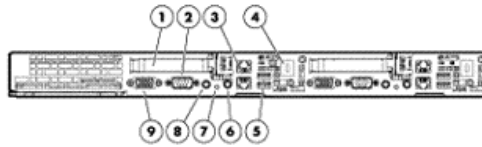
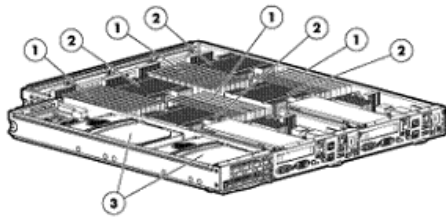


### Overview

## HP ProLiant SL2x170z Generation 6 (G6)



#### Open View:

1. 16 DDR3 DIMM slots
2. Up to two Intel® Quad-Core 5500 sequence processors
3. Two 3.5" (1 per server) non-hot plug hard drives using a quick release drive carrier

#### Front View:

1. Optional low profile x16 PCI-e Gen 2
2. Serial Port
3. (2) 1Gbit NIC
4. Optional Dedicated Management port
5. (2) USB Ports
6. Power Button
7. Health LED
8. UID
9. Video Port

## At A Glance

The HP ProLiant SL2x170z is part of a new family, HP ProLiant SL6000, of HP server solutions optimized for scale-out customers to greatly reduce costs, maximize power efficiency, and maintain total flexibility. The HP ProLiant SL2x170z G6 Server is designed for maximum compute density. Each SL2x170z system board is a two socket Intel server with 16 DDR3 DIMM sockets.

**NOTE:** The SL2x170 include two (2) SL170 system boards per tray. The following information is for each system board.

- **Processors:**
  - Up to two Quad-Core Intel® processor 5500 sequence
  - Intel® 5520 Chipset
- **Memory:**
  - Up to 128 GB, using PC3-8500R DDR3 Registered (RDIMM) memory, operating at 800MHz when fully populated in 16 slots
  - Up to 24 GB, using PC3-10600E DDR3 Unbuffered (UDIMM) memory, operating at 1066MHz when fully populated at 2 DIMMs per Channel in 12 slots
- **Network Controller:**
  - HP NC362i Integrated Dual Port Gigabit Server Adapter
- **Storage Controllers:**
  - HP Embedded SATA RAID Controller (RAID 0, 1, 10) per server node

**NOTE:** Transfer rate: 3.0 Gb/s SATA
- **Expansion Slots:**
  - One available PCI Express Gen 2.0 slots

### Overview

- Slot 1: Low profile x16 PCI-Express 2.0
- **Management:**
  - HP ProLiant Onboard Administrator Powered by Lights-Out 100 with optional LO100i Advanced Licenses for Virtual KVM and Virtual Media
  - The HP ProLiant Easy Set-up CDs and ISO image downloads offer Assisted and Manual single server installation, setup, and deployment capability. Capabilities provided are:
    - AutoRun
    - Assisted Installation Microsoft Windows 2003 Server and Microsoft Windows 2008 Server.
    - OS and SW available for Manual Installation are listed on each servers' QuickSpecs
  - HP Insight Diagnostics
  - Smart Components - a self-executable software consisting of driver and firmware
  - HP Smart Update Manager - a single system and multi-server deployment tool for Windows environments that works with Smart Components to provide customers with easy-to-use GUI and Script-based deployment capacity
  - SmartStart Scripting Toolkit - an automated scalable deployment utility
  - Insight Management Agents for environmental monitoring that is similar to and consistent with that of HP ProLiant 300 series servers and above servers and that allows integration to HP Systems Insight Manager (SIM).
  - Array Configuration Utility (ACU)
  - Array Diagnostics Utility (ADU)
- **Operating Systems and Virtualization Software Support for ProLiant Servers:**
  - Supports Windows, RHEL, SLES, Solaris
- **USB Ports:**
  - Three USB ports / server node (two front, one internal)
- **Optical Drive:**
  - External support only
- **Power Supply:**
  - The 2U chassis supports three power supply options:
    - Common Slot Power Supplies enable power capping and hot-pluggability
    - HP 1200W CS HE Silver Power Supply (Hot Plug, Autoswitching) (optional)
    - HP 750W CS HE Gold Power Supply (Hot Plug, Autoswitching) (optional)
    - HP 460W CS HE Gold Power Supply (Hot Plug, Autoswitching) (optional)
- **Form Factor:**
  - HP ProLiant z6000 G6 Chassis - 2U
  - HP ProLiant SL2x170z Server - 1U Server Tray
- **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. SATA hard drives have a one year warranty. SAS Midline drives have a one-year warranty. SAS Enterprise drives have a 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>.

### 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

#### Quad-Core Processor

Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)

Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo, 2/2/3/3)

Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)

Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)

Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2)

Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60W, DDR3-800)

Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)

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#### Dual Core Processors

Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800)

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**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 4, 3, 2, and 1 cores 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:** For the Intel 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream), and "L" denotes Lower Wattage.

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

#### Upgradeability

Upgradeable to two processors

#### Chipset

Intel® 5520 Chipset

**NOTE:** For more information regarding Intel chipsets, please see the following URL: <http://www.intel.com/products/server/chipsets/>

#### Cache Memory

One of the following depending on Model

8 MB (1 x 8MB) Level 3 cache

**NOTE:** All processor models except for those identified below.

4 MB (1 x 4MB) Level 3 cache

**NOTE:** For processors L5506, E5504 and E5502.

#### Memory Protection

Advanced memory protection

#### Memory

Type DDR3 Registered (RDIMM) or Unbuffered (UDIMM)

Standard (per server tray) 6 GB (3 x 2 GB) UDIMMs

Maximum (RDIMM) (per 128 GB (16 x 8 GB) for Registered Memory configurations



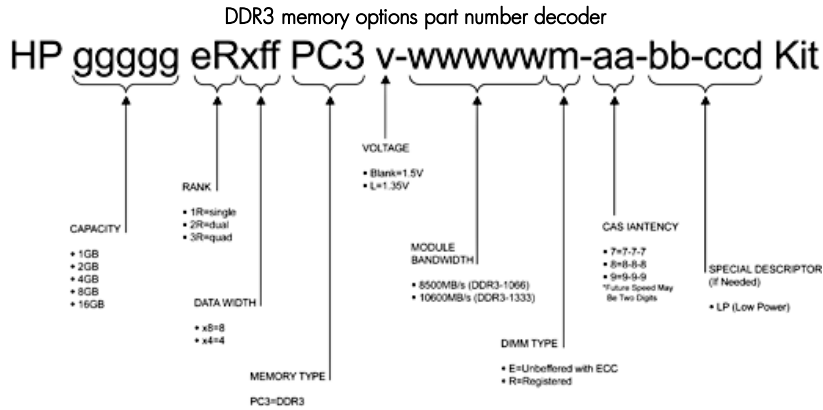
### Standard Features

server tray)

Maximum (UDIMM) (per server tray) 24 GB (12 x 2 GB) for Unbuffered Memory configurations

**NOTE:** Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: [www.hp.com/go/ddr3memory-configurator](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: [www.hp.com/go/proliant-energy-efficient](http://www.hp.com/go/proliant-energy-efficient).



**Network Controller** HP NC362i Integrated Dual Port Gigabit Server Adapter

Expansion Slots	Expansion Slots #	Technology	Bus Width**	Connector Width	Form Factor	Notes
	1	PCI-Express 2.0	x16	x16	Low Profile	3.3 volts

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

**Storage Controller** HP Embedded SATA RAID Controller (RAID 0, 1, 10) per server node

**NOTE:** Transfer rate: 3.0 Gb/s SATA.

**NOTE:** An external diskette drive, USB floppy drive key or virtual FDD using LO100 Advanced Pack is needed to install storage controller drivers during a Windows operating system installation from a CD.

Storage	Optical Drives	DVD / CD drives via USB only
	Diskette Drives	Via USB only
	Drive Bays	None ship standard Up to 2 Non-hot plug SATA 3.5" drives (1 drive for each system board)

**Maximum Internal Storage** Non-Hot Plug SATA 2.0TB 2 x 1TB (1 drive for each system board)



### Standard Features

<b>Interfaces</b>	Parallel	None
	Network RJ-45	2 10/100/1000 NIC ports (1 NIC shared for the HP ProLiant Lights Out 100i Remote Management)
	Serial	1
	Graphics	1
	USB	3 (two front, one internal) <b>NOTE:</b> Please see the following URL for additional information regarding USB support: <a href="http://h18004.www1.hp.com/products/servers/platforms/usb-support.html">http://h18004.www1.hp.com/products/servers/platforms/usb-support.html</a> .
	Management	1 Optional Dedicated LO100i Management Port
	Health LED	1 front per server node (Optional front health LED per server node)
	Power	1 front per server node (Optional front power button per server node)
	UID	1 front per server node (Optional front UID per chassis)

<b>Graphics</b>	Integrated ATI ES1000, 32MB video standard <ul style="list-style-type: none"> <li>• 16 bit color: maximum resolution of 1600 x 1200</li> <li>• 32 bit color: maximum resolution of 1280 x 1024</li> </ul>
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<b>Form Factor</b>	HP ProLiant z6000 G6 Chassis - 2U Chassis can support up to two SL2x170z server trays in the 2U chassis. This equals a total of four (4) SL170 system boards HP ProLiant SL2x170z G6 Server - 1U server tray with two (2) SL170 system boards
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<b>Embedded Systems Management</b>	<p><b>HP ProLiant Onboard Administrator Powered by LO100 with LO100i Advanced Licenses</b></p> <p>HP ProLiant Onboard Administrator Powered by Lights-Out 100 is standard with this server and has LO100i Advanced Licenses for Virtual KVM and Virtual Media available as options.</p> <p>Features:</p> <ul style="list-style-type: none"> <li>• Embedded IPMI standard reporting</li> <li>• System event log access</li> <li>• Remote Serial console (serial redirection)</li> <li>• Browser, Telnet access</li> <li>• SMASH-CLP compliant</li> <li>• IPMI 2.0 compliant</li> <li>• DCMI 1.0 compliant</li> <li>• Secure Socket Layer Encryption</li> <li>• Secure Shell Encryption</li> <li>• Virtual media (Floppy, CD, USB 2.0) with Advanced License</li> <li>• Virtual KVM with Advanced License</li> </ul>
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### Standard Features

<b>Server Management Stand Alone Software Products</b>	<p>HP Insight Rapid Deployment software</p> <p>HP Systems Insight Manager</p>	<p>HP Insight Rapid Deployment software (RDP) extends HP Systems Insight Manager with a complete deployment solution for HP ProLiant servers. RDP provides a central location to configure server hardware, deploy Windows, Linux and VMware ESX operating environments and install HP ProLiant Support Pack drivers using images and scripted profiles. For more information, visit: <a href="http://www.hp.com/go/rdp">http://www.hp.com/go/rdp</a>.</p> <p>HP Systems Insight Manager (HP SIM) provides a unified, secure and extensible standards-based environment to centrally manage servers, storage and other infrastructure devices, (both HP and non-HP) across multiple operating system platforms. For additional information, please see: <a href="http://www.hp.com/go/insight">http://www.hp.com/go/insight</a>.</p>
<b>Core Infrastructure Management</b>	Subscriber's Choice	<p>Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides software and driver change notifications for ProLiant products. Sign up at: <a href="http://www.hp.com/go/subscriberschoice">http://www.hp.com/go/subscriberschoice</a> and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.</p>
<b>Easy Setup CD and ISO Image Web downloads</b>	ROMPaq, software and latest drivers	<p>The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options; downloaded from Software and Drivers download pages website at: <a href="http://www.hp.com/go/support">http://www.hp.com/go/support</a> and from <a href="http://www.hp.com/servers/easysetup">www.hp.com/servers/easysetup</a>. Contains the following:</p> <ul style="list-style-type: none"> <li>• HP Insight Management Agents for Systems Insight Manager (SIM) Integration</li> <li>• HP Systems Management Homepage</li> <li>• Array Configuration Utility (ACU)</li> <li>• Array Diagnostics Utility (ADU)</li> <li>• HP Insight Diagnostics</li> </ul>
<b>Industry Standard Compliance</b>	<p>ACPI V2.0 Compliant</p> <p>PCI 2.2 Compliant</p> <p>PXE Support</p> <p>WOL Support</p> <p>Microsoft® Logo certifications</p> <p>IPMI 2.0</p> <p>DCMI 1.0</p> <p>SMASH CLP compliant</p>	
<b>Security</b>	<p>Power-on password</p> <p>Setup password</p>	



### Standard Features

Diskette boot control  
Secure Sockets Layer (SSL)  
Secure Shell (SSH)

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### Security - Trusted Platform Module

Trusted Platform Module option kit

The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline.

**NOTE:** For more information about TPM, including a white paper, go to:

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

**NOTE:** ProLiant OS pre-installed units will come with the partition required for TPM deployment.

**NOTE:** The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

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### Server Power Cords

One 6' Highline (IEC-IEC) power cord ships standard

**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 (227099-001) must be ordered separately.

**NOTE:** If customers require a local power cord, they can check the power cord matrix for the appropriate cord. Please see the following power cord matrix:

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

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### UPS and PDU Power Cord Matrix

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:

[www.hp.com/products/powercords](http://www.hp.com/products/powercords).

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### Power Supply

HP has a new design for ProLiant power. The new Common Slot Power Supply bay. This design provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with Common Slot, High Efficiency and Right-Size Power Supplies. Common Slot (CS) designates commonality of the power supply across multiple ProLiant servers. HP's new Common Slot power supplies are designed for highest efficiency to provide power efficiency without degrading performance of the ProLiant. Power Supplies will have efficiency ratings up to 92%. There are three Right Size power options available, depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP Power Calculator to decide the "Right-Size" for your configuration. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant (redundancy dependent on node configurations).



### Standard Features

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#### Common Slot ProLiant

It is highly recommended that you use the HP Power Calculator in defining the "Right-Size" power supply for your needs. HP offers three Power Supply Options:

- 460Watts, Common Slot, 92% Efficiency
- 750Watts, Common Slot, 92% Efficiency
- 1200Watts, Common Slot, 90% Efficiency

The HP ProLiant Common Slot Power supplies meet multiple Energy Efficiency Initiatives: Climate Savers Computing Initiative GOLD and ECOS Consulting 80PLUS GOLD for the 460w and 750w Power Supplies and Climate Savers Computing Initiative Silver, ECOS Consulting 80PLUS Silver for 1200w Power Supply. HP has also been working with the EPA on developing an ENERGY STAR? Computer Server specification and plans on offering models that meet the requirements when they are published. Please visit the ENERGY STAR website at: [www.energystar.gov](http://www.energystar.gov) for updates on the specification development process and approved platforms.

Optional power supplies can be purchased through power supply option kits (see Power Supply Options for part numbers).

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#### System Fans

4 system fans ship standard in z6000 chassis - N+1 redundant

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#### Operating Systems and Virtualization Software Support for ProLiant Servers

[Microsoft Windows Server](#)  
[Microsoft Windows Server Hyper-V](#)  
[Red Hat Enterprise Linux \(RHEL\)](#)  
[SUSE Linux Enterprise Server \(SLES\)](#)  
[Solaris 10 for x86/x64 based Systems](#)  
[VMware](#)  
[Citrix Essentials for 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, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page <http://www.hp.com/support/SL2x170zG6>

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#### Rack Airflow Requirements Rack 10000 series Cabinets

The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

**CAUTION:** If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 5,350 sq cm (830 square inches) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).

Side: The clearance between the installed rack component and the side panels of the rack must be a



### Standard Features

minimum of 7 cm (2.75 inches)

**CAUTION:** Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

**NOTE:** For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: [www.hp.com/servers/SL2x170z](http://www.hp.com/servers/SL2x170z).

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### Rack Support

HP ProLiant SL2x170z G6 models have two different rail kits to choose from:

- 10U bulk rail kit - Used to fit in HP 10000 series racks
  - One 10U bulk rail kit will hold up to five z6000 chassis, thus ten SL2x170z G6 server trays for a total of twenty system boards
- 2U rail kit - Used to fit in 3rd party racks or to sell one z6000 chassis at a time
  - One 2U rail kit will hold one z6000 chassis, thus two SL2x170z servers for a total of four system boards

For additional information, please visit: [www.racksolutions.com](http://www.racksolutions.com).

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### 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>.

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### HP Enterprise Configurator

The HP eConfigure Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance. <http://www.hp.com/products/configurator>

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### Service and Support

HP Care Pack Services provide total care and support expertise with committed response designed to meet your IT and business needs.

HP Care Pack Services provide total care and support expertise with committed response designed to meet your IT and business needs.



### Standard Features

HP Care Pack services include coverage for the HP branded hardware options qualified for the server that are purchased at the same time or afterward and internal to the enclosure. It also includes the 22" and smaller external monitors and tower UPS options up to 3kVA. These items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included and standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

To fully capitalize on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vendor support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

**Recommended Service** - Simplify ProLiant solution implementation, maintenance and management.

- **Support Service** - 3 Year, 9x5 Next Business Day coverage, excluding HP holidays only
- **Deployment Service** - Hardware Installation only

**Enhanced Service** - Optimize service level to increase IT performance and availability

- **Support Service** - 3 Year 13x5 Same Business Day, 4-Hour response coverage
- **Deployment Service** - Installation and Start-up only

Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays.

For a complete listing of service offerings and information visit:

<http://www.hp.com/services/proliantservices>

<http://www.hp.com/go/proliant/carepack>

### *HPC Interconnects*

**NOTE:** High Performance Computing (HPC) interconnect technologies are available for the SL2x170z G6 under the Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand, Gigabit Ethernet or Myrinet Interconnects:

<http://www.hp.com/techservers/clusters/ucp/index.html>

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HPC Interconnects	<b>InfiniBand</b>	PCI-X and PCI-Express adapters
	<b>Gigabit Ethernet</b>	Use embedded ports
	<b>Myrinet XP</b>	PCI-X Rev D, Rev E and Rev F adapters

### 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 additional information.

**NOTE:** HP does not allow factory integration of options into standard models listed above. Configure-to-order servers must start with a CTO Chassis.

**NOTE:** FIO indicates that this option is a Factory Installable Option.

### Step 1: Base Configuration (you must choose the chassis and the tray)

<b>Models</b>	<b>Chassis</b>	
	HP ProLiant z6000 G6 Chassis	538080-B21
	<b>Factory Integrated Model ships with:</b>	
	2U chassis and 3 fans	
	Rails and power supplies are required options below	
	<b>Server Tray</b>	
	HP ProLiant SL2x170z G6 Server board 1	570149-B21
	HP ProLiant SL2x170z G6 Server board 2	570150-B21
	<b>Factory Integrated Model ships with:</b>	
	Two SL2x170z trays, each with 2 system board	
	Processors, memory and hard drives are required options below	

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

<b>Processors</b>	<b>Quad-Core Processors</b>	
	Intel® Xeon® processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO Base	570454-L21
	<b>NOTE:</b> If 2 processors are desired, select one 570454-L21 and one 570454-B21.	
	Intel® Xeon® processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO Base	570456-L21
	<b>NOTE:</b> If 2 processors are desired, select one 570456-L21 and one 570456-B21.	
	Intel® Xeon® processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO Base	570458-L21
	<b>NOTE:</b> If 2 processors are desired, select one 570458-L21 and one 570458-B21.	
	Intel® Xeon® processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO Base	570481-L21
	<b>NOTE:</b> If 2 processors are desired, select one 570481-L21 and one 570481-B21.	
	Intel® Xeon® processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO Base	570450-L21
	<b>NOTE:</b> If 2 processors are desired, select one 570480-L21 and one 570450-B21.	
	Intel® Xeon® processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066,	570485-L21



### Configuration Information - Factory Integrated Models

HT, Turbo 1/1/2/2), FIO Base

**NOTE:** If 2 processors are desired, select one 570485-L21 and one 570485-B21.

Intel® Xeon® processor L5506 (2.13 GHz, 4MB L3 Cache, 60W, DDR3-800), FIO Base 570483-L21

**NOTE:** If 2 processors are desired, select one 570483-L21 and one 570483-B21.

#### Dual-Core Processors

Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO 571707-L21

**NOTE:** If 2 processors are desired, select one 571707-L21 and one 571707-B21.

**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 4, 3, 2, and 1 cores 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:** For the Intel 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

### Memory

#### Registered DIMMs (RDIMMs)

HP 2GB 2Rx8 PC3-10600R-9 Kit 500656-B21

HP 4GB 2Rx4 PC3-10600R-9 Kit 500658-B21

HP 4GB 4Rx8 PC3-8500R-7 LP Kit 500660-B21

HP 8GB 2Rx4 PC3-10600R-9 Kit 500662-B21

HP 8GB 2Rx4 PC3-8500R-7 Kit 516423-B21

#### Unbuffered with ECC DIMMs (UDIMMs)

**NOTE:** Maximum 12 DIMMs supported per node.

HP 1GB 1Rx8 PC3-10600E-9 Kit 500668-B21

HP 2GB 2Rx8 PC3-10600E-9 Kit 500670-B21

**NOTE:** All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: [www.hp.com/go/ddr3memory-configurator](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: [www.hp.com/go/proliant-energy-efficient](http://www.hp.com/go/proliant-energy-efficient).

**NOTE:** There is a maximum support limitation of 8 ranks per memory channel (maximum of 2 quad rank DIMMs per channel)

### Riser Cards

#### Low Profile Riser Options

HP I/O Riser x16 SL160/170 G6 KIT 574806-B21



### Configuration Information - Factory Integrated Models

Rail Options	<p>HP ProLiant z6000 G6 2U rail kit  <b>NOTE:</b> 2U rail kit used for HP or 3rd part racks - allows addition of one z6000 chassis at a time.</p> <p>HP ProLiant z6000 G6 10U Bulk rail kit  <b>NOTE:</b> 10U rail kit used for HP racks ONLY - allows addition of five z6000 chassis at a time.</p>	570226-B21  570227-B21
<hr/>		
Hard Drive	<p><b>NOTE:</b> Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details.</p> <p><b>NOTE:</b> A minimum of one hard drive is required when purchasing Non-Hot Plug CTO Chassis Model (P/N 491531-B21).</p> <p><b>NOTE:</b> SATA Non-Hot Plug Hard Drives ONLY required when purchasing Non-Hot Plug CTO Chassis Models (491531-B21) in Step 1.</p> <p><b>NOTE:</b> The hard drives use a quick release carrier.</p> <p><b>SATA Entry (ETY) Drives - with quick-release (QR) carrier</b></p> <p>HP 160GB 3G SATA 7.2K 3.5in QR ETY HDD</p> <p><b>SATA Midline (MDL) Drives - with quick-release (QR) carrier</b></p> <p>HP 500GB 3G SATA 7.2K 3.5in QR MDL HDD</p> <p>HP 1TB 3G SATA 7.2K 3.5in QR MDL HDD</p>	574021-B21  574023-B21 574025-B21
<hr/>		
Power Supply	<p><b>NOTE:</b> Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: <a href="http://www.hp.com/go/proliantenergyefficient">www.hp.com/go/proliantenergyefficient</a>.</p> <p>HP 460W CS HE Power Supply Kit</p> <p>HP 750W CS HE Power Supply Kit</p> <p>HP 1200W CS HE Power Supply Kit</p>	503296-B21 512327-B21 500172-B21

### Step 3: Choose Additional Factory Integratable Options

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

### Core Options

**NOTE:** Some options may not be factory integrated. Please contact your local sales representative for additional information.

<b>Unique Options</b>	HP Dedicated MGT Port Kit	516006-B21
	HP I/O Riser x16 SL160/170 G6 KIT	574806-B21
	HP ProLiant z6000 Tray blank kit	574551-B21
	<b>NOTE:</b> This is needed to help with cooling if a tray is removed from the z6000.	
	HP ProLiant z6000 Cable Management Kit	575156-B21
	<b>NOTE:</b> this is needed when using Fiber cables.	

<b>Processor</b>	<b>Quad-Core Processors</b>	
	Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)	570454-B21
	Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)	570456-B21
	Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)	570458-B21
	Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)	570481-B21
	Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)	570450-B21
	Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2)	570485-B21
	Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60W, DDR3-800)	570483-B21
	<b>Dual-Core Processors</b>	
	Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800)	571707-B21
	<b>NOTE:</b> HT indicates that the processor model supports Intel® Hyper-Threading Technology.	
	<b>NOTE:</b> Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.	
	<b>NOTE:</b> DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.	
	<b>NOTE:</b> For the Intel 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.	

<b>Memory</b>	<b>Registered DIMMs (RDIMMs)</b>	
	HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21
	HP 4GB 2Rx4 PC3-10600R-9 Kit	500658-B21
	HP 4GB 4Rx8 PC3-8500R-7 LP Kit	500660-B21
	HP 8GB 2Rx4 PC3-10600R-9 Kit	500662-B21
	HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21
	<b>Unbuffered with ECC DIMMs (UDIMMs)</b>	
<b>NOTE:</b> Maximum 12 DIMMs supported per node.		
	HP 1GB 1Rx8 PC3-10600E-9 Kit	500668-B21



### Core Options

HP 2GB 2Rx8 PC3-10600E-9 Kit 500670-B21

**NOTE:** All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: [www.hp.com/go/ddr3memory-configurator](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: [www.hp.com/go/proliant-energy-efficient](http://www.hp.com/go/proliant-energy-efficient).

**NOTE:** There is a maximum support limitation of 8 ranks per memory channel (maximum of 2 quad rank DIMMs per channel).

### Hard Drives

**NOTE:** Transfer rates of drives are dependent on the maximum transfer rate supported by the HBA or Controller. Refer to the HBA or Controller technical specifications for details.

**NOTE:** The hard drives use a quick release carrier.

#### SATA Entry (ETY) Drives - with quick-release (QR) carrier

HP 160GB 3G SATA 7.2K 3.5in QR ETY HDD 574021-B21

#### SATA Midline (MDL) Drives - with quick-release (QR) carrier

HP 500GB 3G SATA 7.2K 3.5in QR MDL HDD 574023-B21

HP 1TB 3G SATA 7.2K 3.5in QR MDL HDD 574025-B21

**NOTE:** SATA hard drives have a 1-year warranty.

### Communications

HP NC112T PCIe Gigabit Server Adapter 503746-B21

HP NC360T PCI Express Dual Port Gigabit Server Adapter 412648-B21

HP NC364T PCI Express Quad Port Gigabit Server Adapter 435508-B21

**NOTE:** Does not support Windows 2000.

HP NC373F PCI Express Multifunction Gigabit Server Adapter 394793-B21

HP NC373T PCI Express Multifunction Gigabit Server Adapter 394791-B21

HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter 458492-B21

**NOTE:** Supported on a Full Length-Full Height slot only.

HP NC522SFP Dual Port 10GbE Server Adapter 468332-B21

**NOTE:** A minimum of two gigabyte (2 GB) of server memory is required per each NC522SFP adapter.

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

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

### Riser Cage Options

HP I/O Riser x16 SL160/170 G6 KIT 574806-B21

### Redundant Options

**CAUTION:** In ProLiant Servers that have more than one power slot (bay), only same size power supplies are recommended. If non-matched power supplies are inserted you will get errors and operation will fail.

HP 460W CS HE Power Supply Kit 503296-B21

HP 750W CS HE Power Supply Kit 512327-B21





### Core Options

HP 1200W CS HE Power Supply Kit

500172-B21

**NOTE:** Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.

### Additional Options

**Remote Management** HP LO100i Advanced Pack, No Media 1-Server License including 1 year of 24x7 Technical Support and Updates 530521-B21  
**NOTE:** For additional information, please see the Lights-Out 100i QuickSpecs at [www.hp.com/go/lo100](http://www.hp.com/go/lo100)

**HP Insight Control Environment (ICE) Suite** **NOTE:** Electronic licensing options are available for Insight Control suites software products. Please see the appropriate Insight Control QuickSpecs for additional information. [www.hp.com/go/ice](http://www.hp.com/go/ice)

**HP Insight Control Environment for Linux**

HP Insight Control Environment for Linux, Media pack (DVD) - No licenses included 464422-B22

**NOTE:** This optional Media pack DVD contains the ISO image for HP Insight Control Environment for Linux, HP System Insight Manager, HP Insight Power Manager, HP Virtual Machine Management Pack, and an integrated installer. Servers must be acquired separately.

**NOTE:** This Media pack is optional because the latest ISO image and latest updates may be downloaded at no cost from: <http://www.hp.com/go/ice-linux> (click on Download button).

HP Insight Control Environment for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates 464423-B22

**NOTE:** This part number can be used to purchase one (1) license with a single activation key. Customer will receive a printed license entitlement certificate via physical shipment. 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:** One certificate is shipped for each license.

**NOTE:** For additional License Kits, please see the QuickSpecs at: [http://h18000.www1.hp.com/products/quickspecs/13019\\_div/13019\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html)

**Server Management Stand Alone Software Products** **NOTE:** Electronic licensing options are available for Insight Control suites and select ProLiant Essentials software products. Please see the appropriate Insight Control and ProLiant Essentials QuickSpecs for additional information.

**Control**

**Lights-Out 100i Advanced Pack**

HP Lights Out 100i Advanced Pack, No Media, 1-Server License 455342-B21

**NOTE:** Flexible and volume quantity (AKA) license kits are available for the Lights-Out 100i Advanced Pack licenses as well as Electronic License To Use (E-LTU). AKA Tracking licenses require a 100 unit minimum forecast at initial contract signing. For these additional part numbers, please refer to each software products' QuickSpecs at this link for more information:

<http://h18004.www1.hp.com/products/servers/management/remotemgmt.html>.

**Deploy**

**Rapid Deployment Pack**

ProLiant Essentials Rapid Deployment Pack No Media 1-Server License including 1 year of 24x7 Technical Support and Updates 452151-B21

**NOTE:** This license allows 1 server to be deployed and managed via RDP. Customer



### Additional Options

will receive a printed license entitlement certificate via physical shipment. 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:** For additional License Kits please see the QuickSpecs at:  
[http://h18000.www1.hp.com/products/quickspecs/11053\\_div/11053\\_div.html](http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.html)

**NOTE:** Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to: <http://www.hp.com/servers/proliantessentials> or the various ProLiant Essentials Value Pack product QuickSpecs for more information.

Rail Options	HP ProLiant z6000 G6 2U rail kit	570226-B21
	<b>NOTE:</b> 2U rail kit used for HP or 3rd part racks - allows addition of one z6000 chassis at a time.	
	HP ProLiant z6000 G6 10U Bulk rail kit	570227-B21
	<b>NOTE:</b> 10U rail kit used for HP racks ONLY - allows addition of five z6000 chassis at a time.	
	HP Procurve 6600 rail kit	538062-B21
	<b>NOTE:</b> This rail kit is used to mount the Procurve 6600 switch recessed with the z6000 chassis.	
	Voltaire 4036 rail kit	538064-B21
	<b>NOTE:</b> This rail kit is used to mount the Voltaire 4036 switch recessed with the z6000 chassis.	
	CISCO 4948 rail kit	574549-B21
	<b>NOTE:</b> This rail kit is used to mount the CISCO 4948 switch recessed with the z6000 chassis.	

Security	HP Trusted Platform Module Option Kit	488069-B21
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HPC Specific Options	HP IB 4X DDR PCIe Dual Port 0 Memory HCA	483513-B21
	HP IB 4X DDR Conn-X PCIe G2 Dual Port HCA	483514-B21
	HP IB 4X DDR PCIe Dual Port HCA	409376-B21
	HP IB 4X DDR PCIe DUAL PORT HCA	448397-B21
	<b>NOTE:</b> For HPC interconnect adapters please see the HPC Interconnect section of this QuickSpecs.	

StorageWorks Options	<b>StorageWorks Fibre Channel HBA</b>	
	<b>NOTE:</b> The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: <a href="http://h18006.www1.hp.com/storage/saninfrastructure/hba.html">http://h18006.www1.hp.com/storage/saninfrastructure/hba.html</a>	
	HP StorageWorks FC2142SR 4Gb PCIe HBA	A8002A
	HP StorageWorks FC2242SR Dual Channel 4 Gb PCIe HBA	A8003A
	HP StorageWorks FC1142SR 4Gb PCIe HBA	AE311A
	HP StorageWorks FC1242SR Dual Channel 4 Gb PCIe HBA	AE312A



### Additional Options

HP StorageWorks FC2143 4Gb PCI-X 2.0 - to Fibre Channel HBA	AD167A
HP StorageWorks FC2243 Dual Channel 4Gb PCI-X 2.0 HBA	AD168A
HP StorageWorks FC1243 Dual Channel 4Gb PCI-X 2.0 HBA	AE369A
HP StorageWorks FC1143 4Gb PCI-X 2.0 HBA	AB429A
HP StorageWorks 81E 8Gb SP PCIe FC HBA	AJ762A
HP StorageWorks 82E 8Gb Dual-port PCIe FC HBA	AJ763A
HP StorageWorks 82Q 8Gb Dual Port PCIe FC HBA	AJ764A
HP StorageWorks 81Q 8Gb Single Port PCIe FC HBA	AK344A
<b>StorageWorks SCSI HBA</b>	
HP U320e SCSI Host Bus Adapter	AH627A

**NOTE:** Recommended HBA for MS1 SCSI Tape Library connect.

### Uninterruptible Power Systems - Rack

<b>HP UPS R1500 G2 UPS</b>	
HP, R1.5kVA UPS, 1U, NA	AF419A
HP, R1.5kVA UPS, 1U, INTL	AF418A
HP, R1.5kVA UPS, 1U, JPN/TW	AF421A

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

[http://h18000.www1.hp.com/products/quickspecs/12507\\_div/12507\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html)  
(Worldwide)

### HP Rack 10000 G2 Series (Carbon/Graphite Metallic)

10642 G2 (42U) Rack Cabinet 1200mm Deep - Shock Pallet	AF034A
10642 G2 (42U) Rack Cabinet 1200mm Deep - Pallet	AF038A
10647 G2 (47U) Rack Cabinet 1200mm Deep - Shock Pallet	AF044A
10647 G2 (47U) Rack Cabinet 1200mm Deep - Pallet	AF045A

**NOTE:** Due to handling and shipping requirements, AF044A is only orderable through HP Factory Express. It is not for direct sales. Customer site surveys are required before an order is approved. CTO orders may require additional lead time.

**NOTE:** It is mandatory to use a shock pallet when shipping racks with equipment installed.

**NOTE:** Please see the Rack 10000 G2 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color:

[http://h18000.www1.hp.com/products/quickspecs/12402\\_div/12402\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html)  
(Worldwide)

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

### HP KVM Switch Options

2x1x16 IP Console Switch with Virtual Media	AF601A
4x1x16 IP Console Switch with Virtual Media	AF602A
2x16 Server Console Switch with Virtual Media	AF600A
PS/2 Virtual Media Interface Adapter, 1 pack	AF604A

**NOTE:** Requires PS/2 and one USB port on server.



### Additional Options

Server Console Switch (KVM), 0 x 2 x 8 port	AF616A
Server Console Switch (KVM), 0 x 2 x 16 port	AF617A
PS/2 Interface Adapter, 1 pack	262588-B21
PS/2 Interface Adapter, 8 pack	262587-B21
HP 1x4 Console Switch	AF611A
HP PS2 Server Console Cable, 6 foot, 2-Pack	AF612A
HP USB Server Console Cable, 6 foot, 2-Pack	AF613A

**NOTE:** required for supporting USB peripherals.

**NOTE:** Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL:

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

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<b>HP Serial Console Server Options</b>	HP 16 Port Serial Console Server (worldwide)	AF101A
	HP 48 Port Serial Console Server (worldwide)	AF102A
	Serial Adapter, RJ45-D89 DCE Female, 1-pack	AF103A
	Serial Adapter, RJ45-D89 DCE Female, 8-pack	AF110A

**NOTE:** For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL:

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

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<b>Service and Support Offerings</b> (HP Care Pack Services)	HP 1y 4h 13x5 SL6000 HW Support	UR258E
	HP 1y 4h 24x7 SL6000 HW Support	UR259E
	HP 1y 6h 24x7 CTR SL6000 HW Supp	UR260E
	HP 3y Nbd SL6000 HW Support	UR261E
	HP 3y Nbd w/DMR SL6000 HW Supp	UR262E
	HP 3y 4h 13x5 SL6000 HW Support	UR263E
	HP 3y 4h1 3x5 w/DMR SL6000 HW Supp	UR264E
	HP 3y 4h 24x7 SL6000 HW Support	UR265E
	HP 3y 4h24x7 w/DMR SL6000 HW Supp	UR266E
	HP 3y 6h 24x7 CTR SL6000 HW Supp	UR267E
	HP3y 6h24x7 CTRw/DMR SL6000 HW Supp	UR268E
	HP 4y Nbd SL6000 HW Support	UR269E
	HP 4y Nbd w/DMR SL6000 HW Supp	UR270E
	HP 4y 4h 13x5 SL6000 HW Support	UR271E
	HP 4y 4h1 3x5 w/DMR SL6000 HW Supp	UR272E
	HP 4y 4h 24x7 SL6000 HW Support	UR273E
	HP 4y 4h24x7 w/DMR SL6000 HW Supp	UR274E
	HP 4y 6h 24x7 CTR SL6000 HW Supp	UR275E
	HP4y 6h24x7 CTRw/DMR SL6000 HW Supp	UR276E
	HP 5y Nbd SL6000 HW Support	UR277E
	HP 5y Nbd w/DMR SL6000 HW Supp	UR278E



### Additional Options

HP 5y 4h 13x5 SL6000 HW Support	UR279E
HP 5y 4h1 3x5 w/DMR SL6000 HW Supp	UR280E
HP 5y 4h 24x7 SL6000 HW Support	UR281E
HP 5y 4h24x7 w/DMR SL6000 HW Supp	UR282E
HP 5y 6h 24x7 CTR SL6000 HW Supp	UR283E
HP5y 6h24x7 CTRw/DMR SL6000 HW Supp	UR284E
HP 3y 24x7 24h CTR SL6000 HW Supp	UR288E
HP 3y24x7 24hCTRwDMR SL6000 HW Supp	UR289E
HP 4y 24x7 24h CTR SL6000 HW Supp	UR290E
HP 4y24x7 24hCTRwDMR SL6000 HW Supp	UR291E
HP 5y 24x7 24h CTR SL6000 HW Supp	UR292E
HP 5y24x7 24hCTRwDMR SL6000 HW Supp	UR293E
HP Install SL6000 Service	UR285E
HP Startup SL6000 Service	UR286E
HP Install nonStdHrs SL6000 SVC	UR287E
Hardware Installation, Electronic	U9520E
HP LO100i Advanced Pack 3 year 24x7 Software Support	UM748E

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

### Memory

#### HP ProLiant SL2x170z G6 Server

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

**NOTE:** Each server tray includes two SL170 system boards. Specs below represent configuration of each system board.

**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:

[www.hp.com/go/ddr3memoryconfigurator](http://www.hp.com/go/ddr3memoryconfigurator)

Some DIMM installation guidelines are summarized below:

- For servers with sixteen (16) memory slots
- There are three (3) channels per processor; six (6) channels per server
- There are two (3) DIMM slots for two memory channels and one (2) DIMM slots for one memory channel; sixteen (16) total slots
- Memory channels 1 and 2 consists of the six (6) DIMMs that are furthest from the processor
- Memory channel 3 consists of the two (2) DIMMs that are closest to the processor
- DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- You can only have up to eight (8) ranks installed per channel
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- 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 chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3,6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- No mixing DIMM voltage; all DIMMs must be the same voltage

DIMM Type ->	Registered DIMMS (RDIMMs)			Unbuffered with ECC DIMMs (UDIMMs)		
	Dual Rank (2R)		Quad Rank (4R)	Single Rank (1R)	Dual Rank (2R)	
DIMM Rank ->	Dual Rank (2R)		Quad Rank (4R)	Single Rank (1R)	Dual Rank (2R)	
DIMM Capacity ->	2GB	4GB	8GB	4GB	1GB	2GB
DIMM Native Speed (MHz) ->	1333	1333	1066	1066	1333	1333
<b>SLOTS THAT CAN BE POPULATED</b>						
16 slot servers	16	16	16	12	12	12
<b>MAXIMUM MEMORY CAPACITY (GB)</b>						
16 slot servers	32	64	128	48	12	24



## Memory

POPULATED DIMM SPEED (MHz)						
1 DIMM Per Channel	1333	1333	1066	1066	1333	1333
2 DIMMs Per Channel	1066	1066	1066	800	1066	1066
3 DIMMs Per Channel (on 2 channels)	800	800	800	N/A	N/A	N/A

### DIMM slot and configuration diagrams Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

16 DIMM SLOTS (8 per CPU node)					
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A	1	A	Chnl 1
	2	D	2	D	
	3	G	3	G	
Chnl 2	4	B	4	B	Chnl 2
	5	E	5	E	
	6	H	6	H	
Chnl 3	7	C	7	C	Chnl 3
	8	F	8	F	

### Standard memory configuration (1 CPU model)

- 6GB, consisting of three (3) 2GB dual-rank PC3-10600E UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 2GB DIMM	1	A; empty	Chnl 1
	2	D; empty	2	D; empty	
	3	G; empty	3	G; empty	
Chnl 2	4	B; 2GB DIMM	4	B; empty	Chnl 2
	5	E; empty	5	E; empty	
	6	H; empty	6	H; empty	
Chnl 3	7	C; 2GB DIMM	7	C; empty	Chnl 3
	8	F; empty	8	F; empty	



## Memory

### Standard memory plus optional memory (1 CPU model)

- 12GB, consisting of three (3) 2GB UDIMMs plus three (3) 2GB UDIMMs
  - 6x 2GB dual-rank PC3-10600E UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 2GB DIMM	1	A; empty	Chnl 1
	2	D; 2GB DIMM	2	D; empty	
	3	G; empty	3	G; empty	
Chnl 2	4	B; 2GB DIMM	4	B; empty	Chnl 2
	5	E; 2GB DIMM	5	E; empty	
	6	H; empty	6	H; empty	
Chnl 3	7	C; 2GB DIMM	7	C; empty	Chnl 3
	8	F; 2GB DIMM	8	F; empty	

### Standard memory replaced with optional memory (1 CPU model)

#### RDIMM maximum configuration

- 64GB, consisting of eight (8) 8GB dual-rank PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 8GB DIMM	1	A; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	G; 8GB DIMM	3	G; empty	
Chnl 2	4	B; 8GB DIMM	4	B; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	H; 8GB DIMM	6	H; empty	
Chnl 3	7	C; 8GB DIMM	7	C; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	

### Standard memory replaced with optional memory (2 CPU model)

#### RDIMM maximum configuration

- 128GB, consisting of sixteen (16) 8GB PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 8GB DIMM	1	A; 8GB DIMM	Chnl 1



### Memory

	2	D; 8GB DIMM	2	D; 8GB DIMM	
	3	G; 8GB DIMM	3	G; 8GB DIMM	
Chnl 2	4	B; 8GB DIMM	4	B; 8GB DIMM	Chnl 2
	5	E; 8GB DIMM	5	E; 8GB DIMM	
	6	H; 8GB DIMM	6	H; 8GB DIMM	
Chnl 3	7	C; 8GB DIMM	7	C; 8GB DIMM	Chnl 3
	8	F; 8GB DIMM	8	F; 8GB DIMM	

### UDIMM maximum configuration

- 24GB, consisting of twelve (12) 2GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 2GB DIMM	1	A; 2GB DIMM	Chnl 1
	2	D; 2GB DIMM	2	D; 2GB DIMM	
	3	G; empty	3	G; empty	
Chnl 2	4	B; 2GB DIMM	4	B; 2GB DIMM	Chnl 2
	5	E; 2GB DIMM	5	E; 2GB DIMM	
	6	H; empty	6	H; empty	
Chnl 3	7	C; 2GB DIMM	7	C; 2GB DIMM	Chnl 3
	8	F; 2GB DIMM	8	F; 2GB DIMM	

**NOTE:** Capacity references are rounded to the common Gigabyte values.

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB

Following are memory options available from HP:

#### Memory

##### Registered DIMMs (RDIMMs)

HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21
HP 4GB 2Rx4 PC3-10600R-9 Kit	500658-B21
HP 4GB 4Rx8 PC3-8500R-7 LP Kit	500660-B21
HP 8GB 2Rx4 PC3-10600R-9 Kit	500662-B21
HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21

##### Unbuffered with ECC DIMMs (UDIMMs)



### Memory

**NOTE:** Maximum 12 DIMMs supported per node

HP 1GB 1Rx8 PC3-10600E-9 Kit

500668-B21

HP 2GB 2Rx8 PC3-10600E-9 Kit

500670-B21

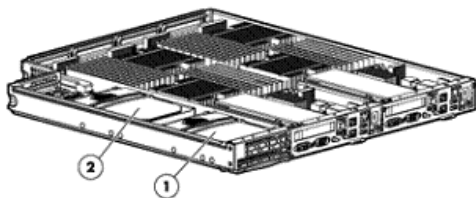
**NOTE:** All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).

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

**NOTE:** There is a maximum support limitation of 8 ranks per memory channel (maximum of 2 quad rank DIMMs per channel)

### Storage

- 1-2 One 3.5" Non-hot plug hard drive bays - Using quick release carrier for each system board for a total of 2 drives



### Drive Support

#### Hard Drives

**NOTE:** Transfer rates of drives are dependent on the maximum transfer rate supported by the HBA or Controller. Refer to the HBA or Controller technical specifications for details.

#### SATA Entry (ETY) Drives - with Quick Release carrier

	Quantity Supported	Position Supported	Controller
160GB 3G SATA 7.2K	Up to 2	1-2	HP Embedded SATA RAID Controller <b>NOTE:</b> Transfer rate: 3 Gb/s SATA

#### SATA Midline (MDL) Drives with Quick Release carrier

	Quantity Supported	Position Supported	Controller
1TB 3G SATA 7.2K	Up to 2	1-2	HP Embedded SATA RAID Controller <b>NOTE:</b> Transfer rate: 3 Gb/s SATA
500GB 3G SATA 7.2K			

### Power Specifications

<b>HP 460W Power Supply</b>							
<b>Part Number - AC 460W PSU</b>	503296-B21						
<b>Input Voltage Range (Vrms)</b>	100 to 240						
<b>Frequency Range (Nominal) (Hz)</b>	50/60						
<b>Nominal Input Voltage (Vrms)</b>	<b>100</b>	<b>120</b>	<b>208</b>	<b>200</b>	<b>220</b>	<b>230</b>	<b>240</b>
Maximum Rated Output Wattage	460	460	460	460	460	460	460
Nominal Input Current (A rms)	5.5	4.5	2.6	2.5	2.4	2.3	2.2
Max Rated Input Wattage Rating (Watts)	526	520	505	505	503	503	503
Max. Rated VA (Volt-Amp)	548	542	527	527	524	524	524
Efficiency (%) at Max. Rated Output Wattage	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	1794	1773	1725	1725	1715	1715	1715

<b>HP 750W Power Supply</b>							
<b>Part Number - AC 750W PSU</b>	512327-B21						
<b>Input Voltage Range (Vrms)</b>	100 to 240						
<b>Frequency Range (Nominal) (Hz)</b>	50/60						
<b>Nominal Input Voltage (Vrms)</b>	<b>100</b>	<b>120</b>	<b>208</b>	<b>200</b>	<b>220</b>	<b>230</b>	<b>240</b>
Maximum Rated Output Wattage	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.9	7.4	4.3	4.1	3.9	3.7	3.6
Max Rated Input Wattage Rating (Watts)	857	847	824	825	820	820	820
Max. Rated VA (Volt-Amp)	894	884	859	859	854	854	854
Efficiency (%) at Max. Rated Output Wattage	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	2925	2892	2812	2812	2797	2797	2797

<b>HP 1200W Power Supply</b>							
<b>Part Number - AC</b>	500172-B21						
<b>Operational Input Voltage Range</b>	100 to 240						



### Power Specifications

(Vrms)							
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	208	200	220	230	240
Maximum Rated Output Wattage	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	9.1	5.9
Max Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Max. Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%) at Max. Rated Output Wattage	86	87	89	89	89	89	89
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

To review typical system power ratings use the Active Answers HP Power Advisor which is available via the online tool located at URL: [www.hp.com/go/proliantenergy-efficient](http://www.hp.com/go/proliantenergy-efficient) or [www.hp.com/go/hppoweradvisor](http://www.hp.com/go/hppoweradvisor)

### Technical Specifications

<b>System Unit</b>	<b>Dimensions</b> (H x W x D) (with bezel)	3.46 x 17.64 x 28.1 in (8.79 x 44.81 x 731.37 cm)	
	<b>Weight</b> (approximate)	Maximum	65.7 lb (29.8 kg)
		(all hard drives, power supplies, and processors installed)	
	<b>Input Requirements</b> (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)
	<b>Power Specifications</b>	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: <a href="http://www.hp.com/go/proliant-energy-efficient">www.hp.com/go/proliant-energy-efficient</a>	
	<b>Power Supply Output</b> (per power supply)	Rated Steady-State Power	653.10W (at 100 VAC), 653.08W (at 200 VAC)
	<b>System Inlet Temperature</b>	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 305 m) above sea level to a maximum of 10,000 ft (3050 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	40° to 140° F (-40° to 60° C) Maximum rate of change is 36°F/hr (20°C/hr).
	<b>Relative Humidity</b> (non-condensing)	Operating	10% to 85% relative humidity (Rh), 82.4°F (28°C) maximum wet bulb temperature, non-condensing.
		Non-operating	10% to 95% relative humidity (Rh), 101.7°F (38.7°C) maximum wet bulb temperature, non-condensing.
	<b>Altitude</b>	Operating	10,000 ft (3050 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).
	<b>Acoustic Noise</b>	Listed are the declared A-Weighted sound power levels (LWAd) and	

### Technical Specifications

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

#### Idle

$L_{WA,d}$	6.86
$L_{pAm}$	52.36dBA

#### Operating

$L_{WA,d}$	6.89
$L_{pAm}$	52.60dBA

#### 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.

#### Embedded NC362i PCIe Gigabit Server Adapter Network Interface

Integrated 10/100/1000BASE-T Transceiver  
Combines a triple-speed IEEE 802.3TM - Compliant Media Access Controller (MAC) with a triple-speed Ethernet transceiver.

#### Data Transfer Method Network Transfer Rate

Compliant to x4 PCIe Specification	
10Base-T (Half-Duplex)	10 Mb/s
10Base-T (Full-Duplex)	20 Mb/s
100Base-TX (Half-Duplex)	100 Mb/s
100Base-TX (Full-Duplex)	200 Mb/s
1000Base-TX (Half and Full-Duplex)	2000Mb/s

#### Connector

RJ-45 connector

#### Cable Support

Performs all the physical layer functions for 10BASE-T, 100BASE-T, and 1000BASE-T Ethernet on standard Category 5 UTP

#### Environment-friendly Products and Approach

#### End-of-life Management and Recycling

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

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett





### *Technical Specifications*

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.

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