

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Overview

HP ProLiant SL250s Generation 8 (Gen8)

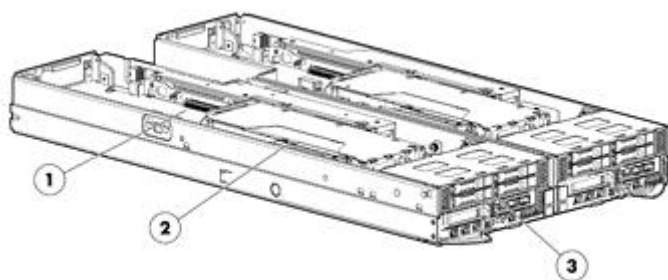
The HP ProLiant SL250s Gen8 Server with HP ProActive Insight architecture delivers even greater levels of configurability for high performance and scale-out deployments, to help lower total cost of ownership.

Up to four HP ProLiant SL250s Gen8 nodes, in a half-width, 2U modular form factor, fit into the HP s6500 scalable system chassis. In addition, each node can support up to three GPUs or four additional 2.5-inch small form factor hard drives.

The SL250s Gen8 Server series includes the exclusive HP SmartMemory and delivers a 25% increase in memory bandwidth to improve performance for certain applications.

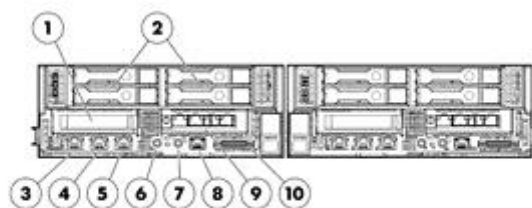
Delivering on the promise of server lifecycle automation, the SL250s Gen8 features the exclusive HP Active Health System that provides continuous, proactive, monitoring for over 1600 system parameters with zero impact to application performance.

NOTE: The 2U Open View image below shows two SL250s side by side to denote the left and right trays. Each unit is a 2U, half-width form factor.



2U Open View:

1. Rear dual GPU placement. This location is also for the optional SFF 2.5" hard drive kit to enable four (4) SFF HDD's in place of the GPUs.
2. Single GPU riser mounts and underneath is Support for two Intel® Xeon® E5-2600 sequence processors and 16 memory slots. This location is also for the optional SFF 2.5" hard drive kit to enable four (4) SFF HDD's in place of the GPUs
3. FlexibleLOM networking option slot



2U Front View:

1. PCIe Expansion slot
2. Four Hot-Plug Drive Slots
3. Dedicated iLO4 Management Port
4. (1) 1GbE Ports
5. (1) 1GbE Ports
6. Power Button
7. Health LED
8. UID LED
9. Serial Port
10. SUV (Serial/USB/Video)

What's New

- Updated information pertaining to availability of various options

Standard Features

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

Processor

One of the following depending on Model

E5-2600 v2 series Processors**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 to 1600MHz 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, Turbo2-2/2/2/2/2/2/2/3/4)

Performance Processors

NOTE: For 115W CPU support, customers must use the HP 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 to 1333MHz 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)

Performance Processors

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

NOTE: For 115W CPU support, customers must use the HP 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-

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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 FamilyIntel® E5-2600 Processor Family

Intel® E5-2600v2 Processor FamilyIntel® E5-2600 Processor Family

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

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

HP iLO (Firmware: HP iLO 4)

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

Memory Protection

Advanced ECC (multi-bit error protection)

Memory

| | |
|----------------------|---|
| Type | HP SmartMemory DDR3 Registered (RDIMM), Unbuffered (UDIMM) |
| DIMM Slots Available | 16 total DIMM Slots available |



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|------------------------------------|--|
| Maximum (RDIMM) (per server tray) | 256GB (16 x 16GB) Registered memory configurations |
| Maximum (UDIMM) (per server tray) | 128GB (16 x 8GB) Unbuffered memory configurations |
| Maximum (LRDIMM) (per server tray) | 512GB (16 x 32GB) LRDIMM memory configurations |

NOTE: HP memory from previous generation servers are not qualified or warranted with this HP ProLiant Server. HP SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HP SmartMemory QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html

NOTE: RDIMM, LRDIMM, and UDIMMs are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support RDIMM, LRDIMM, and UDIMM.

NOTE: HP certified SmartMemory must be used to guarantee full 1866MHz 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 HP Ethernet 1Gb 2-port 361i

| 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 |
| Expansion Slots | Expansion Slots # | Technology | Bus Width* | Connector Width | Form Factor | Notes |
| | FlexibleLOM | PCIe 3.0 | x16 | x16 | FlexibleLOM | Front Panel Access |
| | GPU1 rear bottom | PCIe 3.0 | x16 | x16 | Full-length, full height | GPU only |
| | GPU2 rear top | PCIe 3.0 | x16 | x16 | Full-length, full height | GPU only |
| | GPU3 front top | PCIe 3.0 | x16 | x16 | Full-length, full height | GPU only |

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

HP Server ROM

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

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

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

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(IML) to assist in diagnosis.

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

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

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

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|---------------------------|--|--|--|
| Storage Controller | HP H220i Host Bus Adapter (B320i Dynamic Smart Array with FW update) | | |
|---------------------------|--|--|--|

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|---------------------------------|-----------------|---|--|
| 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 | 2U Half Width tray | | |
| | Hot Plug SAS SFF | 4.8TB | 4 x 1.2TB |
| | Hot Plug SATA SFF | 4.0TB | 4 x 1TB |
| | Hot Plug SAS SSD SFF | 3.2TB | 4 x 800GB |
| | Hot Plug SATA SSD SFF | 3.2TB | 4 x 800GB |
| | Quick Release SAS SFF | 4.8TB | 4 x 1.2TB |
| | Quick Release SATA SFF | 4.0TB | 4 x 1TB |
| | Quick Release SSD SAS SFF | 2.4TB | 4 x 600GB |

NOTE: The Non-Hot Plug Quick Release drives can only be used when implementing the internal SFF kit and not implementing the GPUs

NOTE: The SL250 SFF Internal Enablement Kit (PN: 679991-B21) allows for up to four SFF HDD to be implemented in place of the three GPUs.

| | | |
|-------------------|---------------------------------------|---|
| Interfaces | Network RJ-45 | Two 1GbE or 10GbE NIC ports |
| | FlexibleLOM | ProLiant Gen8 servers offer a new networking technology - Flexible Network Technology. The SL250 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. |
| | KVM | Serial USB Video Port (SUV) |
| | Micro SD | 1 (internal) |
| | USB Ports | 1 (internal) |
| | HP iLO Remote Management Network Port | 1 Gb Dedicated |
| | Health LED | 1 front |
| | Power | 1 front |
| | UID | 1 front |

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|--------------------------|---------------------|
| Industry Standard | ACPI 2.0b Compliant |
|--------------------------|---------------------|

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|-------------------|---|
| Compliance | PCIe 3.0 Compliant WOL Support Microsoft® Logo certifications PXE Support USB 1.1 and 2.0 Compliant SMBIOS 2.6.1 |
|-------------------|---|

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| Server Power Cords | <p>One 6' Highline (IEC-IEC) power cord ships standard</p> <p>NOTE: HP 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 using a 110V receptacle (NEMA-15), the NEMA power cord must be ordered separately.</p> <p>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.</p> |
|---------------------------|--|

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|-----------------------------|---|
| Power Specifications | <p>To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: http://www.hp.com/go/proliant-energy-efficient or http://www.hp.com/go/hppoweradvisor.</p> <p>NOTE: Power Specification and Technical Content for supported power supplies can be found at: http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html</p> |
|-----------------------------|---|

| | |
|-----------------------------------|--|
| Common Slot Power Supplies | <p>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.</p> |
|-----------------------------------|--|

HP's Common Slot (CS) power supplies allow for commonality of power supplies across a wide range of ProLiant and Integrity servers, as well as HP Storage solutions, and are designed to provide the highest power supply efficiency without degrading system performance. HP CS power supplies are tested by the Electric Power Research Institute (EPRI) and certified through the ECOS 80 Plus power supply program. HP CS power supply options provide efficiency ratings of up to 94% (80 Plus Platinum) 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 HP 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 HP Power Advisor in defining the "Right-Size" power supply for your needs. HP 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: http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

Standard Features

System Fans

HP 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)

HP 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 fan-types 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 HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from HP, please visit our OS Support Site at: <http://www.hp.com/go/ossupport> and our driver download page: <http://www.hp.com/support/SL250sGen8>

Graphics

Integrated Matrox G200 video standard

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

HP iLO 4 On System Management Memory

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

Form Factor

Fully configured SL250 is 2U, half-width

Fully configured SL6500 chassis is 4U, full-width

On System Management

HP iLO Management Engine

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

- **HP iLO:** The HP iLO (Integrated Lights-Out) management processor is the core foundation for the HP iLO Management Engine
- **HP Agentless Management:** Provides built in server health monitoring and alerting capability without OS agents, that starts working the moment a power cord and an Ethernet cable are connected.
- **HP Active Health System:** Always on, continuous monitoring for increased stability and shorter downtimes; 100% configuration history; Health and service alerts and easy export and upload to Service and Support.
- **HP Intelligent Provisioning:** Lets customers provision and configure a single server without any separate media. No more

Standard Features

SmartStart CDs or Smart Update Firmware DVD are needed.

- To start Intelligent Provisioning:
 - Press the F10 key during the ProLiant Gen8 server boot process (also known as power on self test or POST).
 - Please go to the Intelligent Provisioning website at <http://www.hp.com/go/intelligentprovisioning> for additional information and to view usage videos.
 - Use the Service Pack for ProLiant (SPP) at <http://www.hp.com/go/spp> to get firmware and software updates.
- **HP iLO Mobile App:** Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: <http://www.hp.com/go/ilo/mobileapp>

NOTE: For more information, visit: <http://www.hp.com/go/ilo> or HP iLO Management Engine technologies whitepaper

HP Insight management HP Service Pack for ProLiant (SPP)

HP Service Pack for ProLiant (SPP) and HP Smart Update Manager (HP SUM) 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 HP server hardware launches. By enabling firmware to be updated online and integrating firmware and system software updates in one operation, HP SUM and the SPP offer faster updates of individual servers and dramatically faster updates of entire BladeSystem enclosures. Further improving system uptime and stability is the fact that HP provides 12 months of support for each Service Pack for ProLiant release.

The user experience around HP SUM and the SPP has been improved in several ways, starting with the web download. A single web page provides access to a single download containing both the latest version of HP SUM and the latest SPP. Optional smaller subsets with only specific types of servers or specific operating systems are offered to save on download time. The HP SUM application 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, HP SUM provides the tools to optimize stability and consistency throughout the company. While HP SUM and the SPP recommend the combinations of firmware and system software that HP has found to be the best practice, the application gives customers the flexibility to set their own specific baseline.

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

Standard Features

the correct updates and order of update deployment.

NOTE: The Service Pack for ProLiant (which includes HP 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 HP Services and a worldwide network of HP 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 HP 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 HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>.

Optional Features

| | | |
|------------------------------|---------------------------------|---|
| HP Insight management | HP Insight Control | <p>HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, see http://www.hp.com/go/insightcontrol.</p> |
| | | <p>HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, see: http://www.hp.com/services/insight.</p> |
| | HP Matrix Operating Environment | <p>The HP 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.</p> |
| | | <p>The HP Matrix OE includes the automated provisioning, optimization, and recovery management capabilities for HP CloudSystem Matrix, the ideal platform for private cloud and Infrastructure as a Service (IaaS).</p> |
| | HP iLO Advanced | <p>NOTE: For more information, visit: http://www.hp.com/go/matrixoe</p> <p>HP Integrated Lights-Out Advanced License a product option, providing smart remote server management without compromise. iLO Advanced unlocks the full set of remote administration functionality for all HP ProLiant servers by activating the full Virtual Keyboard Video and Mouse remote console, multi-user collaboration, console record and replay, GUI-based and scripted virtual media and virtual folders, and enhanced security and power management functionality. For more information, see: http://www.hp.com/go/iloadvance</p> |
| | HP iLO Scale-Out | <p>HP iLO Scale Out offers, Remote Serial Console (text-based video redirection via SSH), email-based alerting, remote system log, serial record/playback and power management capabilities. These features can significantly assist customers purchasing "SL" series to manage their servers. It is ideal for the web hosting/cloud service providers, High Performance Computing and Scale-Out businesses.</p> |
| | | <p>If customers require more advanced features such as graphical remote console, multi-user collaboration, and video record/playback they can purchase HP iLO Advanced.</p> |
| | HP Matrix Operating Environment | <p>The HP 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.</p> |
| | | <p>The HP Matrix OE includes the automated provisioning, optimization, and recovery management capabilities for HP CloudSystem Matrix, the ideal platform for private cloud and Infrastructure as a Service (IaaS).</p> |

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

High Performance

HP Cluster Platforms

HP Cluster Platforms are specifically engineered, factory-integrated large-

Optional Features

Clusters

| | |
|---------------------------------------|--|
| | 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 |
| HP HPC Interconnects | High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. http://www.hp.com/techservers/clusters/ucp/index.html |
| HP Insight Cluster Management Utility | HP Insight Cluster Management Utility (CMU) is an HP-licensed and HP-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 HP storage software. Our storage software helps you reduce costs, simplify storage infrastructure, protect vital assets and respond faster to business opportunities.

Storage software that gets the job done:

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

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

HP Insight Online

HP Insight Online is a new addition to the HP Support Center for one stop, secure access to product and HP support information personalized to your IT environment. Insight Online can automatically display devices remotely monitored by HP Insight Remote Support. With Insight Online's easy navigation you can efficiently track your IT support contracts and device status from anywhere and at anytime.

Optional Features

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

Factory Express Portfolio for Servers and Storage HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: <http://www.hp.com/go/factory-express>.

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

Computational and Graphics Accelerators Each SL250s tray will accommodate up to three computational or graphics accelerators, with options including NVIDIA Tesla K20, K20x and K40 GPUs, NVIDIA GRID K2 GPUs, and Intel® Xeon Phi™ 5110p and Intel® Xeon Phi™ 7120p Coprocessors.

NOTE: Each SL250s tray will accommodate up to three accelerators. For 3 accelerators, at least three (3) HP 1500W Common Slot Platinum Plus Hot Plug Power Supply Kits (684532-B21) must be used. For 1-2 accelerators, either three of the 1500W or four of the HP 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit (578322-B21) must be used.

NOTE: The maximum number of NVIDIA Tesla K20, K20x and K40 GPUs, NVIDIA GRID K2, and Intel® Xeon Phi™ 5110p coprocessors supported is 3. The maximum number of Intel® Xeon Phi™ 7120p coprocessors is 2.

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 Gen2.

NOTE: The NVIDIA Tesla K40 is only supported on E5-2600v2 processors.

Service and Support

Service and Support

The SL250s tray is a part of the HP ProLiant s6500 Chassis. Support for these tray need to be purchased at a chassis level. Please refer to HP ProLiant s6500 Chassis quick spec documentation for details.

HP Technology Services for Industry Standard Servers

HP Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HP to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HP Care Pack Services

HP Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

Get connected to HP 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 HP-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 HP 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 HP 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 HP ProLiant servers and HP BladeSystem servers, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: <http://www.hp.com/services/proliant>

Configuration Information - Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.

NOTE: FIO indicates that this option is only available as a factory installable option.

NOTE: If you already have an s6500 chassis skip to Step 1A.

NOTE: s6500 Chassis cannot have a mix of SL270s and 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)

| | | |
|-------------------|--|------------|
| HP Chassis | HP 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 an 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 HP node blank Kit (688928-B21 for left and 688930-B21 for right) needs to be ordered for each half width 1U space unpopulated.

| | | |
|------------------------|--|------------|
| HP Server Nodes | NOTE: The following SKUs are compatible with E5-2600 series processors. | |
| | HP ProLiant SL250s Gen8 2U PCIe Gen3 Left Tray Configure-to-order Svr | 698723-B21 |
| | HP ProLiant SL250s Gen8 2U PCIe Gen3 Right Tray Configure-to-order Svr | 698724-B21 |
| | NOTE: The following SKUs are compatible with E5-2600v2 series processors. | |
| | HP ProLiant SL250s Gen8 E5-v2 Left Tray Configure-to-order Server | 750349-B21 |
| | HP ProLiant SL250s Gen8 E5-v2 Right Tray Configure-to-order Server | 750350-B21 |

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

| | | |
|----------------------|--|------------|
| HP 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. | |
| | HP SL2x0s Gen8 Intel® Xeon® E5-2609v2 (2.5GHz/4-core/10MB/80W) FIO Processor Kit | 725942-L21 |
| | Base Processors | |
| | NOTE: All support up to 1600MHz DDR3 memory speeds. | |
| | HP SL2x0s Gen8 Intel® Xeon® E5-2630v2 (2.6GHz/6-core/15MB/80W) FIO Processor Kit | 725941-L21 |
| | HP 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 HP account team. | |
| | NOTE: For 115W CPU support, customers must use the HP 1500W Common Slot Platinum Plus Hot Plug Power Supply Kit (684532-B21). | |

Configuration Information - Factory Integrated Models

NOTE: All support up to 1866MHz DDR3 memory speeds

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

| | |
|--|------------|
| HP SL250s Gen8 Intel® Xeon® E5-2609 (2.4GHz/4-core/10MB/80W) FIO Processor Kit | 662326-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2603 (1.8GHz/4-core/10MB/80W) FIO Processor Kit | 662327-L21 |

Base Processors

NOTE: All support up to 1333MHz DDR3 memory speeds.

| | |
|---|------------|
| HP SL250s Gen8 Intel® Xeon® E5-2640 (2.5GHz/6-core/15MB/95W) FIO Processor Kit | 662323-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2630 (2.3GHz/6-core/15MB/95W) FIO Processor Kit | 662324-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2620 (2.0GHz/6-core/15MB/95W) FIO Processor Kit | 662325-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2630L (2.0GHz/6-core/15MB/60W) FIO Processor Kit | 662332-L21 |

Performance Processors

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

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

| | |
|---|------------|
| HP SL250s Gen8 Intel® Xeon® E5-2670 (2.6GHz/8-core/20MB/115W) FIO Processor Kit | 662319-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2665 (2.4GHz/8-core/20MB/115W) FIO Processor Kit | 662320-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2660 (2.2GHz/8-core/20MB/95W) FIO Processor Kit | 662321-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2650 (2.0GHz/8-core/20MB/95W) FIO Processor Kit | 662322-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2650L (1.8GHz/8-core/20MB/70W) FIO Processor Kit | 662331-L21 |
| HP SL250s Gen8 Intel® Xeon® E5-2637 (3.0GHz/2-core/5MB/80W) FIO Processor Kit | 662330-L21 |

HP Memory

NOTE: HP memory from previous generation servers are not qualified or warranted with this HP ProLiant Server. HP SmartMemory is required to realize the memory

Configuration Information - Factory Integrated Models

performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HP 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.

| | |
|--|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713981-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 708637-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713983-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 731765-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 708639-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 731761-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713985-B21 |
| HP 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.

| | |
|---|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647893-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 647895-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647897-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 647899-B21 |
| NOTE: 647899-B21 is supported by the E5-2600 and E5-2600v2 series Processors. | |
| HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 690802-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647901-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 672631-B21 |
| NOTE: 672631-B21 is supported by the E5-2600 and E5-2600v2 series Processors. | |

Unbuffered with ECC DIMMs (UDIMMs)

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

| | |
|--|------------|
| HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713975-B21 |
| HP 2GB (1x2GB) Single Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory Kit | 708631-B21 |

Configuration Information - Factory Integrated Models

| | |
|--|------------|
| HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713977-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory Kit | 708633-B21 |
| HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713979-B21 |
| HP 8GB (1x8GB) Dual Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory Kit | 708635-B21 |

Unbuffered with ECC DIMMs (UDIMMs)

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

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

Load Reduced DIMMs (LRDIMMs)

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

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

| | |
|---|------------|
| HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit | 647903-B21 |
|---|------------|

NOTE: This memory is only supported by the E5-2600 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**HP Networking****Gigabit Ethernet Adapters**

| | |
|---|------------|
| HP Ethernet 1Gb 4-port 366FLR FIO Adapter | 684217-B21 |
|---|------------|

FlexibleLOM Adapters

| | |
|---|------------|
| HP FlexFabric 10Gb 2-port 526FLR-SFP+ FIO Adapter | 684219-B21 |
| HP Ethernet 10Gb 2-port 560FLR-SFP+ FIO Adapter | 684218-B21 |
| HP FlexFabric 10Gb 2-port 534FLR-SFP+ FIO Adapter | 700752-B21 |
| HP 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>

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Configuration Information - Factory Integrated Models

| | | |
|----------------------------|--|----------|
| HP Insight Software | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License | C6N36A |
| | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License | C6N36ABE |

Step 5: Choose Other Server Options for Factory Integration

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

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Core Options

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

| | | |
|--------------------------|--|------------|
| HP Unique Options | HP SL250 SFF Internal Enablement Kit NOTE: The SFF HDD Internal Enablement Kit is required to be selected whenever a Quick Release SFF drive is ordered. NOTE: The SFF enablement kit allows up to four SFF HDD to be implemented in place of the three GPUs. NOTE: This SFF enablement kit will not work with the Smart Array P420 Controller (631670-B21, 631671-B21) due to cable restrictions. | 679991-B21 |
| | HP SL250 NVIDIA GPU Enablement Kit NOTE: Each Nvidia K2/K20/K20x/K40 card requires 1 of the above enablement kits. | 711947-B21 |
| | HP SL250 Coprocessor Enablement Kit NOTE: Each Xeon Phi 5110p/7120p Coprocessor card requires 1 of the above enablement kits. | 711949-B21 |

HP Processors

NOTE: If 2 processors are desired, select one xxxxx-B21 and one xxxxxx-B21

E5-2600v2 Series Processors

Entry Processors

NOTE: All support up to 1333MHz memory speeds.

HP SL2x0s Gen8 Intel® Xeon® E5-2609v2 (2.5GHz/4-core/10MB/80W) Processor Kit 725942-B21

Base Processors

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

HP SL2x0s Gen8 Intel® Xeon® E5-2630v2 (2.6GHz/6-core/15MB/80W) Processor Kit 725941-B21

HP 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 HP account team.

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

NOTE: All support up to 1866MHz DDR3 memory speeds

HP SL2x0s Gen8 Intel® Xeon® E5-2695v2 (2.4GHz/12-core/30MB/115W) Processor Kit 725944-B21

HP SL2x0s Gen8 Intel® Xeon® E5-2680v2 (2.8GHz/10-core/25MB/115W) Processor Kit 725937-B21

HP SL2x0s Gen8 Intel® Xeon® E5-2670v2 (2.5GHz/10-core/25MB/115W) Processor Kit 725938-B21

HP SL2x0s Gen8 Intel® Xeon® E5-2660v2 (2.2GHz/10-core/25MB/95W) Processor Kit 725939-B21

HP 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.

HP SL250s Gen8 Intel® Xeon® E5-2609 (2.4GHz/4-core/10MB/80W) Processor Kit 662326-B21

HP SL250s Gen8 Intel® Xeon® E5-2603 (1.8GHz/4-core/10MB/80W) Processor Kit 662327-B21

Core Options

Base Processors

NOTE: All support up to 1333MHz DDR3 memory speeds.

| | |
|---|------------|
| HP SL250s Gen8 Intel® Xeon® E5-2640 (2.5GHz/6-core/15MB/95W) Processor Kit | 662323-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2630 (2.3GHz/6-core/15MB/95W) Processor Kit | 662324-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2620 (2.0GHz/6-core/15MB/95W) Processor Kit | 662325-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2630L (2.0GHz/6-core/15MB/60W) Processor Kit | 662332-B21 |

Performance Processors

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

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

| | |
|---|------------|
| HP SL250s Gen8 Intel® Xeon® E5-2670 (2.6GHz/8-core/20MB/115W) Processor Kit | 662319-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2665 (2.4GHz/8-core/20MB/115W) Processor Kit | 662320-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2660 (2.2GHz/8-core/20MB/95W) Processor Kit | 662321-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2650 (2.0GHz/8-core/20MB/95W) Processor Kit | 662322-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2650L (1.8GHz/8-core/20MB/70W) Processor Kit | 662331-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2637 (3.0GHz/2-core/5MB/80W) Processor Kit | 662330-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2650 (2.0GHz/8-core/20MB/95W) Processor Kit | 662322-B21 |
| HP SL250s Gen8 Intel® Xeon® E5-2650L (1.8GHz/8-core/20MB/70W) Processor Kit | 662331-B21 |

HP Memory

NOTE: HP memory from previous generation servers are not qualified or warranted with this HP ProLiant Server. HP SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HP 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.

| | |
|--|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713981-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 708637-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713983-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 731765-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 708639-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 731761-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713985-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 708641-B21 |

Core Options

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

| | |
|---|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647893-B21 |
|---|------------|

| | |
|---|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 647895-B21 |
|---|------------|

| | |
|---|------------|
| HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647897-B21 |
|---|------------|

| | |
|---|------------|
| HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 647899-B21 |
|---|------------|

NOTE: 647899-B21 is supported by the E5-2600 and E5-2600v2 series Processors.

| | |
|---|------------|
| HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 690802-B21 |
|---|------------|

| | |
|---|------------|
| HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647901-B21 |
|---|------------|

| | |
|---|------------|
| HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 672631-B21 |
|---|------------|

NOTE: 672631-B21 is supported by the E5-2600 and E5-2600v2 series Processors.**Unbuffered with ECC DIMMs (UDIMMs)****NOTE:** The following memory is supported by the E5-2600 v2 series Processors.

| | |
|--|------------|
| HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713975-B21 |
|--|------------|

| | |
|---|------------|
| HP 2GB (1x2GB) Single Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory Kit | 708631-B21 |
|---|------------|

| | |
|--|------------|
| HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713977-B21 |
|--|------------|

| | |
|---|------------|
| HP 4GB (1x4GB) Dual Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory Kit | 708633-B21 |
|---|------------|

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

| | |
|---|------------|
| HP 8GB (1x8GB) Dual Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory Kit | 708635-B21 |
|---|------------|

Unbuffered with ECC DIMMs (UDIMMs)**NOTE:** The following memory is supported by the E5-2600 series Processors.

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

| | |
|---|------------|
| HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit | 647905-B21 |
|---|------------|

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

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

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

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

Core Options

Load Reduced DIMMs (LRDIMMs)

HP 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.

HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit 647903-B21

NOTE: This memory is only supported by the E5-2600 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

HP Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty.

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

NOTE: The hard drive options are not required when configuring a Drive-less Model.

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 OD1 sku= p/n BC393A (HP SAS Nm 1-Srv Lic for B320i)

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive 718162-B21

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652589-B21

HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652583-B21

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

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

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

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

SAS Hot Plug 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 OD1 sku= p/n BC393A (HP SAS Nm 1-Srv Lic for B320i)

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

HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive 652745-B21

SAS Quick Release SFF (2.5-inch) Enterprise (ENT) 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 OD1 sku= p/n BC393A (HP SAS Nm 1-Srv Lic for B320i)

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) Quick Release Dual Port ENT 3yr Warranty Hard Drive 718164-B21

HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Quick-release Dual Port Enterprise 3yr Warranty Hard Drive 574879-B21

Core Options

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

http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html
(Worldwide)

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

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

6G SATA Quick Release SFF (2.5-inch) Midline (MDL) Drives

| | |
|--|------------|
| HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) Quick Release Midline 1yr Warranty Hard Drive | 632080-B21 |
| HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) Quick Release Midline 1yr Warranty Hard Drive | 632078-B21 |

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

http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html
(Worldwide)

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

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

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

| | |
|---|------------|
| HP 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717973-B21 |
| HP 600GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 739898-B21 |
| HP 300GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 739888-B21 |
| HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717971-B21 |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717969-B21 |

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

| | |
|---|------------|
| HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691868-B21 |
| HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691866-B21 |
| HP 200GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691864-B21 |
| HP 100GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691862-B21 |

Core Options

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

| | |
|---|------------|
| HP 120GB 6G SATA Value Endurance SFF 2.5-in Quick-release Enterprise Boot 3yr Wty Solid State Drive | 718174-B21 |
| HP 80GB 6G SATA Value Endurance SFF 2.5-in Quick-release Enterprise Boot 3yr Wty Solid State Drive | 734364-B21 |

6G SATA Value Endurance Quick Release SFF (2.5-inch) Enterprise Value Solid State Drives

| | |
|--|------------|
| HP 800GB 6G SATA Value Endurance SFF 2.5-in Quick-release Enterprise Value 3yr Wty Solid State Drive | 718192-B21 |
| HP 600GB 6G SATA Value Endurance SFF 2.5-in Quick-release Enterprise Value 3yr Wty Solid State Drive | 739902-B21 |
| HP 480GB 6G SATA Value Endurance SFF 2.5-in Quick-release Enterprise Value 3yr Wty Solid State Drive | 718186-B21 |
| HP 300GB 6G SATA Value Endurance SFF 2.5-in Quick-release Enterprise Value 3yr Wty Solid State Drive | 739892-B21 |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in Quick-release Enterprise Value 3yr Wty Solid State Drive | 718180-B21 |

6G SATA RI-2 SFF SC SSD

| | |
|----------------------------------|------------|
| HP 1.6TB 6G SATA RI-2 SFF SC SSD | 804605-B21 |
| HP 800GB 6G SATA RI-2 SFF SC SSD | 804599-B21 |
| HP 480GB 6G SATA RI-2 SFF SC SSD | 804593-B21 |
| HP 240GB 6G SATA RI-2 SFF SC SSD | 804587-B21 |
| HP 120GB 6G SATA RI-2 SFF SC SSD | 804581-B21 |
| HP 80GB 6G SATA RI-2 SFF SC SSD | 804575-B21 |

6G SATA MU-2 SFF SC SSD

| | |
|----------------------------------|------------|
| HP 1.6TB 6G SATA MU-2 SFF SC SSD | 804631-B21 |
| HP 800GB 6G SATA MU-2 SFF SC SSD | 804625-B21 |
| HP 480GB 6G SATA MU-2 SFF SC SSD | 832414-B21 |
| HP 200GB 6G SATA MU-2 SFF SC SSD | 804613-B21 |

6G SATA WI-2 SFF SC SSD

| | |
|----------------------------------|------------|
| HP 1.2TB 6G SATA WI-2 SFF SC SSD | 804677-B21 |
| HP 800GB 6G SATA WI-2 SFF SC SSD | 804671-B21 |
| HP 400GB 6G SATA WI-2 SFF SC SSD | 804665-B21 |
| HP 200GB 6G SATA WI-2 SFF SC SSD | 804639-B21 |

6G SATA ME Quick Release SFF (2.5-inch) Enterprise Mainstream Solid State Drives

| | |
|---|------------|
| HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in QR Enterprise Mainstream 3yr Wty Solid State Drive | 730057-B21 |
| HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in QR Enterprise Mainstream 3yr Wty Solid State Drive | 730055-B21 |
| HP 200GB 6G SATA Mainstream Endurance SFF 2.5-in QR Enterprise Mainstream 3yr Wty Solid State Drive | 730053-B21 |
| HP 100GB 6G SATA Mainstream Endurance SFF 2.5-in QR Enterprise Mainstream 3yr Wty Solid State Drive | 730051-B21 |

NOTE: Please see the [QuickSpecs for Technical Specifications and additional information:](#)

Core Options

http://h18000.www1.hp.com/products/quickspecs/14038_div/14038_div.html
(Worldwide)

12G SAS Value Endurance Solid State Drives

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

HP Networking**Gigabit Ethernet Adapters**

| | |
|--|------------|
| HP NC112T PCI Express Gigabit Server Adapter | 503746-B21 |
| HP NC365T 4-port Ethernet Server Adapter | 593722-B21 |
| HP Ethernet 1Gb 4-port 331T Adapter | 647594-B21 |
| HP Ethernet 1Gb 2-port 361T Adapter | 652497-B21 |
| HP Ethernet 1Gb 2-port 332T Adapter | 615732-B21 |

10 Gigabit Ethernet adapters

NOTE: The SL250s Gen8 supports only the low-profile version of the 10GbE Ethernet Adapters.

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

| | |
|---|------------|
| HP NC523SFP 10Gb 2-port Server Adapter | 593717-B21 |
| HP Ethernet 10Gb 2-port 530T Adapter | 656596-B21 |
| HP NC552SFP 10Gb 2-port Ethernet Server Adapter | 614203-B21 |
| HP Ethernet 10Gb 2-port 530SFP Adapter | 652503-B21 |
| HP Ethernet 10Gb 2-port 560SFP+ Adapter | 665249-B21 |
| HP Ethernet 10Gb 2-port 561T Adapter | 716591-B21 |

NOTE: Can only be paired with M2070 and M2090 GPU Kits

FlexibleLOM Adapters

| | |
|---|------------|
| HP Ethernet 1Gb 4-port 331FLR Adapter | 629135-B21 |
| HP Ethernet 1Gb 4-port 366FLR Adapter | 665240-B21 |
| HP FlexFabric 10Gb 2-port 526FLR-SFP+ Adapter | 629138-B21 |
| HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter | 647581-B21 |
| HP FlexFabric 10Gb 2-port 533FLR-T Adapter | 700759-B21 |
| HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter | 700751-B21 |
| HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter | 629142-B21 |

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Core Options

HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter 665243-B21

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

HP InfiniBand

QLogic InfiniBand 4X QDR PCI-E G2 Dual Port HCA 583211-B21

HP 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

HP InfiniBand FDR 2-port 545FLR-QSFP Adapter 702212-B21

NOTE: Dual port Connect-IB FDR IB PCI-e gen 3 x16. No IB Enablement Kit required.

HP 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.

HP Infiniband QDR/Ethernet 10Gb 2-port 544FLR-QSFP Adapter 649283-B21

NOTE: Dual port ConnectX-3 QDR IB or 10GbE. No IB Enablement Kit required.

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html

Additional Options

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

HP Insight Software**HP Insight Control**

HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License C6N27A

HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License C6N28ABE

HP Insight Control Server Provisioning Media Kit BD883A

HP Insight Management Media Kit C6N31A

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

NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.

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

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

HP Integrated Lights-Out (iLO)**HP iLO Scale Out**

HP Integrated Lights-Out Scale-Out including 3yr 24x7 Tech Support and Updates Flex Qty E-LTU BD776AAE

HP Integrated Lights-Out Scale-Out 3yr 24x7 Tech Support and Updates Flex Quantity License BD776A

HP Integrated Lights-Out Scale-Out including 3yr 24x7 Tech Support and Updates Tracking License BD777A

HP Integrated Lights-Out Scale-Out including 1yr 24x7 Tech Support and Updates Flex Qty E-LTU BD778AAE

HP Integrated Lights-Out Scale-Out 1yr 24x7 Tech Support and Updates Flex Quantity License BD778A

HP Integrated Lights-Out Scale-Out including 1yr 24x7 Tech Support and Updates Tracking License BD779A

HP iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU E6U59ABE

HP iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU E6U64ABE

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: http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html

HP Integrated Lights-Out (iLO) Advanced for ProLiant

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License 512485-B21

HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates BD505A

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Additional Options

NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/14276_div/14276_div.html

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

High Performance Clusters

HP Cluster Management Utility

HP Insight Cluster Management Utility 1yr 24x7 Flexible License QL803B

HP Insight Cluster Management Utility 3yr 24x7 Flexible License BD476A

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

HP Insight Cluster Management Utility Media BD477A

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

Cloudera Licensing

Cloudera Licenses Available for SL250 Server

Cloudera Ent Basic Ed 1yr 24x7 Phys Lic G7M27A

Cloudera Ent Basic Ed 1yr 24x7 E-LTU G7M27AAE

Cloudera Ent Basic Ed 1yr 8x5 Phys Lic G7M28A

Cloudera Ent Basic Ed 1yr 8x5 E-LTU G7M28AAE

Cloudera EDH Ed 1yr 24x7 Phys Lic G7M29A

Cloudera EDH Ed 1yr 24x7 E-LTU G7M29AAE

Cloudera EDH Ed 1yr 8x5 Phys Lic G7M30A

Cloudera EDH Ed 1yr 8x5 E-LTU G7M30AAE

Cloudera EDH Ed 1yr 24x7 Premium E-LTU G7M31AAE

HP I/O Accelerator Options

Second Generation Accelerators

HP 365GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers 673642-B21

HP 785GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers 673644-B21

HP 1205GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers 673646-B21

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

http://h18000.www1.hp.com/products/quickspecs/13587_div/13587_div.html (Worldwide)

HP PCIe Workload Accelerator Options

Mainstream Endurance (ME) PCIe Workload Accelerators

HP 1.4TB HH/HL Mainstream Endurance (ME) PCIe Workload Accelerator 729307-B21

HP 700GB HH/HL Mainstream Endurance (ME) PCIe Workload Accelerator 729305-B21

High Endurance (HE) PCIe Workload Accelerators

HP 700GB HH/HL High Endurance (HE) PCIe Workload Accelerator 708090-B21

HP 350GB HH/HL High Endurance (HE) PCIe Workload Accelerator 708088-B21

Value Endurance (VE) PCIe Workload Accelerators

HP 1.3TB HH/HL Value Endurance (VE) PCIe Workload Accelerator 763834-B21

HP 1.6TB HH/HL Value Endurance (VE) PCIe Workload Accelerator 763836-B21

HP 3.2TB HH/HL Value Endurance (VE) PCIe Workload Accelerator 763838-B21

HP 6.4TB FH/HL Value Endurance (VE) PCIe Workload Accelerator 763840-B21



Additional Options

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

http://h18000.www1.hp.com/products/quickspecs/14528_div/14528_div.html
(Worldwide)

Computational and Graphics Accelerators

NOTE: Each SL250s tray will accommodate up to three accelerators. Maximum number of accelerators is 3 unless explicitly stated. In order to support three accelerators, at least 3 HP 1500W Common Slot Platinum Plus Hot Plug Power Supply Kit (684532-B21) must be used. For 1-2 accelerators, either three of the 1500W or four of the HP 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit (578322-B21) must be used.

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.

NVIDIA Accelerators for HP ProLiant Servers

NVIDIA Tesla K10 Dual GPU PCIe Computational Accelerator B3M66A

NOTE: Currently only configurable with 698723-B21, 698724-B21 nodes.

NVIDIA Tesla K10 Rev B Dual GPU PCIe Computational Accelerator E5V47A

NOTE: Currently only configurable with 750349-B21, 750350-B21 nodes.

NVIDIA Tesla K20 5 GB Computational Accelerator C7S14A

NVIDIA Tesla K20X 6 GB Computational Accelerator C7S15A

NVIDIA Tesla K40 12 GB Computational Accelerator F1R08A

NOTE: Currently only configurable with 750349-B21, 750350-B21 nodes.

NOTE: Currently PCIe Gen 2

NVIDIA GRID K2 Dual GPU PCIe Graphics Accelerator 729851-B21

NOTE: Currently only configurable with 750349-B21, 750350-B21 nodes.

NOTE: If node 698723-B21 or 698724-B21 is selected with any permissible quantity of K20 or K20X or K40 or K2 cards, factory will be triggered to turn Dip Switch 9 to status, "ON."

NOTE: For additional information on Nvidia accelerators, please see the QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/14576_div/14576_div.html

Intel Xeon Phi Coprocessor Kits

Intel® Xeon® Phi 5110P (8GB/225W) Coprocessor Kit C1P87A

Intel® Xeon® Phi 7120P (16GB/300W) Coprocessor Kit E2M34A

NOTE: Maximum number of 7120p coprocessors in SL250s is two (2).

NOTE: 7120p coprocessors are only supported with E5-2600v2 processors.

NOTE: If node 698723-B21 or 698724-B21 is selected with any permissible quantity of C1P87A or E2M34A cards, factory will be triggered to turn Dip Switch 9 to status, "ON."

NOTE: For additional information on Intel Xeon Phi coprocessors, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/14441_div/14441_div.html

Enablement Kits

HP SL250 NVIDIA GPU Enablement Kit 711947-B21

NOTE: Each Nvidia K2/K20/K20x/K40 card requires 1 of these enablement kits.

HP SL250 Coprocessor Enablement Kit 711949-B21

NOTE: Required when ordering Intel Xeon Phi 5110p/7120p Coprocessor.

HP Storage Controllers SAS Controllers

Additional Options

Smart Array P222 Controller

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

NOTE: This part can be partnered with either E5-2600 or E5-2600v2 processors

Smart Array P420 Controller

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

NOTE: This part can only be partnered with Intel E5-2600 processors (v1)

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

NOTE: This part can only be partnered with Intel E5-2600 processors (v1)

Smart Array P421 Controller

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

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

Optional Upgrades

HP 512MB B-series Dynamic Smart Array Flash Backed Write Cache with 24 inch Cable 676473-B21

HP 24in Super Capacity Option for Smart Array 668944-B21

HP SL250s 4X SFF Smart Array Enablement Kit 670564-B21

HP SL250 SFF Internal Enablement Kit 679991-B21

NOTE: The SFF HDD Internal Enablement Kit is required to be selected whenever a Quick Release SFF drive is ordered.

NOTE: The SFF enablement kit allows up to four SFF HDD to be implemented in place of the three GPUs.

NOTE: This SFF enablement kit will not work with the Smart Array P420 Controller (631670-B21, 631671-B21) due to cable restrictions.

HP SAS License Key No Media 1 Single Server License for B320i BC393A

HP SmartCache No Media 24x7 Technical Support 1 Svr License D7S26A

HP SmartCache No Media 24x7 Technical Support Flexible License D7S27A

HP SmartCache No Media 24x7 Technical Support Electronic License D7S27AAE

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

http://h18000.www1.hp.com/products/quickspecs/14227_div/14227_div.html
(Smart Array P222 Controller)

http://h18000.www1.hp.com/products/quickspecs/14228_div/14228_div.html
(Smart Array P420 Controller)

http://h18000.www1.hp.com/products/quickspecs/14229_div/14229_div.html
(Smart Array P421 Controller)

http://h18000.www1.hp.com/products/quickspecs/13200_div/13200_div.html
(Smart Array Advanced Pack)

Host Bus Adapter

HP H220 Host Bus Adapter 650933-B21

HP H222 Host Bus Adapter 650926-B21

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

http://h18004.www1.hp.com/products/quickspecs/14336_div/14336_div.html
(HBA 220)

Additional Options

http://h18004.www1.hp.com/products/quickspecs/14337_div/14337_div.html
(HBA 222)

| | |
|---|--|
| HP Tape Backup | <p>NOTE: For the complete range of tape drives, autoloaders, libraries and media see: http://www.hp.com/go/tape. For hardware and software compatibility of HP tape backup products see: http://www.hp.com/storage/SPOCK</p> <p>HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit COL99A</p> <p>HP StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader COH19A</p> |
| HP Tape Storage Systems | <p>HP StoreEver MSL6480</p> <p>HP StoreEver MSL6480 Scalable Base Module QU625A</p> <p>NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/14604_div/14604_div.html (Worldwide)</p> |
| HP Disk Storage Systems | <p>Disk Enclosures</p> <p>HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle E7W32A</p> <p>NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.html (Worldwide)</p> |
| HP Uninterruptible Power Systems | <p>HP Rack-mountable UPS</p> <p>HP R1500 G3 Uninterruptible Power Supply (UPS)</p> <p>HP R1.5kVA G3 1U NA Uninterruptible Power System AF469A</p> <p>HP R1.5kVA G3 1U JP/TW Uninterruptible Power System AF470A</p> <p>HP R1.5kVA G3 1U INTL Uninterruptible Power System AF471A</p> <p>NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14059_div/14059_div.html (Worldwide)</p> <p>HP R/T3000 G2 Uninterruptible Power System (UPS)</p> <p>HP R/T3000 G2 2U L530 Low Voltage NA/JP Uninterruptible Power System AF466A</p> <p>HP R/T3000 G2 2U L620 High Voltage NA/JP Uninterruptible Power System AF467A</p> <p>HP R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System AF468A</p> <p>NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14058_div/14058_div.html (Worldwide)</p> <p>R5000 Uninterruptible Power System (UPS)</p> <p>HP R5KVA 3U IEC309-32A High Voltage INTL Uninterruptible Power System AF461A</p> <p>HP R5KVA 3U L630 High Voltage NA/JP Uninterruptible Power System AF460A</p> <p>NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14109_div/14109_div.html (Worldwide)</p> <p>R7000 Uninterruptible Power System (UPS)</p> <p>HP R7KVA 4U 50A High Voltage NA/JP Uninterruptible Power System AF462A</p> |

Additional Options

HP R7KVA 4U IEC-32A High Voltage INTL Uninterruptible Power System AF463A

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/14110_div/14110_div.html
(Worldwide)

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

NOTE: For additional information on sizing your server, please reference:
<http://www.upssizer.com>.

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

**HP Basic Power
Distribution Units**

| | |
|---|--------|
| HP 1.9kVA 120 Volt L5-20 Input (12xNEMA 5-20R) NA/JP Basic PDU | H5M54A |
| HP 2.8kVA 120 Volt L5-30 Input (18xNEMA 5-20R) NA/JP Basic PDU | H5M55A |
| HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Basic PDU | H5M56A |
| HP 3.6kVA 200-240 Volt Detachable C20 Input (18xC13) WW Basic PDU | H5M57A |
| HP 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU | H5M58A |
| HP 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU | H5M59A |
| HP 8.3kVA 208 Volt CS8265C Input (30xC13/6xC19) NA/JP Basic PDU | H5M60A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13) NA/JP Basic PDU | H5M61A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU | H5M62A |
| HP 5.7kVA 208 Volt L21-20 3-Phase Input (24xC13/3xNEMA 5-20R) NA/JP Basic PDU | H5M63A |
| HP 8.6kVA 208 Volt L21-30 3-Phase Input (24xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU | H5M64A |
| HP 11kVA 400 Volt IEC309 30A 3-Phase Input (36xC13/6xC19) NA Basic PDU | H5M67A |
| HP 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU | H5M68A |
| HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU | H5M70A |
| HP 11kVA 230 Volt IEC309 63A Input (30xC13/6xC19) INTL Basic PDU | H5M71A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/6xC19) INTL Basic PDU | H5M72A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (36xC13/6xC19) INTL Basic PDU | H5M73A |
| HP Hardwired 200-240 Volt Input (30xC13/6xC19) WW Basic PDU | H5M75A |
| HP 13.2kVA 480 Volt IEC309 30A 3-Phase Input (15 Outlet) NA Basic PDU | H3X07A |
| HP 19.9kVA 480 Volt IEC309 30A 3-Phase Input (30 Outlet) NA Basic PDU | H3X08A |

HP 277 Volt options for H3X07A and H3X08A

HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer H3X09A

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

http://h18000.www1.hp.com/products/quickspecs/14557_div/14557_div.html
(Worldwide)

NOTE: Additional HP Power Distribution Units are available. For a complete list of all HP PDUs and additional information please visit
<http://www.hp.com/go/rackandpower>.

**HP Remote Monitoring
Power Distribution Units**

| | |
|---|--------|
| HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU | D9N43A |
| HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU | D9N44A |
| HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU | D9N45A |

Additional Options

| | |
|---|--------|
| HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Monitored PDU | D9N46A |
| HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU | D9N47A |
| HP 7.3kVA 230 Volt IEC309 32A Input (20xC13/4xC19) INTL Monitored PDU | D9N48A |
| HP 8.3kVA 208 Volt CS8265C Input (30xC13/3xC19) NA Monitored PDU | D9N49A |
| HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU | D9N50A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13/3xC19) NA/JP Monitored PDU | D9N51A |
| HP 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU | D9N52A |
| HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU | D9N53A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU | D9N54A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU | D9N55A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU | D9N56A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU | D9N57A |
| HP 14.4kVA 208 Volt CS8365C 3-Phase Input (12xC13/12xC19)NA Monitored PDU | D9N58A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU | D9N59A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Input (12xC13/12xC19) INTL Monitored PDU | D9N60A |
| HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (30xC13/3xC19) NA Monitored PDU | D9N61A |
| HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (12xC13/12xC19) NA Monitored PDU | D9N62A |
| HP 19.9kVA 480 Volt 3-Phase (30 Outlet) NA Monitored PDU | D9N63A |

HP Environmental Sensor for Remote Monitored PDUs

| | |
|---|--------|
| HP Environmental Sensor for Remote Monitored PDUs | E2D53A |
|---|--------|

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/14669_div/14669_div.html
(Worldwide)

HP Intelligent Power Distribution Units (iPDU)**iPDU Core Units**

| | |
|--|--------|
| HP 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF520A |
| HP 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF521A |
| HP 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF522A |
| HP 14.4kVA 40A Three Phase NA/JP Intelligent Modular Power Distribution Unit | AF533A |
| HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF523A |
| HP 17.3kVA 24A 415V Three Phase L22-30 NA Core Intelligent Power Distribution Unit | AF902A |
| HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit | AF525A |
| HP 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit | AF526A |
| HP 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit | AF527A |
| HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit | AF535A |
| HP 17.3kVA 24A 415V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit | AF537A |
| HP 22kVA 32A 400V Three Phase 12 Outlet Core INTL Intelligent Power Distribution Unit | AF538A |

Additional Options

iPDU Kits with Standard Extension Bars

| | |
|---|--------|
| HP 4.9kVA 24A Single Phase NA/JP Intelligent Modular Power Distribution Kit | AF531A |
| HP 8.6kVA 24A Three Phase NA/JP Intelligent Modular Power Distribution Kit | AF532A |
| HP 7.3kVA 32A Single Phase INTL Intelligent Modular Power Distribution Kit | AF534A |

iPDU Extension Bars

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

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

http://h18000.www1.hp.com/products/quickspecs/13650_div/13650_div.html
(Worldwide)

NOTE: Additional HP Power Distribution Units are available. For a complete list of all HP PDUs and additional information please visit <http://www.hp.com/go/rackandpower>.

HP Rack Series**HP Intelligent Series Rack**

| | |
|--|--------|
| HP 636 1200mm Pallet Intelligent Series Rack | BW899A |
| HP 636 1200mm Shock Intelligent Series Rack | BW900A |
| HP 642 1200mm Pallet Intelligent Series Rack | BW907A |
| HP 642 1200mm Shock Intelligent Series Rack | BW908A |
| HP 647 1200mm Pallet Intelligent Series Rack | BW913A |
| HP 647 1200mm Shock Intelligent Series Rack | BW914A |

NOTE: Please see the QuickSpecs for Technical Specifications:

http://h18000.www1.hp.com/products/quickspecs/14223_div/14223_div.html
(Worldwide)

NOTE: For additional information regarding Rack Cabinets, please see the following URL: <http://www.hp.com/go/rackandpower>.

HP Rack Options**HP TFT7600 G2 KVM Console and Monitor (TFT7600 G2)**

| | |
|---|--------|
| HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor | AZ870A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard UK Monitor | AZ871A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard DE Monitor | AZ872A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard FR Monitor | AZ873A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard IT Monitor | AZ874A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard ES Monitor | AZ875A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard DK Monitor | AZ876A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard NO Monitor | AZ877A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard SE/FI Monitor | AZ878A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard CH Monitor | AZ879A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard PT Monitor | AZ880A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard BE Monitor | AZ881A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard JP Monitor | AZ882A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard RU Monitor | AZ883A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard Intl Monitor | AZ884A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor | AZ885A |

NOTE: Please see the QuickSpecs for Technical Specifications and additional

Additional Options

information:

http://h18000.www1.hp.com/products/quickspecs/13731_div/13731_div.html
(Worldwide)

HP USB Keyboard and Mouse

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

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

http://h18000.www1.hp.com/products/quickspecs/13972_div/13972_div.html
(Worldwide)

HP Server Console Switches

| | |
|---|--------|
| HP Server Console 0x2x8 Port Analog Switch | AF616A |
| HP Server Console 0x2x16 Port Analog Switch | AF617A |
| HP TAA 0x2x16xKVM Server Console G2 Switch | AF626A |

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

http://h18000.www1.hp.com/products/quickspecs/11834_div/11834_div.html
(Worldwide)

HP Server Console Switch G2 with Virtual Media & CAC

| | |
|--|------------|
| HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software | AF618A |
| HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software | AF619A |
| HP KVM CAT5 1-pack USB Interface Adapter | 336047-B21 |

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

Additional Options

http://h18000.www1.hp.com/products/quickspecs/13475_div/13475_div.html
(Worldwide)

HP IP Console Switch G2 with Virtual Media & CAC

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

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

http://h18000.www1.hp.com/products/quickspecs/13474_div/13474_div.html
(Worldwide)

HP USB and SD Options**HP Flash Media Kits for USB Drives**

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

HP Enterprise Mainstream Flash Media Kits for Memory Cards

| | |
|---|------------|
| HP 8GB microSD Enterprise Mainstream Flash Media Kit | 726116-B21 |
| HP 32GB microSD Enterprise Mainstream Flash Media Kit | 700139-B21 |

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

http://h18000.www1.hp.com/products/quickspecs/13971_div/13971_div.html

Other USB and SD Options

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

HP Care Pack Services

| | |
|--|--------|
| HP 3 year 24x7 24 hour Call to Repair ProLiant s6500 Hardware Support | UR425E |
| HP 3 year 24x7 24 hour Call to Repair with Defective Media Retention ProLiant s6500 Hardware Support | UR426E |
| HP 3 year 4 hour 13x5 ProLiant s6500 Hardware Support | UR400E |
| HP 3 year 4 hour 13x5 with Defective Media Retention ProLiant s6500 Hardware Support | UR401E |
| HP 3 year 4 hour 24x7 ProLiant s6500 Hardware Support | UR402E |
| HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant s6500 Hardware Support | UR403E |
| HP 3 year 6 hour 24x7 Call to Repair ProLiant s6500 Hardware Support | UR404E |
| HP 3 year 6 hour 24x7 Call to Repair with Defective Media Retention s6500 Hardware Support | UR405E |
| HP 3 year Next business day ProLiant s6500 Hardware Support | UR398E |
| HP 3 year Next business day with Defective Media Retention ProLiant s6500 Hardware Support | UR399E |
| HP 3 year 4 hour 24x7 ProLiant s6500 Collaborative Support | U1M52E |
| HP 3 year 4 hour 24x7 ProLiant s6500 Proactive Care Service | U3C72E |
| HP 3 year Next business day ProLiant s6500 Collaborative Support | U1M46E |
| HP 3 year Next business day ProLiant s6500 Proactive Care Service | U3C66E |
| HP 4 year 24x7 24 hour Call to Repair ProLiant s6500 Hardware Support | UR427E |
| HP 4 year 24x7 24 hour Call to Repair with Defective Media Retention ProLiant | UR428E |

Additional Options

| | |
|--|--------|
| s6500 Hardware Support | |
| HP 4 year 4 hour 13x5 ProLiant s6500 Hardware Support | UR408E |
| HP 4 year 4 hour 13x5 with Defective Media Retention ProLiant s6500 Hardware Support | UR409E |
| HP 4 year 4hour 24x7 ProLiant s6500 Hardware Support | UR410E |
| HP 4 year 4 hour 24x7 with Defective Media Retention ProLiant s6500 Hardware Support | UR411E |
| HP 4 year 6 hour 24x7 Call to Repair ProLiant s6500 Hardware Support | UR412E |
| HP 4 year 6 hour Call to Repair 24x7 with Defective Media Retention ProLiant s6500 Hardware Support | UR413E |
| HP 4 year Next business day ProLiant s6500 Hardware Support | UR406E |
| HP 4 year Next business day with Defective Media Retention ProLiant s6500 Hardware Support | UR407E |
| HP 5 year 24x7 24 hour Call to Repair ProLiant s6500 Hardware Support | UR429E |
| HP 5 year 24x7 24 hour Call to Repair with Defective Media Retention ProLiant s6500 Hardware Support | UR430E |
| HP 5 year 4 hour 13x5 ProLiant s6500 Hardware Support | UR416E |
| HP 5 year 4 hour 13x5 with Defective Media Retention ProLiant s6500 Hardware Support | UR417E |
| HP 5 year 4 hour 24x7 ProLiant s6500 Hardware Support | UR418E |
| HP 5 year 4 hour 24x7 with Defective Media Retention ProLiant s6500 Hardware Support | UR419E |
| HP 5 year 6 hour 24x7 Call to Repair ProLiant s6500 Hardware Support | UR420E |
| HP 5 year 6 hour 24x7 Call to Repair with Defective Media Retention s6500 Hardware Support | UR421E |
| HP 5 year Next business day ProLiant s6500 Hardware Support | UR414E |
| HP 5 year Next business day with Defective Media Retention ProLiant s6500 Hardware Support | UR415E |

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

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Memory

HP ProLiant SL250s Gen8 Server

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

NOTE: Chart does not represent all possible memory configurations.

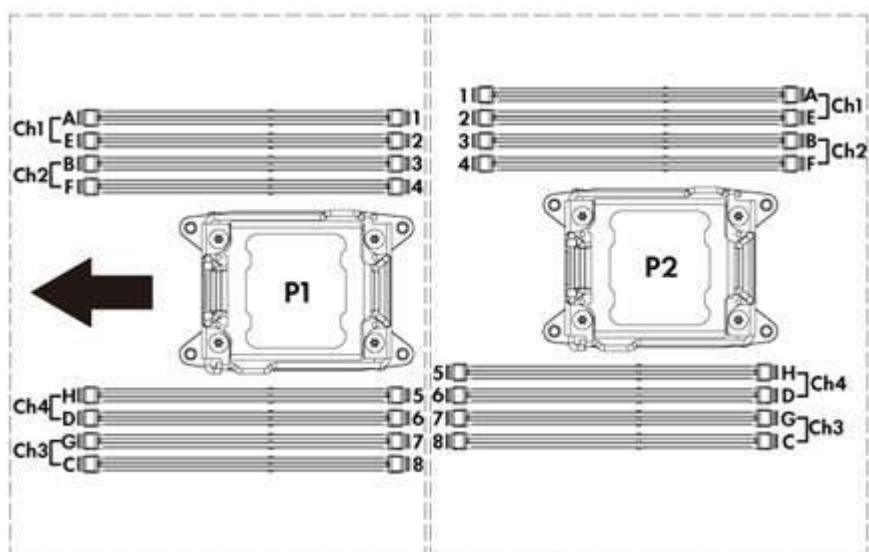
DDR3 memory population guidelines

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 four memory channels that support two 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 512GB of memory (16 DIMM slots x 32GB per DIMM).

NOTE: 512GB refers to Load Reduced DIMM (LRDIMM). The max for registered DIMM memory is 256GB.



Memory Population Rules and Guidelines:

- White DIMM slots denote the first slot of a channel. For 1 DPC (DIMM per channel) populate white slots only.
- 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 HP RBSU, 1.35V DIMMs can be changed to operate at 1.5V.
- The Intel Xeon E5-2620 processor does not support DIMMs at 1.35V. Using the HP 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.

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Memory

- HP memory from previous generation servers is not qualified on the SL250s Gen8 Server. Certain HP SmartMemory features such as memory authentication and enhanced performance may not be supported.
- To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html.
- For memory population rules and additional memory guidelines, please see the SL250 Gen8 user guide at <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 | 8GB | 16GB | 16GB | 16GB | 16GB | 32GB | 32GB |
| DIMM Native Speed (MHz) | 1600 | 1333 | 1600 | 1866 | 1600 | 1600 | 1866 | 1333 | 1600 | 1600 | 1866 | 1333 | 1600 | 1600 | 1866 | 1333 | 1866 | |
| Voltage | Std | LV | LV | Std | Std | 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 | 16 | 16 | 16 | 16 | 16 | |
| MAXIMUM CAPACITY (GB)* | | | | | | | | | | | | | | | | | | |
| Capacity | 64 | 64 | 64 | 64 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 256 | 256 | 256 | 512 | 512 | |
| POPULATED DIMM SPEED (MHz) | | | | | | | | | | | | | | | | | | |
| 1 DIMM Per Channel | 1600 | 1333 | 1600 | 1866 | 1600 | 1600 | 1866 | 1333 | 1600 | 1600 | 1866 | 1333 | 1600 | 1600 | 1866 | 1333*** | 1866 | |
| 2 DIMM PEr Channel | 1600 | 1333 | 1600 | 1866 | 1600 | 1600 | 1866 | 1333 | 1600 | 1600 | 1866 | 1333 | 1600 | 1600 | 1866 | 1333*** | 1866 | |
| * Maximum capacity will vary based on individual server platform qualification schedule | | | | | | | | | | | | | | | | | | |
| *** LRDIMM enables 3 DIMMs per channel. HP SmartMemory will supports up to 3DPC@DDR3-1066 at 1.35V. Third party memory may only support 3DPC @DDR3-1066 at 1.5V. | | | | | | | | | | | | | | | | | | |

| 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 | |

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

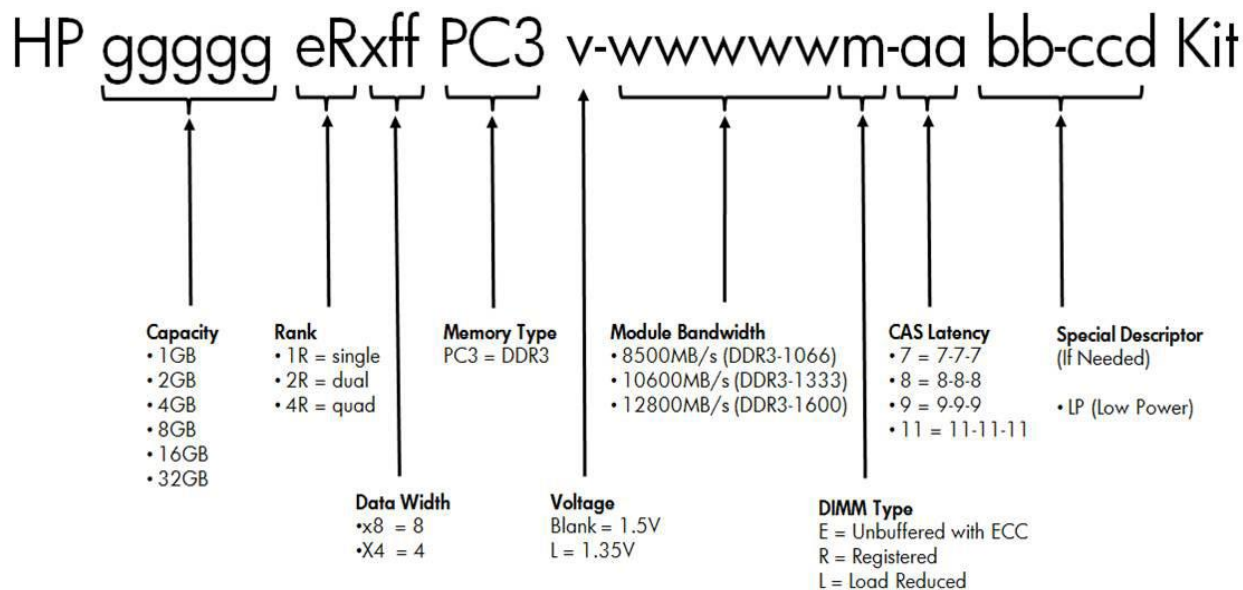
Memory

| SLOTS THAT CAN BE POPULATED | | | | | | | | | | | | | |
|-----------------------------|--------|------|------|------|--------|------|--------|------|------|------|------|------|----|
| 16 slot servers | 16 | 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 | |
| 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 HP 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 HP:

HP Memory

NOTE: HP memory from previous generation servers are not qualified or warranted with this HP ProLiant Server. HP SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HP 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

Memory

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.

| | |
|--|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713981-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 708637-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713983-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 731765-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 708639-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit | 731761-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713985-B21 |
| HP 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.

| | |
|---|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647893-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 647895-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647897-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 647899-B21 |
| NOTE: 647899-B21 is supported by the E5-2600 and E5-2600v2 series Processors. | |
| HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 690802-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647901-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 672631-B21 |

NOTE: 672631-B21 is supported by the E5-2600 and E5-2600v2 series Processors.

Unbuffered with ECC DIMMs (UDIMMs)

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

| | |
|--|------------|
| HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713975-B21 |
| HP 2GB (1x2GB) Single Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory Kit | 708631-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713977-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory | 708633-B21 |

Memory

Kit

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

HP 8GB (1x8GB) Dual Rank x8 PC3-14900E (DDR3-1866) Unbuffered CAS-13 Memory Kit 708635-B21

Unbuffered with ECC DIMMs (UDIMMs)

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

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

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

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

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

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

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

Load Reduced DIMMs (LRDIMMs)

HP 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.

HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit 647903-B21

NOTE: This memory is only supported by the E5-2600 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>.

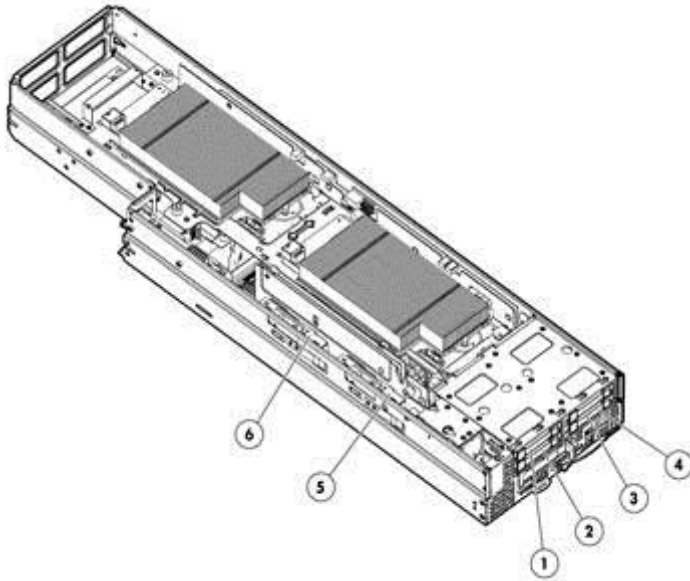
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: <http://www.hp.com/go/proliant-energy-efficient>

NOTE: PC3L is a low voltage memory

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Storage



2U Tray

- 1-4 Up to four 2.5" hot plug hard drive bays
- 5 Up to four additional 2.5" non hot-plug drives can be configured when the SFF Hard Drive Enablement Kit is implemented in place of the included GPU kit

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

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 | |
| | LpAm | 45dBA | | |
| | Operating | | | |

Technical Specifications

| | | |
|---------------------------------------|---------------------|---|
| | 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.

| | | | |
|--|--|--|--|
| HP 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) |

| | | |
|----------------------------------|---|---|
| HP H220i Host Bus Adapter | Disk Drive and Enclosure Interface - Transfer rate | 6Gb/s SAS (Serial Attached SCSI) |
| | | 6Gb/s SATA (Serial ATA) |
| | SAS Connectors | 2 internal 4X connectors |
| | Server Interface | x8 PCIe 3.0 provides 8GB/s maximum bandwidth |
| | SAS Speed | 6Gb/s SAS links provide 4.8GB/s maximum bandwidth |
| | Cache Memory | None |
| | Physical Drives Supported | Up to 8 physical drives |
| | Hot Plug Support | Yes |
| | RAID Support | None |

| | | |
|---|---|--|
| Environment-friendly Products and Approach | End-of-life Management and Recycling | Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green . To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. |
|---|---|--|

Technical Specifications

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Summary of Changes

| Date | Version History | Action | Description of Change: |
|-------------|-----------------------|---------|---|
| 21-Aug-2015 | From version 38 to 39 | Updated | Changes made throughout the QuickSpecs. |
| 01-Nov-2014 | From version 37 to 38 | Changed | Service and support updated |
| 18-Aug-2014 | From Version 35 to 36 | Changed | Updated Hard Drives, Computational and Graphics Accelerators (two locations), and added a section for HP Storage Options. |
| 20-Jun-2014 | From Version 34 to 35 | Changed | Changes made in the Overview, Core and Additional Options sections. |
| 10-Jun-2014 | From Version 33 to 34 | Changed | Service and Support, Memory, Hard Drives, Insight Software, Cloudera Licensing, PCIe Workload Accelerator Options, and USB and SD Options were revised. |
| 31-Mar-2014 | From Version 32 to 33 | Changed | Changes made throughout the QuickSpecs. |
| 18-Feb-2014 | From Version 31 to 32 | Changed | Changes made throughout the QuickSpecs. |
| 24-Jan-2014 | From Version 30 to 31 | Changed | Updated Descriptions in the Configuration Information section. |
| 17-Jan-2014 | From Version 29 to 30 | Changed | Memory and Tape Backup were revised. |
| 16-Dec-2013 | From Version 28 to 29 | Changed | Changes made to the North America and Canada versions only. |
| 11-Oct-2013 | From Version 27 to 28 | Changed | Updating supported options. |
| 03-Oct-2013 | From Version 26 to 27 | Changed | Correction made in the Core Options/ Hard Drives and in the GPU Computing Modules sections. |
| 13-Sep-2013 | From Version 25 to 26 | Removed | Note was removed from Upgradeability in Standard Features. |
| 10-Sep-2013 | From Version 24 to 25 | 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 Servers Smart Array P430 and P431 Controllers were added to Storage Controllers HP StoreFabric SN1100E and CN1100R Fibre Channel Host Bus Adapters were added to HP Storage Options HP Storage Options was added to Additional Options |
| 23-Jul-2013 | From Version 23 to 24 | Changed | Step 1 notes section was revised in Configuration Information - Factory Integrated Models. |
| 05-Jul-2013 | From Version 22 to 23 | Changed | GPU Computing Modules was revised |
| 15-May-2013 | From Version 21 to 22 | Added | Additional Options: Added HP PCIe Workload Accelerator Options and HP Basic Power Distribution Units sections. |
| | | Changed | Standard Features: Updated Processor, Maximum Internal Storage, Common Slot Power Supplies and GPU Computing Modules sections. Configuration Information-Factory Integrated Models: Updated Step1A, Step 2 and Step 3. Core Options: Updated HP Unique Options, HP Processors, HP Hard Drives, HP Networking and HP InfiniBand sections. Additional Options: Updated HP Insight Software, GPU Computing Modules, HP Rack Options and HP USB and SD |

QuickSpecs

HP ProLiant SL250s Generation 8 (Gen8)

Summary of Changes

| | | | |
|-------------|-----------------------|-----------------------|--|
| | | | Options sections. |
| 29-Apr-2013 | From Version 20 to 21 | Changed | Core Options: Updated HP Enterprise Configurator to HP Simple Configurator section. |
| 25-Mar-2013 | From Version 19 to 20 | Added | Preconfigured Models: Removed 659042-B21 and 654939-B21 for the section Configurations Information - Factory Inegrated Models: Removed 654393-B21 and 654940-B21 Step 1 section. Additional Options: Removed A0C39A from the GPU Computing Models section. |
| 01-Mar-2013 | From Version 18 to 19 | Added | Core Options: Added 665240-B21 and 665243-B21 to HP Networking section. |
| 22-Feb-2013 | From Version 17 to 18 | Changed | Changes made in the Models and Standard Features sections. |
| 19-Feb-2013 | From Version 16 to 17 | Added | Added support for Intel's Xeon Phi 5110p Coprocessor. |
| 04-Dec-2012 | From Version 15 to 16 | Changed | Change made in Standard Features section. |
| 19-Oct-2012 | From Version 14 to 15 | Changed | Change made to sku description in Additional Options section. |
| 05-Oct-2012 | From Version 13 to 14 | Changed | Description change mad in the Additional Options section. |
| 24-Sep-2012 | From Version 12 to 13 | Changed | Changes were made in Overview, Standard Features, Optional Features, Additional Options and Technical Specifications sections. |
| 24-Aug-2012 | From Version 11 to 12 | Changed | Changes made throughout the QuickSpec. |
| 22-Aug-2012 | From Version 10 to 11 | Removed | Removed a discontinued sku from the Configuration Information section. |
| 14-Aug-2012 | From Version 9 to 10 | Removed | Removed note from Standard Features, Configuration Information and Core Options sections. |
| 13-Aug-2012 | From Version 8 to 9 | Changed/Added/Removed | Changes made throughout the QuickSpec. Added What's New and Step 4 Additional Options for Factory Integration Options Nodes. Removed HP Power Supplies, HP SL Advanced Power Manager, HP Power Cords and HP Rack Series Nodes. |
| 03-Jul-2012 | From Version 7 to 8 | Changed | Changes made throughout the QuickSpec. |
| 04-Jun-2012 | From Version 6 to 7 | Removed | Removed two processors from the Standard Features section. |
| 18-May-2012 | From Version 5 to 6 | Changed | Changes made to the Processors section of Standard Features. |
| 16-May-2012 | From Version 4 to 5 | Changed | Changes made in the Standard Features, Models, Options and Memory sections. |
| 13-Apr-2012 | From Version 3 to 4 | Changed | Memory section and Server Interface in HP H220i Host Bus Adapter were revised. |
| 26-Mar-2012 | From Version 2 to 3 | Changed | Changes made in the Memory and Options section. |
| 07-Mar-2012 | From Version 1 to 2 | Changed | Change made in the Optional Features section. |

Summary of Changes

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