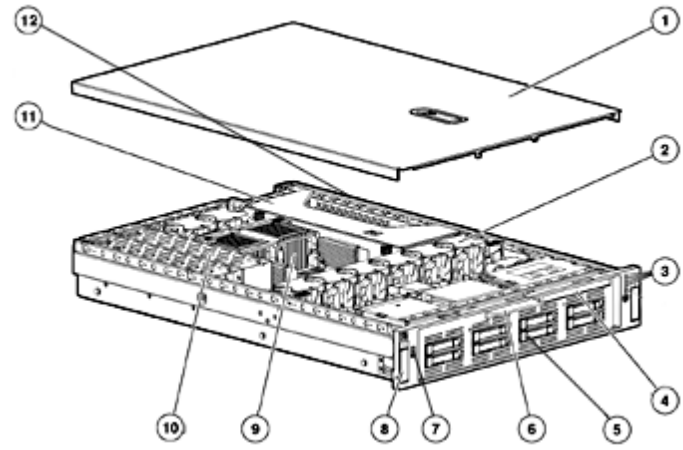
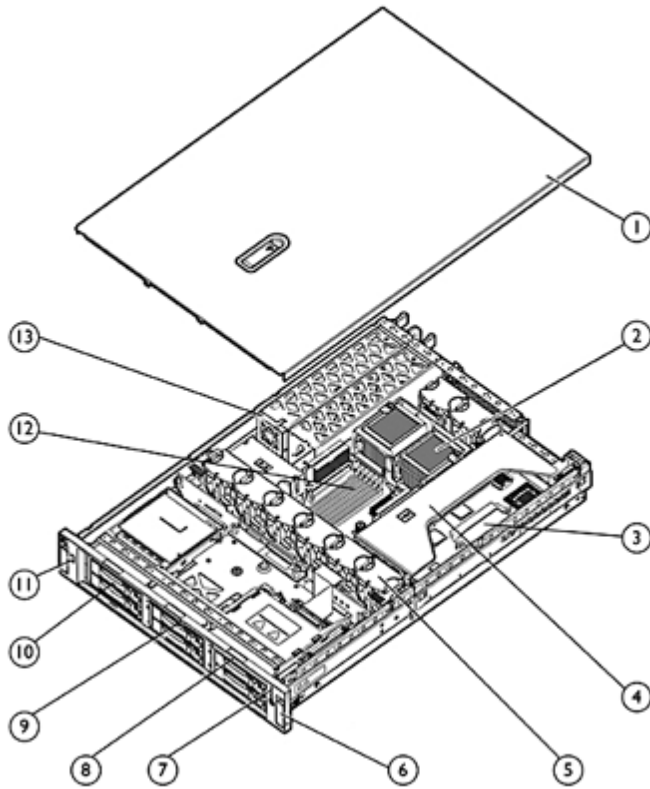


Overview

SCSI Model

SAS Model



1. Quick removal access panel
2. Intel Xeon Processor (High performance models include two processors)
3. Smart Array 6i Array Controller (Ultra320) with optional 128MB Battery Backed Write Cache (BBWC) or Smart Array P600 controller with standard 256MB Battery Backed Write Cache. (All High performance models include BBWC)
4. Three PCI-X non-hot plug expansion slots (or optional PCI-X hot plug expansion cage or PCI Express expansion cage)
5. Hot-plug fans, full redundancy option (All 2M Cache models and High performance models include fully redundant fans)
6. Quick release lever for fast server access
7. Front LEDs (show server status) and Unit Identification button/LED (for easy in rack server identification)
8. 24X Max CD-ROM (High performance models include DVD-ROM drive)
9. Optional 1.44 MB (3.5") Diskette Drive (High performance models include Diskette Disk Drive)
10. Support for six Ultra320 SCSI hot plug hard drives (or five SATA hot plug hard drives)

1. Quick removal access panel
2. Hot-plug fans, full redundancy option (All 2M Cache models and High performance models include fully redundant fans)
3. Front LEDs (show server status) and Unit Identification button/LED (for easy in rack server identification)
4. 24X Max CD-ROM (High performance models include DVD-ROM drive)
5. Support for eight universal small form factor hot plug hard drives
6. Optional 1.44 MB (3.5") Diskette Drive (High performance models include Diskette Disk Drive)
7. USB port (USB 2.0 Support)
8. Quick release lever for fast server access
9. Intel Xeon Processor (High performance models include two processors)
10. Hot plug power supply, redundancy option (High performance models include redundant power supply)
11. Three PCI-X non-hot plug expansion slots (or optional PCI-X hot plug expansion cage or PCI Express expansion cage)

Overview

- hot plug hard drives and one DAI 4U or DAI 7/2 hot plug tape drive)
- 11. USB port (USB 2.0 Support)
- 12. Hot plug power supply, redundancy option (High performance models include redundant power supply)
- 13. Six PC2-3200R 400MHz DDR2 Sockets
- 12. Smart Array P600 controller with standard 256MB Battery Backed Write Cache. (All High performance models include BBWC)

What's New

Introducing the ProLiant DL380 G4 SAS model with the latest Dual-Core Intel Xeon Processors with Hyperthreading technology for maximum application performance.

- New SAS Model: DL380R04 X2.8-2x2MB/800 DC, 1GB SAS
- Improve server responsiveness
- Increase performance up to 50%
- Enhance multi-tasking

At a Glance

- 64-bit Intel® Xeon™ processors (up to 3.6 GHz), a 800MHz Front Side Bus and 2MB of L2 cache (two processors included in High Performance models)
- High performance models based on the 3.4 GHz 2MB Intel Xeon Processor and the 3.6 GHz 2MB Intel Xeon Processor
- Intel E7520 Chipset
- 1 GB PC2-3200R 400MHz DDR2 Memory with online spare capabilities (2 GB included in High Performance models)
- Support for dual-rank 400MHz DDR2 memory
- SAS (Serial attached SCSI) models include the Smart Array P600 Performance SAS Array Controller with 256MB Battery-Backed Write Cache. SCSI models include the integrated Smart Array 6i Ultra320 Array Controller with optional 128MB of Battery Backed Write Cache (BBWC standard on all high performance models)
- (8) small form factor hot-plug drive bays or (6) hot-plug U320 SCSI drive bays, SCSI models have (1) 1.6" bay that supports a hot-plug DAT tape backup drive
- HP Power Regulator for ProLiant, delivering server level, policy based power management with industry leading energy efficiency and savings on system power and cooling costs
- Integrated Lights-Out industry leading remote management with new support for two-factor authentication, schema-free Microsoft Active Directory integration, Power Regulator p-state reporting, USB key virtual media and VLAN on the shared network port
- Internal hot plug capacity 1.8TB standard (6 x 300GB HDD)
- Hot Plug Fans with optional full redundancy (Included in 2MB Cache and High performance models)
- Hot Plug Power Supply with optional redundancy (Included in High performance models)
- Tool-less access to all system components for easy in rack serviceability
- Three 64-bit PCI-X slots (2 available on SAS models), including two non-hot plug 100MHz slots and one non-hot plug 133MHz slot or optional PCI-X Hot-plug cage or Optional PCI Express Non-hot plug Cage (U320 SCSI Models only)
- Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
- Optional dual channel drive backplane (2/4 split) for U320 SCSI models (Included in SCSI High Performance Models)
- Optional dual channel drive backplane (2/4 split) (Included in High Performance Models)
- Optional floppy disk drive (Included in High Performance Models)
- USB 2.0 support, one port up front and two ports in back
- Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components
- High performance models available fully loaded for convenience
- Integrated Lights-Out (iLO) Standard Management on system board
- Support for new iLO Shared Network Port enables access to the iLO management processor through one of the embedded system NICs
- Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU), HP System Insight Manager, Status LEDs including system

Overview

health and UID and SmartStart

- 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 SCSI 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	Intel Xeon Processor 3.0 GHz/800MHz-2MB L2
One of the following depending on Model	Dual-Core Intel Xeon Processor 2.8 GHz/800MHz-2x2MB L2
	NOTE: This kit is not backwards compatible, existing systems cannot be upgraded.
	Intel Xeon Processor 3.2 GHz/800MHz-2MB L2
	Intel Xeon Processor 3.4 GHz/800MHz-2MB L2
	Intel Xeon Processor 3.6 GHz/800MHz-2MB L2

Cache Memory	2MB Level 2 cache
One of the following depending on Model	2x2MB Level 2 cache (Dual-Core Models)

Upgradeability	Upgradeable to dual processing
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Chipset	Intel E7520 Chipset
	NOTE: For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/ .

Memory Protection	Online spare Advanced ECC
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Memory	Type	PC2-3200R 400MHz DDR2
One of the following depending on model	Standard (base models)	1 GB (2 x 512 MB)
	Standard (High Performance models)	2 GB (2 x 1024 MB)
	Maximum	12 GB

Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
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Standard Features

PCI-X Non-Hot Plug Riser

Expansion Slots	Slot Number	Bus Speed	Bus Number*	Device Number**	Hot Plug	PCI Voltage
	1	64-bit/133MHz PCI-X	10	1	no	3.3 Volt
	2	64-bit/100MHz PCI-X	6	1	no	3.3 Volt
	3	64-bit/100MHz PCI-X	6	2	no	3.3 Volt

NOTE: The Smart Array P600 Array Controller (SAS) with 256MB BBWC installed in Slot 1 on SAS models.

NOTE: Universal cards are supported.

PCI-X Hot Plug Riser (Optional)

1	64-bit/133MHz PCI-X	10	1	no	3.3 Volt
2	64-bit/100MHz PCI-X	6	1	yes	3.3 Volt
3	64-bit/100MHz PCI-X	6	2	yes	3.3 Volt

NOTE: Universal cards are supported

PCI Express Non-Hot Plug Riser

(Optional on U320 SCSI Models only)

1	PCI Express x4	8	0	no	NA
2	PCI Express x4	5	0	no	NA

NOTE: x8 cards are supported but will run at x4 speeds.

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

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

NOTE: For more information regarding PCI-X, please see the following URL:

<http://www.HP.com/servers/pci-x>.

Storage Controller

Smart Array 6i Controller (integrated on system board) OR
Smart Array P600 with 256MB battery-backed write cache (SAS Models)

Storage	Diskette Drive	1.44 MB Diskette Drive (optional on some models)	
	Optical Drive	24x IDE CD-ROM (IDE DVD-ROM included on High performance models)	
	Hard Drives	None Standard	NOTE: U320 SCSI models can be operated in single channel or dual channel (2/4 split). SCSI configuration kit (364471-B21) is required for dual channel configurations.

Maximum Internal Storage Type

Hot Plug U320 SCSI	1.8TB	6 x 300GB with standard internal hot plug SCSI drive cage
Hot Plug SAS	576GB	8 x 72GB with standard internal hot plug small form factor SAS drive cage

Standard Features

Interfaces	Serial	1
	Pointing Device (Mouse)	1
	Graphics	1
	Keyboard	1
	External SCSI (VHDCI)	1
	Network RJ-45	3 (1 for iLO)
	USB 2.0 Ports	3 (1 front, 2 back)
	NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html .	
<hr/>		
Graphics	Integrated ATI Rage XL Video Controller with 8-MB SDRAM Video Memory	
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Form Factor	Rack (2U), (3.5-inch)	
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ProLiant Essentials Foundation Pack Software	HP Systems Insight Manager	HP's new HP Systems Insight Manager (HP SIM) helps maximize system uptime and performance and reduce system maintenance costs by providing proactive notification of problems before those problems result in unplanned downtime or reduced productivity. HP SIM are both easy to set up work with the Insight Management Agents, integrated Lights-Out and Remote Insight Lights-Out Edition, and Version Control Agents to deliver robust fault, configuration, and asset management as well as remote administration. With HP SIM customers will also be able to take advantage of role-based security; the ability to manage ProLiant, Integrity, and HP 9000 systems; and plug-ins for storage, client, printer, and power management as well as server rapid deployment, performance management, and workload management. For more details on HP SIM visit http://www.hp.com/go/hpsim .
	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 7.10 SmartStart version supported (minimum for SCSI models): SmartStart 7.10 SmartStart version supported (minimum for SAS models): SmartStart 7.30
	Insight Management Agents	The Insight Management Agents form the foundation for HP's Intelligent Manageability strategy. They provide direct, browser-based access to in-depth instrumentation built into HP servers, workstations, desktops, and portables, and send alerts to HP Systems Insight Manager and other enterprise management applications in case of subsystem or environmental failures. For additional information about the Management Agents and other management products from HP, please visit the management Web site at: http://www.hp.com/servers/manage

Standard Features

Subscribers 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 Online Edition	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.• Integrated Lights-Out Advanced Pack - upgrades the Integrated Lights-Out processor to full virtual presence and control with graphical console and virtual media.• Performance Management Pack - a performance management 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).

Standard Features

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>

Industry Standard Compliance

ACPI 2.0 Compliant
PCI 2.2 Compliant
WOL Support
Microsoft® Logo certifications
USB 2.0 Support

Remote Management

Integrated Lights Out (iLO) Standard Management:

- Virtual Text Remote Console
- Virtual Power Button Control
- Dedicated & shared LAN Connectivity
- Browser and command line access
- Automatic IP Configuration via DHCP/DNS/WINS
- Industry Standard 128-bit Secure Sockets Layer (SSL) and Secure Shell Security
- IML and iLO Event Logging
- Support for 12 user accounts with customizable access privilege

Integrated Lights Out Advanced Pack (optional) Remote Graphical Console:

- Microsoft Remote Desktop for Administrators integration
- Virtual media (floppy, CD, USB key, floppy images and ISO images)
- User access management via Directory Services
- Two-factor authentication

Remote Insight Lights-Out Edition II (optional)

Intelligent Manageability

HP Systems Insight Manager
SmartStart
Redundant ROM
Remote Flash ROM
Management Agent
Integrated Management Log
Automatic Server Recovery (ASR)
Dynamic Sector Repairing (with Smart Array Controllers)
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).)

Pre-Failure Warranty (covers processors, SCSI hard drives and memory)

Server Power Cords

One Lowline NEMA power cord and One Highline IEC Power cord ships standard. Localized cables included with geographic specific models in other world regions.

Standard Features

UPS and PDU Power Cord Matrix

Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units:

<ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf>.

Power Supply

575 Watt, CE Mark Compliant
Optional Hot Plug AC Redundant Power Supply

System Fans

5 hot plug fans ship standard. 8 hot plug fans total supported internally for full redundancy
NOTE: The additional 3 fans are available via Redundant Fan Option Kit (PN 293048-B21), this kit is included with all high performance, SAS models and 2MB cache models.

Required Cabling

For required cabling information, refer to the Web site at:
<http://h18000.www1.hp.com/products/servers/proliantDL380/>.

OS Support

Microsoft Windows Server 2000
Microsoft Windows Server 2003
Novell NetWare
LINUX (Red Hat, SuSE)
SCO UnixWare, OpenServer
VMware Virtualization Software

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

NOTE: For an up-to-date listing of the latest drivers available for the HP ProLiant DL380 G4, please see: <http://h18023.www1.hp.com/support/files/server/us/index.html>.

NOTE: For a more complete and up-to-date information on Linux support, please visit HP Linux Web site at: <http://h18000.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>.

Standard Features

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/proliantdl380/index.html>.

Rack Kit

The HP ProLiant DL380 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 of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.

NOTE: Cable management arm must be removed to access hot-plug power supplies when the cable management arm is mounted on the right.

***NOTE:** High Airflow Inserts (High Air Flow Rack Door Insert for the 7142 Rack (single) – PN: 327281-B21; or High Air Flow Rack Door Insert for the 7142 Rack (6-pack) – PN: 327281-B22) are required to support the HP ProLiant DL380 G4 in 7000 series racks. The DL380 G4 Cable Management Arm is not supported on 7000 series racks.

Telco Rack Support

DL380 G4 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/>)

Standard Features

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>.

Custom Builder

Please see the Enterprise Configurator for configuration assistance at: <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 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>

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.

NOTE: Limited warranty includes 3 year parts, 3 year labor, 3-year next business day on-site support.

NOTE: SATA drives have a 1 year warranty.

From Web-based support...to remote diagnostic tools that help decrease downtime...to dedicated onsite service, HP and its service partners provide "as-you-need-it" access to ProLiant-specific knowledge and skills no other vendor can match.

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and Start up services helps you get your ProLiant servers deployed rapidly
- Education courses provide industry leading training for IT professionals
- Support services for fast, efficient resolution of hardware and software issues
- Extending onsite hardware warranty coverage from next business day to same business day 13 hours, 5 day or 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials and VMWare-based IT solutions helping to deliver high level of application availability. Response times range from 30 mins for critical problems to 2 hours.

Standard Features

- System Management, Performance Services and Mission Critical Support Solution

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.

NOTE: For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

NOTE: For more information on Software Support offers contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/software>

NOTE: For more information on HP ProLiant Essentials support offers contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at:

http://www.hp.com/hps/servers/sr_proliant_essentials.html

NOTE: For more information on HP training offers contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/education/>

NOTE: For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

NOTE: Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

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>.

SAS Models

DL380R04 X2.8-2MB/800, 1GB Dual-Core 407549-xx1	Processor(s)	(1) Dual-Core Intel Xeon Processor 2.8 GHz (up to 2 supported)
	Cache Memory	2MB level 2 cache per core
	Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
	Storage Controller	SAS Smart Array P600 Controller with 256MB battery-backed write cache (installed in PCI-X slot)
	Hard Drive	None ship standard
	Internal Storage	576GB max - 8 x 72GB SAS drives (with optional hard drives)
	Optical Drive	24x IDE CD-ROM (Universal Media Bay)
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standard	

DL380R04 X3.0-2MB/800, 1GB SAS 382483-xx1	Processor(s)	(1) Intel Xeon Processor 3.0 GHz (up to 2 supported)
	Cache Memory	2MB level 2 cache per processor
	Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
	Storage Controller	SAS Smart Array P600 Controller with 256MB battery-backed write cache (installed in PCI-X slot)
	Hard Drive	None ship standard
	Internal Storage	576GB max - 8 x 72GB SAS drives (with optional hard drives)
	Optical Drive	24x IDE CD-ROM (Universal Media Bay)
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standard	

Models

DL380R04 X3.4-2MB/800, 1GB SAS 382484-xx1	Processor(s)	(1) Intel Xeon Processor 3.4 GHz (up to 2 supported)
	Cache Memory	2MB level 2 cache per processor
	Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
	Storage Controller	SAS Smart Array P600 Controller with 256MB battery-backed write cache (installed in PCI-X slot)
	Hard Drive	None ship standard
	Internal Storage	576GB max - 8 x 72GB SAS drives (with optional hard drives)
	Optical Drive	24x IDE CD-ROM (Universal Media Bay)
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)
	Availability	Hot Plug Fully Redundant Fans Standard
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DL380R04 X3.6-2MB/800, 2GB SAS High Performance 382485-xx1	Processor(s)	(2) Intel Xeon Processor 3.6 GHz
	Cache Memory	2MB level 2 cache per processor
	Memory	2 GB (2 x 1024 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
	Storage Controller	SAS Smart Array P600 Controller with 256MB battery-backed write cache (installed in PCI-X slot)
	Hard Drive	None ship standard
	Internal Storage	576GB max - 8 x 72GB SAS drives (with optional hard drives)
	Optical Drive	DVD-ROM Drive
	Diskette Drive	1.44 MB Diskette Drive
	Form Factor	Rack (2U), (3.5-inch)
	Availability	Hot Plug Fully Redundant Fans Standards Hot Plug Redundant Power Supplies Standard

Models

DL380R04 X3.8-2MB/800, 1GB SAS 397628-xx1	Processor(s)	(1) Intel Xeon Processor 3.8 GHz (up to 2 supported)
	Cache Memory	2MB level 2 cache per processor
	Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
	Storage Controller	SAS Smart Array P600 Controller with 256MB battery-backed write cache (installed in PCI-X slot)
	Hard Drive	None ship standard
	Internal Storage	576GB max - 8 x 72GB SAS drives (with optional hard drives)
	Optical Drive	24x IDE CD-ROM (Universal Media Bay)
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)
	Availability	Hot Plug Fully Redundant Fans Standard

U320 SCSI Models (Processors with 2MB Level 2 cache)

DL380R04 X3.8-2MB/800, 1GB 378741-xx1	Processor(s)	(1) Intel Xeon Processor 3.8 GHz (up to 2 supported)
	Cache Memory	2MB level 2 cache per processor
	Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
	Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB max (with optional hard drives)
	Optical Drive	24x IDE CD-ROM (Universal Media Bay)
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)
	Availability	Hot Plug Fully Redundant Fans Standard

Models

**DL380R04 X3.6-
2MB/800, 1GB
378739-xx1**

Processor(s)	(1) Intel Xeon Processor 3.6 GHz (up to 2 supported)
Cache Memory	2MB level 2 cache per processor
Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board)
Hard Drive	None ship standard
Internal Storage	1.8TB max (with optional hard drives)
Optical Drive	24x IDE CD-ROM (Universal Media Bay)
Diskette Drive	Optional
Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standard

**DL380R04 X3.4-
2MB/800, 1GB
378737-xx1**

Processor(s)	(1) Intel Xeon Processor 3.4 GHz (up to 2 supported)
Cache Memory	2MB level 2 cache per processor
Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board)
Hard Drive	None ship standard
Internal Storage	1.8TB max (with optional hard drives)
Optical Drive	24x IDE CD-ROM (Universal Media Bay)
Diskette Drive	Optional
Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standard

**DL380R04 X3.2-
2MB/800, 1GB
378736-xx1**

Processor(s)	(1) Intel Xeon Processor 3.2 GHz (up to 2 supported)
Cache Memory	2MB level 2 cache per processor
Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board)
Hard Drive	None ship standard
Internal Storage	1.8TB max (with optional hard drives)
Optical Drive	24x IDE CD-ROM (Universal Media Bay)
Diskette Drive	Optional
Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standard

Models

**DL380R04 X3.0-
2MB/800, 1GB
378735-xx1**

Processor(s)	(1) Intel Xeon Processor 3.0 GHz (up to 2 supported)
Cache Memory	2MB level 2 cache per processor
Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board)
Hard Drive	None ship standard
Internal Storage	1.8TB max (with optional hard drives)
Optical Drive	24x IDE CD-ROM (Universal Media Bay)
Diskette Drive	Optional
Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standard

**DL380R04 X2.8-
2MB/800, 1GB Dual-
Core
397629-xx1**

Processor(s)	(1) Dual-Core Intel Xeon Processor 2.8 GHz (up to 2 supported)
Cache Memory	2MB level 2 cache per core
Memory	1 GB (2 x 512 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board)
Hard Drive	None ship standard
Internal Storage	1.8TB max (with optional hard drives)
Optical Drive	24x IDE CD-ROM (Universal Media Bay)
Diskette Drive	Optional
Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standard

**DL380R04 X3.8-
2MB/800, 2GB High
Performance
378742-xx1**

Processor(s)	(2) Intel Xeon Processor 3.8 GHz
Cache Memory	2MB level 2 cache per processor
Memory	2 GB (2 x 1024 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board) with 128MB Battery Backed Write Cache (BBWC) and Duplex backplane standard (SCSI configuration kit)
Hard Drive	None ship standard
Optical Drive	DVD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standards Hot Plug Redundant Power Supplies Standard

Models

**DL380R04 X3.6-
2MB/800, 2GB High
Performance
378740-xx1**

Processor(s)	(2) Intel Xeon Processor 3.6 GHz
Cache Memory	2MB level 2 cache per processor
Memory	2 GB (2 x 1024 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board) with 128MB Battery Backed Write Cache (BBWC) and Duplex backplane standard (SCSI configuration kit)
Hard Drive	None ship standard
Optical Drive	DVD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standards Hot Plug Redundant Power Supplies Standard

**DL380R04 X3.4-
2MB/800, 2GB High
Performance
378738-xx1**

Processor(s)	(2) Intel Xeon Processor 3.4 GHz
Cache Memory	2MB level 2 cache per processor
Memory	2 GB (2 x 1024 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board) with 128MB Battery Backed Write Cache (BBWC) and Duplex backplane standard (SCSI configuration kit)
Hard Drive	None ship standard
Optical Drive	DVD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Rack (2U), (3.5-inch)
Availability	Hot Plug Fully Redundant Fans Standards Hot Plug Redundant Power Supplies Standard

Models

DL380R04 X2.8-2MB/800, 2GB Dual-Core High Performance 397630-xx1	Processor(s)	(2) Intel Dual-Core Xeon Processor 2.8 GHz
	Cache Memory	2MB level 2 cache per core
	Memory	2 GB (2 x 1024 MB) of 2-way interleaved PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter
	Storage Controller	Ultra320 Smart Array 6i Controller (integrated on system board) with 128MB Battery Backed Write Cache (BBWC) and Duplex backplane standard (SCSI configuration kit)
	Hard Drive	None ship standard
	Optical Drive	DVD-ROM Drive
	Diskette Drive	1.44 MB Diskette Drive
	Form Factor	Rack (2U), (3.5-inch)
	Availability	Hot Plug Fully Redundant Fans Standards Hot Plug Redundant Power Supplies Standard

Country Code Key	XX=00	U.S.
	XX=20	Brazil
	XX=29	Japan
	XX=37	APD
	XX=42	Euro
	XX=AA	PRC

Configuration Information - Factory Integrated Models (North America only)

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

Models	<p>HP ProLiant DL380G4 U320 SCSI Rack Chassis (North America) 371293-405</p> <p>Factory Integrated Model ships with:</p> <ul style="list-style-type: none"> (6) U320 SCSI Drive Bays Ultra320 Smart Array 6i Controller (integrated on system board) Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter Three available 64-bit PCI-X slots, including two non-hot plug 100MHz slots and one non-hot plug 133MHz slot 575 Watt hot plug power supply, CE Mark Compliant One Lowline NEMA power cord and One Highline IEC Power cord 5 hot plug fans Rack (2U), (3.5-inch)
	<p>HP ProLiant DL380G4 SAS Model Rack Chassis (North America) 383891-405</p> <p>Factory Integrated Model ships with:</p> <ul style="list-style-type: none"> (8) SFF Serial Attached SCSI (SAS) Drive Bays Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter Three 64-bit PCI-X slots (2 available after SAS starter kit installed), including two non-hot plug 100MHz slots and one non-hot plug 133MHz slot 575 Watt hot plug power supply, CE Mark Compliant One Lowline NEMA power cord and One Highline IEC Power cord 8 hot plug fans Rack (2U), (3.5-inch)

Step 1A: If SAS Model, Choose SAS Starter Kit or Controller (only one of the following)

SAS Controller	<p>HP Smart Array P600 Controller 337972-B21</p> <p>NOTE: This is a required selection if one of the two following SAS Starter Kits is not selected. If choosing this sku, SFF SAS hard drives must still be selected under Step 4.</p>
SAS Starter Kit	<p>SAS Starter Kit - 36 GB 396221-B21</p> <p>NOTE: Includes Smart Array P600 Performance Array Controller with 256MB BBWC and (2) 36GB SFF SAS Universal Hard Drives.</p> <p>SAS Starter Kit - 72 GB 396220-B21</p> <p>NOTE: Includes Smart Array P600 Performance Array Controller with 256MB BBWC and (2) 72GB SFF SAS Universal Hard Drives.</p>

Configuration Information - Factory Integrated Models (North America only)

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

Processors	Intel X2.8-2MB/800MHz DL380 G4 FIO BASE	397645-L22
	NOTE: If 2 processors are desired, select one 397645-L22 and one 397645-B21. Redundant Fan Kit (293048-B21) also required if choosing this processor with 371293-405.	
	Intel X2.8-800-2x2M DL380 G4 FIO BASE - Dual-Core	399129-L22
	NOTE: Supported only on U320 SCSI models. If 2 processors are desired, select one 399129-L22 and one 399129-B21 unless High Performance Model features are sought. If HPM features are desired, select one 399129-L22 and one 399631-001. Unless 399631-001 is selected, a Redundant Fan Kit (293048-B21) is also required if choosing this processor with 371293-405.	
	Intel X3.8-2MB/800MHz DL380 G4 FIO BASE	378752-L22
	NOTE: If 2 processors are desired, select one 378752-L22 and one 378752-B21 unless High Performance Model features are sought. If HPM features are desired, select one 378752-L22 and one 382618-001. Unless 382618-001 is selected, a Redundant Fan Kit (293048-B21) is also required if choosing this processor with 371293-405.	
	Intel X3.0-2MB/800MHz LV DL380 G4 FIO BASE	397646-L22
	NOTE: If 2 processors are desired, select one 397646-L22 and one 397646-B21. Redundant Fan Kit (293048-B21) also required if choosing this processor with 371293-405.	
Base Memory	Intel X3.0/800-2M 380 G4 FIO BASE	378748-L22
	NOTE: If 2 processors are desired, select one 378748-L22 and one 378748-B21. Redundant Fan Kit (293048-B21) also required if choosing this processor with 371293-405.	
	Intel X3.2/800-2M 380 G4 FIO BASE	378749-L22
	NOTE: If 2 processors are desired, select one 378749-L22 and one 378749-B21. Redundant Fan Kit (293048-B21) also required if choosing this processor with 371293-405.	
	Intel X3.4/800-2M 380 G4 FIO BASE	378750-L22
	NOTE: If 2 processors are desired, select one 378750-L22 and one 378750-B21 unless High Performance Model features are sought. If HPM features are desired, select one 378750-L22 and one 382616-001. Unless 382616-001 is selected, a Redundant Fan Kit (293048-B21) is also required if choosing this processor with 371293-405.	
Base Memory	Intel X3.6/800-2M 380 G4 FIO BASE	378751-L22
	NOTE: If 2 processors are desired, select one 378751-L22 and one 378751-B21 unless High Performance Model features are sought. If HPM features are desired, select one 378751-L22 and one 382617-001 or 391323-001 if SAS HPM model. Unless 382617-001 is selected, a Redundant Fan Kit (293048-B21) is also required if choosing this processor with 371293-405.	
	1 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 512 MB)	343055-B21
	2 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 1024 MB)	343056-B21
	4 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 2048 MB)	343057-B21

Configuration Information - Factory Integrated Models (North America only)

Step 3: Choose Additional Factory Integratable Options

Optical Drive	Slimline DVD-ROM Drive (8x/24x) Option Kit	264007-B21
	Slimline CD-RW/DVD-ROM Combo Option Kit	331903-B21
	HP ProLiant Slim CD-ROM FIO Base	338732-B21
Performance Packs	The HP ProLiant DL380 G4 performance packs are necessary to configure a HP ProLiant DL380 G4 High Performance Model. HP ProLiant DL380 G4 High 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 fans and power supplies, floppy drive, 128MB (U320 SCSI models) or 256MB (SAS models) of BBWC and the duplex backplane option for U320 SCSI (SCSI configuration kit).	
	HP DL380G4 3.4/2M HPM Perf Pack FIO, US	382616-001
	HP DL380G4 3.6/2M HPM Perf Pack FIO, US	382617-001
	HP DL380G4 3.8/2M HPM Perf Pack FIO	382618-001
	HP DL380G4 3.6/2M SAS HPM Perf Pack FIO, US	391323-001
	HP DL380G4 X2.8-800-2x2M HPM Perf Pack FIO, US (Dual-Core)	399631-001

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. Please contact your local sales representative for additional information.

HP ProLiant DL380 G4 Unique Options	DL380 G4 Redundant Fan Option Kit NOTE: Hot Plug Redundant Fan Option Kit (PN 293048-B21) contains three fans. This kit is included with all 2MB cache, SAS and high performance models.	293048-B21
	Hot Plug AC Redundant Power Supply Module (NEMA and IEC cords) (NA and Japan)	355892-001
	Hot Plug AC Redundant Power Supply Module (IEC cord only) (WW)	355892-B21
	Floppy Drive Option Kit NOTE: For U320 SCSI models only. NOTE: Included in high performance models.	364507-B21
	Floppy Drive Option Kit, SAS NOTE: For SAS models only.	393998-B21
	SCSI Configuration Kit NOTE: Kit Includes duplex drive backplane terminator and 2 long SCSI cables. Not supported on SAS models.	364471-B21
	PCI-X Hot Plug Riser Cage Option Kit	354676-B21
	PCI Express Riser Cage Option Kit NOTE: Not Supported on SAS models. For information about PCI Express visit: http://www.hp.com/servers/pci-express .	354675-B21

ProLiant Essentials Value Pack Software

ProLiant Essentials Integrated Lights-Out Advanced Pack	ProLiant Essentials Integrated Lights-Out Advanced Pack, 1 server License Featuring: sophisticated virtual administration features for ultimate control of servers in the data centers and remote sites. NOTE: For additional ProLiant Integrated Light-Out Advanced Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11052_div/11052_div.HTML	263825-B21
ProLiant Essentials Intelligent Networking Pack	ProLiant Essentials Intelligent Networking Pack - Windows Edition, Single Server License 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	372906-B21
ProLiant Essentials Intelligent Networking Pack	ProLiant Essentials Intelligent Networking Pack - Linux Edition, Single Server License NOTE: For additional ProLiant Intelligent Networking Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12327_div/12327_div.HTML	397004-B21
ProLiant Essentials Performance Management Pack	ProLiant Essentials Performance Management Pack, Single-Server License NOTE: For use with a single server. Contains one license with a unique license activation key, HP Management CD and documentation. NOTE: The most recent version of the software can always be downloaded at http://www.hp.com/products/pmp . 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	306696-B21

Options

ProLiant Essentials Rapid Deployment Pack Windows Edition Release		
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.		
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		372214-B21
NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.		
ProLiant Essentials Server Migration Pack, Single-Migration License		375345-B21
NOTE: Contains one license, enabling 1 server migration, with a unique license activation key and documentation.		
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.		
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 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 .		

ProLiant Software Maintenance Subscription	ProLiant Software Maintenance Subscription	355060-B21
	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)		

Options

Processor	Intel Xeon X3.2-1MB/800MHz Processor Option Kit	374492-B21
	Intel Xeon X3.4-1MB/800MHz Processor Option Kit	311583-B21
	Intel Xeon X3.6-1MB/800MHz Processor Option Kit	311584-B21
	Intel Xeon X2.8-2MB/800MHz Processor Option Kit	397645-B21
	Dual-Core Intel Xeon X2.8/800-2x2M Processor Option Kit	399129-B21
	NOTE: This kit is not backwards compatible, existing systems cannot be upgraded.	
	Intel Xeon X3.0-2MB/800MHz Processor Option Kit	378748-B21
	Intel Xeon X3.0-2MB/800MHz LV Processor Option Kit	397646-B21
	Intel Xeon X3.2-2MB/800MHz Processor Option Kit	378749-B21
	Intel Xeon X3.4-2MB/800MHz Processor Option Kit	378750-B21
	Intel Xeon X3.6-2MB/800MHz Processor Option Kit	378751-B21
Intel Xeon X3.8-2MB/800MHz Processor Option Kit	378752-B21	
Memory	1 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 512 MB)	343055-B21
	2 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 1024 MB)	343056-B21
	4 GB of Single-Ranked PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 2048 MB)	343057-B21
	4 GB of 2-Rank Advanced ECC PC3200 DDR2-400 SDRAM DIMM Memory Kit (2 x 2048 MB)	375004-B21
	NOTE: There are configuration limitations associated with this kit, please see memory section for more information.	
Optical Drives	Slimline CD-RW/DVD-ROM Combo Option Kit	331903-B21
	Slimline DVD-ROM Drive (8x/24x) Option Kit	264007-B21
	NOTE: Included in high performance models.	
	HP DVD+R/RW 8X Slim	383975-B21
Diskette Drive	Floppy Drive Option Kit	364507-B21
	NOTE: For U320 SCSI models only.	
	NOTE: Included in high performance models.	
	Floppy Drive Option Kit, SAS	393998-B21
	NOTE: For SAS models only.	

Options

Hard Drives

Ultra320 SCSI - Universal Hot Plug

HP 300GB U320 10K Universal HDD	350964-B22
HP 146GB U320 10K Universal HDD	286716-B22
HP 72GB U320 10K Universal HDD	286714-B22
HP 146GB U320 15K Universal HDD	347708-B22
HP 72GB U320 15K Universal HDD	286778-B22
HP 36GB U320 15K Universal HDD	286776-B22

NOTE: All U320 Universal Hard Drives are backward compatible to U2 or U3 speeds.

NOTE: Please see the 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/11531_div/11531_div.HTML
(Worldwide)

SFF SATA Hot Plug

HP 60GB 1.5G SATA 5.4K SFF HDD	379306-B21
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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/12091_div/12091_div.HTML
(Worldwide)

SAS Hot Plug

HP 36GB 3G SAS 10K SFF HDD	375859-B21
HP 72GB 3G SAS 10K SFF HDD	375861-B21

NOTE: All SAS Universal Hard Drives are supported ONLY by HP ProLiant DL380 G4 SAS models.

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)

Storage Controllers

NOTE: Please refer to the HP ProLiant DL380 G4 SCSI Cabling Matrix for information on what's required to cable optional array controllers:

<ftp://ftp.compaq.com/pub/products/servers/proliantdl380/dl380g4-cabling-matrix.pdf>

SCSI Controllers

128MB Battery Backed Write Cache Enabler Option Kit	346914-B21
NOTE: For Smart Array 6i Controller. Included in high performance models.	
Smart Array 6402/128 Controller	273915-B21
Smart Array 6404/256 Controller	273914-B21
Smart Array 641 Controller	291966-B21
NOTE: Not supported on SAS model.	
Smart Array 642 Controller	291967-B21
128-MB BBWC (Battery-Backed Write Cache) Enabler	351580-B21
NOTE: This 128MB BBWC supports the Smart Array 641 Controller and Smart Array 642 Controller.	

Options

Ultra320 Expansion Module for SA-6402	273911-B21
64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21

NOTE: Please see the following Controller or SCSI Adapter QuickSpecs for Technical Specifications such as PCI Bus, PCI Peak Data Transfer Rate, SCSI Protocols supported, SCSI Peak Data Transfer Rate, Channels, SCSI Ports, Drives supported, Cache, RAID support, and additional information:

http://h18000.www1.hp.com/products/quickspecs/12030_div/12030_div.HTML
(Smart Array 6i)

http://h18000.www1.hp.com/products/quickspecs/11587_div/11587_div.HTML
(Smart Array 6400 Series)

http://h18000.www1.hp.com/products/quickspecs/12067_div/12067_div.HTML
(Smart Array 641)

http://h18000.www1.hp.com/products/quickspecs/12069_div/12069_div.HTML
(Smart Array 642)

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
(Single Channel U320 SCSI HBA)

SAS Controller

HP Smart Array P600 Controller	337972-B21
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NOTE: Ships standard on SAS models.

512MB DDR BBWC Upgrade	372538-B21
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NOTE: Please see the following Controller QuickSpecs for Technical Specifications such as PCI Bus, PCI Peak Data Transfer Rate, SCSI Protocols supported, SCSI Peak Data Transfer Rate, Channels, SCSI Ports, Drives supported, Cache, RAID support, and additional information:

http://h18000.www1.hp.com/products/quickspecs/12247_div/12247_div.HTML
(Smart P600 Controller)

SAS HBA

HP 8 Internal Port SAS HBA with RAID	347786-B21
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NOTE: Please see the following QuickSpecs for additional information:

http://h18004.www1.hp.com/products/quickspecs/12332_div/12332_div.html
(SAS HBA)

Options

Communications	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21	
	HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21	
	HP NC320T PCI Express 1000T Gigabit Server Adapter	367047-B21	
	HP NC340T PCI-X 4-port 1000T Gigabit Server Adapter	391661-B21	
	HP NC370F PCI-X Multifunction 1000SX Gigabit Server Adapter	374193-B22	
	HP NC370T PCI-X Multifunction 1000T Gigabit Server Adapter	374191-B22	
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21	
	HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21	
	HP NC1020 PCI 1000T Gigabit Server Adapter	353377-B21	
	HP NC7170 PCI-X Dual Port 1000T Gigabit Server Adapter	313881-B21	
	HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21	
	NOTE: Any Ethernet network controller (NIC) (except the NC1020) on the option list can be used for redundancy with the embedded NC7782 NIC.		
	HP NC571C PCI Express Dual-port 4x Fabric Adapter	376160-B21	
	HP 24-Port 4x Fabric Copper Switch	376227-B21	
HP 4x Fabric 1m Copper Cable	376232-B21		
HP 4x Fabric 3m Copper Cable	376232-B22		
HP 4x Fabric 5m Copper Cable	376232-B23		

Redundant Options	Hot Plug AC Redundant Power Supply Module (NEMA and IEC cord) (NA and Japan)	355892-001
	Hot Plug AC Redundant Power Supply Module (IEC cord only) (WW)	355892-B21
	DL380 G4 Redundant Fan Option Kit	293048-B21
	NOTE: Hot Plug Redundant Fan Option Kit (PN 293048-B21) contains three fans per kit, it is included in all 2MB Cache, SAS and high performance models.	

Management Options	Remote Insight Lights-Out Edition II (NA, LA)	227251-001
	Remote Insight Lights-Out Edition II (EMEA)	227251-021
	Remote Insight Lights-Out Edition II (ROW)	227251-371

Tape Drives

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:

Hot Plug Tape Drives

HP StorageWorks DAT 72 SCSI Hot-plug Tape Drive (Carbon)	Q1529A
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USB Tape Drives

HP StorageWorks DAT 72 USB External Tape Drive (Carbonite)	DW027A
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External, Rack-Mount, and Array Module Ultrium Tape Drives

NOTE: The Ultrium 960, Ultrium 448 and Ultrium 232 tape drives must be connected to one of the supported U320 SCSI controllers listed in the Storage section of this document.

HP StorageWorks Ultrium 232 External Tape Drive (Carbonite)	DW065B
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HP StorageWorks Ultrium 460 External Tape Drive (Carbon)	Q1520A
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HP StorageWorks Ultrium 448 External Tape Drive (Carbonite)	DW017B
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Options

HP StorageWorks Ultrium 960 External Tape Drive (Carbonite) Q1539B

HP StorageWorks 3U Rack-mount kit with one Ultrium 960 (Carbonite) Q1595A

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)

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>.

External, Rack-Mount, and Array Module DAT Drives

HP StorageWorks DAT 72 SCSI External Tape Drive (Carbon) Q1523B

HP StorageWorks 1U Rack-mount kit with one DAT 72 (Carbon) A7443A

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)

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 DAT drives, please visit: <http://www.hp.com/go/connect>.

Rack-Mount Tape Drive Enclosures

HP StorageWorks 1U 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 DAT 24, DAT 40, DAT 72, DLT VS80, DLT VS160, Ultrium 215, Ultrium 232, and Ultrium 448 tape drives.

HP StorageWorks 1U USB Rack-Mount Kit A8007A

1U USB Cable Option Kit 396114-B21

NOTE: Converts a 1U SCSI rack-mount kit to a USB interface to support the USB tape drives.

HP StorageWorks 3U Rack-Mount Kit 274338-B22

NOTE: The 3U Rack-Mount Kit can support up to 2 full-height or 4 half-height tape drives and compatible with multiple Single-Ended and LVD SCSI tape drives including DAT 24, DAT 40, DAT 72, DLT VS80, DLT VS160, SDLT 320, SDLT 600, Ultrium 215, Ultrium 230, Ultrium 232, Ultrium 460, Ultrium 448 and Ultrium 960 tape drives.

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)

Options

Tape Autoloaders	<p>HP StorageWorks 1/8 Tape Autoloader</p> <p>HP StorageWorks 1/8 Ultrium 960 Tape Autoloader AF204A</p> <p>HP StorageWorks 1/8 Ultrium 448 Tape Autoloader AF203A</p> <p>HP StorageWorks 1/8 Ultrium 232 Tape Autoloader AF202A</p> <p>1/8 Tape Autoloader Rackmount Kit C9268R</p> <p>NOTE: Required to install the unit in a standard 19-inch rack; includes rails and rackmount instructions</p> <p>NOTE: Please reference the 1/8 Tape 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</p>
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Tape Libraries	<p>HP StorageWorks MSL2024 Tape Library</p> <p>HP StorageWorks MSL2024 1 Ultrium 960 Drive Library AG115A</p> <p>HP StorageWorks MSL2024 1 Ultrium 448 Drive Library AG116A</p> <p>HP StorageWorks MSL2024 2 Ultrium 448 Drive Library AG117A</p> <p>HP StorageWorks MSL4048 Tape Library</p> <p>HP StorageWorks MSL4048 1 Ultrium 448 Drive Library AG320A</p> <p>HP StorageWorks MSL4048 2 Ultrium 448 Drive Library AG321A</p> <p>HP StorageWorks MSL4048 1 Ultrium 960 Drive Library AG322A</p> <p>HP StorageWorks MSL4048 2 Ultrium 960 Drive Library AG323A</p> <p>HP StorageWorks MSL6000 Tape Library</p> <p>Ultrium 960 technology</p> <p>HP StorageWorks MSL6030 1 Ultrium 960 Dr LVDS Library AD606B</p> <p>HP StorageWorks MSL6030 1 Ultrium 960 Dr FC Library AD608B</p> <p>HP StorageWorks MSL6030 2 Ultrium 960 Dr LVDS Library AD607B</p> <p>HP StorageWorks MSL6030 2 Ultrium 960 Dr FC Library AD609B</p> <p>Ultrium 460 technology</p> <p>HP StorageWorks MSL6030 1 Ultrium 460 Dr LVDS Library AD598B</p> <p>HP StorageWorks MSL6030 1 Ultrium 460 Dr FC Library AD600B</p> <p>HP StorageWorks MSL6030 2 Ultrium 460 Dr LVDS Library AD599B</p> <p>HP StorageWorks MSL6030 2 Ultrium 460 Dr FC Library AD601B</p> <p>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.</p>
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HP Data Protector Express Software	<p>HP DP Express Backup Server Upgrade for ProLiant Software BB117AP</p> <p>HP DP Express Package for Microsoft Small Business Server BB118AA</p> <p>NOTE: Please see the HP Data Protector Express QuickSpecs for additional information regarding the purchase of HP Data Protector Express software: http://h18000.www1.hp.com/products/quickspecs/12337_div/12337_div.html (Worldwide)</p> <p>NOTE: To obtain a free licensed copy of HP Data Protector Express for ProLiant edition software, please visit the "Protect Your Data" link accessible from your ProLiant server's System Management Homepage (SMH) software (SmartStart 7.5 or later).</p>
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Options

Cluster Options	<p>ProLiant Cluster Starter Kit 364023-B21</p> <p>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)</p> <p>ProLiant Cluster HA/F200 for the Entry Level SAN 364026-B22</p> <p>ProLiant Cluster HA/F200 for the Entry Level SAN (Japan) 364026-292</p> <p>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)</p> <p>ProLiant Cluster HA/F500 for the Enterprise SAN 364024-B21</p> <p>NOTE: For additional information regarding the ProLiant Cluster HA/F500 for Enterprise SAN please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11933_div/11933_div.html (Worldwide)</p> <p>NOTE: For configuration/certification options for the HP Parallel Database Cluster for Oracle RAC please go to: http://www.hp.com/solutions/highavailability/oracle</p> <p>HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 and Red Hat EL 3 & 4 (2 node license cluster kit) 305199-B26</p> <p>HP Serviceguard for Linux A.11.16 for SUSE SLES9 and Red Hat EL 3 & 4 (single license version) 307754-B26</p> <p>HP Serviceguard for Linux and Red Hat Global File System - 1 year subscription T2798AA#001</p> <p>HP Serviceguard for Linux and Red Hat Global File System - 3 years subscription T2798AA#003</p> <p>NOTE: For additional information regarding the HP Serviceguard for Linux License, please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11518_div/11518_div.html (Worldwide)</p> <p>NOTE: For configuration/certification options for HP Serviceguard for Linux please go to: http://www.hp.com/info/sglx</p>
HP StorageWorks Modular Smart Array 20	<p>HP StorageWorks Modular Smart Array 20 335921-B21</p> <p>NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.</p> <p>HP StorageWorks Modular Smart Array 20 Starter Kit 366172-B21</p> <p>NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies. Includes Smart Array 6402/128 Controller.</p> <p>NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 3.5" Hot Plug Hard Drives.</p>
HP StorageWorks Modular Smart Array 30	<p>HP StorageWorks Modular Smart Array 30 SB 302969-B21</p> <p>NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies</p> <p>HP StorageWorks Modular Smart Array 30 DB 302970-B21</p> <p>NOTE: Rack-mountable 14 drive enclosure with dual bus, redundant power supplies</p> <p>NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 Hot Plug Hard Drives.</p>

Options

HP StorageWorks Modular Smart Array 500	HP StorageWorks Modular Smart Array 50 Enclosure NOTE: Supported by the SAS Models only. 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)	364430-B21
HP StorageWorks Modular Smart Array 500 G2	HP StorageWorks Modular Smart Array 500 Generation 2 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)	335880-B21
HP StorageWorks Modular Smart Array 1000	HP StorageWorks Modular Smart Array 1000 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)	201723-B22
HP StorageWorks Modular Smart Array 1500 cs	Modular Smart Array 1500 Controller Shelf NOTE: Please see the StorageWorks Modular SAN Array 1500 cs QuickSpecs for additional options and configuration information at: http://www.hp.com/go/MSA1500cs	AA986A
StorageWorks Options	<p>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</p> <p>StorageWorks 2 Gb, 64-bit/133 MHz PCI-X-to-Fibre Channel Host Bus Adapter for Windows, Linux and Netware 281541-B21</p> <p>StorageWorks 2 Gb, Dual Port, 64-Bit/133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows, Linux and Netware 321835-B21</p> <p>HP StorageWorks 2 Gb, single channel, 133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows and Linux A7388A</p> <p>HP StorageWorks 2 Gb, dual channel, 133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows and Linux A7387A</p> <p>HP StorageWorks FC2142SR 4Gb PCI-E HBA for Windows and Linux A8002A</p> <p>HP StorageWorks FC2242SR Dual Channel 4 Gb PCI-E HBA for Windows and Linux A8003A</p> <p>HP StorageWorks FC1142SR 4Gb PCI-E HBA for Windows and Linux AE311A</p> <p>HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-E HBA for Windows and Linux AE312A</p> <p>HP StorageWorks FC2143 4Gb PCI-X 2.0 HBA for Windows and Linux AD167A</p> <p>HP StorageWorks FC2243 4Gb PCI-X 2.0 DC HBA for Windows and Linux AD168A</p>	

Options

Uninterruptible Power Systems - Rack	HP UPS R1500 XR (100 to 127) (NA)	204404-001
	HP UPS R1500 XR (208 to 480) (Int'l)	204404-B31
	HP UPS R1500 XR (100 to 127) (Japan)	204404-291
	HP UPS R3000 XR (120V) (NA)	192186-001
	HP UPS R3000 XR (208V) (NA)	192186-002
	HP UPS R3000 XR (100V) (Japan)	192186-291
	HP UPS R3000 XR (208V) (Japan) HP UPS R3000 XR (200V) (Japan)	192186-292
	HP UPS R3000 XR (230V) (Int'l - detachable cord)	192186-B31
	HP UPS R3000 XR (230V) (16A IEC309 Plug)	192186-B32
	HP UPS R3000 XR (230V) (16A CEE 7/7 SCHUKO Plug)	192186-B33
	HP UPS R3000 XR (230V) (16A BS-546 Plug)	192186-AR1
	HP R3000 VA UPS, 2U, DTC, INTL	AF414A
	NOTE: Replaces non-RoHs compliant part numbers 192186-B31, 192186-B32, 192186-B33, 192186-AR1.	
	HP R3000 VA UPS, 2U, L5-30, NA	AF422A
	NOTE: Replaces non-RoHs compliant part number 192186-001.	
	HP R3000 VA UPS, 2U, L6-20, NA	AF423A
	NOTE: Replaces non-RoHs compliant part number 192186-002.	
	HP R3000 VA UPS, 2U, L6-20, JPN	AF424A
	NOTE: Replaces non-RoHs compliant part number 192186-292.	
	HP R3000 VA UPS, 2U, L5-30, JPN	AF425A
NOTE: Replaces non-RoHs compliant part number 192186-291.		
HP UPS R5500 XR, (5000VA, 4500 Watt), High Voltage (NA/Jpn)	326529-D71	
HP UPS R5500 XR, (6000VA, 5400 Watt), High Voltage (Int'l)	326529-B31	
HP R5500 VA UPS, INTL	AF416A	
NOTE: Replaces non-RoHs compliant part number 326529-B31.		
HP R5500 VA UPS, NA/JPN	AF426A	
NOTE: Replaces non-RoHs compliant part number 326529-D71.		
HP UPS R12000 XR N+x (200-240V) (WW-hardwired)	207552-B22	
NOTE: The UPS R12000 XR has a hardwired input and output connection.		

HP Monitored Power Distribution Unit (PDU)	HP Monitored Power Distribution Unit: Full Rack Version	
	HP 17.3 kVA S2324 Monitored PDU- dual input, 3-phase, 24A (NA/JPN)	370959-D71
	HP 8.3 kVA S1324 Monitored PDU- single input, 3-phase, 24A (NA/JPN)	370960-D71
	HP 16.6 kVA S2140 Monitored PDU- dual input, 1-phase, 40A (NA/JPN)	370961-D71
	HP 8.6 S1140 Monitored PDU- single input, 1-phase, 40A (NA/JPN)	370962-D71
	HP 22.1 kVA S2316 Monitored PDU- dual input, 3-phase, 16A (INTL)	370963-B31
	HP 11 kVA S 1316 Monitored PDU- single input, 3-phase, 16A (INTL)	370964-B31
	HP 14.7 kVA S2132 Monitored PDU- dual input, 1-phase, 32A (INTL)	370965-B31
	HP 7.4 kVA S1132 Monitored PDU- single input, 1-phase, 32A (INTL)	370966-B31

Options

Modular Power Distribution Units 1U/0U (Up to 32 outlets) NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	HP Modular Power Distribution Units (mPDU), Low Volt Model, 24A (100-127 VAC) (NA, Japan) NOTE: This mPDU (252663-D71) may also be used to connect the low volt model of the UPS R3000 XR.	252663-D71
	HP Modular Power Distribution Units (mPDU), High Volt Model, 24A (200-240 VAC) (NA, Japan)	252663-D72
	HP Modular Power Distribution Units (mPDU), High Volt Model, 32A (200-240 VAC) (Int'l)	252663-B31
	HP Modular Power Distribution Units (mPDU), High Volt Model, 40A (200-240 VAC) (WW)	252663-B21
	HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW) NOTE: This PDU has a detachable input power cord and allows for adaptability to country specific power requirements. This model may also be used with the high volt UPSs R3000 XR and R6000 For North America, need to order cable PN 340653-001.	252663-B24
	HP Modular Power Distribution Unit (mPDU), High Volt Model, 40A, Attached Cord, (NA/JPN)	252663-D73
	HP Modular Power Distribution Unit (mPDU), High Volt Model, 40A, Attached Cord, (Int'l) 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)	252663-B32
USB Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
Third Party Rack Adapter Kit (for wide racks)	Rack Adapter Kit NOTE: Not required for most racks. This kit allows HP rack servers to fit in racks that are 24" wide.	332815-B21
Rack Shipping Kit	ProLiant DL380 G4, ML370 G4, ML350 G4 Shipping Bracket for Round Hole Racks NOTE: Required when shipping HP ProLiant DL380 G4, HP ProLiant ML370 G4, or the HP ProLiant ML350 G4 pre-installed in round hole rack. Square hole pre-configured rack shipping hardware included with server mounting rails.	371482-B21
HP Rack 5000 Series (Graphite Metallic)	HP 5642 Rack-Unassembled 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 .	358254-B21

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
	10642 G2 (42U) Rack Cabinet, without door - Shock Pallet	AF005A
	10642 G2 (42U) Rack Cabinet - with Extension, without door - Shock Pallet	AF006A
	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
	10636 G2 (36U) Rack Cabinet, without door - Shock Pallet	AF015A
	10636 G2 (36U) Rack Cabinet, with Extension, without door - Shock Pallet	AF016A

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)	10642 (42U) Infrastructure Rack (Low Voltage)	379006-001
	10642 (42U) Infrastructure Rack (High Voltage)	379005-001
	HP S10614 (14U) Rack Cabinet - Shock Pallet	292302-B22
	HP 10842 (42U) Rack Cabinet - Pallet	257415-B21
	HP 10842 (42U) Rack Cabinet - Shock Pallet	257415-B22
	HP 10647 (47U) Rack Cabinet - Pallet	245160-B21
	HP 10647 (47U) Rack Cabinet - Crated	245160-B23
	HP 10642 (42U) Rack Cabinet - Pallet	245161-B21
	HP 10642 (42U) Rack Cabinet - Shock Pallet	245161-B22
	HP 10642 (42U) Rack Cabinet - Crated	245161-B23
	HP 10636 (36U) Rack Cabinet - Pallet	245162-B21
	HP 10636 (36U) Rack Cabinet - Shock Pallet	245162-B22
	HP 10636 (36U) Rack Cabinet - Crated	245162-B23
	HP 10622 (22U) Rack Cabinet - Pallet	245163-B21
	HP 10622 (22U) Rack Cabinet - Shock Pallet	245163-B22
	HP 10622 (22U) Rack Cabinet - Crated	245163-B23

NOTE: xxxxx-B21 (pallet) used to ship empty racks shipped on a truck. -B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels). xxxxx-B23 (crated) used for air shipments of empty racks.

NOTE: It is mandatory to use a shock pallet in order to ship racks with equipment installed.

Options

NOTE: Please see the Rack 10000 QuickSpecs for additional options and 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>

Keyboards and Monitors	TFT7210R Rack Mounted 17" Monitor	348373-B21
	NOTE: For a complete list of Monitors please view the following URL: http://www.hp.com/go/kvm	
	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 Options, 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.	
	IP Console Switch Box (KVM/IP), 3 x 1 x 16	262586-B21
	IP Console Switch Box (KVM/IP), 3 x 1 x 16	262586-B21
	IP Console Switch Box (KVM/IP), 1 x 1 x 16	262585-B21
	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 1x 4 USB/PS2 KVM Switch, TT (NA/JPN)	371301-D71
	HP 1x 4 USB/PS2 KVM Switch, TT (AU/NZ)	371301-011
	HP 1x 4 USB/PS2 KVM Switch, TT (UK)	371301-031
	HP 1x 4 USB/PS2 KVM Switch, TT (EU)	371301-A21
	HP 1x 4 USB/PS2 KVM Switch, RM (ALL)	371302-B21
HP PS2 KVM Cable with audio, 6', 2-pack	371730-B21	
HP USB KVM Cable with audio, 6', 2-pack	371729-B21	
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 On-site Service	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4544E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4545E
	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	U4546E
	Installation & Start-up Services	
	Hardware Installation, Electronic	U4554E
	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	U4555E
	Installation and Startup for Essentials Rapid Deployment Pack, Electronic	U5683E
	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	U4556E
	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	U4557E	
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	U6312E	
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	U8334E	

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".

HP ProLiant Model DL380 Generation 4 (G4) Base (1P) Models

Standard Memory

1 GB PC2 3200 DDR2 SDRAM running at 400MHz comes installed (2 x 512 MB SDRAM)

Standard Memory Plus Optional Memory

Up to 9 GB memory is available with the optional installation of PC2 3200 Registered DDR2 SDRAM DIMM Memory Option Kit

Standard Memory Replaced with Optional Memory

Up to 12 GB of memory is available with the removal of the standard 512 MB of memory and the optional installation of PC2 3200 Registered DDR2 SDRAM DIMM Memory Option Kit

NOTE: Chart does not represent all possible memory configurations.

Memory		Slot					
		1	2	3	4	5	6
Standard	1 GB	512 MB	512 MB	Empty	Empty	Empty	Empty
Optional	9 GB	512 MB	512 MB	2 GB	2 GB	2 GB	2 GB
Maximum	12 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 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.

Following are the single-rank memory options available from HP:

- 1 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 512 MB) 343055-B21
- 2 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 1024 MB) 343056-B21
- 4 GB of Single-Ranked PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 2048 MB) 343057-B21
- 4 GB of 2-Rank Advanced ECC PC3200 DDR2-400 SDRAM DIMM Memory Kit (2 x 2048 MB) 375004-B21

HP ProLiant Model DL380 Generation 4 (G4) High Performance (2P) Model

Standard Memory

2 GB PC2 3200 DDR2 SDRAM running at 400MHz comes installed (2 x 1024 MB SDRAM)

Standard Memory Plus Optional Memory

Up to 10 GB memory is available with the optional installation of PC2 3200 Registered DDR2 SDRAM DIMM Memory Option Kit

Standard Memory Replaced with Optional Memory

Up to 12 GB of memory is available with the removal of the standard 512 MB of memory and the optional installation of PC2 3200 Registered DDR2 SDRAM DIMM Memory Option Kit

NOTE: Chart does not represent all possible memory configurations.

Memory		Slot					
		1	2	3	4	5	6
Standard	2 GB	1024 MB	1024 MB	Empty	Empty	Empty	Empty
Optional	10 GB	1024 MB	1024 MB	2 GB	2 GB	2 GB	2 GB
Maximum	12 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB

Memory

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.

Following are the single rank memory options available from HP:

- 1 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 512 MB) 343055-B21
- 2 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 1024 MB) 343056-B21
- 4 GB of Advanced PC2 PC3200 DDR2 SDRAM DIMM Memory Kit (2 x 2048 MB) 343057-B21

HP ProLiant Model DL380 Generation 4 (G4) Dual Rank Support:

Following is the dual rank memory option available from HP:

- 4 GB of 2-Rank Advanced ECC PC3200 DDR2-400 SDRAM DIMM Memory Kit (2 x 2048 MB) 375004-B21

Following are the single/dual rank memory population rules for the HP ProLiant DL380 G4.

Key: S denotes single rank kit, D denotes Dual rank kit, and X denotes no install.

Bank A	Bank B	Bank C	NOTES:
S	X	X	
S	S	X	
S	S	S	
D	X	X	Online spare not supported
D	S	X	Online spare not supported
D	S	S	Online spare not supported
D	D	X	Online spare not supported

Storage



- 0 - 5 Six Ultra320 SCSI hot plug hard drive bays
- A 1.44-MB Diskette Drive
- B 24x IDE CD-ROM (Universal Media Bay)
- C Six Ultra320 SCSI hot plug hard drives or for five hot plug hard drives and one DAT 40 or DAT 72 hot plug tape drive



- 1-8 Eight SFF SAS hot plug hard drive bays

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
1.44-MB Diskette Drive	1	A	Integrated IDE NOTE: Optional except on high performance models
IDE CD-ROM Drive	1	B	Integrated IDE NOTE: Standard on base models
Slimline DVD-ROM (8x24x) Option Kit (Servers)	1	B	Integrated IDE NOTE: Standard on high performance models

Hard Drives

Ultra320 SCSI - Hot Plug Drives

	Quantity Supported	Position Supported	Controller
300GB U320 10K	Up to 6	0-5	Smart Array 6i Controller (integrated on system board)
146.8GB U320 10K			Smart Array 6402/128 Controller
72.8GB U320 10K			Smart Array 6404/256 Controller
146.8GB U320 10K			Smart Array 641 Controller
72.8GB U320 10K			Smart Array 642 Controller
36.4GB U320 10K			

NOTE: All U320 Universal Hard Drives are backward compatible to U2 or U3 speeds.

SFF SATA - Hot Plug Drives

	Quantity Supported	Position Supported	Controller
60GB 1.5G SATA 5.4K	Up to 8	0-7	Smart Array P600 Controller

Storage

SFF SAS - Hot Plug Drives

	Quantity Supported	Position Supported	Controller
36GB 3G 10K 72GB 3G 10K	Up to 8	1-8	Smart Array P600 Controller

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 20	1 per SCSI VHDCI connector	External	Smart Array 6i Controller Smart Array 6402/128 Controller Smart Array 6404/256 Controller
Modular Smart Array 30	1 per SCSI VHDCI connector	External	Smart Array 6i Controller Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
Modular Smart Array 50 Enclosure	2 per connector (supports 1+1 cascading)	External	HP Smart Array P600 Controller
Modular Smart Array 500 G2	1 per SCSI	External	Smart Array 6i Controller 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 link below to determine configuration requirements	External	Please see the Modular Smart Array 1500 QuickSpecs (URL below) for the latest list of supported HBAs
Modular Smart Array 1000	Please see the Modular Smart Array 1000 QuickSpecs link below to determine configuration requirements	External	Please see the Modular Smart Array 1000 QuickSpecs (URL below) for the latest list of supported HBAs

Modular Smart Array 1000: http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML (Worldwide)

Modular Smart Array 1500: <http://www.hp.com/go/MSA1500cs>

Maximum Storage Capacity - (Enclosure SCSI Attached)

Internal	1.80TB (6 x 300GB Ultra320)
External	54.60TB (13 x (14 x 300GB Ultra320))
Total	58.20TB

Storage

Maximum Storage Capacity - (SAS Models with MSA50)

Internal	576GB (8 x 72GB SAS)
External	1.44TB (20 x 72GB SAS)
Total	1.728TB (4 x 72GB int. + 20 x 72GB ext.)

Tape Drives, Tape Autoloaders, & Tape Libraries

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: 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:

	Quantity Supported	Position Supported	Controller
HP StorageWorks Tape Drives, Hot Plug DAT 40 Hot Plug DAT 72 Hot Plug	1	C	Smart Array 6i Controller (integrated on system board)
HP StorageWorks Tape Drives, External DAT 24 USB DAT 40 USB DAT 72 USB	1	External	USB Port
HP StorageWorks Tape Drives, External Ultrium 960 SDLT 600	1 per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Tape Drives, Internal Ultrium 232 Ultrium 448 Ultrium 460 DAT 72 DAT 40 DAT 24 DLT VS80 DLT VS160 SDLT 320	Up to 2	Rack-mount enclosure	Smart Array 6i Controller (integrated on system board) NOTE: Ultrium 960, Ultrium 448 and Ultrium 232 require one of the following HBA's: 64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2

Storage

HP StorageWorks Tape Drives, Internal Ultrium 960 SDLT 600	Up to 1	Rack-mount enclosure	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Tape Drives, External Ultrium 232 Ultrium 448 Ultrium 460 DAT 24 DAT 40 DAT 72 DLT VS80 DLT VS160 SDLT 320	Up to 2	External	Smart Array 6i Controller (integrated on system board) NOTE: The Ultrium 960, Ultrium 448, Ultrium 232 and all DAT drives require one of the following options: 64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Tape Drives, External Ultrium 960 SDLT 600	1 per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Rack-mount Tape Drive Enclosures 1U Rack-Mount Kit 3U Rack-Mount Kit 5U Rack-Mount Kit	1 per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Autoloaders, External 1/8 Tape Autoloader	1 autoloader per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Tape Libraries, External MSL2024 (Ultrium 448 and 960-based) MSL4048 (Ultrium 448 and 960-based) MSL6000 (Ultrium 960 and 460-based) MSL6000 (SDLT 600-based) MSL5026S2 (SDLT 320-based) MSL5052S2 (SDLT 320-based)	Please reference the MSL Tape Library QuickSpecs to determine configuration requirements	External	Please consult the EBS connectivity matrix at http://www.hp.com/go/ebs for detailed connectivity information

Power Specifications

Power Supply Specification	Part number		321632-001			
	Spare Kit		355892-B21			
Operational Input Voltage Range (Vrms)	90 - 264					
Frequency Range (Nominal) (Hz)	47 - 63 (50 / 60)					
Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	575	575	575	575	575	575
Nominal Input Current (A rms)	7.4	6.4	3.4	3.2	3.1	2.9
Max Rated Input Wattage Rating (Watts)	728	719	701	693	693	693
Max. Rated VA (Volt-Amp)	743	733	716	707	707	707
Efficiency (%)	79	80	82	83	83	83
Power Factor	0.98					
Leakage Current (mA)	0.31	0.36	0.65	0.69	0.72	0.75
Max. Inrush Current (A peak)	35	35	35	35	35	35
Max. Inrush Current duration (mS)	2-3					
Power cord requirements	Nema 5-15P to IEC320-C13 Option no. / Spare no: See chart on Page 2					
	IEC320-C13 to IEC320-C14 Option no. / Spare no.: 142259-001/142258-B21					

NOTES:

- 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: DL380 G4
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

# - Power cords (13 Cord Sets)	Country	Power Cord Part Number
	APD	139867-006
	APD	100613-003
	APD	100614-003
	Australia	100611-007
	Europe	100614-003
	France	100614-003
	Germany	100614-003
	Japan	139867-006
	PRC	139867-006
	PRC	100613-003
	PRC	100661-007
	UK	100613-003
	US	163719-002

Technical Specifications

System Unit	Dimensions (HxWxD) (with feet/bezel)	3.38 x 17.54 x 26.01 in (8.59 x 44.54 x 66.07 cm)
	Weight (approximate)	Maximum 60 lb (27.22 kg) No drives: 47.18 lb (20.41 kg)
	Input Requirements (per power supply)	Rated Input Voltage 100-132 VAC, 200-240 VAC Rated Input Current 7.5A (100VAC), 3.8A (200VAC) Rated Input Frequency 50 to 60 Hz Rated Input Power 735 W
	BTU Rating	2508 BTU/HR
	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/powercalcs.asp . To drill down to calculators: - Click on: "ProLiant Servers" - Click on the Server of interest. Example: DL380 G4 - Click on: "Power Calculator" link. (You may need to scroll down to see it.)
	SCSI Connectors	One external VHDCI connector
	Power Supply Output Power (per power supply)	Rated Steady-State Power 575W Maximum Peak Power 575W
	Temperature Range NOTE: All temperature ratings shown are for sea level. An altitude derating of 1 C° per 300 m (1.8 FR per 1000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed.	Operating 50° to 95° F (10° to 35° C) Shipping -40° to 158° F (-40° to 70° C)
	Maximum Wet Bulb Temperature	82.4° F (28° C)
	Relative Humidity (non-condensing) NOTE: Storage maximum humidity of 95% is based on a maximum temperature of 45°C (113°F). Altitude maximum for storage corresponds to a pressure minimum of 70 kPa.	Operating 10% to 90% Shipping 5% to 95%

Technical Specifications

Acoustic Noise	Idle Minimum (Fixed Disk Drives Spinning)	
	L WAd (BELS)	7.4
	L pAm (dBA)	58
	Operating Minimum (Random Seeks to Fixed Disks)	
	L WAd (BELS)	7.4
	L pAm (dBA)	58

Smart Array 6i Controller (Ultra320), Integrated	Data Compatible with all Smart Array Controllers	Yes
	Instant Upgrades to other Smart Array Controllers	Yes
	Consistent Software Manageability Tools	Yes
	PCI-X Bus	64-bit up to 133 MHz (integrated on system board)
	Electrical Protocol	Low Voltage Differential (LVD)
	SCSI Protocols Supported	Ultra 320, Ultra3, Ultra2
	SCSI Peak Data Transfer Rate	320 MB/s per channel
	Channels	Two 68-Pin Wide-Ultra SCSI-3 connectors
	SCSI Ports (external/internal)	1/2 NOTE: The HP ProLiant DL380 G4 external SCSI port can only be used if PORT 1 of the system board is NOT connected to the internal SCSI backplane.
	Logical Drives Supported	Supports up to 32 RAID volume
	Cache	64 MB Read Cache
	Battery-Backed Write Cache	Yes, with installation of Battery-Backed Write Cache Enabler, up to 128MB
	RAID Support	0, 1, 1+0, 5
	Online Configuration	Yes
	Online Capacity Expansion	Yes
	Logical Drive Capacity Extension	Yes
	Online Stripe Size Migration	Yes
	Online RAID Level Migration	Yes
	Online Spare Support	Yes
	Automatic Data Recovery	Yes
Drive Roaming	Yes	
Redundant Controllers	No	

Technical Specifications

Smart Array P600 Controller (SAS models only)	Disk Drive and Enclosure Protocol Support Architecture	3 Gbps SAS (Serial Attached SCSI) 1.5 Gbps SATA (Serial AT Attachment) 1.5 Gb SATA
	SAS Connectors	1 internal SFF8484 & 1 external SFF8470 / internal SFF8484 shared x4 Wide SAS Ports 12 Gbps per x4 Wide SAS Port (4 x 3 Gbps)
	Data Transfer Method	64-bit wide, PCI-X 133 MHz (1 GB/s maximum bandwidth)
	PCI Bus Speed	PCI-X-133 and 3.3 volt PCI compatibility only
	Memory Bus Speed	DDR-266 and 72 bit wide bus
	PCI	64-bit, 133-MHz PCI-X (1 GB/s maximum bandwidth)
	Simultaneous Drive Transfer Ports	PCI-X and 3.3 volt PCI compatibility only
	Port Transfer Rate	2 x4 Wide SAS Ports
	Software upgradeable Firmware	12 Gb/s per x4 Wide SAS Port (4 x 3 Gb/s)
	Cache Memory	Yes
	Logical Drives Supported	256 MB Read/Write (512-MB module upgrade available); ECC protection, battery-backed, and removable
	Maximum Capacity	Up to 32 logical drives Up to 2.2 TB per logical drive
	Memory Addressing	2.7 TB (38 x 72 GB) 64-bit, supporting servers memory greater than 4 GB
	RAID Support	RAID 6 (Advanced Data Guarding) RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping & Mirroring) RAID 0 (Striping)
	Upgradeable Firmware	4-MB flashable ROM
	Disk Drive and Enclosure Protocol Support	3 Gb SAS and 1.5 Gb SATA

Technical Specifications

Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit network adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	64-bit bus-master PCI-X	
	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	Two RJ-45		
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
	100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	
	1000BaseTX	Category 5 or higher UTP; up to 328 ft (100 m)	

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