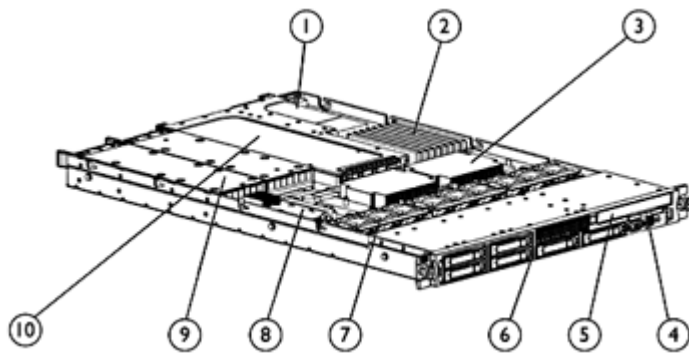
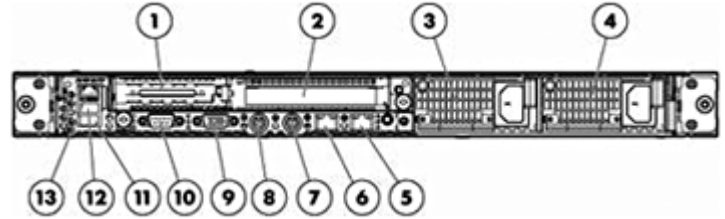


Overview



Front View:

1. Low-profile x8 PCI-Express slot
2. Eight PC2-5300 FB-DIMMs (DDR2 667) slots
3. Up to two Intel Quad-Core or Dual-Core Xeon™ processors
4. Slide-out System Insight Display
5. Slimline removable media bay
6. Up to six SAS/SATA hot plug drive bays
7. Removable fans for easy serviceability
8. Choice of Smart Array P400i Controller or Smart Array E200i Controller
9. Redundant Hot Plug Power Supplies (upgradeable option)
10. Full length/height x8 PCI-Express Slot (optional PCI-X)



Rear View:

1. PCI Express expansion slot 1, low-profile, half-length
2. PCI Express expansion slot 2
3. Power supply bay 2
4. Power supply bay 1
5. NIC 2 connector
6. NIC 1 connector
7. Keyboard connector
8. Mouse connector
9. Video connector
10. Serial connector
11. USB connector
12. USB connector
13. iLO 2 NIC connector

What's New

- New Quad-Core Intel Xeon 5300 sequence processor models are now available with up to 1333MHz Front Side Bus speed, with 8M (2x4MB) L2 Cache (X5355 120W, E5345 80W, E5335 80W, L5320 50W)

At A Glance

Combining concentrated 1U compute power, integrated Lights-Out management, and essential fault tolerance, the DL360 is optimized for space constrained installations. Dual-core Xeon processors, DDR2 Fully Buffered DIMMs, Serial Attached SCSI (SAS) and PCI Express technology provide a high performance system ideal for the full range of scale out applications. What's more, the HP ProLiant DL360 G5 steps up the fault tolerant in an ultra dense platform with redundant power, redundant fans, mirrored memory or online spare memory, embedded RAID capability, and full-featured remote Lights-Out management.

Processors:

- Up to (2) Quad-Core or Dual-Core Intel® Xeon® processor 5000 sequence
- Up to (2) Quad-Core Intel Xeon processor 5300 sequence
- Intel 5000P chipset supporting up to a 1333MHz front-side bus

Memory:

- Up to 32 GB of memory, supported by (8) slots of PC2-5300 Fully Buffered DIMMs (DDR2-667); 4:1



Overview

interleaving; memory mirroring; online spare

- **Storage Controller:**

- Performance Models: HP Smart Array P400i/256MB BBWC Controller (RAID 0/1/1+0/5/6) (512MB BBWC optional)
- Base Models: HP Smart Array P400i/256MB Controller (RAID 0/1/1+0/5) (512MB BBWC optional)
- Entry Models: HP Smart Array E200i/64MB Controller (RAID 0/1/1+0) (128MB BBWC optional)

- **Internal Drive Support:**

- Up to (6) small form factor (SFF) hot-plug drive bays
- Slimline media bay supporting DVD, CD or Floppy drive

- **Network Controller:**

- Two embedded NC373i Multifunction Gigabit Server Adapters with TCP/IP Offload Engine, including support for Accelerated iSCSI through optional ProLiant Essentials Licensing Kits

- **Expansion Slots:**

- Two PCI-Express expansion slots: (1) full-length, full-height slot; (1) low-profile slot
- Front or rear accessible video port

- **USB 2.0 Ports:**

- 4 Total: (1) front, (1) internal and (2) rear accessible ports

- **Redundancy:**

- Multiple layers of fault tolerance through critical component redundancy (power supply and fan redundancy), mirrored memory, embedded RAID capability, and full-featured remote Lights-Out management

- **Management:**

- Integrated Lights-Out 2 featuring Integrated Remote Console with KVM over IP performance over shared network access
- HP Power Meter and Power Regulator for ProLiant, delivering integrated power monitoring and server level, policy based power management with industry leading energy efficiency and savings on system power and cooling costs
- Convenient slide-out Systems Insight Display for quick and easy front view server diagnostics
- ProLiant Essential Foundation Pack standard, including HP Systems Insight Manager, SmartStart, SmartStart Scripting Toolkit, Subscriber's Choice and ROM Based Setup Utility (RBSU)
- Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU), HP System Insight Manager, Status LEDs including system health, UID, and SmartStart

- **Form Factor:**

- 1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

- **Deployment/Serviceability:**

- Sliding rails for in rack servicing ship standard; optional 1U Cable Management Arm

- **Warranty:**

- Protected by HP Services and a worldwide network of resellers and service providers. Three-year next business day, on-site limited global warranty. Certain restrictions and exclusions apply. Pre-failure notification on processors, memory, and SAS hard drives. SATA hard drives have a one-year warranty.

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 Intel Xeon Processor X5355 (2.66 GHz, 120 Watts, 1333 Front Side Bus (FSB))
 Quad-Core Intel Xeon Processor E5345 (2.33 GHz, 80 Watts, 1333 FSB)
 Quad-Core Intel Xeon Processor E5320 (1.86 GHz 80 Watts, 1066 FSB)
 Quad-Core Intel Xeon Processor L5320 (1.86 GHz 50 Watts, 1066 FSB)
 Quad-Core Intel Xeon Processor E5310 (1.60 GHz 80 Watts, 1066 FSB)
 Dual-Core Intel Xeon Processor 5160 (3.0 GHz, 80 Watts, 1333 FSB)
 Dual-Core Intel Xeon Processor 5150 (2.67 GHz, 65 Watts, 1333 FSB)
 Dual-Core Intel Xeon Processor 5148 (2.33 GHz, 40 Watts, 1333 FSB, Low Voltage)
 Dual-Core Intel Xeon Processor 5140 (2.33 GHz, 65 Watts, 1333 FSB)
 Dual-Core Intel Xeon Processor 5130 (2.0 GHz, 65 Watts, 1333 FSB)
 Dual-Core Intel Xeon Processor 5120 (1.86 GHz, 65 Watts, 1066 FSB)
 Dual-Core Intel Xeon Processor 5110 (1.6 GHz, 65 Watts, 1066 FSB)
 Dual-Core Intel Xeon Processor 5080 (3.73GHz, 130 Watts, 1066 FSB)
 Dual-Core Intel Xeon Processor 5060 (3.2GHz, 130 Watts, 1066 FSB)

NOTE: Up to 2 processors supported. Performance configurations include two processors.

NOTE: Intel 5300 sequence processors are 64-bit, Quad-Core, and supports Intel VT technology.
 Intel 5100/5000 sequence processors are 64-bit, Dual-Core, and supports Intel VT technology.

Cache Memory

One of the following
depending on Model

8MB (2 x 4MB) Level 2 cache (5300 sequence)
 4MB (1 x 4MB) Level 2 cache (5100 sequence)
 4MB (2 x 2MB) Level 2 cache (5000 sequence)

Upgradeability

Upgradeable to quad or dual processing
 Future upgradeable to Xeon Series 5300 Quad-Core, or 5100 Dual-Core processors (Please contact your regional sales support to determine quad core upgradeability. Some of the earlier shipping models may not support this upgrade)

Chipset

Intel 5000P chipset

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

Memory Protection & Functionality

Advanced ECC (multi-bit error protection), Online Spare, Mirroring
 4-way interleaving

Standard Features

Memory	Type	PC2-5300 Fully Buffered DIMMs (DDR2-667)
	Standard (Entry or Base Models)	1 GB (2 x 512 MB)
	Standard (Performance Models)	2 GB (2 x 1 GB)
	Standard (Performance Model E5345)	4 GB (4 x 1 GB)
	Maximum	32 GB (8 x 4 GB)

NOTE: Memory DIMMs in systems with the Front Side Bus (FSB) running at 1333 MHz will run at 667 MHz and in systems with a FSB running at 1066 MHz or 667 MHz the memory DIMMs will run at 533 MHz.

Network Controller	Two embedded NC373i Multifunction Gigabit Server Adapters with TCP/IP Offload Engine, including support for Accelerated iSCSI through optional ProLiant Essentials Licensing Kits
---------------------------	---

Expansion Slots	Slot Number	Bus Speed	Bus Number*	Device Number**	Hot Plug	PCI Voltage
	1	x8 PCI Express	11	0	no	N/A
	2	x8 PCI Express	19	0	no	N/A
	2	64-bit/133MHz PCI-X (option)	16	1	no	3.3 Volt

***NOTE:** Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.

****NOTE:** Slots are enumerated differently based on OS. Microsoft OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

Storage Controller One of the following depending on Model	Performance Models:	HP Smart Array P400i/256MB BBWC Controller (RAID 0/1/1+0/5/6) Available upgrades: 512MB memory battery-backed write cache (BBWC) module for RAID 0/1/1+0/5/6.
	Base Models:	HP Smart Array P400i/256MB Controller (RAID 0/1/1+0/5) Available upgrades: 512MB memory battery for battery-backed write cache (BBWC) module for RAID 0/1/1+0/5/6, or battery-backed write cache for RAID 0/1/1+0/5/6.
	Entry Models:	HP Smart Array E200i/64MB Controller (RAID 0/1/1+0) Available upgrades: 128MB memory battery for battery-backed write cache (BBWC) module for RAID 0/1/1+0/5.

Storage	Optical Drives (Slimline Drive bay)	Optional DVD-ROM, DVD/CD-RW Combo (standard in performance models), DVD-RW, or Slimline floppy drive
	Drive Bays	Up to 6 Small Form Factor bays total NOTE: 4 bays active in most models. Smart Array P400i controller and Mini-SAS storage cable (P/N 399546-B21) required for activation of 5th and 6th drive bays.

Standard Features

Maximum Internal Storage Type	Hot Plug Serial Attached SCSI (SAS)	876GB SAS	6 x 146GB SAS
	Hot Plug Serial ATA (SATA)	720GB SATA	6 x 120GB SATA
Interfaces	Keyboard	1	
	Mouse	1	
	Serial	1	
	Video	1	
	USB 2.0 Ports	4 total: 2 rear, 1 front, 1 internal NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html .	
	Network RJ-45	2	
	iLO 2 remote management port	1	
Graphics	Integrated ATI ES1000 1280 x 1024 x 16M color (32MB video standard)		
Form Factor	Rack (1U), (1.75 in/4.45 cm); 27.75 inch depth (70.5cm)		
ProLiant Essentials Foundation Pack Software	HP Systems Insight Manager	HP Systems Insight Manager (HP SIM) provides a unified, secure and extensible environment to centrally manage servers, storage and other infrastructure devices across multiple operating system platforms.	
		Through a single management view, HP SIM provides core management services that include device discovery and identification, event views, health monitoring, inventory data collection, software version control and reporting. HP SIM is built on industry standards and is extensible with value-added ProLiant Essentials, Integrity Essentials and Storage Essentials software to meet individual management needs. For more details on HP SIM visit http://www.hp.com/go/hpsim .	
		HP SIM provides organizations with the following benefits: <ul style="list-style-type: none">• Simplifies and consolidates infrastructure lifecycle management using task and query based functionality• Provides the foundation for infrastructure automation and virtualization• Enables IT management based on business processes not hardware platforms• Lowers infrastructure maintenance cost and frees resources for innovation• Maximizes resource utilization with virtualization technologies• Provides a central point of integration between infrastructure and Enterprise management tools such as HP OpenView	

Standard Features

SmartStart	SmartStart is a tool that simplifies server setup, providing a rapid way to deploy reliable and consistent server configurations. For more information, please visit the SmartStart Web site at http://www.hp.com/servers/smartstart . SmartStart version supported (minimum): SmartStart 7.60.
Insight Management Agents	Insight Management Agents should be installed on all HP servers to present system instrumentation, health and configuration information into HP Systems Insight Manager and the HP System Management Homepage. The HP System Management Homepage aggregates systems data from Insight Management Agents and other HP management tools, providing a consolidated browser-based interface for managing individual servers, Insight Management Agents and The HP System Management Homepage are included on ProLiant Support Packs, and can also be installed using the server profiles provided with the ProLiant Essentials Rapid Deployment Pack. For additional information about the Management Agents and the HP System Management Homepage please visit the management Web site at http://www.hp.com/servers/manage .
Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides automatic delivery of software and driver change notifications for ProLiant products. Sign up at http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.
ROMPaq, support software, and configuration utilities	The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options available in SmartStart or downloadable from Software and Drivers download pages: http://www.hp.com/go/support
Insight Diagnostics	The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips, available in SmartStart.
Optional ProLiant Essentials Value Packs	Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs: <ul style="list-style-type: none">● Rapid Deployment Pack (RDP) is an automated deployment and provisioning solution for all ProLiant servers. RDP includes the ProLiant Integration Module featuring ProLiant server pre-configured events for OS installation, and optimized software drivers, firmware and management agents. Every RDP disc includes 7-day, 10-node trial licenses for evaluation purposes. RDP requires a license for each server deployed and is available for purchase with HP servers. For more information, visit: http://www.hp.com/servers/rdp.● Workload Management Pack – provides easier management of complex environments, improving overall server utilization and enabling Windows® 2000 customers for the first time to confidently deploy multiple applications on a single multiprocessor ProLiant Server.● Performance Management Pack – a performance management

Standard Features

solution that identifies and explains hardware performance bottlenecks on ProLiant servers and attached options enabling users to better utilize their valuable resources.

- Intelligent Networking Pack – detects and analyzes network bottlenecks or broken network linkages and steers traffic to the optimum route based on network conditions, plus it provides an extra layer of protection. The virus throttle feature of the solution slows the propagation of fast spreading virus.
- Vulnerability and Patch Management Pack – identifies and remediates software security vulnerabilities due to missing patches as well operating system configurations that can be exploited by viruses, worms, and other blended threats
- Virtual Machine Management Pack – provides central management and control of virtual machines from Microsoft and VMware. Integrated approach provides the ability to manage both physical and virtual resources from a single management console.
- Server Migration Pack – The Server Migration Pack automates the manual processes required for migrating servers between physical or virtual platforms (P2V, V2P, and V2V).
- Server Migration Pack – P2P Edition: Upgrading or replacing your existing server? Effortlessly transition to new servers with automated, accurate and affordable migration of OS, application and data.
- Accelerated iSCSI Pack - enables the embedded Multifunction network controller to serve as both a NIC and an iSCSI HBA providing access to SAN storage over the same connection used for networking. Processing of the protocol stack is offloaded to the NIC reducing CPU utilization and greatly improving the speed with which the requests are processed and sent to the network.
- Remote Direct Memory Access (RDMA) Pack for Embedded Multifunction Gigabit Server Adapters – provides direct and faster communication between application buffers in separate servers for tasks that involves moving large amounts of data, such as network backups, database read/write, and high performance computing.
- Integrated Lights-Out Advanced Pack - upgrades the iLO 2 processor with comprehensive remote control including Virtual KVM remote graphical console, enhanced console sharing and replay, virtual media (floppy, CD/DVD, USB key), virtual folders, historical power reporting, power capping and enterprise security (directory services and two-factor authentication).
- Integrated Lights-Out Select Pack - upgrades the iLO 2 processor with enhanced console sharing and replay, virtual media (floppy, CD/DVD, USB key), virtual folders, historical power reporting, power capping and enterprise security (directory services and two-factor authentication) for servers managed using remote consoles available in iLO 2 Standard and iLO 2 Standard Blade Edition.
- Insight Power Manager (IPM) - upgrades the single-server remote management capabilities of iLO Select/Advanced to include centralized reporting and policy-based management of power

Optional Remote Management Packs

Standard Features

consumption and thermal output provided by the Insight Power Manager. IPM unifies all of this functionality within a single user interface - HP Systems Insight Manager.

- Insight Control Environment - Includes a single product key to license the ProLiant Essentials Performance Management Pack, ProLiant Essentials Vulnerability and Patch Management Pack, and Insight Power Manager, plus separate product registration codes to license the ProLiant Essentials Rapid Deployment Pack and the iLO Advanced Pack.

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.

NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: <http://www.hp.com/servers/proliantessential>.

Industry Standard Compliance

ACPI 2.0b Compliant
PCI 2.2 Compliant
WOL Support
Microsoft® Logo certifications
PXE Support
USB 1.1 and 2.0 Compliant

Remote Management Integrated Lights-Out (iLO 2) Management 2

- Virtual Text Remote Console (pre-OS only)
 - Remote Serial Console
 - Virtual Power Button Control
 - Virtual Unit ID control
 - Integrated Remote Console (ActiveX Control client)
 - Dedicated & full function shared network connectivity with VLAN
 - Embedded system health
 - Present power consumption
 - Browser, command line and scripted access
 - Automatic IP Configuration via DHCP/DNS/WINS
 - Industry Standard 128-bit Secure Sockets Layer (SSL) and Secure Shell security (SSH)
 - Advanced Encryption Standard (AES)/Triple Data Encryption Standard (3DES)
 - OS independent hardware health status
 - IML and iLO Event Logging
 - Support for 12 user accounts with customizable access privilege
-

Standard Features

Intelligent Manageability

HP Systems Insight Manager
 SmartStart
 ROM-Based Setup Utility (RBSU)
 Remote-Flash Redundant ROM
 Integrated Management Log (IML)
 Server Health logging
 Automatic Server Recovery-2 (ASR-2)
 System Insight Display (SID)
 Dynamic sector repairing and drive parameter tracking (with Smart Array controllers)
 Hot Spare Boot
NOTE: Upon the event of a failed processor or VRM in a multi-processing environment, the system will automatically reboot and use the remaining good processor(s).
 Power Down Utility
 Pre-Failure Warranty (covers processors, as well as SAS hard drives and memory)

Security

Power-on password
 Keyboard password
 Diskette drive control
 Diskette boot control
 QuickLock, Network Server Mode
 Removable CD and Diskette Drive Assembly
 Serial interface control
 Administrator's password
 Integrated Lights-Out has 12 customizable user accounts and SSL encryption
 Integrated Lights-Out can be disabled via a Global Setting
 iLO Advance Pack supports directory services integration and two-factor authentication

Server Power Cords

High voltage power cord ships standard with all part numbers. Localized cables included with geographic specific models in other world regions.
NOTE: ProLiant DL servers no longer ship standard with NEMA power cords (187335-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the above NEMA power cord must be ordered separately.

UPS Power Cord Matrix

Please see the UPS Power Cord Matrix for cable descriptions, requirements, and specifications for UPS units:
<ftp://ftp.compaq.com/pub/products/servers/proliantstorage/power-protection/powercordmatrix.pdf>.

Power Supply

700W, Optional (1+ 1 redundant) power supply
NOTE: PN 399542-B21 contains the optional power supply and an IEC power cable only; purchase if connecting to PDU/UPS that supports IEC cables. PN 399542-291 includes IEC power cable and a Japan power cable.

System Fans

9 fans ship standard; N+1 fan redundancy standard



Standard Features

Required Cabling

For required cabling information, refer to the Web site at <http://h18000.www1.hp.com/products/servers/proliantdl360/>.

OS Support

Microsoft Windows 2000 Server
Microsoft Windows Server 2003
Novell NetWare
Red Hat Enterprise Linux
SUSE Linux Enterprise Server
Solaris 10 32/64-bit
VMware Virtualization Software

NOTE: SAS and SATA models may have different OS support. Please see OS Support Matrix.

NOTE: For a more complete and up-to-date listing of supported OSs and versions, please visit our OS Support Matrix page at: <http://www.hp.com/go/supportos>.

NOTE: For more complete and up-to-date information on how to buy server operating systems from HP please visit the OS product site at:

<http://h18004.www1.hp.com/products/servers/software/OEM.html>

NOTE: For a listing of the latest drivers available for the HP ProLiant DL360, please see: <http://h18023.www1.hp.com/support/files/server/us/index.html>.

NOTE: For more Linux OS support & certification information, please visit our the ProLiant & BladeSystem Server Linux matrix:

<http://h18004.www1.hp.com/products/servers/linux/hpLinuxcert.html>

NOTE: For more information on HP's Certified and Supported ProLiant Servers, please visit the VMware Server Support Matrix at:

<http://h18004.www1.hp.com/products/servers/software/vmware/hpvmwarecert.html>.

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 830 square inches (5,350 sq cm) 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 minimum of 2.75 inches (7 cm).

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: <http://h18000.www1.hp.com/products/servers/proliantdl360/index.html>.

Standard Features

Rack Kit

The HP ProLiant DL360 quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000*, 9000, 10000 and HP series) with an adjustment range to fit a rack depth of 21.25" to 37.75".

Rack Kit

The HP ProLiant DL360 quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000*, 9000, 10000 and HP series) with an adjustment range to fit a rack depth of 21.25" to 37.75".

Telco Rack Support

HP ProLiant DL360 G5 Telco Rack Kit:
Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions (<http://www.racksolutions.com/hp/>)

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 MSA1000, 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 Enterprise Configurator

The HP eCo-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>

HP ProLiant Smart Buys (NA only)

The HP Smart Buy program offers mainstream business solutions at competitive prices with excellent availability and superior HP quality. It offers a wide range of industry-leading HP products at compelling prices, allowing you to receive richer configurations with additional options.

NOTE: ProLiant Smart Buys are available in North America only. For detailed specification information on ProLiant Smart Buys please click on the following link:

<ftp://ftp.compaq.com/pub/products/servers/smartbuys.pdf>

Service and Support

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of resellers and service providers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.



Standard Features

NOTE: Server Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support. Additional information regarding worldwide limited warranty and technical support is available at:
<http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

HP Care Pack services include coverage for the HP branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as 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, 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.

HP services provide continuous care and support expertise with committed response designed to meet your IT and business needs.

To fully capitalizing 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 vender 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.

Enhanced Care – Minimum recommended service support offer designed to ensure customers have access to expert assistance, whenever they need it.

- *4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years*

Continuous Care – Recommended service delivering cost-effective support options designed to extend HP Services committed response and guaranteed fix times, designed to speed problem identification and resolution.

- *6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years*

Total Care – Highest HP Support service level recommend to help increase IT performance and availability with comprehensive, integrated hardware and software services

- *Support Plus 24 – Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays*

Deployment Services – HP Installation and Start Up services designed to take time, risk, and worry out of the deployment of ProLiant servers – and free customers IT support staff to focus on what they do best, their business.

- *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*

NOTE: For a complete listing of service offerings and information visit:
<http://www.hp.com/services/proliantservices>
<http://www.hp.com/go/proliant/carepack>

Models

NOTE: ProLiant Smart Buys are available in NA only. For detailed specification information on ProLiant Smart Buys please click on the following link: <ftp://ftp.compaq.com/pub/products/servers/smartbuys.pdf>.

Models

HP DL360 G5 Performance Models Quad-Core Models DL360R05 E5345 4GB 435944-xx1 Dual-Core Models DL360R05 5160 2GB 416566-xx1 DL360R05 5150 2GB 416564-xx1	Processor(s) Two of the following depending on Model	(2) Quad-Core Intel Xeon E5345 Processor (2.33 GHz, 80 Watts, 1333 FSB) (2) Dual-Core Intel Xeon 5160 Processor (3.00 GHz, 80 Watts, 1333 FSB) (2) Dual-Core Intel Xeon 5150 Processor (2.66 GHz, 65 Watts, 1333 FSB)
	Cache Memory One of the following depending on Model	Quad-Core: 8MB (2 x 4MB) Level 2 cache; Intel Xeon Processor 5300 Sequence Dual-Core: 4MB (1 x 4MB) Level 2 cache; Intel Xeon Processor 5100 Sequence
	Memory One of the following depending on Model	2 GB (2 x 1 GB) Standard; PC2-5300 Fully Buffered DIMMs (DDR2-667) 4 GB (4 x 1 GB) Standard; PC2-5300 Fully Buffered DIMMs (DDR2-667)
	Network Controller	Two embedded NC373i Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P400i/256MB BBWC Controller (RAID 0/1/1+0/5/6)
	Hard Drive	No drives included; (6) drive bays active
	Internal Storage	876GB SAS; 720GB SATA
	Optical Drive	Slimline DVD/CD-RW Combo drive
	PCI-Express Slots	1 full-length x8 PCI-Express slot 1 low-profile x8 PCI-Express slot
	Power Supplies	(2) 700W power supplies, redundant
	Fans	9 total, redundancy standard
	Form Factor	Rack (1U), (1.75 in/4.45 cm); 27.75 inch depth (70.5cm)

HP DL360 G5 Base Models Quad-Core Models DL360R05 E5335 2GB 435943-xx1 DL360R05 E5320 1GB 438313-xx1 Dual-Core Models DL360R05 5160 1GB 416565-xx1	Processor(s) One of the following depending on Model	(1) Quad-Core Intel Xeon E5335 Processor (2.00 GHz, 80 Watts, 1333 FSB) (1) Quad-Core Intel Xeon E5320 Processor (1.86 GHz, 80 Watts, 1066 FSB) (1) Dual-Core Intel Xeon 5160 Processor (3.00 GHz, 80 Watts, 1333 FSB) (1) Dual-Core Intel Xeon 5150 Processor (2.66 GHz, 65 Watts, 1333 FSB) (1) Dual-Core Intel Xeon 5140 Processor (2.33 GHz, 65 Watts, 1333 FSB) (1) Dual-Core Intel Xeon 5060 Processor (3.20 GHz, 130 Watts, 1066 FSB)

Models

DL360R05 5150 1GB
416563-xx1
DL360R05 5140 1GB
416562-xx1
DL360R05 5060 1GB
399519-xx1

Cache Memory
[One of the following depending on Model](#)

Memory
[One of the following depending on Model](#)

Network Controller

Storage Controller

Hard Drive

Internal Storage

Optical Drive

PCI-Express Slots

Power Supply

Fans

Form Factor

Quad-Core: 8MB (2 x 4MB) Level 2 cache; Intel Xeon Processor 5300 Sequence
Dual-Core: 4MB (1 x 4MB) Level 2 cache; Intel Xeon Processor 5100 Sequence
Dual-Core: 4MB (2 x 2MB) Level 2 cache; Intel Xeon Processor 5000 Sequence
2 GB (2x1GB) Standard on E5335 Model; PC2-5300 Fully Buffered DIMMs (DDR2-667)
1 GB (2 x 512 MB) Standard on E5320, 5140-5160, 5060 Models; PC2-5300 Fully Buffered DIMMs (DDR2-667)
Embedded NC373i Multifunction Gigabit Server Adapters
HP Smart Array P400i/256MB Controller (RAID 0/1/1+0/5)
No drives included; (4) drive bays active.
(6) bays supported with optional storage cable (PN 399546-B21)
876GB SAS; 720GB SATA
Optional DVD, DVD/CD-RW, or Floppy
1 full-length x8 PCI-Express slot
1 low-profile x8 PCI-Express slot
(1) 700W power supply, redundant optional
9 total, redundancy standard
Rack (1U), (1.75 in/4.45 cm); 27.75 inch depth (70.5cm)

HP DL360 G5 Entry Models

Quad-Core Models
DL360R05 E5310 1GB
438312-xx1

Dual-Core Models
DL360R05 5130 1GB
416561-xx1
DL360R05 5120 1GB
416560-xx1
DL360R05 5110 1GB
416559-xx1

Processor(s)
[One of the following depending on Model](#)

Cache Memory
[One of the following depending on Model](#)

Memory

Network Controller

Storage Controller

Hard Drives

Internal Storage

Optical Drive

PCI-Express Slots

Power Supply

Fans

Form Factor

(1) Quad-Core Intel Xeon Processor E5310 (1.60 GHz 80 Watts, 1066 FSB)
(1) Dual-Core Intel Xeon 5130 Processor (2.00 GHz, 65 Watts, 1333 FSB)
(1) Dual-Core Intel Xeon 5120 Processor (1.86 GHz, 65 Watts, 1066 FSB)
(1) Dual-Core Intel Xeon 5110 Processor (1.6 GHz, 65 Watts, 1066 FSB)
Quad-Core: 8MB (2x4MB) Level 2 cache- Intel Xeon Processor 5300 Sequence
Dual-Core: 4MB (1 x 4MB) Level 2 cache - Intel Xeon Processor 5100 Sequence
1 GB (2 x 512 MB) Standard; PC2-5300 Fully Buffered DIMMs (DDR2-667)
Embedded NC373i Multifunction Gigabit Server Adapters
HP Smart Array E200i/64MB Controller (RAID 0/1/1+0)
No drives included; (4) drive bays active
876GB SAS; 720GB SATA
Optional DVD, DVD/CD-RW, or Floppy
1 full-length x8 PCI-Express slot
1 low-profile x8 PCI-Express slot
(1) 700W power supply, redundant optional
9 total, N+1 redundancy standard
Rack (1U), (1.75 in/4.45 cm); 27.75 inch depth (70.5cm)



Models

Country Code Key

XX=00
XX=20
XX=29
XX=37
XX=42
XX=AA

Rack Code Key

US
Brazil
Japan
APD
EURO
PRC

Configuration Information - Factory Integrated Models (North America only)

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: For Configure to Order requirements within EMEA region, please consult local Sales Contact.

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: This product offering does not support HP Factory Express Server Configuration Level 1.

NOTE: FIO indicates that this option only available as a Factory Installable Option.

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

Models	HP ProLiant DL360 G5 Rack CTO Chassis	399524-B21
	Factory Integrated Model ships with:	
	Embedded NC373i Multifunction Gigabit Server Adapter	
	Integrated Lights-Out 2 (iLO 2) embedded	
	1 full-length and 1 low-profile x8 PCI-Express slots	
	9 fans; N+1 fan redundancy	
	(1) 700W power supply, redundant optional	
	Rack (1U), (1.75 in/4.45 cm)	

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

Processors	Quad-Core Intel Xeon Processor X5355 – 2.66GHz, 120 Watts, 1333 FSB	435956-L21
	Quad-Core Intel Xeon Processor E5345 – 2.33GHz, 80 Watts, 1333 FSB	435954-L21
	Quad-Core Intel Xeon Processor E5335 – 2.00GHz, 80 Watts, 1333 FSB	435952-L21
	Quad-Core Intel Xeon Processor E5320 – 1.86GHz, 80 Watts, 1066 FSB	435950-L21
	Quad-Core Intel Xeon Processor L5320 – 1.86GHz, 50 Watts, 1066 FSB	435958-L21
	Quad-Core Intel Xeon Processor E5310 – 1.60GHz, 80 Watts, 1066 FSB	438314-L21
	Dual-Core Intel Xeon Processor 5160 – 3.00 GHz, 80 Watts, 1333 FSB	416579-L21
	Dual-Core Intel Xeon Processor 5150 – 2.66 GHz, 65 Watts, 1333 FSB	416577-L21
	Dual-Core Intel Xeon Processor 5148 – 2.33 GHz, 40 Watts, 1333 FSB	416575-L21
	Dual-Core Intel Xeon Processor 5140 – 2.33 GHz, 65 Watts, 1333 FSB	416573-L21
	Dual-Core Intel Xeon Processor 5130 – 2.00 GHz, 65 Watts, 1333 FSB	416571-L21
	Dual-Core Intel Xeon Processor 5120 – 1.86 GHz, 65 Watts, 1066 FSB	416569-L21
	Dual-Core Intel Xeon Processor 5110 – 1.60 GHz, 65 Watts, 1066 FSB	416567-L21
	Dual-Core Intel Xeon Processor 5080 – 3.73 GHz, 130 Watts, 1066 FSB	399540-L21
	Dual-Core Intel Xeon Processor 5060 – 3.20 GHz, 130 Watts, 1066 FSB	399536-L21
	Dual-Core Intel Xeon Processor 5050 – 3.00 GHz, 95 Watts, 667 FSB	399532-L21
	NOTE: If High Performance Model features are desired, 2nd processor is included in the Performance Pack part numbers in Step 3 below.	
Base Memory	1 GB FBD PC2-5300 2 x 512 MB Kit	397409-B21
	2 GB FBD PC2-5300 2 x 1 GB Kit	397411-B21
	4 GB FBD PC2-5300 2 x 2 GB Kit	397413-B21
	8 GB FBD PC2-5300 2 x 4 GB Kit	397415-B21
Storage Controllers	HP E200i Controller FIO	399548-B21



Configuration Information - Factory Integrated Models (North America only)

NOTE: If selected, must choose one of the two cache modules below.	
HP Smart Array E200 64MB FIO Cache	405102-B21
NOTE: Supports Smart Array E200 Controller only.	
128MB Battery-Backed Write Cache with Battery Housing	346914-B21
NOTE: Supports Smart Array E200i Controller.	
Smart Array P400i controller for DL360 G5	413741-B21
NOTE: If selected, must choose one of the two cache modules below.	
HP Smart Array P400 256MB Cache FIO	405139-B21
NOTE: Supports Smart Array P400 Controller and Smart Array P400i Controller only.	
512MB Battery-backed cache upgrade	405148-B21
NOTE: Supports Smart Array P400 Controller and Smart Array P400i Controller only.	
HP Smart Array P600/256 BBWC Controller	337972-B21
NOTE: Requires PCI-X Riser option (PN 405154-B21).	
NOTE: Requires HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable (PN 411100-B21).	
HP Smart Array 6402/512 FIO Controller	441508-B21

Step 3: Choose Additional Factory Integratable Options

Performance Packs	The HP ProLiant DL360 G5 performance packs are necessary to configure a HP ProLiant DL360 G5 Performance Model. HP ProLiant DL360 G5 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The performance pack includes a 2nd processor, redundant power supplies, Smart Array P400i Controller with 256MB of BBWC, and storage cable to enable the all 6 disk drive bays.	
	NOTE: 331903-B21 Slimline CD-RW/DVD-ROM Combo Drive Option Kit should also be selected along with the Performance Pack skus below to achieve parity to the HP ProLiant DL360 G5 Performance Models.	
	HP DL360G5 X5160 HPM FIO Perf Pack	430107-B21
	HP DL360G5 X5150 HPM FIO Perf Pack	431883-B21
	HP DL360G5 E5345 HPM FIO Perf Pack	435960-B21

Step 4: Choose Additional Options for Factory Integration

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

Options

NOTE: Some options may not be factory integratable. Contact your local sales representative for additional information.

HP ProLiant DL360 G5 Unique Options	Quad-Core Intel Xeon Processor X5355 (2.66 GHz, 120 Watts, 1333 FSB)	435956-B21
	Quad-Core Intel Xeon Processor E5345 (2.33 GHz, 80 Watts, 1333 FSB)	435954-B21
	Quad-Core Intel Xeon Processor E5335 (2.00 GHz, 80 Watts, 1333 FSB)	435952-B21
	Quad-Core Intel Xeon Processor E5320 (1.86 GHz, 80 Watts, 1066 FSB)	435950-B21
	Quad-Core Intel Xeon Processor L5320 (1.86 GHz, 50 Watts, 1066 FSB)	435958-B21
	Quad-Core Intel Xeon Processor E5310 (1.60 GHz, 80 Watts, 1066 FSB)	438314-B21
	Dual-Core Intel Xeon Processor 5160 (3.00 GHz, 80 Watts, 1333 FSB)	416579-B21
	Dual-Core Intel Xeon Processor 5150 (2.66 GHz, 65 Watts, 1333 FSB)	416577-B21
	Dual-Core Intel Xeon Processor 5148 (2.33 GHz, 40 Watts, 1333 FSB)	416575-B21
	Dual-Core Intel Xeon Processor 5140 (2.33 GHz, 65 Watts, 1333 FSB)	416573-B21
	Dual-Core Intel Xeon Processor 5130 (2.00 GHz, 65 Watts, 1333 FSB)	416571-B21
	Dual-Core Intel Xeon Processor 5120 (1.86 GHz, 65 Watts, 1066 FSB)	416569-B21
	Dual-Core Intel Xeon Processor 5110 (1.60 GHz, 65 Watts, 1066 FSB)	416567-B21
	Dual-Core Intel Xeon Processor 5080 (3.73 GHz, 130 Watts, 1066 FSB)	399540-B21
	Dual-Core Intel Xeon Processor 5060 (3.2 GHz, 130 Watts, 1066 FSB)	399536-B21
	Dual-Core Intel Xeon Processor 5050 (3.0 GHz, 95 Watts, 667 FSB)	399532-B21
	PCI-X Riser option	405154-B21

NOTE: To convert full-length PCI-Express slot to PCI-X slot.

ProLiant Essentials Value Pack Software

ProLiant Essentials Accelerated iSCSI Pack

ProLiant Essentials Accelerated iSCSI Pack, Single License 407484-B22

NOTE: For additional Accelerated iSCSI Pack License Kits, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12466_div/12466_div.HTML

ProLiant Essentials Intelligent Networking Pack

ProLiant Essentials Intelligent Networking Pack – Windows Edition, Single Server License 436225-B21

NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.

NOTE: For additional ProLiant Intelligent Networking Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12062_div/12062_div.HTML

ProLiant Essentials Intelligent Networking Pack – Linux Edition, Single Server License 436229-B21

NOTE: For additional ProLiant Intelligent Networking Pack – Linux License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12327_div/12327_div.HTML

ProLiant Essentials Performance Management Pack

ProLiant Essentials Performance Management Pack, No Media, Single-Server License **NOTE:** This option kit includes 1 license with a unique license activation key.

NOTE: The most recent version of the software can always be downloaded at <http://www.hp.com/products/pmp>.



Options

NOTE: For additional ProLiant Performance Management Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/11925_div/11925_div.HTML

HP ProLiant Essentials Remote Directory Memory Access (RDMA) Pack

HP ProLiant Essentials RDMA Pack for Embedded Multifunction Gigabit Server Adapters, 1 License 407478-B22

HP ProLiant Essentials RDMA Pack for Standup Multifunction Gigabit Server Adapters, 1 License 407481-B22

NOTE: For additional ProLiant Essentials RDM Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12573_div/12573_div.HTML

ProLiant Essentials Rapid Deployment Pack

Rapid Deployment Pack, Single-Server License 267196-B21

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

Rapid Deployment Pack, Single-Server License (Japan) 267196-291

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

ProLiant Essentials Rapid Deployment Pack, Flatpack - single server license 434560-B21

ProLiant Essentials Rapid Deployment Pack - Physical Media Kit 434559-B21

NOTE: For additional ProLiant Essentials Rapid Deployment Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.HTML

ProLiant Essentials Workload Management Pack

ProLiant Essentials Workload Management Pack, Single Server License 303284-B21

NOTE: For additional ProLiant Workload Management Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/11452_div/11452_div.HTML

ProLiant Essentials Virtualization Management Software

ProLiant Essentials Virtual Machine Management Pack, Single-Server License 435661-B21

NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.

HP ProLiant Essentials Virtual Machine Management and Server Migration Pack, Media Only 442213-B21

ProLiant Essentials Server Migration Pack, Single-Migration License 435663-B21

NOTE: Contains one license, enabling 1 server migration, with a unique license activation key and documentation.

HP ProLiant Essentials Server Migration Pack - Physical to ProLiant Edition. 1 Year Unlimited Migration License 412982-B21

NOTE: This license allows 1 server to be migrated from a physical server to a virtual machine. Or this license can be used to migrate a virtual machine from one virtualization layer i.e. VMware GSX to a different virtualization layer such as VMware ESX or Microsoft Virtual Server 2005.

ProLiant Essentials Server Migration Pack - Physical to ProLiant Edition, Single-Migration License 412978-B21

ProLiant Essentials Server Migration Pack - P2P Edition, 1 Year Unlimited Migration License - License Only, No Media 444762-B21

Options

NOTE: For additional ProLiant Essentials Virtualization Management Software License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12328_div/12328_div.HTML

ProLiant Essentials Physical to ProLiant Edition

ProLiant Essentials Server Migration Pack - Physical to ProLiant Edition, Single-Migration License 412978-B21

NOTE: For additional ProLiant Essentials Server Migration License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12467_div/12467_div.HTML

ProLiant Essentials Vulnerability and Patch Management Pack

ProLiant Essentials Vulnerability and Patch Management Pack, Single-Server License 371645-B21

NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.

NOTE: For additional ProLiant Vulnerability and Patch Management Pack License Kits, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12111_div/12111_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.

NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: <http://www.hp.com/servers/proliantessentials>.

Remote Management

Integrated Lights-Out Advanced Pack

ProLiant Essentials Integrated Lights-Out Advanced Pack, 1 server 263825-B21

Featuring: Sophisticated virtual administration features for ultimate control of servers in the data centers and remote sites.

Integrated Lights-Out Select Pack

Integrated Lights-Out Select Pack, 1 server License 413119-B21

HP Integrated Lights-Out (iLO) Power Management Pack

HP iLO Power Management Pack, No Media Single-Server License 436210-B21

NOTE: This option kit includes 1 license for iLO Advanced and Insight Power Manager.

NOTE: For additional Integrated Lights-Out 2 License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.HTML

HP Integrated Lights-Out (iLO) Power Management Pack

HP iLO Power Management Pack, No Media Single-Server License 436210-B21

NOTE: This option kit includes 1 license for iLO Advanced and Insight Power Manager.

NOTE: For additional Integrated Lights-Out Power Management Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12632_div/12632_div.HTML

HP Insight Control Environment

HP Insight Control Environment , No Media 1 License 436214-B21



Options

NOTE: For additional Insight Control Environment License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.HTML

HP Insight Power Manager (IPM)

HP Insight Power Manager Pack, No Media, Single-Server License 433691-B21

NOTE: This option kit includes 1 license for Insight Power Manager.

NOTE: For additional Insight Power Manager License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12623_div/12623_div.HTML

ProLiant Software Maintenance Subscription

ProLiant Software Maintenance Single Release 356573-B21

ProLiant Foundation Pack Single Release 356604-B21

NOTE: Please see the SmartStart QuickSpecs for additional information regarding the subscription purchase:

<http://h18000.www1.hp.com/products/quickspecs/Division/11073.html>
(Worldwide)

Processor

Quad-Core Intel Xeon Processor X5355 (2.66 GHz, 120 Watts, 1333 FSB)	435956-B21
Quad-Core Intel Xeon Processor E5345 (2.33 GHz, 80 Watts, 1333 FSB)	435954-B21
Quad-Core Intel Xeon Processor E5335 (2.00 GHz, 80 Watts, 1333 FSB)	435952-B21
Quad-Core Intel Xeon Processor E5320 (1.86 GHz, 80 Watts, 1066 FSB)	435950-B21
Quad-Core Intel Xeon Processor L5320 (1.86 GHz, 50 Watts, 1066 FSB)	435958-B21
Quad-Core Intel Xeon Processor E5310 (1.60 GHz, 80 Watts, 1066 FSB)	438314-B21
Dual-Core Intel Xeon Processor 5160 (3.00 GHz, 80 Watts, 1333 FSB)	416579-B21
Dual-Core Intel Xeon Processor 5150 (2.66 GHz, 65 Watts, 1333 FSB)	416577-B21
Dual-Core Intel Xeon Processor 5148 (2.33 GHz, 40 Watts, 1333 FSB)	416575-B21
Dual-Core Intel Xeon Processor 5140 (2.33 GHz, 65 Watts, 1333 FSB)	416573-B21
Dual-Core Intel Xeon Processor 5130 (2.00 GHz, 65 Watts, 1333 FSB)	416571-B21
Dual-Core Intel Xeon Processor 5120 (1.86 GHz, 65 Watts, 1066 FSB)	416569-B21
Dual-Core Intel Xeon Processor 5110 (1.60 GHz, 65 Watts, 1066 FSB)	416567-B21
Dual-Core Intel Xeon Processor 5080 (3.73 GHz, 130 Watts, 1066 FSB)	399540-B21
Dual-Core Intel Xeon Processor 5060 (3.2 GHz, 130 Watts, 1066 FSB)	399536-B21
Dual-Core Intel Xeon Processor 5050 (3.0 GHz, 95 Watts, 667 FSB)	399532-B21

Memory (DIMMs)

1 GB FBD PC2-5300 2 x 512 MB Kit	397409-B21
2 GB FBD PC2-5300 2 x 1 GB Kit	397411-B21
4 GB FBD PC2-5300 2 x 2 GB Kit	397413-B21
8 GB FBD PC2-5300 2 x 4 GB Kit	397415-B21

Options

Optical Drives	Slimline CD-RW/DVD-ROM Combo Option Kit	331903-B21
	Slimline DVD-ROM Drive (8X/24X) Option Kit	264007-B21
	HP DVD±R/RW 8X Slim	383975-B21
	Slimline CD-ROM Drive 24X	356963-B21

Diskette Drive	Slimline Ejectable Floppy drive	390164-B21
-----------------------	---------------------------------	------------

Hard Drives	Serial Attached SCSI (SAS) SFF Hot Plug	
	HP 36GB 3G SAS 10K SFF SP HDD	375859-B21
	HP 36GB 3G SAS 15K SFF SP HDD	431933-B21
	HP 72GB 3G SAS 10K SFF SP HDD	375861-B21
	HP 72GB 3G SAS 15K SFF SP HDD	431935-B21
	HP 146GB 3G SAS 10K SFF SP HDD	431958-B21

NOTE: Please see the SAS Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature:

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

SFF SATA Hot Plug

HP 60GB 1.5G SATA 5.4K SFF HDD	379306-B21
HP 120GB 1.5G SATA 5.4K SFF HDD	431786-B21

NOTE: SATA drives have a 1 year warranty. Please see the SATA Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature:

http://h18000.www1.hp.com/products/quickspecs/11940_div/11940_div.HTML
(Worldwide)

Storage Controllers	SAS Controllers	
	Smart Array E200i Controller	
	128-MB Battery-Backed Write Cache (BBWC)	346914-B21
	NOTE: Supports Smart Array E200i Controller only.	
	Smart Array E500 Controller	
	Smart Array E500/256MB Controller	435129-B21
	Smart Array P400i Controller	
	HP Smart Array P400i/256MB Controller	399550-B21
	Battery-backed write cache upgrade	383280-B21
	NOTE: For Smart Array P400 Controller and Smart Array P400i Controller only.	
	512MB Battery-backed cache upgrade	405148-B21
	NOTE: For Smart Array P400 Controller and Smart Array P400i Controller only.	
	Smart Array P600 Controller	
	HP Smart Array P600/256 BBWC Controller	337972-B21
	NOTE: Requires DL360 G5 PCI-X conversion kit (PN 405154-B21).	

Options

512 MB Battery-Backed Cache Upgrade	372538-B21
NOTE: This 512-MB Battery-Backed Cache Module upgrade kit supports the Smart Array P600 Controller and the Smart Array 6400 series Controller.	
Smart Array P800 Controller	
HP Smart Array P800/512 BBWC Controller	381513-B21
NOTE: Please see the following Controller QuickSpecs for additional information:	
http://h18000.www1.hp.com/products/quickspecs/12460_div/12460_div.HTML (Smart Array E200 Controller)	
http://h18000.www1.hp.com/products/quickspecs/12700_div/12700_div.HTML (Smart Array E500 Controller)	
http://h18000.www1.hp.com/products/quickspecs/12400_div/12400_div.HTML (Smart Array P400 Controller)	
http://h18000.www1.hp.com/products/quickspecs/12247_div/12247_div.HTML (Smart Array P600 Controller)	
http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.HTML (Smart Array P800 Controller)	
SAS HBA	
HP SC44Ge Host Bus Adapter	416096-B21
HP 8 Internal Port SAS HBA with RAID	347786-B21
NOTE: Supports SAS and SATA disk drive. RAID 0,1 supported.	
NOTE: Please see the following QuickSpecs for additional information:	
http://h18004.www1.hp.com/products/quickspecs/12617_div/12617_div.html (SC44Ge HBA)	
http://h18004.www1.hp.com/products/quickspecs/12332_div/12332_div.html (SAS HBA)	
SAS Cables	
HP Mini SAS 4i 13.4 inch/0.35 m cable	399546-B21
NOTE: Used to connect Smart Array P400i Controller to DL360 G5 5th and 6th drive bays.	
HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable	411100-B21
NOTE: Used to connect SA-P600, SA-P400, SA-E200 Controllers to the HP ProLiant DL360 G5 drive backplane. This kit supports all six drive bays.	
SCSI Controllers for External Drive/Storage Support	
Smart Array 6402/128 Controller	273915-B21
NOTE: For support of external drives only.	
Smart Array 6404/256 Controller	273914-B21
NOTE: For support of external drives only.	
Smart Array 642 Controller	291967-B21
NOTE: For support of external drives only.	
128MB Battery-Backed Cache Enabler	351580-B21
NOTE: This 128-MB Battery-Backed Cache Module upgrade kit supports the Smart Array 642 Controller.	
512 MB Battery-Backed Cache Upgrade	372538-B21
NOTE: This 512-MB Battery-Backed Cache Module upgrade kit supports the Smart Array P600 Controller and the Smart Array 6400 series Controller.	
64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
SCSI HBA	

Options

HP SC11Xe Host Bus Adapter 412911-B21

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/10429_div/10429_div.HTML
(SCSI Adapter)

http://h18000.www1.hp.com/products/quickspecs/11555_div/11555_div.HTML
(U320 Adapter)

http://h18000.www1.hp.com/products/quickspecs/11943_div/11943_div.HTML
(U320 SCSI HBA)

http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.HTML
(SC11Xe HBA)

Communications

HP NC110T PCI Express Gigabit Server Adapter 434905-B21

HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter 367132-B21

HP NC310F PCI-X 1000SX Gigabit Server Adapter 368169-B21

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

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

HP NC373F PCI Express Multifunction Gigabit Server Adapter 394793-B21

HP NC373T PCI Express Multifunction Gigabit Server Adapter 394791-B21

HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter 394795-B21

HP NC510F PCIe 10 Gigabit Server Adapter 414126-B21

NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510F adapter.

HP NC510C PCIe 10 Gigabit Server Adapter 414129-B21

NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510C adapter.

HP IB 4X SDR PCI-e single PORT HCA 431038-B21

HP IB 4X DDR PCI-e Single PORT HCA 431039-B21

Agere 06 PCI Hi-Speed 56K SftMd 440519-B21

HP NC7771 PCI-X 1000T Gigabit Server Adapter 290563-B21

Redundant Options

700W HP redundant power supply with IEC cord only 399542-B21

700W HP redundant power supply with IEC cord and Japan cord (Japan) 399542-291

Tape Drives

NOTE: For the complete listing of Tape Drive offerings, please see:

<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>

For recommended tape drive offerings for this ProLiant server see the following:

USB Tape Drives

HP StorageWorks DAT 40 USB Internal Tape Drive (Carbonite) DW022A

NOTE: HP recommends combining this tape drive with the 1U USB Rack-Mount kit (A8007A) for a complete rack-mount solution.

HP StorageWorks 1U USB Rack-Mount Kit with one DAT 72 USB Tape Drive AG594A

SAS Tape Drives

NOTE: Connecting hard drive cage and SAS tape to the same SAS Controller



Options

using split cable (supplied with tape drive) deactivates 1 of the hard drive bays. Actual hard drive bay deactivated depends on where split cable plugs into SAS drive connector. Example: 3x SAS cable connector plugged into SAS drive connector (5-8) on the back of the hard drive cage would mean drive bay 8 is deactivated.

HP StorageWorks Ultrium 448 SAS Internal Tape Drive

DW085A

NOTE: HP recommends combining this tape drive with the 1U SAS Rack-Mount kit (AE459A) for a complete rack-mount solution.

HP StorageWorks Ultrium 920 SAS Internal Tape Drive

EH847A

NOTE: HP recommends combining this tape drive with the 1U SAS Rack-Mount kit (AE459A) for a complete rack-mount solution.

NOTE: Please refer to the "Tape Drives, Tape Autoloaders & Tape Libraries" table in the Storage section of this document for a list of SAS controllers with tape support.

Ultrium Tape Drives

HP StorageWorks Ultrium 232 Internal Tape Drive (Carbonite)

DW064A

NOTE: HP recommends combining this tape drive with the 1U SCSI Rack-Mount kit (A7445B) for a complete rack-mount solution.

HP StorageWorks 1U Rack-mount kit with one Ultrium 448 (Carbonite)

DW028B

HP StorageWorks 1U SCSI Rack-mount kit with one Ultrium 920

EH903A

NOTE: Please see the HP StorageWorks Ultrium Tape Drive QuickSpecs for additional options such as controllers, media, and other related items:

http://h18006.www1.hp.com/products/quickspecs/11739_div/11739_div.html (Worldwide)

http://h18006.www1.hp.com/products/quickspecs/12128_div/12128_div.html (Worldwide)

For an up-to-date listing of the latest O/S and software support details for HP Ultrium tape drives, please visit: <http://www.hp.com/go/connect>

DAT Drives

HP StorageWorks DAT 72 SCSI Internal Tape Drive (Carbon)

Q1522B

NOTE: HP recommends combining this tape drive with the 1U SCSI Rack-Mount kit (A7445B) for a complete rack-mount solution.

NOTE: Please see the DAT Tape Drive QuickSpecs for controllers, media, and other options:

http://h18000.www1.hp.com/products/quickspecs/11883_div/11883_div.HTML (Worldwide)

For an up-to-date listing of the latest O/S and software support details for HP DAT drives, please visit: <http://www.hp.com/go/connect>

Rack-Mount Tape Drive Enclosures

HP StorageWorks 1U SCSI Rack-Mount kit

A7445B

NOTE: The 1U Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with multiple Single-Ended and LVD SCSI tape drives including the DAT 24, DAT 40, DAT 72, DLT VS80, DLT VS160, Ultrium 215, Ultrium 232, Ultrium 448 and Ultrium 920 tape drives.

HP StorageWorks 1U USB Rack-Mount Kit

A8007A

NOTE: The 1U USB Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with the DAT 24 USB, DAT 40 USB and DAT 72 USB tape drives.

HP StorageWorks 1U SAS Rack-Mount Kit

AE459A

Options

NOTE: The 1U SAS Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with the Ultrium 448 SAS tape drive.

NOTE: Connecting hard drive cage and SAS tape to the same SAS Controller using split cable (supplied with tape drive) deactivates 1 of the hard drive bays. Actual hard drive bay deactivated depends on where split cable plugs into SAS drive connector. Example: 3x SAS cable connector plugged into SAS drive connector (5-8) on the back of the hard drive cage would mean drive bay 8 is deactivated.

NOTE: Please see the Rack-Mount Tape Drive Kits QuickSpecs for additional information regarding these kits:

http://h18000.www1.hp.com/products/quickspecs/10854_div/10854_div.HTML
(Worldwide)

HP D2D Backup System	HP StorageWorks D2D110 Backup System	EH880A
	NOTE: 1TB of Disk Storage.	
	HP StorageWorks D2D110 Backup System with Data Protector Express Software Kit	EH923A
	NOTE: 1TB of Disk Storage.	
	HP StorageWorks D2D120 Backup System	EH884A
	NOTE: 2TB of Disk Storage.	
	HP StorageWorks D2D120 Backup System with Data Protector Express Software Kit	EH924A
	NOTE: 2TB of Disk Storage.	
	NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information:	
	http://h18000.www1.hp.com/products/quickspecs/12651_div/12651_div.HTML (Worldwide)	

Tape Autoloaders	HP StorageWorks DAT Autoloader	
	HP StorageWorks DAT 72x10 tape autoloader	AE313B
	HP StorageWorks 1/8 Tape Autoloader	
	HP StorageWorks 1/8 Ultrium 960 Tape Autoloader	AF204A
	HP StorageWorks 1/8 G2 Ultrium 920 SAS Autoloader	AH558A
	HP StorageWorks 1/8 Ultrium 920 G2 Tape Autoloader	AH165A
	HP StorageWorks 1/8 Ultrium 448 G2 Tape Autoloader	AH164A
	HP StorageWorks 1/8 Ultrium 232 G2 Tape Autoloader	AH163A
	HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit	AH166A
	NOTE: Required to install the 1/8 G2 Autoloaders in a standard 19-inch rack; includes rails and rackmount instructions	
	1/8 Tape Autoloader Rackmount Kit	C9268R
	NOTE: Required to install the 1/8 tape autoloader in a standard 19-inch rack.	
	NOTE: Please reference the Autoloader QuickSpecs at	
	http://www.hp.com/go/automation for additional information needed to create a complete solution; reference current compatibility information at http://www.hp.com/go/ebs .	

Options

Tape Libraries

HP StorageWorks MSL2024 Tape Library

HP StorageWorks MSL2024 1 Ultrium 960 Drive Library	AG115A
HP StorageWorks MSL2024 1 Ultrium 960 4GB FC Library	AG326B
HP StorageWorks MSL2024 1 Ultrium 920 SAS Drive Library	AH559A
HP StorageWorks MSL2024 1 Ultrium 920 Drive Library	AH169A
HP StorageWorks MSL2024 2 Ultrium 920 Drive Library	AH170A
HP StorageWorks MSL2024 1 Ultrium 448 Drive Library	AG116A
HP StorageWorks MSL2024 2 Ultrium 448 Drive Library	AG117A

HP StorageWorks MSL4048 Tape Library

HP StorageWorks MSL4048 1 Ultrium 448 Drive Library	AG320A
HP StorageWorks MSL4048 2 Ultrium 448 Drive Library	AG321A
HP StorageWorks MSL4048 1 Ultrium 920 SAS Drive Library	AH560A
HP StorageWorks MSL4048 1 Ultrium 920 Drive Library	AH171A
HP StorageWorks MSL4048 2 Ultrium 920 Drive Library	AH172A
HP StorageWorks MSL4048 1 Ultrium 960 Drive Library	AG322A
HP StorageWorks MSL4048 1 Ultrium 960 4GB FC Library	AG324B
HP StorageWorks MSL4048 2 Ultrium 960 Drive Library	AG323A
HP StorageWorks MSL4048 2 Ultrium 960 4GB FC Library	AG325B

HP StorageWorks MSL8096 Tape Library

HP StorageWorks MSL8096 2 Ultrium 920 SAS Drive Library	AH561A
HP StorageWorks MSL8096 2 Ultrium 960 4GB FC Library	AH218A
HP StorageWorks MSL8096 2 Ultrium 960 Drive Library	AH219A

HP StorageWorks MSL6000 Tape Library

Ultrium 960 technology

HP StorageWorks MSL6030 1 Ultrium 960 Dr LVDS Library	AD606B
HP StorageWorks MSL6030 1 Ultrium 960 Dr FC Library	AD608B
HP StorageWorks MSL6030 2 Ultrium 960 Dr LVDS Library	AD607B
HP StorageWorks MSL6030 2 Ultrium 960 Dr FC Library	AD609B

Ultrium 460 technology

HP StorageWorks MSL6030 1 Ultrium 460 Dr LVDS Library	AD598B
HP StorageWorks MSL6030 1 Ultrium 460 Dr FC Library	AD600B
HP StorageWorks MSL6030 2 Ultrium 460 Dr LVDS Library	AD599B
HP StorageWorks MSL6030 2 Ultrium 460 Dr FC Library	AD601B

NOTE: Please reference the MSL2024, MSL4048 and MSL6000 Tape Library QuickSpecs at <http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at <http://www.hp.com/go/ebs>.

Options

HP StorageWorks Modular Smart Array 20	HP StorageWorks Modular Smart Array 20	335921-B21
	NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.	
	HP StorageWorks Modular Smart Array 20 Starter Kit	366172-B21
	NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies. Includes Smart Array 6402/128 Controller.	
	NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 3.5" Hot Plug Hard Drives.	
HP StorageWorks Modular Smart Array 30	HP StorageWorks Modular Smart Array 30 SB	302969-B21
	NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies	
	HP StorageWorks Modular Smart Array 30 DB	302970-B21
	NOTE: Rack-mountable 14 drive enclosure with dual bus, redundant power supplies	
	NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 Hot Plug Hard Drives.	
HP StorageWorks Modular Smart Array 50	HP StorageWorks Modular Smart Array 50 Enclosure	364430-B21
	NOTE: Please see the Modular Smart Array 50 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.HTML (Worldwide)	
HP StorageWorks Modular Smart Array 500	HP StorageWorks Modular Smart Array 500 Generation 2	335880-B21
	NOTE: Please see the Modular Smart Array 500 Generation 2 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/11956_div/11956_div.HTML (Worldwide)	
HP StorageWorks Modular Smart Array 1000	HP StorageWorks Modular Smart Array 1000	201723-B22
	NOTE: Please see the Modular Smart Array 1000 QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML (Worldwide)	
HP StorageWorks Modular Smart Array 1500 cs	Modular Smart Array 1500 Controller Shelf	AA986A
	NOTE: Please see the StorageWorks Modular SAN Array 1500 cs QuickSpecs for additional options and configuration information at: http://www.hp.com/go/MSA1500cs	

Options

Cluster Options	ProLiant Cluster Starter Kit	364023-B22
	NOTE: For additional information regarding the ProLiant Cluster Starter Kit please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11935_div/11935_div.html (Worldwide)	
	HP HA/F200 for Entry SAN Cluster	364026-B22
	NOTE: For additional information regarding the ProLiant Cluster for Entry Level SAN please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11932_div/11932_div.html (Worldwide)	
	NOTE: For configuration/certification options for the HP Parallel Database Cluster for Oracle RAC please go to: http://www.hp.com/solutions/highavailability/oracle	
	HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 & 10 and Red Hat EL 3 & 4 (2 node license cluster kit)	305199-B26
	HP Serviceguard for Linux A.11.16 for SUSE SLES 9 & 10 and Red Hat EL 3 & 4 (single license version)	307754-B26
	HP Serviceguard for Linux and Red Hat Global File System - 1 year subscription	T2798AA#001
	HP Serviceguard for Linux and Red Hat Global File System - 3 years subscription	T2798AA#003
	NOTE: For additional information regarding HP Serviceguard for Linux, please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11518_div/11518_div.html (Worldwide)	
	NOTE: For configuration/certification options for HP Serviceguard for Linux please go to: http://www.hp.com/info/sglx	

StorageWorks Options StorageWorks Fibre Channel HBA

NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see:
<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

HP StorageWorks FC2142SR 4Gb PCI-e HBA	A8002A
HP StorageWorks FC2242SR Dual Channel 4 Gb PCI-e HBA	A8003A
HP StorageWorks FC1142SR 4Gb PCI-e HBA	AE311A
HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-e HBA	AE312A
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 FC1143 4Gb PCI-X 2.0 HBA	AB429A
HP StorageWorks FC1243 Dual Channel 4Gb PCI-X 2.0 HBA	AE369A

StorageWorks SCSI HBA

HP U320e SCSI Host Bus Adapter	AH627A
NOTE: Recommended Dual Channel Ultra320 SCSI Controller for connecting multi-drive MSL tape libraries to ProLiant servers.	

Options

Uninterruptible Power Systems – Rack Mountable	HP, R1.5kVA UPS, 1U, NA	AF419A
	HP, R1.5kVA UPS, 1U, INTL	AF418A
	HP, R1.5kVA UPS, 1U, JPN/TW	AF421A
	HP R3000 VA UPS, 2U, DTC, INTL	AF414A
	HP R3000 VA UPS, 2U, L5-30, NA	AF422A
	HP R3000 VA UPS, 2U, L6-20, NA	AF423A
	HP R3000 VA UPS, 2U, L6-20, JPN	AF424A
	HP R3000 VA UPS, 2U, L5-30, JPN	AF425A
	HP R5500 VA UPS, INTL	AF416A
	HP R5500 VA UPS, NA/JPN	AF426A

Power Cords

NOTE: The HP ProLiant DL360 G5 ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs).

Nema 5-15P to IEC320-C13	AF556A
Power Cord, Euro, 10A 250 V Straight (12 ft/3.7 m)	157215-021
Power Cord, UK, 10A 250 V Straight (12 ft/3.7 m)	157216-031
Power Cord, Danish, 10A 250 V Straight (12 ft/3.7 m)	157218-081
Power Cord, Swiss, 10A 250 V Straight (12 ft/3.7 m)	157219-111
Power Cord, Italian, 10A 250 V Straight (12 ft/3.7 m)	157217-061
Power Cord, South Africa, 10A 250 V Straight (12 ft/3.7 m)	157220-AR1

HP Monitored Power Distribution Unit (PDU) **HP Monitored Power Distribution Unit: Full Rack Version**

17.3 kVA Monitored PDU Model S2324	AF503A
8.6 kVA Monitored PDU Model S1324	AF504A
16.6 kVA Monitored PDU Model S2140	AF505A
8.3 kVA Monitored PDU Model S1140	AF506A
22 kVA Monitored PDU Model S2316	AF507A
11 kVA Monitored PDU Model S1316	AF508A
14.7 kVA Monitored PDU Model S2132	AF509A
7.3 kVA Monitored PDU Model S1132	AF510A
4.9kVA Monitored PDU model S124	AF914A
7.3kVA Monitored PDU model S132	AF915A

Options

Modular PDUs 1U/0U (Up to 32 outlets) NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	Fixed Cord Extension Bars	351655-B21
	NOTE: Two extension bar sticks; each with (7) C13 plugs.	
	3.6kVA Model - mPDU, 16A, High (WW)	252663-B24
	2.8 kVA Model - mPDU, 24A, Low (NA/JPN)	252663-D71
	4.9kVA Model - mPDU, 24A, High (NA/JPN)	252663-D72
	7.3kVA Model - mPDU, 32A, High (INT'L)	252663-D71
	8.3kVA Model - mPDU, 40A, High (WW)	252663-B21
	8.3kVA Model - mPDU, 40A, High (power cord attached) (NA/JPN)	252663-D73
	9.2kVA Model - mPDU, 40A, High (power cord attached) (INTL)	252663-B32
	8.3kVA Model - mPDU 40A, High (core only) (NA/JPN)	252663-D75
	9.2kVA Model - mPDU 40 A, High (core only) (Int'l)	252663-B34
	8.3kVA Model - mPDU 32A, High (core only) (Int'l)	252663-B33
	4.9kVA Model - mPDU 24A, High (core only) (NA/JPN)	252663-D74
	NOTE: Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including shorter jumper cables and country specific power cords: http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.HTML (Worldwide)	
USB Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
	HP USB 04 Standard Keyboard	DT528A#ABA
HP ProLiant DL360 G5 Deployment Options	700W HP redundant power supply with IEC cord only	399542-B21
	700W HP redundant power supply with IEC cord and Japan cord (Japan)	399542-291
Rack Kits	1U Cable Management Arm	365403-B21
	NOTE: Package contains two cable management arms.	
HP Rack 5000 Series (Graphite Metallic)	HP 5642 Rack Unassembled	358254-B21
	NOTE: Please see the HP Rack 5642 QuickSpecs for additional part numbers and Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.HTML (Worldwide)	
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower .	

Options

HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	10642 G2 (42U) Rack Cabinet – Pallet	AF001A
	10642 G2 (42U) Rack Cabinet – Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet – Crated	AF003A
	10642 G2 (42U) Rack Cabinet, with Extension – Shock Pallet	AF004A
	10636 G2 (36U) Rack Cabinet – Pallet	AF011A
	10636 G2 (36U) Rack Cabinet – Shock Pallet	AF012A
	10636 G2 (36U) Rack Cabinet – Crated	AF013A
	10636 G2 (36U) Rack Cabinet, with Extension – Shock Pallet	AF014A
	10622 G2 (22U) Rack Cabinet - Pallet	AF021A
	10622 G2 (22U) Rack Cabinet - Shock Pallet	AF022A
	10842 G2 (42U) 800mm Wide Rack Cabinet - Pallet	AF041A
	10842 G2 (42U) 800mm Wide Rack Cabinet - Shock Pallet	AF042A
	10647 G2 (47U) Rack Cabinet - Pallet	AF031A

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
(Worldwide)

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

HP Rack 10000 Series (Graphite Metallic)	HP Rack S10614 (14U) Rack Cabinet – Shock Pallet	292302-B22
	NOTE: xxxxxx-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels).	
	NOTE: It is mandatory to use a shock pallet in order to ship racks with equipment installed. Not all HP equipment is qualified to be shipped in the Rack 10000 series	
	NOTE: Please see the Rack 10000 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color:	
	http://h18000.www1.hp.com/products/quickspecs/10995_div/10995_div.HTML (Worldwide)	

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

Options

Keyboards and Monitors

TFT7210R Rack Mounted 17" Monitor	348373-B21
TFT7600 Rackmount Keyboard Monitor US	AG052A
TFT7600 Rackmount Keyboard Monitor UK	AG053A
TFT7600 Rackmount Keyboard Monitor GR	AG054A
TFT7600 Rackmount Keyboard Monitor FR	AG055A
TFT7600 Rackmount Keyboard Monitor IT	AG056A
TFT7600 Rackmount Keyboard Monitor SP	AG057A
TFT7600 Rackmount Keyboard Monitor DEN	AG058A
TFT7600 Rackmount Keyboard Monitor NOR	AG059A
TFT7600 Rackmount Keyboard Monitor SE/FI	AG060A
TFT7600 Rackmount Keyboard Monitor SWI	AG061A
TFT7600 Rackmount Keyboard Monitor PORT	AG062A
TFT7600 Rackmount Keyboard Monitor BEL	AG063A
TFT7600 Rackmount Keyboard Monitor JPN2	AG064A
TFT7600 Rackmount Keyboard Monitor RUS	AG065A
TFT7600 Rackmount Keyboard Monitor INTL	AG066A
1U Rackmount Keyboard with USB, US	AG072A
1U Rackmount Keyboard with USB, UK	AG073A
1U Rackmount Keyboard with USB, GR	AG074A
1U Rackmount Keyboard with USB, FR	AG075A
1U Rackmount Keyboard with USB, ITL	AG076A
1U Rackmount Keyboard with USB, SP	AG077A
1U Rackmount Keyboard with USB, DEN	AG078A
1U Rackmount Keyboard with USB, NOR	AG079A
1U Rackmount Keyboard with USB, SE/FI	AG080A
1U Rackmount Keyboard with USB, SWI	AG081A
1U Rackmount Keyboard with USB, PORT	AG082A
1U Rackmount Keyboard with USB, BEL	AG083A
1U Rackmount Keyboard with USB, JPN2	AG084A
1U Rackmount Keyboard with USB, RUS	AG085A
1U Rackmount Keyboard with USB, INTL	AG086A

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

Options

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.	
	Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
	Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
	PS/2 Interface Adapter, 1 pack	262588-B21
	PS/2 Interface Adapter, 8 pack	262587-B21
	USB Interface Adapter, 1 pack	336047-B21
	Serial Interface adapter - 1 Pack with power supply	373035-B21
	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 .	
	HP 1x4 Console Switch (ALL)	AF611A
	PS2 Server Console Cable, 6 ft, 2 pack	AF612A
	USB Server Console Cable, 6 ft, 2 pack	AF613A
	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 .	

HP Serial Console Server Options	HP 16 Port Serial Console Server (worldwide)	AF101A
	HP 48 Port Serial Console Server (worldwide)	AF102A
	Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
	Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A
	NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm .	
	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 .	

Options

Service and Support Offerings (HP Care Pack Services)

Hardware Services 4-Hour On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic U4496E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4497E

Hardware Services 6-Hour Call to Repair On-site Service

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4498E

Hardware Services Next Business Day On-Site Service

Hardware Installation, Electronic U4506E

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, Electronic U4507E

Support Plus

Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic U4508E

Support Plus 24

Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U4509E

Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U6310E

Onsite HW support 24x7, 4hr response and Red Hat ES Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U8332E

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

Memory

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".
NOTE: Memory DIMMs in systems with the Front Side Bus (FSB) running at 1333 MHz will run at 667 MHz and in systems with a FSB running at 1066 MHz or 667 MHz the memory DIMMs will run at 533 MHz.
HP ProLiant DL360 G5 Entry and Base Models

Standard Memory
1 GB PC2-5300 Fully Buffered DIMMs (DDR2-667) installed (2 x 512 MB)

Upgrading Memory and Memory Interleaving
When upgrading memory, DIMMs 1A and 3A must match. DIMMs 5B and 7B, DIMMs 2C and 4C, and DIMMs 6D and 8D must match and must be installed as a pair. When DIMMs 1A and 2A are populated the system is automatically configured for 2:1 interleaving. When all 4 banks are populated the system is automatically configured for 4:1 interleaving. When four, six, or eight DIMMs are populated with identical DIMMs the system is automatically configured for bank interleaving.

Standard Memory Plus Optional Memory
Up to 25 GB memory is available with the standard memory of 1 GB and the optional installation of PC2-5300 Fully Buffered DIMMs (DDR2-667) memory kits.

Standard Memory Replaced with Optional Memory
Up to 32 GB of memory is available with the removal of the standard 512 MB of memory and the optional installation of PC2-5300 Fully Buffered DIMMs (DDR2-667) memory kits.
NOTE: 4 GB Fully Buffered DIMMs kits will be available shortly following server availability to allow a maximum of 32 GB. Today's maximum is 16 GB utilizing 2 GB DIMMs.

NOTE: Chart does not represent all possible configurations.

Memory		Slot							
		1	2	3	4	5	6	7	8
Standard	1 GB	512 MB	512 MB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	25 GB	512 MB	512 MB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum	32 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB

NOTE: In the online spare configuration, the ROM automatically configures the last populated bank as the spare memory. If only banks A and B are populated, bank B is the spare bank. If banks A, B, and C are populated, bank C is the spare bank, If banks A, B, C and D are populated, bank D is the spare bank, Online spare memory is configured through RBSU.
NOTE: Mirrored Memory uses mirrored banks to provide a high level of memory redundancy. Customer chooses to implement or not: User selectable via BIOS and default is off.

Following are memory options available from HP:

1 GB FBD PC2-5300 2 x 512 MB Kit	397409-B21
2 GB FBD PC2-5300 2 x 1 GB Kit	397411-B21
4 GB FBD PC2-5300 2 x 2 GB Kit	397413-B21
8 GB FBD PC2-5300 2 x 4 GB Kit	397415-B21



Memory

HP ProLiant DL360 G5 Performance Models

Standard Memory

2 GB PC2-5300 Fully Buffered DIMMs (DDR2-667) (2 x 1 GB)

Upgrading Memory and Memory Interleaving

When upgrading memory, DIMMs 1A and 2A must match. DIMMs 3B and 4B, DIMMs 5C and 6C, and DIMMs 7D and 8D must match and must be installed as a pair. When DIMMs 1A and 2A are populated the system is automatically configured for 2:1 interleaving. When all 4 banks are populated the system is automatically configured for 4:1 interleaving. When four, six, or eight DIMMs are populated with identical DIMMs the system is automatically configured for bank interleaving.

Standard Memory Plus Optional Memory

Up to 14 GB memory is available with the standard memory of 2 GB and the optional installation PC2-5300 Fully Buffered DIMMs (DDR2-667) memory kits.

Standard Memory Replaced with Optional Memory

Up to 32 GB of memory is available with the removal of the standard 1 GB of memory and the optional installation of PC2-5300 Fully Buffered DIMMs (DDR2-667) memory kits.

NOTE: Chart does not represent all possible configurations.

Memory		Slot							
		1	2	3	4	5	6	7	8
Standard	2 GB	1 GB	1 GB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	14 GB	1 GB	1 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB
Maximum	32 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB

NOTE: In the online spare configuration, the ROM automatically configures the last populated bank as the spare memory. If only banks A and B are populated, bank B is the spare bank. If banks A, B, and C are populated, bank C is the spare bank, Online spare memory is configured through RBSU.

NOTE: Mirrored Memory uses mirrored banks to provide a high level of memory redundancy. Customer chooses to implement or not: User selectable via BIOS and default is off.

Following are memory options available from HP:

1 GB FBD PC2-5300 2 x 512 MB Kit	397409-B21
2 GB FBD PC2-5300 2 x 1 GB Kit	397411-B21
4 GB FBD PC2-5300 2 x 2 GB Kit	397413-B21
8 GB FBD PC2-5300 2 x 4 GB Kit	397415-B21

Online spare FBDIMM configuration requirements (in addition to general configuration requirements):

- When only bank A is being used, it must be fully populated with dual-rank FBDIMMs.
- If banks A and C are being used, they must be fully populated.
- If installed, bank A and bank C must contain FBDIMMs with identical part numbers.
- If installed, bank B and bank D must also contain FBDIMMs with identical part numbers.

In online spare mode, FBDIMMs must be populated as specified in the following table:



Memory

Configuration	Branch 0 Bank A 1A and 3A	Branch 0 Bank C 2C and 4C	Branch 1 Bank B 5B and 7B	Branch 1 Bank D 6D and 8D
1*	X	-	-	-
2	X	X	-	-
3	X	X	X	X
*NOTE: Configuration 1 is only supported if using bank A, populated with dual-rank FBDIMMs.				

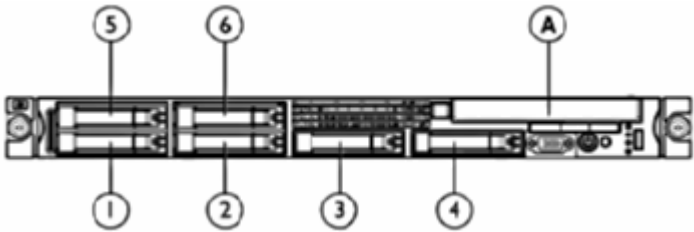
Mirrored memory FBDIMMs configuration requirements (in addition to general configuration requirements):

- Banks A and B must be fully populated.
- Bank A and bank B must contain FBDIMMs with identical part numbers. If installed, bank C and bank D must also contain FBDIMMs with identical part numbers.

When using mirrored memory mode, FBDIMMs must be populated as specified in the following table:

Configuration	Bank A 1A and 3A	Bank B 5B and 7B	Bank C 2C and 4C	Bank D 6D and 8D
1	X	X	-	-
2	X	X	X	X

Storage



- 1-6 6 x SFF SAS Hot Pluggable Hard Drive Bays
- A Slimline Bay: Optional optical or floppy drive

Drive Support

Removable Media

	Quantity Supported	Position Supported	Controller
Slimline 1.44-MB Diskette Drive	Up to 1	A	Integrated
Slimline 24x IDE CD-ROM Drive	Up to 1	A	Integrated IDE
Slimline DVD-ROM Drive (8x/24x) Option Kit (Servers)	Up to 1	A	Integrated IDE
Slimline DVD/CD-RW Combo Option Kit	Up to 1	A	Integrated IDE
Slimline DVD-RW Drive (8X) Option Kit	Up to 1	A	Integrated IDE

Hard Drives

SAS Hard Drive

	Quantity Supported	Position Supported	Controller
146GB 3G SAS 10K SP	6	1-6	HP Smart Array E200i/64MB Controller
72GB 3G SAS 10K SP			HP Smart Array E500 Controller
72GB 3G SAS 15K SP			HP Smart Array P400i/512MB BBWC Controller
36GB 3G SAS 10K SP			HP Smart Array P400i/256MB Controller
36GB 3G SAS 15K SP			HP Smart Array P600/256 BBWC Controller
			HP Smart Array P800/512 BBWC Controller
Please see NOTES below regarding hard drive quantity supported by Smart Array Controller.			

- NOTE:** The Smart Array E200i Controller can support a maximum of 4 hard drives.
- NOTE:** The Smart Array P400i Controller can support a maximum of 6 hard drives. To support drives 5 and 6, the optional HP Mini SAS 4i 13.4 inch/0.35 m cable is required (PN 399546-B21).
- NOTE:** The Smart Array P600 Controller requires HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable (PN 411100-B21).

Storage

Serial-ATA (SATA) Hard Drive

	Quantity Supported	Position Supported	Controller
120GB 1.5G SATA 5.4K	6	1-6	HP Smart Array E200i/64MB Controller
60GB 1.5G SATA 5.4K			HP Smart Array E500 Controller
			HP Smart Array P400i/512MB BBWC Controller
			HP Smart Array P400i/256MB Controller
			HP Smart Array P600/256 BBWC Controller
			HP Smart Array P800/512 BBWC Controller
Please see NOTES below regarding hard drive quantity supported by Smart Array Controller.			

NOTE: The Smart Array E200i Controller can support a maximum of 4 hard drives.

NOTE: The Smart Array P400i Controller can support a maximum of 6 hard drives. To support drives 5 and 6, the optional HP Mini SAS 4i 13.4 inch/0.35 m cable is required (PN 399546-B21).

NOTE: The Smart Array P600 Controller requires HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable (PN 411100-B21).

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 20 Family	Please see the Modular Smart Array 20 QuickSpecs to determine configuration requirements	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
Modular Smart Array 30 Family	Please see the Modular Smart Array 30 QuickSpecs to determine configuration requirements.	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
Modular Smart Array 50 Enclosure	2	External	HP Smart Array P600/256 BBWC Controller
Modular Smart Array 500 G2 System	1	External	Smart Array 642 Controller (used as Host Bus Adapter) Please see the Modular Smart Array 500 G2 QuickSpecs for the latest list of supported HBAs: http://www.hp.com/go/msa500
Modular Smart Array 1500 cs	Please see the Modular Smart Array 1500 cs QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1500 cs QuickSpecs (URL below) for the latest list of supported HBAs
Modular Smart Array 1000	Please see the Modular Smart Array 1000 QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1000 QuickSpecs (URL below) for the latest list of supported HBAs

Storage

QuickSpecs
below to
determine
configuration
requirements

Modular Smart Array 1000:
http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML (Worldwide)
Modular Smart Array 1500 cs: <http://www.hp.com/go/MSA1500cs>

Tape Drives, Tape Autoloaders, Tape Libraries & D2D Backup Systems

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following:
<http://h18000.www1.hp.com/products/quickspecs/Division/10233.html> (Worldwide)

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Autoloaders and Tape Libraries listed below, please see the following:
<http://h18000.www1.hp.com/products/quickspecs/Division/10809.html> (Worldwide)

NOTE: SAS Tape Drives: Connecting hard drive cage and SAS tape to the same SAS Controller using split cable (supplied with tape drive) deactivates 1 of the hard drive bays. Actual hard drive bay deactivated depends on where split cable plugs into SAS drive connector. Example: 3x SAS cable connector plugged into SAS drive connector (5-8) on the back of the hard drive cage would mean drive bay 8 is deactivated.

NOTE: For complete listing of tape drive offerings see
<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>
For recommended tape drive offerings for this ProLiant server see the following:

	Position Supported	Controller	Controller Part Number
HP StorageWorks SCSI Tape Drives, External Ultrium 232 Ultrium 448 Ultrium 460 Ultrium 960 Ultrium 920 DAT 40 DAT 72 DLT VS160 SDLT 600 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Host Bus Adapter	412911-B21
HP StorageWorks USB Tape Drives, External DAT 40 USB DAT 72 USB 1U Rack-Mount Kit	External	USB 2.0 Port	N/A



Storage

HP StorageWorks Tape Drives, SAS External Ultrium 448 SAS Ultrium 920 SAS 1U Rack-Mount Kit	External	HP SC44Ge Host Bus Adapter	416096-B21
		HP Smart Array P800/512 BBWC Controller	381513-B21
		Smart Array E500/256MB Controller	435129-B21
		NOTE: The following SAS Smart Array controllers require ROM Flash version 2.04 or higher for SAS tape support:	
		HP Smart Array P400/256MB Controller	405132-B21
		HP Smart Array P400/512MB Controller	411064-B21
		NOTE: Please visit http://www.hp.com/go/connect for details about minimum SAS controller firmware version and SAS cabling requirements.	
HP StorageWorks SCSI Tape Automation, External DAT 72x10 Autoloader 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096 MSL6000	External	HP SC11Xe Host Bus Adapter	412911-B21
		HP U320e SCSI Host Bus Adapter	AH627A
		NOTE: Only valid for MSL tape libraries.	
HP StorageWorks SAS Tape Automation, External 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096	External	HP SC44Ge Host Bus Adapter	416096-B21
		Smart Array E500/256MB Controller	435129-B21
		NOTE: Please visit http://www.hp.com/go/connect for details about minimum SAS controller firmware version and SAS cabling requirements.	
HP StorageWorks Tape Libraries, External MSL2024 (Ultrium 448, Ultrium 920 and 960- based) MSL4048 (Ultrium 448, Ultrium 920 and 960- based) MSL6000 (Ultrium 960 and 460-based) MSL6000 (SDLT 600- based)	External	Please consult the EBS connectivity matrix at http://www.hp.com/go/ebs for detailed connectivity information.	
HP StorageWorks D2D Backup Systems D2D110 D2D120	External	Embedded Network Controller	N/A

Power Specifications

To review typical system power ratings use the Active Answers Power Calculator which is available via the online tool located at URL: <http://h30099.www3.hp.com/configurator/calc/Power%20Calculator%20Catalog.xls>

To drill down to calculators:

- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: DL360 G5
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

Technical Specifications

System Unit	Dimensions (H x W x D) 1.70 x 16.78 x 27.75 in (4.32 x 42.62 x 70.49 cm)	
Weight	Maximum (six hard drives installed, two power supply, two processor)	37 lb (16.78 kg)
	No hard drives installed, one power supply, one processor	27.5 lb (12.47 kg)
Input Requirements	Rated Input Voltage	100 to 240 VAC
	Rated Input Current	7.1 Amps (at 120VAC) to 3.5 Amps (240 at VAC)
	Rated Input Frequency	50 to 60 Hz
	Rated Input Power	852 W
BTU Rating	2910 BTU/HR (at 120 VAC); 2870 (at 240 VAC) NOTE: The BTU rating listed is for the Rated Input Power of 852 W.	
Power Specifications	To review typical system power ratings use the Power Calculator which is available via the online tool located at URL: http://h30099.www3.hp.com/configurator/calc/Power%20Calculator%20Catalog.xls To drill down to calculators: - Click on: "ProLiant Servers" - Click on the Server of interest. Example: DL360 G5 - Click on: "Power Calculator" link. (You may need to scroll down to see it)	
Power Supply Output Power (per power supply)	Rated Steady-State Power	700 W
Temperature Range	Operating	50° to 95°F (10° to 35°C) at sea level with an altitude derating of 1.0°C per every 1000 ft (300 m) above sea level to a maximum of 10,000 ft (3000 m), no direct sustained sunlight. Maximum rate of change is 10°C/Hr.
	Storage	-40° to 158°F (-40° to 70°C) – Maximum rate of change is 20°C/Hr.
Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 82.4°F (28°C) maximum wet bulb temperature
	Storage	5 to 95% relative humidity (Rh), based upon a maximum temperature of 113° F (45° C). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.
Maximum Wet Bulb Temperature	82.4°F (28°C)	
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 73.4°F (23°C) ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA	

Technical Specifications

109).

Idle:

L_{WAd} (BELS) 6.6

L_{pAm} (dBA) 50

Operating:

L_{WAd} (BELS) 6.9 BELS

L_{pAm} (dBA) 53 dBA

Smart Array E200i Controller

Disk Drive and Enclosure Interface

3G SAS (Serial Attached SCSI)
1.5G SATA (Serial Advanced Technology Attachment)

SAS Connectors

2 internal (SFF8484) x4 wide port connectors

Cache Memory Speed

DDR-1/266 MHz provides up to 4.2 GB/s maximum bandwidth.

Server Interface

x4 2.5G PCIe provides 2GB/s maximum bandwidth.

SAS Speed

x8 3G SAS provides 2.4GB/s maximum bandwidth.

Cache Memory

40-bit 64MB or 128MB cache: ECC protection, battery-backed, and transportable

Logical Volumes Supported

Up to 32 logical volumes

Maximum Volume Capacity

3TB (6 x 500GB)

Host Memory Addressing

64-bit, supporting greater than 4GB server memory space

RAID Support

RAID 5 (Distributed Data Guarding) requires 128MB BBWC option
RAID 1, 1+0 (Striping & Mirroring)
RAID 0 (Striping)

Upgradeable Firmware

Upgradeable Firmware

Smart Array P400i Controller

Disk Drive and Enclosure Interface

3G SAS (Serial Attached SCSI)
1.5G SATA (Serial Advanced Technology Attachment)

SAS Connectors

2 internal (SFF8484) x4 wide port connectors

Cache Memory Speed

DDR2-533MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth.

Server Interface

x8 2.5G PCIe provides 2GB/s maximum bandwidth.

SAS Speed

x8 3G SAS provides 2.4GB/s maximum bandwidth.

Cache Memory

40-bit 256MB cache (72-bit 512MB module upgrades available); ECC protection, battery-backed, and transportable

Logical Drives Supported

Up to 32 logical drives

Maximum Logical Drive Capacity

3 TB (6 x 500GB)

Host Memory Addressing

64-bit, supporting greater than 4GB server memory space

Technical Specifications

	RAID Support	RAID 6 with ADG (Advanced Data Guarding) requires Battery Backed Write Cache Upgrade	
		RAID 5 (Distributed Data Guarding)	
		RAID 1+0 (Striping & Mirroring)	
		RAID 0 (Striping)	
	Upgradeable Firmware	Upgradeable Firmware with recovery ROM feature	
<hr/>			
Embedded NC373i Multifunction Gigabit Server Adapters	Network Interface	10/100/1000-T	
	Compatibility	EEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	PCI Express, four lanes (x4)	
	Network Transfer Rate	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)	2000 Mb/s
	Connector	RJ-45	
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP up to 328 ft (100 m)
		10/100/1000 Base-TX	Category 5 UTP up to 328 ft (100 m)

© Copyright 2007 Hewlett-Packard Development Company, L.P.
The information contained herein is subject to change without notice.
Microsoft and Windows NT are US registered trademarks of Microsoft Corporation. Intel is a US registered trademark of Intel Corporation.
The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

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