priced for their massive data environments. HPE iLO Scale-Out is available on all HPE ProLiant Gen8 SL and BL and DL 160 servers. For more information, see: **http://www.hp.com/go/iLO/scale-out**
	HPE Matrix Operating Environment	The HPE Matrix Operating Environment (Matrix OE) for ProLiant and Integrity servers is an integrated command center that helps you instantly adjust to dynamic business demands. This advanced infrastructure management software lets you reduce the cost of common data center tasks by up to 40 percent while keeping pace with your changing business.
		The HPE Matrix OE includes the automated provisioning, optimization, and recovery management capabilities for HPE CloudSystem Matrix, the ideal platform for private cloud and Infrastructure as a Service (IaaS).
		NOTE: For more information, visit: **http://www.hp.com/go/matrixoe**
High Performance Clusters	HPE Cluster Platforms	HPE Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and SUSE Linux Enterprise Server, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. **http://www.hp.com/go/clusters**
	HPE HPC Interconnects	High Performance Computing (HPC) interconnect technologies are available for this server as part of the HPE Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by Hewlett Packard Enterprise when integrated within an HPE cluster. Flexible,

Optional Features

		validated solutions can be defined with the help of configuration tools. **http://www.hp.com/techservers/clusters/ucp/index.html**
	HPE Insight Cluster Management Utility	HPE Insight Cluster Management Utility (CMU) is an Hewlett Packard Enterprise-licended and Hewlett Packard Enterprise-supported suite of tools that are used for lifecycle management of hyperscale clusters of Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. **http://www.hp.com/go/cmu**

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**
  HPE's storage software enables you to comply with data retention and retrieval requirements, improve application performance, and reduce costs by efficiently migrating infrequently accessed or less valuable data to lower cost storage.
- **Storage Resource Management Software (SRM)**
  HPE's storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.
- **Data Replication Software**
  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

HPE Insight Online

HPE Insight Online is a new addition to the HPE Support Center for one stop, secure access to product and HPE 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**

Factory Express Portfolio for Servers and Storage

HPE Factory Express offers configuration, customization, integration and deployment services for Hewlett Packard Enterprise 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

Optional Features

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**.

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 HPE's Customer Business Center or an Authorized Partner for assistance. **http://www.hp.com/products/configurator**

Computational and Graphics Accelerators Each SL270s tray will accommodate up to eight computational or graphics accelerators, with options including NVIDIA Tesla K20, K20x, K40 and K80 GPUs, NVIDIA GRID K2 GPUs, Intel® Xeon Phi™ 5110p and AMD S9150 Firepro Coprocessors.

NOTE: The maximum number of NVIDIA Tesla K20, K20x and K40 GPUs and Intel® Xeon Phi™ 5110p coprocessors supported is 8. The maximum number of NVIDIA GRID K2 and K80 GPUs is 4. The maximum number of HPE AMD FirePro S9150 Accelerators is 6.
NOTE: The NVIDIA GRID K2 and K80 operate at PCIe Gen 3. All other accelerators operate at PCIe Gen 2.
NOTE: When adding accelerators to the SL270s servers, one must utilize the HPE 1200W CS Platinum Power Supply Kit, 578322-B21,or the HP1500W CS Platinum Power Supply Kit, 684532-B21, for all four power supply slots.
NOTE: When adding Nvidia Tesla K2, K20, K20X or K40 accelerators to the SL270s servers, one must utilize the HPE SL270 NVIDIA GPU Enablement Kit. When adding Intel Xeon Phi 5110p Coprocessors, one must utilize the HPE SL270 Coprocessor Enablement Kit.
NOTE: When adding Nvidia Tesla K80 accelerator to the SL270s servers, one must utilize the HPE SL270 K80 GPU Enablement Kit.
NOTE: When adding AMD S9150 Firepro accelerator to the SL270s servers, one must utilize the HPE SL270 AMD GPU Enablement Kit.
NOTE: When implementing 7 or 8 accelerators, one must utilize the HPE 1500W CS Platinum Power Supply Kit, 684532-B21.
NOTE: One must configure a minimum of 4GB of memory per processor when accelerators are installed.
NOTE: Mixing of accelerators or coprocessors within the same server is not allowed.
NOTE: At this time, the NVIDIA Tesla K40 is operated at PCIe Gen3.0.
NOTE: The NVIDIA Tesla K40 and K80 and AMD S9150 Firepro are only supported on E5-2600v2 processors.

Service and Support

Service and Support	**The SL270s tray is a part of the HPE ProLiant s6500 Chassis. Support for these tray need to be purchased at a chassis level. Please refer to HPE ProLiant s6500 Chassis quick spec documentation for details.** **HPE Technology Services for Industry Standard Servers** 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 Care Pack Services** HPE Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.
Get connected to Hewlett Packard Enterprise to improve your support experience	Prevent problems with innovative, automated monitoring tools and proactive services. Combining Proactive Care Services with our remote support technology such as Insight Online 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**
Warranty / Service Coverage	For ProLiant servers and storage systems, the services cover HPE-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by Hewlett Packard Enterprise as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.
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**

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 an 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.
NOTE: s6500 Chassis cannot have a mix of SL270s with SL250s and/or SL230s due to different Carbondale (CD) FW versions. You will be unable to order such a configuration. SL250s and SL230s can be intermixed in an s6500 chassis because they possess the same Carbondale (CD) FW versions, but one that differs from SL270s. This rule does not apply to any combination of servers with Ivy Bridge processors; the Carbondale version in those processors is the same.

Step 1: Base Configuration (choose one from each list unless otherwise noted)

HPE Chassis	HPE ProLiant s6500 without Fans 4U Configure-to-order Chassis	614167-B21

> **NOTE:** You must choose Power Supplies and fans as the chassis does not include them.
> **NOTE:** If you already have a s6500 chassis you can buy server trays below.

Step 2: Select Nodes

NOTE: Mixing and matching of half width trays is supported in the s6500 chassis.
NOTE: If you do not fill up chassis with servers, the HPE node blank Kit 622372-B21 needs to be ordered for each half width 1U space unpopulated.

HPE ProLiant SL270s Gen8 SE 4U Left Tray Configure-to-order Server	739055-B21
NOTE: Server node is only available for E5-2600v2 processors.	
HPE ProLiant SL270s Gen8 SE 4U Right Tray Configure-to-order Server	739056-B21
NOTE: Server node is only available for E5-2600v2 processors.	

Step 3: Choose Required Node Options (only one of the following from each list unless otherwise noted)

HPE Processors	**NOTE:** If 2 processors are desired, select one xxxxx-L21 and one xxxxxx-B21.	
	E5-2600v2 Series Processors	
	Entry Processors	
	NOTE: All support up to 1333MHz memory speeds.	
	NOTE: All E5-2600v2 processors must be paired with 739055-B21 or 739056-B21 Tray Node Servers	
	HPE SL2x0s Gen8 Intel® Xeon® E5-2609v2 (2.5GHz/4-core/10MB/80W) FIO Processor Kit	725942-L21
	Base Processors	
	NOTE: All support up to1600MHz DDR3 memory speeds.	
	HPE SL2x0s Gen8 Intel® Xeon® E5-2630v2 (2.6GHz/6-core/15MB/80W) FIO Processor Kit	725941-L21
	HPE SL2x0s Gen8 Intel® Xeon® E5-2650Lv2 (1.7GHz/10-core/25MB/70W) FIO Processor Kit	725943-L21
	Performance Processors	
	NOTE: For 130W CPU support and configuration, please contact your HPE account team.	
	NOTE: For 115W CPU support, customers must use the HPE 1500W Common	

Configuration Information - Factory Integrated Models

Slot Platinum Plus Hot Plug Power Supply Kit (684532-B21).
NOTE: All support up to 1866MHz DDR3 memory speeds.

HPE SL2x0s Gen8 Intel® Xeon® E5-2695v2 (2.4GHz/12-core/30MB/115W) FIO Processor Kit	725944-L21
HPE SL2x0s Gen8 Intel® Xeon® E5-2680v2 (2.8GHz/10-core/25MB/115W) FIO Processor Kit	725937-L21
HPE SL2x0s Gen8 Intel® Xeon® E5-2670v2 (2.5GHz/10-core/25MB/115W) FIO Processor Kit	725938-L21
HPE SL2x0s Gen8 Intel® Xeon® E5-2660v2 (2.2GHz/10-core/25MB/95W) FIO Processor Kit	725939-L21
HPE SL2x0s Gen8 Intel® Xeon® E5-2650v2 (2.6GHz/8-core/20MB/95W) FIO Processor Kit	725940-L21

E5-2600 Series Processors

Entry Processors
NOTE: All support up to 1066MHz memory speeds.
NOTE: All E5-2600 processors must be paired with 654947-B21 or 654948-B21 Tray Node Servers

Base Processors
NOTE: All support up to1333MHz DDR3 memory speeds.

Performance Processors
NOTE: For 130W CPU support and configuration, please contact your HPE account team.
NOTE: For 115W CPU support, customers must use the HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply Kit (684532-B21).

HPE Memory

NOTE: HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HPE SmartMemory QuickSpecs at:
http://h18000.www1.hp.com/products/QuickSpecs/14225_div/14225_div.html
NOTE: LRDIMM, RDIMM, and UDIMMs are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support LRDIMM, RDIMM and UDIMMs.

Registered DIMMs (RDIMMs)
NOTE: The following memory is supported by the E5-2600 v2 series Processors.

HPE 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713983-B21
HPE 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	731765-B21
HPE 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit	731761-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713985-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit	708641-B21

Registered DIMMs (RDIMMs)
NOTE: The following memory is supported by the E5-2600 series Processors.

HPE 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647895-B21
HPE 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11	647899-B21

Configuration Information - Factory Integrated Models

	Memory Kit	
	HPE 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647901-B21
	HPE 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672631-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	NOTE: The following memory is supported by the E5-2600 v2 series Processors.	
	HPE 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713979-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	NOTE: The following memory is supported by the E5-2600 series Processors.	
	HPE 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
	HPE 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
	HPE 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647907-B21
	HPE 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
	HPE 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647909-B21
	Load Reduced DIMMs (LRDIMMs)	
	HPE 32GB (1x32GB) Quad Rank x4 PC3-14900L (DDR3-1866) Load Reduced CAS-13 Memory Kit	708643-B21
	NOTE: This memory is supported by the E5-2600 v2 series Processors.	

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

Step 4: Choose Additional Factory Integratable Options

HPE Networking	**Gigabit Ethernet Adapters**	
	HPE Ethernet 1Gb 4-port 366FLR FIO Adapter	684217-B21
	FlexibleLOM Adapters	
	HPE Ethernet 10Gb 2-port 560FLR-SFP+ FIO Adapter	684218-B21
	HPE Ethernet 10Gb 2-port 561FLR-T FIO Adapter	700700-B21
	NOTE: Can only be paired with M2070 and M2090 GPU Kits	
	HPE FlexFabric 10Gb 2-port 534FLR-SFP+ FIO Adapter	700752-B21
	HPE FlexFabric 10Gb 2-port 533FLR-T FIO Adapter	700760-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: **http://www.hp.com/go/ProLiantNICs**	
HPE Insight Software	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

Configuration Information - Factory Integrated Models

Step 5: Choose Additional Options for Factory Integration

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

Core Options

HPE Unique Options	HPE SL270 NVIDIA GPU Enablement Kit	711951-B21
	NOTE: Required when ordering NVidia Tesla K2, K20, or K20x Modules.	
	HPE SL270s Gen8 SE K80 FIO GPU Enablement Kit	814622-B21
	NOTE: Required when ordering NVidia Tesla K80 Modules.	
	HPE SL270s Gen8 SE AMD S9150 GPU Enablement Kit	813861-B21
	NOTE: Required when ordering AMD S9150 Firepro Accelerator.	

HPE Processors	**E5-2600 v2 series Processors**	
	Entry Processors	
	NOTE: All support up to 1333MHz memory speeds.	
	HPE SL2x0s Gen8 Intel® Xeon® E5-2609v2 (2.5GHz/4-core/10MB/80W) Processor Kit	725942-B21
	Base Processors	
	NOTE: All support up to1600MHz DDR3 memory speeds.	
	HPE SL2x0s Gen8 Intel® Xeon® E5-2630v2 (2.6GHz/6-core/15MB/80W) Processor Kit	725941-B21
	HPE SL2x0s Gen8 Intel® Xeon® E5-2650Lv2 (1.7GHz/10-core/25MB/70W) Processor Kit	725943-B21
	Performance Processors	
	NOTE: For 130W CPU support and configuration, please contact your HPE account team.	
	NOTE: For 115W CPU support, customers must use the HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply Kit (684532-B21).	
	NOTE: All support up to 1866MHz DDR3 memory speeds.	
	HPE SL2x0s Gen8 Intel® Xeon® E5-2695v2 (2.4GHz/12-core/30MB/115W) Processor Kit	725944-B21
	HPE SL2x0s Gen8 Intel® Xeon® E5-2680v2 (2.8GHz/10-core/25MB/115W) Processor Kit	725937-B21
	HPE SL2x0s Gen8 Intel® Xeon® E5-2670v2 (2.5GHz/10-core/25MB/115W) Processor Kit	725938-B21
	HPE SL2x0s Gen8 Intel® Xeon® E5-2660v2 (2.2GHz/10-core/25MB/95W) Processor Kit	725939-B21
	HPE SL2x0s Gen8 Intel® Xeon® E5-2650v2 (2.6GHz/8-core/20MB/95W) Processor Kit	725940-B21
	E5-2600 Series Processors	
	Entry Processors	
	NOTE: All support up to 1066MHz memory speeds.	
	Base Processors	
	NOTE: All support up to1333MHz DDR3 memory speeds.	
	Performance Processors	
	NOTE: For 130W CPU support and configuration, please contact your HPE account team.	
	NOTE: For 115W CPU support, customers must use the HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply Kit (684532-B21).	

Core Options

HPE Memory	**NOTE:** HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HPE SmartMemory QuickSpecs at: **http://h18000.www1.hp.com/products/QuickSpecs/14225_div/14225_div.html** **NOTE:** LRDIMM, RDIMM, and UDIMMs are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support LRDIMM, RDIMM and UDIMMs.	

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2600 v2 series Processors.

HPE 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713983-B21
HPE 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	731765-B21
HPE 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit	731761-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713985-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit	708641-B21

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2600 series Processors.

HPE 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647895-B21
HPE 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647899-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647901-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672631-B21

Unbuffered with ECC DIMMs (UDIMMs)

NOTE: The following memory is supported by the E5-2600 v2 series Processors.

HPE 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713979-B21

Unbuffered with ECC DIMMs (UDIMMs)

NOTE: The following memory is supported by the E5-2600 series Processors.

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

Load Reduced DIMMs (LRDIMMs)

HPE 32GB (1x32GB) Quad Rank x4 PC3-14900L (DDR3-1866) Load Reduced	708643-B21

Core Options

CAS-13 Memory Kit

NOTE: This memory is supported by the E5-2600 v2 series Processors.

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 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. **NOTE:** The non-hot plug hard drives use a quick release carrier.	

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

NOTE: Selection of SAS hard drives along with embedded controller (B320i) as primary controller requires the selection of SAS license Key (For CTO orders Customers MUST select 0D1 SKU= p/n BC393A (HPE SAS Nm 1-Srv Lic for B320i)

HPE 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive	718162-B21
HPE 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652589-B21
HPE 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652583-B21
HPE 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652572-B21
HPE 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652611-B21
HPE 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652564-B21
HPE 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652605-B21

SAS Hot Plug SmartDrive SFF (2.5-inch) Midline Drives

NOTE: Selection of SAS hard drives along with embedded controller (B320i) as primary controller requires the selection of SAS license Key (For CTO orders Customers MUST select 0D1 SKU= p/n BC393A (HPE SAS Nm 1-Srv Lic for B320i)

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

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111744 (Worldwide)

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

HPE 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655710-B21
HPE 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655708-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111725 (Worldwide)

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

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

Core Options

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

6G SATA RI-2 SFF SC SSD

HPE 1.6TB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804605-B21
HPE 800GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804599-B21
HPE 480GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804593-B21
HPE 240GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804587-B21
HPE 120GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804581-B21
HPE 80GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804575-B21

6G SATA MU-2 SFF SC SSD

HPE 1.6TB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804631-B21
HPE 800GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804625-B21
HPE 480GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive	832414-B21
HPE 200GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804613-B21

6G SATA WI-2 SFF SC SSD

HPE 1.2TB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804677-B21
HPE 800GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804671-B21
HPE 400GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804665-B21
HPE 200GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive	804639-B21

6G SATA ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives

6G SAS ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives

NOTE: Selection of SAS hard drives along with embedded controller (B320i) as primary controller requires the selection of SAS license Key (For CTO orders Customers MUST select 0D1 SKU= p/n BC393A (HPE SAS Nm 1-Srv Lic for B320i)

6G SAS SLC Hot Plug SFF (2.5-inch) Enterprise Performance Solid State Drives

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.

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

https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154378 (Worldwide)

12G SAS VE Hot Plug SFF (2.5-inch) Value Endurance Solid State Drives

NOTE: Selection of SAS hard drives along with embedded controller (B320i) as primary controller requires the selection of SAS license Key (For CTO orders Customers MUST select 0D1 SKU= p/n BC393A (HPE SAS Nm 1-Srv Lic for B320i)

HPE 800GB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	762261-B21
HPE 1.6TB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	762263-B21
HPE 800GB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	762270-B21
HPE 1.6TB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	762272-B21

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

NOTE: Selection of SAS hard drives along with embedded controller (B320i) as primary controller requires the selection of SAS license Key (For CTO orders

Core Options

Customers MUST select 0D1 SKU= p/n BC393A (HPE SAS Nm 1-Srv Lic for B320i)

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

NOTE: Selection of SAS hard drives along with embedded controller (B320i) as primary controller requires the selection of SAS license Key (For CTO orders Customers MUST select 0D1 SKU= p/n BC393A (HPE SAS Nm 1-Srv Lic for B320i)

HPE Networking	**Gigabit Ethernet Adapters**	
	HPE NC365T 4-port Ethernet Server Adapter	593722-B21
	HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HPE Ethernet 1Gb 2-port 361T Adapter	652497-B21
	10 Gigabit Ethernet adapters	
	NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.	
	HPE Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
	HPE Ethernet 10Gb 2-port 530T Adapter	656596-B21
	HPE Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
	HPE Ethernet 10Gb 2-port 561T Adapter	716591-B21
	NOTE: Can only be paired with M2070 and M2090 GPU Kits	
	FlexibleLOM Adapters	
	HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
	HPE Ethernet 10Gb 2-port 530FLR-SFP+ Adapter	647581-B21
	HPE FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
	HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
	HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
	HPE Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21
	NOTE: Can only be paired with M2070 and M2090 GPU Kits	
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: **http://www.hp.com/go/ProLiantNICs**	
HPE InfiniBand	QLogic InfiniBand 4X QDR PCI-E G2 Dual Port HCA	583211-B21
	HPE Infiniband FDR/Ethernet 10Gb/40Gb 2-port 544QSFP Adapter	649281-B21
	NOTE: Dual port ConnectX-3 FDR/QDR IB or 40/10GbE. No IB Enablement Kit required	
	FlexibleLOM Adapters	
	HPE Infiniband FDR/Ethernet 10Gb/40Gb 2-port 544FLR-QSFP Adapter	649282-B21
	NOTE: Dual port ConnectX-3 FDR/QDR IB or 40/10GbE. No IB Enablement Kit required.	
	NOTE: Please see the QuickSpecs for additional information: h**https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154440**	

Additional Options

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

HPE Insight Software	**HPE Insight Control**	
	HPE Insight Control including 1yr 24x7 Technical Support and Updates 1-server LTU	C6N27A
	HPE Insight Control including 1yr 24x7 TSU E-LTU	C6N28ABE
	HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO E-LTU	C6N36ABE
	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 iLO Scale Out

HPE iLO Scale-Out including 3yr 24x7 Tech Support and Updates Flex Qty E-LTU	BD776AAE
HPE iLO Scale-Out 3yr 24x7 Tech Support and Updates Flexible Quantity LTU	BD776A
HPE iLO Scale-Out including 3yr 24x7 Tech Support and Updates Tracking LTU	BD777A
HPE iLO Scale-Out including 1yr 24x7 Tech Support and Updates Flex Qty E-LTU	BD778AAE
HPE iLO Scale-Out 1yr 24x7 Tech Support and Updates Flexible Quantity LTU	BD778A
HPE iLO Scale-Out including 1yr 24x7 Tech Support and Updates Tracking LTU	BD779A

NOTE: Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: **http://www.hp.com/go/ic-linux** (click on Download button).
NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.

NOTE: For additional license options please see the QuickSpecs at:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04282647

HPE Integrated Lights-Out (iLO) Advanced for ProLiant

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 Advanced including 1yr 24x7 Technical Support and Updates E-LTU	E6U59ABE
HPE iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU	E6U64ABE

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

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: 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**	
Cloudera Licensing	**Cloudera Licenses Available for SL270 Server**	
	Cloudera Enterprise Basic Edition 1 Year Subscription per Node 24x7 Support Physical LTU	G7M27A
	Cloudera Enterprise Basic Edition 1 Year Subscription per Node 24x7 Support E-LTU	G7M27AAE
	Cloudera Enterprise Basic Edition 1 Year Subscription per Node 8x5 Support Physical LTU	G7M28A
	Cloudera Enterprise Basic Edition 1 Year Subscription per Node 8x5 Support E-LTU	G7M28AAE
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 24x7 Support Physical LTU	G7M29A
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 24x7 Support E-LTU	G7M29AAE
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 8x5 Support Physical LTU	G7M30A
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 8x5 Support E-LTU	G7M30AAE
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 24x7 Premium E-LTU	G7M31AAE
HPE PCIe Workload Accelerator Options	**Value Endurance (VE) PCIe Workload Accelerators**	
	HPE 1.6TB HH/HL Value Endurance (VE) PCIe Workload Accelerator	763836-B21
	HPE 3.2TB HH/HL Value Endurance (VE) PCIe Workload Accelerator	763838-B21
	HPE 6.4TB FH/HL Value Endurance (VE) PCIe Workload Accelerator	763840-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123190** (Worldwide)	
	Value Endurance (VE) PCIe Workload Accelerators	
Computational and Graphics Accelerators	**NOTE:** Each SL270s tray will accommodate up to eight accelerators. Max number of accelerators is 8 unless explicitly stated. **NOTE:** When adding accelerators to the SL270s server, one must utilize the HPE 1200W CS Platinum Power Supply Kit, 578322-B21, or HPE 1500W CS Platinum Power Supply Kit, 684532-B21 for all four power supply slots. **NOTE:** When implementing 7 or 8 accelerators, one must utilize the HPE 1500W CS Platinum Power Supply Kit, 684532-B21. **NOTE:** One must configure a minimum of 4GB of memory per processor when accelerators are installed	

Additional Options

NOTE: Mixing of accelerators or coprocessors within the same server is not allowed.

NVIDIA Accelerators for HPE ProLiant Servers

NVIDIA GRID K2 Dual GPU PCIe Graphics Accelerator **NOTE:** Only supported with E5-2600v2 Processor Kits **NOTE:** Maximum number of Grid K2 GPU Kits in an SL270 is four (4) **NOTE:** 8GB Host System Memory required per Virtual Machine (VM)	729851-B21
NVIDIA Tesla K40 12 GB Computational Accelerator	F1R08A
HPE NVIDIA Tesla K80 Dual GPU PCIe Computational Accelerator	J0G95A
HPE AMD FirePro S9150 Accelerator Kit	J0H11A

NOTE: This module, on the SL270s, is supported as a PCIe Gen 2 device
NOTE: Only supported with E5-2600v2 Processor Kits

Intel Xeon Phi Coprocessor Modules for HPE ProLiant Servers

Enablement Kits

HPE SL270 NVIDIA GPU Enablement Kit **NOTE:** Required when ordering NVidia Tesla K2, K20, or K20x Modules.	711951-B21
HPE SL270s Gen8 SE K80 FIO GPU Enablement Kit **NOTE:** Required when ordering NVidia Tesla K80 Modules.	814622-B21
HPE SL270s Gen8 SE AMD S9150 GPU Enablement Kit **NOTE:** Required when ordering AMD S9150 Firepro Accelerator.	813861-B21

HPE Storage Controllers **SAS Controllers**

NOTE: The following SAS Controllers require a 2P configuration.

Smart Array P222 Controller

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

Smart Array P420 Controller

HPE Smart Array P420/1GB FBWC 6Gb 2-ports Int SAS Controller	631670-B21
HPE Smart Array P420/2GB FBWC 6Gb 2-ports Int SAS Controller	631671-B21

Smart Array P421 Controller

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

Smart Array P430 Controller

HPE Smart Array P430/2GB FBWC 12Gb 1-port Int SAS Controller	698529-B21

Optional Upgrades

HPE 512MB B-series Dynamic Smart Array Flash Backed Write Cache with 24 inch Cable	676473-B21
HPE SL250s 4X SFF Smart Array Enablement Kit	670564-B21

NOTE: This SKU must be paired with the HPE Smart Array P222/512MB FBWC Controller.

HPE P430 Enablement Cable Kit	740024-B21
HPE SAS License Key No Media 1 Single Server License for B320i	BC393A
HPE SmartCache No Media 24x7 Technical Support 1-server LTU	D7S26A
HPE SmartCache No Media 24x7 Technical Support Flexible LTU	D7S27A
HPE SmartCache No Media 24x7 Technical Support 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)

Additional Options

https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111533
(Smart Array P421 Controller)
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111382
(Smart Array P430 Controller)
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111365
(Smart Array P431 Controller)
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154413
(Smart Array Advanced Pack)
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123148
(SmartCache)

Host Bus Adapter

HPE H221 PCIe 3.0 SAS Host Bus Adapter	729552-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111455
(HBA 220)
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 Uninterruptible Power Systems	**R5000 Uninterruptible Power System (UPS)**	
	HPE R5000 3U IEC309-32A High Voltage INTL Uninterruptible Power System	AF461A
	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=c04154372
(Worldwide)

R7000 Uninterruptible Power System (UPS)

HPE R7000 4U 50A High Voltage NA/JP Uninterruptible Power System	AF462A
HPE R7000 4U IEC-32A High Voltage INTL Uninterruptible Power System	AF463A

NOTE: Please see the QuickSpecs for additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123199
(Worldwide)
NOTE: For additional information on Hewlett Packard Enterprise Uninterruptible Power Systems please go to: **http://www.hp.com/servers/rackups**
NOTE: For additional information on sizing your server, please reference:
http://www.upssizer.com.
NOTE: Please see the UPS and PDU cable matrix's on the HPE Power Protection 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 Tape Backup	**NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: **http://www.hp.com/go/tape**. For hardware and software compatibility of HPE tape backup products see: **http://www.hp.com/storage/SPOCK**	
	HPE StoreEver LTO-6 Ultrium 6250 Tape Drive in a 1U Rack Mount Kit	C0L99A
	HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 Fibre Channel Tape Autoloader	C0H19A

HPE Tape Storage Systems	**HPE StoreEver MSL6480**	
	HPE StoreEver MSL6480 Scalable Base Module	QU625A

NOTE: Please see the QuickSpecs for Technical Specifications and additional

Additional Options

	information: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111416** (Worldwide)	
HPE Disk Storage Systems	**Disk Enclosures**	
	HPE D3600 Enclosure	QW968A
	NOTE: See the D3000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04227611** (Worldwide)	
	HPE D3700 Enclosure	QW967A
	NOTE: See the D3000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04227611** (Worldwide)	
	NOTE: See the D2000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111697** (Worldwide)	
	HPE D2700 Disk Enclosure	AJ941A
	NOTE: See the D2000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111697** (Worldwide)	
	HPE D6000 Dual I/O Module Disk Enclosure	QQ695A
	NOTE: See the D6000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111505** (Worldwide)	
HPE Basic Power Distribution Units	HPE Basic 1.9kVA/L5-20P 16A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU	H5M54A
	HPE Basic 2.8kVA/L5-30P 24A/120V Outlets (18) 5-20R/Vertical NA/JP PDU	H5M55A
	HPE Basic 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal WW PDU	H5M56A
	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 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 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13/Vertical NA/JP PDU	H5M61A
	HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP PDU	H5M62A
	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-	H5M64A

Additional Options

20R/Vertical NA/JP PDU	
HPE Basic 3Ph 11kVA/60309 16A/240V Outlets (36) C13 (6) C19/Vertical NA PDU	H5M67A
HPE Basic 7.3kVA/60309 5-wire 32A/230V Outlets (20) C13/Vertical INTL PDU	H5M68A
HPE Basic 7.3kVA/60309 3-wire 32A/230V Outlets (24) C13 (6) C19/Vertical INTL PDU	H5M70A
HPE Basic 11kVA/60309 63A 3-wire 48A/230V Outlets (30) C13 (6) C19/Vertical INTL PDU	H5M71A
HPE Basic 3Ph 11kVA/60309 5-wire 16A/230V Outlets (24) C13 (6) C19/Vertical INTL PDU	H5M72A
HPE Basic 3Ph 11kVA/60309 5-wire 16A/230V Outlets (36) C13 (6) C19/Vertical INTL PDU	H5M73A
HPE Basic 9.2kVA/50A Terminal Block 40A/230V Outlets (30) C13 (6) C19/Vertical WW PDU	H5M75A
HPE 277 Volt options for H3X07A and H3X08A	
HPE 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111392 (Worldwide)
NOTE: Additional HPE Power Distribution Units are available. For a complete list of all HPE PDUs and additional information please visit:
http://www.hp.com/go/rackandpower

HPE Remote Monitoring Power Distribution Units	HPE Metered 2.8kVA/L5-30P 24A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU	D9N43A
	HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Horizontal NA/JP PDU	D9N44A
	HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (16) C13/Vertical WW PDU	D9N45A
	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 (20) C13 (4) C19/Vertical NA/JP PDU	D9N47A
	HPE Metered 7.3kVA/60309 32A 3-wire/230V Outlets (20) C13 (4) C19/Vertical INTL PDU	D9N48A
	HPE Metered 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (3) C19/Vertical NA PDU	D9N49A
	HPE Metered 7.3kVA/60309 32A 3-wire/230V Outlet (32) C13 (4) C19/Vertical INTL PDU	D9N50A
	HPE Metered 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (3) C19/Vertical NA/JP PDU	D9N51A
	HPE Metered 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (18) C13 (3) C19 (3) 5-20R/Vertical NA/JP PDU	D9N53A
	HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (24) C13 (3) C19/Vertical NA/JP PDU	D9N54A
	HPE Metered 3Ph 11kVA/60309 5-wire 16A/230V Outlets (18) C13 (3) C19/Vertical INTL PDU	D9N55A
	HPE Metered 3Ph 22kVA/60309 5-wire 32A/230V Outlet (30) C13 (3) C19/Vertical INTL PDU	D9N56A

Additional Options

HPE Metered 3Ph 11kVA/60309 5-wire 16A/230V Outlets (30) C13 (3) C19/Vertical INTL PDU	D9N57A
HPE Metered 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	D9N58A
HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	D9N59A
HPE Metered 3Ph 22kVA/60309 5-wire 32A/230V Outlets (12) C13 (12) C19/Vertical INTL PDU	D9N60A
HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (30) C13 (3) C19/Vertical NA/JP PDU	D9N61A
HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	D9N62A
HPE Metered 3Ph 19.9kVA/L22-30P 24A/277V Outlets (30) RF-203P-HPE/Vertical NA PDU	D9N63A

HPE Environmental Sensor for Remote Monitored PDUs

HPE 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=c04229509
(Worldwide)

HPE Intelligent Power Distribution Units (iPDU)	**iPDU Core Units**	
	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 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF525A
	HPE Intelligent Modular 3Ph 11kVA/60309 5-wire 16A/230V Outlets (6) C19/Horizontal INTL PDU	AF526A
	HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF527A
	HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 60A 4-wire 48A/208V (12) C19/Horizontal NA/JP PDU	AF535A
	HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (12) C19/Horizontal INTL PDU	AF538A
	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
	HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU Kit	AF534A
	iPDU Extension Bars	

Additional Options

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=c04123329 (Worldwide)
NOTE: Additional HPE Power Distribution Units are available. For a complete list of all HPE PDUs and additional information please visit:
http://www.hp.com/go/rackandpower

HPE Rack Series

HPE Intelligent Series Rack

HPE 36U 600mm x 1200mm Enterprise Pallet Rack	BW899A
HPE 36U 600mm x 1200mm Enterprise Shock Rack	BW900A
HPE 42U 600mm x 1200mm Enterprise Pallet Rack	BW907A
HPE 42U 600mm x 1200mm Enterprise Shock Rack	BW908A
HPE 47U 600mm x 1200mm Enterprise Pallet Rack	BW913A
HPE 47U 600mm x 1200mm Enterprise Shock Rack	BW914A

NOTE: Please see the QuickSpecs for Technical Specifications:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123237 (Worldwide)
NOTE: For additional information regarding Rack Cabinets, please see the following URL: **http://www.hp.com/go/rackandpower**.

HPE Rack Options

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

HPE USB Keyboard and Mouse

HPE USB BFR with PVC Free US Keyboard/Mouse Kit	631341-B21
HPE USB BFR with PVC Free UK Keyboard/Mouse Kit	631344-B21
HPE USB BFR with PVC Free FR Keyboard/Mouse Kit	631346-B21
HPE USB BFR with PVC Free ES Keyboard/Mouse Kit	631348-B21
HPE USB BFR with PVC Free DE Keyboard/Mouse Kit	631358-B21
HPE USB BFR with PVC Free JP Keyboard/Mouse Kit	631360-B21
HPE USB BFR with PVC Free IT Keyboard/Mouse Kit	631362-B21
HPE USB BFR with PVC Free CN Keyboard/Mouse Kit	631364-B21
HPE USB BFR with PVC Free AE Keyboard/Mouse Kit	638212-B21
HPE USB BFR with PVC Free RU Keyboard/Mouse Kit	638214-B21
HPE USB BFR with PVC Free IN Keyboard/Mouse Kit	672097-D63
HPE USB BFR with PVC Free AP-Intl Keyboard/Mouse Kit	672097-373
HPE USB BFR with PVC Free Intl Keyboard/Mouse Kit	672097-B33
HPE USB BFR with PVC Free PT Keyboard/Mouse Kit	672097-133
HPE USB BFR with PVC Free TR Keyboard/Mouse Kit	672097-143
HPE USB BFR with PVC Free CZ Keyboard/Mouse Kit	672097-223
HPE USB BFR with PVC Free FI Keyboard/Mouse Kit	672097-353
HPE USB BFR with PVC Free SE Keyboard/Mouse Kit	672097-103
HPE USB BFR with PVC Free CH Keyboard/Mouse Kit	672097-113
HPE USB BFR with PVC Free KR Keyboard/Mouse Kit	672097-KD3

Additional Options

	HPE USB BFR with PVC Free IN Keyboard/Mouse Kit	672097-D63

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04168349
(Worldwide)

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123433
(Worldwide)

HPE Server Console Switch G2 with Virtual Media & CAC

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

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04168373
(Worldwide)

HPE IP Console Switch G2 with Virtual Media & CAC

HPE 1x4 USB/PS2 KVM Console Switch	AF611A
HPE 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
HPE 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
HPE 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=c04168374
(Worldwide)

	HPE USB BFR with PVC Free SE Keyboard/Mouse Kit	672097-103
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
	HPE 32GB microSD Enterprise Mainstream Flash Media Kit	700139-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123175

Other USB and SD Options

HPE 36pin Serial/USB/VGA Dongle Cord Kit	676277-B21

HPE Care Pack Services	HPE 3 year 4-Hour 24x7 ProLiant s6500 Hardware Support	UR402E
	HPE 3 year Proactive Care 24x7 ProLiant s6500 Service	U3C72E
	HPE 3 year 4-Hour 24x7 wDMR ProLiant s6500 Hardware Support	UR403E
	HPE 3 year Proactive Care Next business day ProLiant s6500 Service	U3C66E
	HPE 4 year 4-Hour 24x7 ProLiant s6500 Hardware Support	UR410E
	HPE 4 year 4-Hour 24x7 wDMR ProLiant s6500 Hardware Support	UR411E
	HPE 4 year Next business day ProLiant s6500 Hardware Support	UR406E
	HPE 5 year 4-Hour 24x7 ProLiant s6500 Hardware Support	UR418E
	HPE 5 year 4-Hour 24x7 wDMR ProLiant s6500 Hardware Support	UR419E

Additional Options

HPE 5 year Next business day ProLiant s6500 Hardware Support UR414E

NOTE: For more information, customer/resellers can contact:

http://www.hp.com/services/carepack

Memory

HPE ProLiant SL270s Gen8 Server
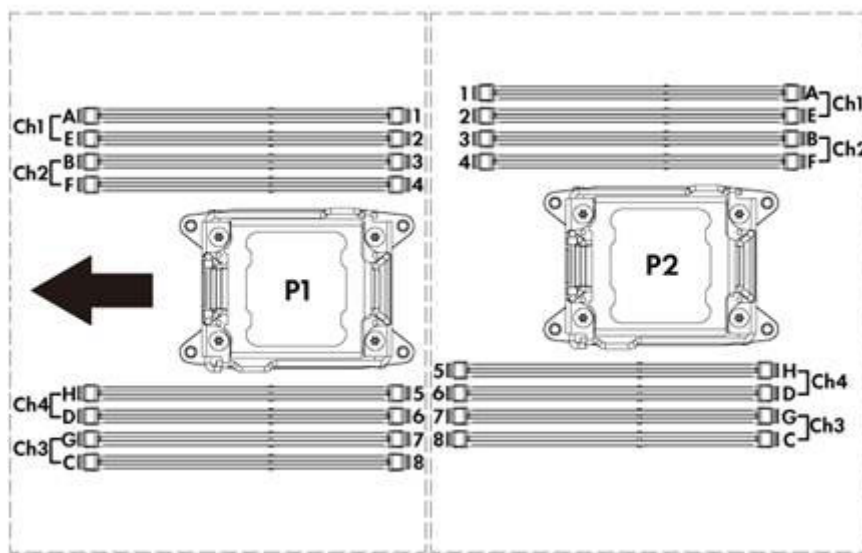**NOTE:** Memory configurations listed do not apply to "Factory Integrated Models".
NOTE: Chart does not represent all possible memory configurations.

DDR3 memory population guidelines

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

Each Intel® Xeon® E5-2600 family processor socket contains two memory channels that support four DIMMs each for a total of eight (8) DIMM per installed processor or a grand total of sixteen (16) DIMMs for the server. Up to 16GB capacity DIMMs are supported for 256GB of memory (16 DIMM slots x 16GB per DIMM).

Memory Population Rules and Guidelines:

- Install DIMMs only if the corresponding processor is installed.
- If only one processor is installed in a two processor system, only half of the DIMM slots are available.
- To maximize performance, it is recommended to balance the total memory capacity between all installed processors and to load the channels similarly whenever possible.
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the processor
- RDIMMs operating at either 1.35V or 1.5V may be mixed in any order, but the system will power them at the higher voltage.
- Do not mix RDIMMs and UDIMMs.
- The Intel Xeon E5-2620 processor does not support DIMMs at 1.35V. Using the HPE RBSU, 1.35V DIMMs can be changed to operate at 1.5V.
- DIMMs of different speeds may be mixed in any order; the server will select a common optimal speed.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- The maximum memory capacity is a function of the memory type and number of installed processors.
- HPE memory from previous generation servers is not qualified on the SL270s Gen8 Server. Certain HPE SmartMemory features such as memory authentication and enhanced performance may not be supported.
- To realize the performance memory capabilities listed in this document, HPE SmartMemory is required. For additional information, please see the HPE SmartMemory QuickSpecs at:
  http://h18000.www1.hp.com/products/QuickSpecs/14225_div/14225_div.html.
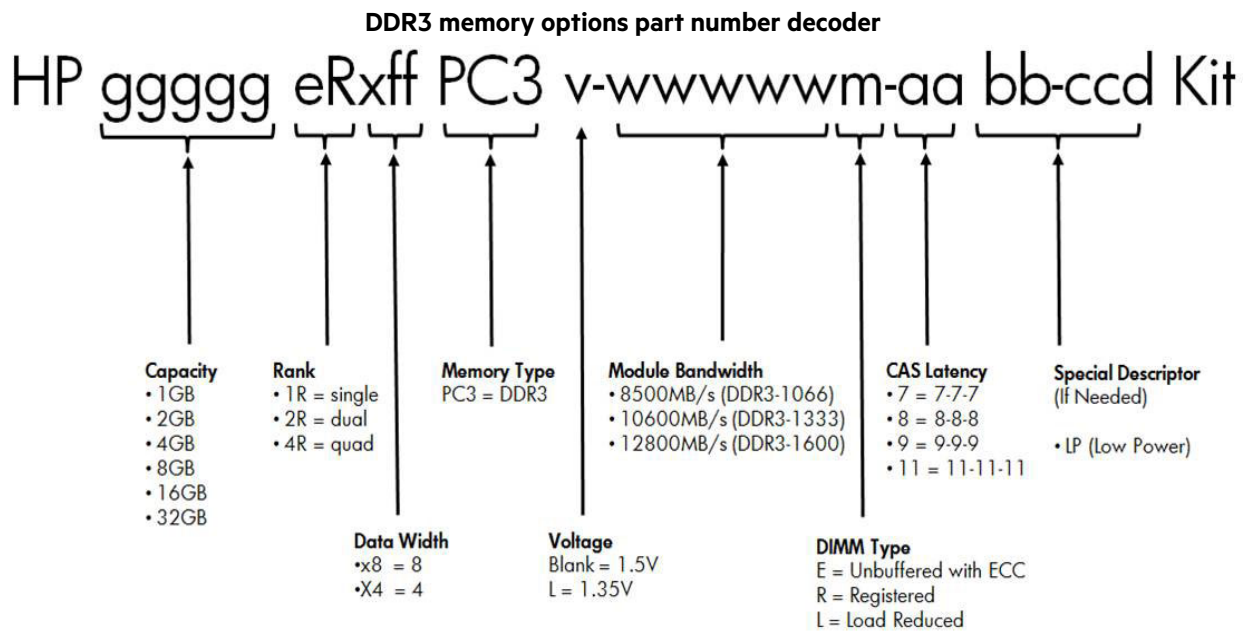- For memory population rules and additional memory guidelines, please see the SL270 Gen8 user guide at

Memory

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

DIMM slot/capacity/populated speed table

DIMM Type	Registered DIMMS (RDIMMs)															Load Reduced (LRDIMMs)
DIMM Rank	Single Rank (1R)							Dual Rank (2R)								Quad Rank (4R)
DIMM Capacity	4GB	4GB	4GB	4GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	16GB	16GB	16GB	16GB	32GB
DIMM Native Speed (MHz)	1600	1333	1600	1866	1600	1600	1866	1333	1600	1600	1866	1333	1600	1600	1866	1866
Voltage	Std	LV	LV	Std	Std	LV	Std	LV	Std	LV	Std	LV	Std	LV	Std	Std
SLOTS THAT CAN BE POPULATED																
16 slot servers	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
MAXIMUM CAPACITY (GB)*																
Capacity	64	64	64	64	128	128	128	128	128	128	128	256	256	256	256	256
POPULATED DIMM SPEED (MHz)																
1 DIMM Per Channel	1600	1333	1600	1866	1600	1600	1866	1333	1600	1600	1866	1333	1600	1600	1866	1866
2 DIMM PEr Channel	1600	1333	1600	1866	1600	1600	1866	1333	1600	1600	1866	1333	1600	1600	1866	1866

* Maximum capacity will vary based on individual server platform qualification schedule

DIMM slot/capacity/populated speed table

DIMM Type	Unbuffered with ECC DIMMs (UDIMMs)											
DIMM Rank	Single Rank (1R)				Dual Rank (2R)							
DIMM Capacity	2GB	2GB	2GB	2GB	4GB	4GB	8GB	8GB	4GB	4GB	8GB	8GB
DIMM Native Speed (MHz)	1333	1600	1600	1866	1333	1600	1333	1600	1600	1866	1600	1866
Voltage	LV	Std	LV	Std	LV	Std	LV	Std	LV	Std	LV	Std
SLOTS THAT CAN BE POPULATED												
16 slot servers	16	16	16	16	16	16	16	16	16	16	16	16
MAXIMUM CAPACITY (GB)*												
Capacity	32	32	32	32	64	64	128	128	64	64	128	128

Memory

POPULATED DIMM SPEED (MHz)												
1 DIMM Per Channel	1333	1600	1600	1866	1333	1600	1333	1600	1600	1866	1600	1866
2 DIMM PEr Channel	1333**	1600	1600	1866	1333**	1600	1333**	1600	1600	1866	1600	1866
* Maximum capacity will vary based on individual server platform qualification schedule ** For HPE SmartMemory, UDIMM is supported at 2DPC@DDR3-1333. Third party memory may only support up to 2DPC@DDR3-1066.												

- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB

DDR3 memory options part number decoder

Following are memory options available from HPE:

HPE Memory

NOTE: HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HPE SmartMemory QuickSpecs at:
http://h18000.www1.hp.com/products/QuickSpecs/14225_div/14225_div.html
NOTE: LRDIMM, RDIMM, and UDIMMs are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support LRDIMM, RDIMM and UDIMMs.

Registered DIMMs (RDIMMs)
NOTE: The following memory is supported by the E5-2600 v2 series Processors.

HPE 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713983-B21
HPE 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	731765-B21

Memory

HPE 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit	731761-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713985-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit	708641-B21

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2600 series Processors.

HPE 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647895-B21
HPE 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647899-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647901-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672631-B21

Unbuffered with ECC DIMMs (UDIMMs)

NOTE: The following memory is supported by the E5-2600 v2 series Processors.

HPE 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713979-B21

Unbuffered with ECC DIMMs (UDIMMs)

NOTE: The following memory is supported by the E5-2600 series Processors.

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

Load Reduced DIMMs (LRDIMMs)

HPE 32GB (1x32GB) Quad Rank x4 PC3-14900L (DDR3-1866) Load Reduced CAS-13 Memory Kit	708643-B21

NOTE: This memory is supported by the E5-2600 v2 series Processors.

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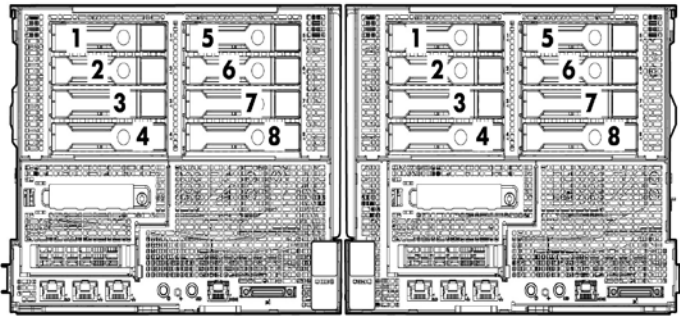
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: **http://www.hp.com/go/proliant-energy-efficient**

NOTE: PC3L is a low voltage memory.

Storage

4U Tray

1-8   Up to eight 2.5" hot plug hard drive bays

Technical Specifications

System Unit			
	Chassis Dimensions (H x W x D) Add fan extension kit (with bezel)	6.96 x 17.638 x 35.236in (17.68 x 44.8 x 89.55cm)	
	Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	220lb (99.8kg)
	Input Requirements (per power supply)	Rated Line Voltage	90 to 140 VAC 180 to 264 VAC
		Rated Input Current	7.31A at 115VAC 3.6A at 230VAC
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	855W (at 100 VAC), 840.72W (at 200 VAC)
	Power Supply Output (per power supply)	Rated Steady-State Power	653.10W (at 100 VAC), 653.08W (at 200 VAC)
	System Inlet Temperature	Operating	50° to 95° F (10° to 35° C) at sea level with an altitude derating of 1.8°F per every 1000 ft (1.0°C per every 304.8 m) above sea level to a maximum of 10,000 ft (3048 m), no direct sustained sunlight. Maximum rate of change is 18°F/hr (10°C/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 86°F (30°C).
		Non-operating	-22° to 140° F (-30° to 60° C) Maximum rate of change is 36°F/hr (20°C/hr).
	Relative Humidity (non-condensing)	Operating	10% to 90% relative humidity (Rh), 82.4°F (28°C) maximum wet bulb temperature, non-condensing.
		Non-operating	5% to 95% relative humidity (Rh), 101.7°F (38.7°C) maximum wet bulb temperature, non-condensing.
	Altitude	Operating	10,000 ft (3048 m). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1500 ft/min (457 m/min).
		Non-operating	30,000 ft (9144 m). Maximum allowable altitude change rate is 1500 ft/min (457 m/min).
	Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	
		Idle	
		LWAd	6.4

Technical Specifications

		LpAm	45dBA
	Operating		
		LWAd	6.7
		LpAm	51dBA
	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 Ethernet 1Gb 2-port 361i Adapter	**Network Interface Compatibility**	10Base-T/100Base-TX/1000Base-TX	
		IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
		IEEE 1588, IEEE 802.1AS	
		IEEE 802.3az - Energy Efficient Ethernet (EEE)	
	Data Transfer Method	PCI Express v 2.1, 5.0 GT/s and 2.5 GT/s bus speeds and supports for x1, x2, x4 links widths (Lanes)	
	Controller	I350 Powerville	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s per port, 20 Mb/s Combined
		10Base-T (Full-Duplex)	20 Mb/s per port, 40 Mb/S Combined
		100Base-TX (Half-Duplex)	100 Mb/s per port, 200 Mb/s Combined
		100Base-TX (Full-Duplex)	200 Mb/s per port, 400 Mb/s Combined
		1000Base-TX (Half and Full-Duplex)	1000Mb/s per port, 2000 Mb/s Combined
	Connector	RJ-45	
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
		10/100/1000Base-TX	Category 5 UTP; up to 328 ft (100 m)

HPE Dynamic Smart Array B320i Controller	**Dimensions**	Embedded
	Disk Drive Interface - Transfer rate	Up to 6Gb/s SAS (Serial Attached SCSI) Up to 6Gb/s SATA (Serial ATA)
	Connectors	2 internal 4X connectors
	Server Interface	x4 PCIe 2.0 provides 4GB/s maximum bandwidth
	Speed	8 x 6Gb/s SAS links provide 4.8GB/s maximum bandwidth
	Cache Memory	Zero Memory RAID has no cache memory optional 40-bit 512MB ECC protected Flash Backed Write Cache (FBWC)
	Logical Drives Supported	Zero Memory, Up to 2 logical volumes (8 physical drives) Up to 64 logical drives with cache
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	Hot Plug Support	Yes

Technical Specifications

	RAID Support	RAID 0 (Striping), RAID 1 (Mirroring) RAID 1+0 (Striping & Mirroring) RAID 5 with optional 512MB FBWC **NOTE:** 512 MB cache is required to enable RAID 5 support
Environment-friendly Products and Approach	**End-of-life Management and Recycling**	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: **http://www.hp.com/go/green**. To recycle your product, please go to: **http://www.hp.com/go/green** 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. 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: **http://www.hp.com/go/green**. These instructions may be used by recyclers and other WEEE treatment facilities as well as HPE OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
26-Oct-2016	From version 26 to 27	Updated	Update the QuickSpecs for the Rebranding
21-Aug-2015	From version 25 to 26	Changed	Changes made throughout the QuickSpecs
10-Jul-2015	From version 24 to 25	Changed	Update in the nodes number
30-Mar-2015	From Version 23 to 24	Changed	Updates in the Computational and Graphics Accelerators section
1-Nov-2014	From version 22 to 23	Changed	Service and Support updated
18-Aug-2014	From Version 20 to 21	Changed	Expansion Slots, Unique Options, and Computational and Graphics Accelerators were revised.
20-Jun-2014	From Version 19 to 20	Added	Note was added throughout Hard Drives.
10-Jun-2014	From Version 18 to 19	Changed	Service and Support, Hard Drives, Insight Software, Cloudera Licensing, Storage Controllers, and USB and SD Options were revised.
31-Mar-2014	From Version 17 to 18	Changed	Changes made throughout the QuickSpecs
18-Feb-2014	From Version 16 to 17	Changed	Changes made throughout the QuickSpecs
16-Dec-2013	From Version 15 to 16	Changed	Changes made to the North America and Canada versions only.
11-Oct-2013	From Version 14 to 15	Added	6G SATA Value Endurance Hot Plug SFF Enterprise Value Solid State Drives were added to Hard Drives Mainstream Endurance (ME) PCIe Workload Accelerators were added to HPE PCIe Workload Accelerator Options NVIDIA Tesla K10 rev B Dual GPU PCIe Computational Accelerator was added to GPU Computing Modules HPE Remote Monitoring Power Distribution Units was added to Additional Options HPE 8GB SD Enterprise Mainstream Flash Media Kit was added to HPE USB and SD Options
10-Sep-2013	From Version 13 to 14	Added	E5-2600 v2 series Processors, Memory, Controllers, and NICs were added Canonical Ubuntu was added to Operating Systems and Virtualization Software Support for ProLiant

Summary of Changes

			Servers Smart Array P430 and P431 Controllers were added to Storage Controllers
23-Jul-2013	From Version 12 to 13	Changed	Step 1 notes section was revised in Configuration Information - Factory Integrated Models.
10-Jun-2013	From Version 11 to 12	Changed	Overview: Removed What's New Configuration Information: Step 3 Optional Features: Updated GPU Computing Modules section. Core Options: HPE Networking Additional Options: Updated HPE Insight Software, GPU Computing Modules and HPE USB and SD Options sections.
13-May-2013	From Version 10 to 11	Added	Core Options: Added Step 4 to section. Additional Options: Added HPE PCIe Workload Accelerator Options, HPE Tape Backup and HPE Basic Power Distribution Units sections.
		Changed	Overview: Updated What's New with: Added support for new NVidia Kepler GPGPUs: NVIDIA Tesla K10 PCIe Module NVIDIA Tesla K20 5 GB Module NVIDIA Tesla K20X 6 GB Module Standard Features: Updated Common Slot Power Supplies and On System Management sections. Optional Features: Updated GPU Computing Modules section. Configuration Information: Updated Step 3. Additional Options: Updated HPE Insight Software, GPU Computing Modules and HPE Rack Options sections.
09-Apr-2013	From Version 9 to 10	Added	Added Step 1A to the Configuration Information section.
25-Mar-2013	From Version 8 to 9	Removed	Additional Options: Removed A0C39A from GPU Computing Modules section.
01-Mar-2013	From Version 7 to 8	Added	Core Options: Added 665240-B21 and 665243-B21 to the HPE Networking section.
22-Feb-2013	From Version 6 to 7	Removed	Removed the two notes in the Interfaces section of

Summary of Changes

			Standard Features.
19-Feb-2013	From Version 5 to 6	Changed	Changes made to the following sections: Standard Features: Expansion slots, Graphics, HPE Insight Management, Added Storage Software Configuration Information: Step 3 Core Options: HPE Hard Drives, HPE Networking Additional Options: (changes made throughout the entire section)
04-Jan-2013	From Version 4 to 5	Removed	Removed 6G SAS MLC Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives
11-Dec-2012	From Version 3 to 4	Changed	Changes made to the following sections: Overview Optional Features: GPU Computing Modules Additional Features: GPU Computing Modules and HPE Storage Controllers
05-Dec-2012	From Version 2 to 3	Changed	Changes made to the Standard Features only.
04-Dec-2012	From Version 1 to 2	Changed	Changes made to the following sections: Overview Standard Features: On System Management Configuration Information: Step 1, Step 2, Step 3 Core Options: Hard Drives Additional Options: Added HPE Care Pack Services Storage

Summary of Changes

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