Overview

SCSI Model shown above

1. Quick removal access panel
2. AMD 200 series Opteron processor
3. Smart Array 6i Ultra320 array controller with optional 128MB Battery Backed Write Cache (BBWC) OR P600 SAS controller in a PCI slot for SAS models
4. Three PCI-X non hot plug expansion slots
5. Hot-plug fans, full redundancy option
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
9. Optional 1.44 MB (3.5") Diskette Drive
10. Support for up to 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 OR on SAS Model support up to eight Small Form Factor (SFF) SAS drive (Internal tape is not supported on SAS models)
11. USB port (USB 1.1 Support)
12. Hot plug power supply, redundancy option
13. Eight PC3200 400MHz DDR Sockets

Overview

What's New

The DL385 introduces a new processor speed:

- Support for model 285 (2.6 GHz), which is a dual-core processor and is supported on both SCSI and SAS models

At a Glance

The HP ProLiant DL385 delivers on the DL380's history of design excellence with enterprise-class uptime and manageability, proven 2-way AMD Opteron performance, and 2U density for a variety of rack deployments and applications.

Introducing the HP ProLiant DL385 now with the latest performance technologies

SCSI and SAS Models

- AMD chipset
- 1 GB PC3200 400MHz DDR Memory (2 x 512 MB)
- Hot Plug Fans with optional full redundancy
- Hot Plug Power Supply with optional redundancy
- Tool-less access to all system components for easy in rack serviceability
- Three available 64-bit PCI-X slots, including two non-hot plug 100MHz slots and one non-hot-plug 133MHz slot
- NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
- Optional dual channel drive backplane (2/4 split)
- Optional floppy disk drive
- 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
- 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 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.

SCSI Models

- Up to two AMD Opteron processors model 285 (2.6 GHz dual-core), 280 (2.4 GHz dual-core), 275 (2.2 GHz dual-core), 270 (2.0 GHz dual-core), 265 (1.8 GHz dual-core), 254 (2.8 GHz single-core), 252 (2.6 GHz single-core) and 250 (2.4 GHz single-core) with 1MB L2 cache per core
- Integrated Ultra320 Smart Array 6i Controller with 64MB RAM and optional 128MB Battery-Backed Write Cache (BBWC) Enabler option kit
- Support for up to six Ultra320 SCSI hot plug hard drives or for five hot plug hard drives and one DAT hot plug tape drive
- Internal hot plug capacity 1.8TB standard (6 x 300GB U320 HDD)

SAS Models

- Up to two AMD Opteron processors model 285 (2.6 GHz dual-core), 280 (2.4 GHz dual-core), 275 (2.2 GHz dual-core) and 265 (1.8 GHz dual-core) with 1MB L2 cache per core
- Smart Array P600 controller in PCI slot with 256 MB battery-backed write cache
- Support for up to eight SFF SAS hot plug hard drives (internal tape not supported)
- Internal hot plug capacity 576GB standard (8 x 72GB SAS HDD)

Standard Features

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

Processor One of the following depending on model	Dual-Core AMD Opteron 285 (2.6 GHz/1MB) Dual-Core AMD Opteron 280 (2.4 GHz/1MB) Dual-Core AMD Opteron 275 (2.2 GHz/1MB) Dual-Core AMD Opteron 270 (2.0 GHz/1MB) Dual-Core AMD Opteron 265 (1.8 GHz/1MB) Single-core AMD Opteron 254 (2.8 GHz/1MB) Single-core AMD Opteron 252 (2.6 GHz/1MB) Single-core AMD Opteron 250 (2.4 GHz/1MB)

Cache Memory	1MB Level 2 cache per core

Upgradeability	Upgradeable to dual processing

Chipset	AMD Opteron 8000 series Chipset

Memory Protection	Advanced ECC

Memory One of the following depending on model	Type Standard Maximum	PC3200 400MHz DDR 1024 MB (2 x 512 MB) 16 GB using PC3200 32 GB using PC2700 (4 GB DIMMS)

Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)

PCI-X Non Hot-Plug Riser

Expansion Slots

Slot Number	Bus Speed	Bus Number*	Device Number**	Hot Plug	PCI Voltage
1	64-bit/100MHz PCI-X	5	7	no	3.3 Volt
2	64-bit/100MHz PCI-X	5	8	no	3.3 Volt
3	64-bit/133MHz PCI-X	6	9	no	3.3 Volt

*NOTE: Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.
**NOTE: Slots are enumerated differently based on OS. 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/pci-x.

Standard Features

Storage Controller	SCSI Models - Smart Array 6i Controller (integrated on system board)	
One of the following depending on model	SAS Models - Smart Array P600 controller in PCI slot with 256MB battery-backed write cache	

Storage	Diskette Drive	1.44 MB Diskette Drive (optional)
	Optical Drive	24x IDE CD-ROM
	Hard Drives	None Standard
		NOTE: The system 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 SCSI	1.80TB	6 x 300GB with standard internal hot plug drive cage
	Hot Plug SAS	576GB	8 x 72GB with standard internal hot plug small form factor SAS drive cage

Interfaces	Serial	1
	Pointing Device (Mouse)	1
	Graphics	1
	Keyboard	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.

Graphics	Integrated ATI Rage XL Video Controller with 8-MB SDRAM Video Memory

Form Factor	Rack (2U), (3.5-inch)

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.

Standard Features

SmartStart	SmartStart is a tool that simplifies server setup, providing a rapid way to deploy reliable and consistent server configurations. For more information, please visit the SmartStart Web site at: http://www.hp.com/servers/smartstart SmartStart version supported (minimum): SmartStart 7.20
Management Agents	The 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
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:

- Rapid Deployment Pack - an automated solution for multi-server deployment and provisioning, enabling companies to quickly and easily adapt to changing business demands.
- 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.

Standard Features

- 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).

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 1.1 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 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)
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

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

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.

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).

Required Cabling

For required cabling information, refer to the Web site at:
http://h18000.www.1.hp.com/products/servers/proliantdl385.

OS Support

Microsoft Windows Server 2000
Microsoft Windows Server 2003
Novell NetWare
LINUX (Red Hat, SuSE)
VMware Virtualization Software
Solaris 10 32/64-bit

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 ProLiant DL385, 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.

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.

Standard Features

Rack Kit	The DL385 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.
Telco Rack Support	DL385 Telco Rack Kit: Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions (http://www.racksolutions.com/hp/)
Factory Express Portfolio for Servers and Storage	HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSA1000, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches. For more information on Factory Express services for your specific server model please contact your sales representative or go to http://www.hp.com/go/factory-express.
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

Standard Features

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.
- 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

QuickSpecs

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.

DL385R01 O2.6 GHz-1MB, 1GB (Dual-core/SCSI) 407613-xx1		
	Processor(s)	(1) Dual-core AMD 285 (2.6 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache per core
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

DL385R01 O2.6 GHz-1MB, 1GB (Dual-core/SAS) 407615-xx1		
	Processor(s)	(1) Dual-core AMD 285 (2.6 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache per core
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array P600 controller in PCI slot with 256MB battery-backed write cache
	Hard Drive	None ship standard
	Internal Storage	576GB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

DL385R01 O2.4 GHz-1MB, 1GB (Dual-core/SCSI) 399684-xx1		
	Processor(s)	(1) Dual-core AMD 280 (2.4 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache per core
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

Models

DL385R01 O2.2 GHz-1MB, 1GB (Dual-core/SCSI) 391112-xx1	Processor(s)	(1) Dual-core AMD 275 (2.2 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache per core
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

DL385R01 O2.0 GHz-1MB, 1GB (Dual-core/SCSI) 391111-xx1	Processor(s)	(1) Dual-core AMD 270 (2.0 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache per core
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

DL385R01 O1.8 GHz-1MB, 1GB (Dual-core/SCSI 391110-xx1	Processor(s)	(1) Dual-core AMD 265 (1.8 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache per core
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

Models

DL385R01 O2.2 GHz-1MB, 1GB (Dual-core/SAS) 391109-xx1		
	Processor(s)	(1) Dual-core AMD 275 (2.2 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache per core
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array P600 controller in PCI slot with 256MB battery-backed write cache
	Hard Drive	None ship standard
	Internal Storage	576GB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

DL385R01 O1.8 GHz-1MB, 1GB (Dual-core/SAS) 391108-xx1		
	Processor(s)	(1) Dual-core AMD 265 (1.8 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache per core
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array P600 controller in PCI slot with 256MB battery-backed write cache
	Hard Drive	None ship standard
	Internal Storage	576GB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

DL385R01 O2.8 GHz-1MB, 1GB (Single-core) 398370-xx1		
	Processor(s)	(1) Single-core AMD 254 (2.8 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

Models

DL385R01 O2.6 GHz-1MB, 1GB (Single-core) 376138-xx1	Processor(s)	(1) Single-core AMD 252 (2.6 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

DL385R01 O2.4 GHz-1MB, 1GB (Single-core) 373545-xx1	Processor(s)	(1) Single-core AMD 250 (2.4 GHz) Opteron Processor standard
	Cache Memory	1MB Integrated Level 2 Cache
	Memory	1 GB PC3200 400MHz DDR Memory
	Network Controller	NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)
	Storage Controller	Smart Array 6i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	1.8TB
	Optical Drive	24x IDE CD-ROM
	Diskette Drive	Optional
	Form Factor	Rack (2U), (3.5-inch)

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.

Step 1: Base Configuration

Models	HP ProLiant DL385 Rack CTO Chassis, NA (SCSI)	382608-405

Factory Integrated Model ships with:

NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)

Ultra320 Smart Array 6i Controller (integrated on system board)

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)

	HP ProLiant DL385 Rack CTO Chassis, NA (SAS)	393622-405

Factory Integrated Model ships with:

NC7782 Dual Port PCI-X Gigabit Server Adapter (embedded)

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)

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

SAS Controller	HP Smart Array P600 Controller	337972-B21

NOTE: This is a required selection if one of the two following SAS Starter Kits is not selected. If choosing this part number, 2.5" SAS hard drives must still be selected under Step 4.

SAS Starter Kit	SAS Starter Kit - 36GB	396221-B21

NOTE: Includes Smart Array P600 Performance Array Controller with 256MB BBWC and (2) 36GB SFF SAS Universal Hard Drives.

	SAS Starter Kit - 72GB	396220-B21

NOTE: Includes Smart Array P600 Performance Array Controller with 256MB BBWC and (2) 72GB SFF SAS Universal Hard Drives.

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	Dual-core AMD® O285 2.6/1000-1M DL385 FIO Base	407624-L21
	NOTE: If two processors are desired, select one -L21 and one 407624-B21.	
	Dual-core AMD® O280 2.4/1000-1M DL385 FIO Base	399692-L21
	NOTE: If two processors are desired, select one -L21 and one 399692-B21.	
	Dual-core AMD® O275 2.2/1000-1M DL385 FIO Base	393831-L21
	NOTE: If two processors are desired, select one -L21 and one 393831-B21.	
	Dual-core AMD® O270 2.0/1000-1M DL385 FIO Base	393830-L21
	NOTE: If two processors are desired, select one -L21 and one 393830-B21.	
	Dual-core AMD® O265 1.8/1000-1M DL385 FIO Base	393829-L21
	NOTE: If two processors are desired, select one -L21 and one 393829-B21.	
	Single-core AMD® O254 2.8/1000-1M DL385 FIO Base	399087-L21
	NOTE: If two processors are desired, select one -L21 and one 399087-B21. Single Core processor selections are only available for SCSI chassis (382608-405).	
	Single-core AMD® O252 2.6/1000-1M DL385 FIO Base	376190-L21
	NOTE: If two processors are desired, select one -L21 and one 376190-B21. Single Core processor selections are only available for SCSI chassis (382608-405).	
	Single-core AMD® O250 2.4/1000-1M DL385 FIO Base	376189-L21
	NOTE: If two processors are desired, select one -L21 and one 376189-B21. Single Core processor selections are only available for SCSI chassis (382608-405).	
Base Memory	1 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 512 MB)	376638-B21
	2 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 1 GB)	376639-B21
	4 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 2 GB)	379300-B21
	8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB)	395409-B21
	NOTE: The Redundant Fan Option Kit (PN 293048-B21) is required to be installed when the 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) (PN 395409-B21) is used.	

Step 3: Choose Additional Factory Integratable Options

Optical Drive	Drv CD-ROM 24X FIO Base	338732-B21
	Slimline CD-RW/DVD-ROM Combo Option Kit	331903-B21
	Slimline DVD-ROM Drive (8x/24x) Option Kit	264007-B21
Diskette Drive	Floppy Drive Kit (SCSI Models only)	364507-B21
	Floppy Drive Kit (SAS Models only)	393998-B21

Step 4: Choose Additional Options for Factory Integration

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

Options

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

ProLiant DL385 Unique Options		
	Dual-core AMD Opteron 285 2.6 GHz-1MB Processor Option Kit	407624-B21
	Dual-core AMD Opteron 280 2.4 GHz-1MB Processor Option Kit	399692-B21
	Dual-core AMD Opteron 275 2.2 GHz-1MB Processor Option Kit	393831-B21
	Dual-core AMD Opteron 270 2.0 GHz-1MB Processor Option Kit	393830-B21
	Dual-core AMD Opteron 265 1.8 GHz-1MB Processor Option Kit	393829-B21
	Single-core AMD Opteron 254 2.8 GHz-1MB Processor Option Kit	399087-B21
	Single-core AMD Opteron 252 2.6 GHz-1MB Processor Option Kit	376190-B21
	Single-core AMD Opteron 250 2.4 GHz-1MB Processor Option Kit	376189-B21

ProLiant DL380 G4 / DL385 Shared Options

DL380 G4 Redundant Fan Option Kit — 293048-B21
NOTE: Hot Plug Redundant Fan Option Kit (PN 293048-B21) contains three fans.
NOTE: The Redundant Fan Option Kit (PN 293048-B21) is required to be installed when the 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) (PN 395409-B21) is used.

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 — 364507-B21
NOTE: For SCSI models only.
Floppy Drive Option Kit, SAS — 393998-B21
NOTE: For SAS models only.
SCSI Configuration Kit — 364471-B21
NOTE: Kit Includes duplex drive backplane terminator and 2 long SCSI cables.

ProLiant Essentials Value Pack Software

ProLiant Essentials Integrated Lights-Out Advanced Pack
ProLiant Essentials Integrated Lights-Out Advanced Pack, 1 server — 263825-B21
Featuring: sophisticated virtual administration features for ultimate control of servers in the data centers and remote sites.
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

ProLiant Essentials Intelligent Networking Pack
ProLiant Essentials Intelligent Networking Pack - Windows Edition, Single Server License — 372906-B21
NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.
NOTE: For additional ProLiant Intelligent Networking Pack License Kits please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12062_div/12062_div.HTML

ProLiant Essentials Intelligent Networking Pack - Linux Edition, Single Server License — 397004-B21
NOTE: For additional ProLiant Intelligent Networking Pack - Linux License Kits please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12327_div/12327_div.HTML

Options

ProLiant Essentials Performance Management Pack, Single-Server License	306696-B21

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

ProLiant Essentials Rapid Deployment Pack Windows Edition and Linux 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
http://h18000.www1.hp.com/products/quickspecs/11713_div/11713_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.

Options

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)

Processor	Dual-core AMD Opteron 285 2.6 GHz-1MB Processor Option Kit	407624-B21
	Dual-core AMD Opteron 280 2.4 GHz-1MB Processor Option Kit	399692-B21
	Dual-core AMD Opteron 275 2.2 GHz-1MB Processor Option Kit	393831-B21
	Dual-core AMD Opteron 270 2.0 GHz-1MB Processor Option Kit	393830-B21
	Dual-core AMD Opteron 265 1.8 GHz-1MB Processor Option Kit	393829-B21
	Single-core AMD Opteron 254 2.8 GHz-1MB Processor Option Kit	399087-B21
	Single-core AMD Opteron 252 2.6 GHz-1MB Processor Option Kit	376190-B21
	Single-core AMD Opteron 250 2.4 GHz-1MB Processor Option Kit	376189-B21

Memory	1 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 512 MB)	376638-B21
	2 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 1 GB)	376639-B21
	4 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 2 GB)	379300-B21
	8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB)	395409-B21

NOTE: The Redundant Fan Option Kit (PN 293048-B21) is required to be installed when the 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) (PN 395409-B21) is used.

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

Diskette Drive	Floppy Drive Option Kit	364507-B21
	NOTE: For SCSI models only.	
	Floppy Drive Option Kit, SAS	393998-B21
	NOTE: For SAS models only.	

Options

Hard Drives	**Ultra320 - 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

NOTE: 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)

SFF SAS - Universal Hot Plug

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

NOTE: Supported on SAS models only
NOTE: Please see the SFF 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	**SCSI Controllers**	
	Smart Array 6i 128MB Battery Backed Write Cache Enabler Option Kit	346914-B21

NOTE: This 128 MB BBWC is interoperable with the Smart Array 641/641.

Smart Array 6402/128 Controller	273915-B21
Smart Array 6404/256 Controller	273914-B21
Smart Array 641 Controller	291966-B21
Smart Array 642 Controller	291967-B21
128MB Battery-Backed Cache Enabler	351580-B21

NOTE: This 128MB BBWC supports the Smart Array 641 Controller and Smart Array 642 Controller.

Ultra320 Expansion Module for SA-6402	273911-B21

Options

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.www.1.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)

SAS Controller

HP Smart Array P600 Controller	337972-B21

NOTE: Ships standard on SAS models.

512MB DDR BBWC Upgrade	372538-B21

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

NOTE: Please see the following QuickSpecs for additional information:
http://h18000.www.1.hp.com/products/quickspecs/12332_div/12332_div.HTML (SAS HBA)

Communications

HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
HP NC340T PCI-X 4-port 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 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: A minimum of 1 GB of memory per port is required for NC370x adapters, with a maximum of two NC370x ports permitted in a server.
NOTE: Any Ethernet network interface controller (NIC) (except the NC1020) on the option list can be used for redundancy with the embedded NC7782 Network Controller. When teaming with other NICs or with the embedded NIC, the lack of Jumbo Frames and LSO features on the NC1020 will cause high end NICs to have those features disabled. (e.g. incompatibility issues with the other option NICs for that platform).

HP NC570C PCI-X Dual-port 4x Fabric Adapter	376158-B21

Options

	HP 24-Port 4x Fabric Copper Switch	376227-B21
	HP 1m 4x Fabric Copper Cable	376232-B21
	HP 3m 4x Fabric Copper Cable	376232-B22
	HP 5m 4x Fabric Copper Cable	376232-B23

Redundant Options	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

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: The following tape drives are recommended for use with the HP ProLiant DL385. Additional HP tape drives are supported.
NOTE: For the complete listing of Tape Drive offerings, please see:
http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html

Hot Plug Tape Drives

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

NOTE: Not supported in SAS models.

USB Tape Drives

HP StorageWorks DAT 72 USB External Tape Drive (Carbonite)	DW027A

NOTE: Requires purchase of the Adaptec USB2connect 3100LP USB adapter available at http://www.adaptec.com. Microsoft Windows support only.

External, Rack-Mount, and Array Module Ultrium Tape Drives

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

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: Single drive installed in a 1U Rack-mount kit.

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 the 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
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.

Options

Tape Autoloaders	**DAT Autoloader**	
	HP StorageWorks DAT 72x6 Autoloader (External)	Q1567A

NOTE: Please see the DAT 72x6 Tape Autoloader QuickSpecs for additional options such as host bus adapters, controllers and media: http://h18006.www1.hp.com/products/quickspecs/11905_div/11905_div.html (Worldwide)

	HP StorageWorks 1/8 Tape Autoloader	
	HP StorageWorks 1/8 Ultrium 960 Tape Autoloader	AF204A
	HP StorageWorks 1/8 Ultrium 448 Tape Autoloader	AF203A
	HP StorageWorks 1/8 Ultrium 232 Tape Autoloader	AF202A
	1/8 Tape Autoloader Rack-mount Kit	C9268R

NOTE: Required to install the 1/8 tape autoloader in a standard 19-inch rack

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

Tape Libraries	**HP StorageWorks MSL2024 Tape Library**	
	HP StorageWorks MSL2024 1 Ultrium 960 Drive Library	AG115A
	HP StorageWorks MSL2024 1 Ultrium 448 Drive Library	AG116A
	HP StorageWorks MSL2024 2 Ultrium 448 Drive Library	AG117A
	HP StorageWorks MSL4048 Tape Library	
	HP StorageWorks MSL4048 1 Ultrium 448 Drive Library	AG320A
	HP StorageWorks MSL4048 2 Ultrium 448 Drive Library	AG321A
	HP StorageWorks MSL4048 1 Ultrium 960 Drive Library	AG322A
	HP StorageWorks MSL4048 2 Ultrium 960 Drive Library	AG323A
	HP StorageWorks MSL6000 Tape Library	
	Ultrium 960 technology	
	HP StorageWorks MSL6030 1 Ultrium 960 Dr LVDS Library	AD606A
	HP StorageWorks MSL6030 1 Ultrium 960 Dr FC Library	AD608A
	HP StorageWorks MSL6030 2 Ultrium 960 Dr LVDS Library	AD607A
	HP StorageWorks MSL6030 2 Ultrium 960 Dr FC Library	AD609A
	Ultrium 460 technology	
	HP StorageWorks MSL6030 1 Ultrium 460 Dr LVDS Library	AD598A
	HP StorageWorks MSL6030 1 Ultrium 460 Dr FC Library	AD600A
	HP StorageWorks MSL6030 2 Ultrium 460 Dr LVDS Library	AD599A
	HP StorageWorks MSL6030 2 Ultrium 460 Dr FC Library	AD601A

NOTE: Please reference the MSL2024 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.

QuickSpecs

Options

Magneto-Optical Jukeboxes	HP StorageWorks 9.1 GB Optical Jukeboxes	
	600mx, 4 drive, 64 slot jukebox	C1160M
	1200mx, 4 drive, up to 128 slots	C1104M
	2200mx, 6 drive, up to 238 slots	C1107M

NOTE: Please see the HP StorageWorks Magneto-Optical Products data sheet for a complete listing of available jukeboxes at:
http://www.hp.com/products1/storage/products/archivalprod/brochures/MO_family_pb.pdf
NOTE: Please reference the Magneto-Optical Jukebox data sheets at http://www.hp.com/go/optical for additional information needed to create a complete solution.

Ultra Density Optical Jukeboxes	1900ux, 4 drive, 64 slot jukebox	AA966A
	3800ux, 4 drive, 128 slot jukebox	AA969A
	7100ux, 6 drive, 238 slot jukebox	AA971A

NOTE: Please see the HP StorageWorks Ultra Density Optical Jukeboxes QuickSpecs for a complete listing of available jukeboxes at:
http://h18006.www1.hp.com/products/quickspecs/11944_div/11944_div.html
NOTE: Please reference the Ultra Density Optical Jukebox QuickSpecs at http://www.hp.com/go/optical for additional information needed to create a complete solution

HP Data Protector Express Software	HP DP Express Backup Server Upgrade for ProLiant Software	BB117AP
	HP DP Express Package for Microsoft Small Business Server	BB118AA

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)

Cluster Options	ProLiant Cluster Starter Kit	364023-B21

NOTE: For additional information regarding the ProLiant Cluster Starter Kit please see the following QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/11935_div/11935_div.html (Worldwide)

	HP HA/F200 for Entry SAN Cluster	364026-B22
	HP HA/F200 for Entry SAN Cluster (Japan)	364026-292

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_na/11932_na.html (North America)
http://h18000.www1.hp.com/products/quickspecs/11932_div/11932_div.html (Worldwide)

	ProLiant Cluster HA/F500 for the Enterprise SAN	364024-B21

Options

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_na/11933_na.html (North America)
http://h18000.www1.hp.com/products/quickspecs/11933_div/11933_div.html (Worldwide)

HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 and Red Hat EL & 4 (2 node license cluster kit)	305199-B26
HP Serviceguard for Linux A.11.16 for SUSE SLES9 and Red Hat EL 3 & 4 (single license version)	307754-B26
HP Serviceguard for Linux and Red Hat Global File System - 1 year subscription	T2798AA#001
HP Serviceguard for Linux and Red Hat Global File System - 3 years subscription	T2798AA#003

NOTE: For additional information regarding the HP Serviceguard for Linux License, please see the following QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/11518_na/11518_na.html (North America)
http://h18000.www1.hp.com/products/quickspecs/11518_div/11518_div.html (Worldwide)

HP StorageWorks Modular Smart Array 20

HP StorageWorks Modular Smart Array 20 NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.	335921-B21
HP StorageWorks Modular Smart Array 20 Starter Kit NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies. Includes Smart Array 6402/128 Controller.	366172-B21

NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 3.5" Hot Plug Hard Drives.

HP StorageWorks Modular Smart Array 30

HP StorageWorks Modular Smart Array 30 SB NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies	302969-B21
HP StorageWorks Modular Smart Array 30 DB NOTE: Rack-mountable 14 drive enclosure with dual bus, redundant power supplies	302970-B21

NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 Hot Plug Hard Drives.

HP StorageWorks Modular Smart Array 50

HP StorageWorks Modular Smart Array 50 Enclosure	364430-B21

NOTE: 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)

Options

HP StorageWorks Modular Smart Array 500	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	StorageWorks 2 Gb, 64-bit/133 MHz PCI-X-to-Fibre Channel Host Bus Adapter for Windows 2000, Windows Server 2003 and Linux **NOTE:** FCA2214 2 Gb Fibre Channel Host Bus Adapter is a single channel, 64-bit/133 MHz PCI-X-to Fibre Channel Host Bus Adapter (HBA) with an embedded multi-mode optical interface	281541-B21
	FCA2404DC - HP StorageWorks 2 Gb, Dual Channel, 133 MHz PCI-X-to-Fibre Channel Host Bus Adapter for Windows® 2000, and Windows Server 2003 **NOTE:** FCA2404DC HP StorageWorks 2 Gb Fibre Channel Host Bus Adapter is a dual channel, 133 MHz, PCI-X to Fibre Channel Host Bus Adapter (HBA) with an embedded multi-mode optical interface.	323264-B21
	FCA2404 - StorageWorks 2 Gb, single channel, 133 MHz PCI-X-to-Fibre Channel Host Bus Adapter for Windows 2000, Windows NT and Windows Server 2003 **NOTE:** FCA2404 StorageWorks 2 Gb, Fibre Channel Host Bus Adapter is a single channel, multi-path failover, 133 MHz, PCI-X to Fibre Channel Host Bus Adapter (HBA) with an embedded multi-mode optical interface for ProLiant Server connects	305573-B21
	StorageWorks 2 Gb, Dual Port, 64-Bit/133 MHz PCI-X-to-Fibre Channel Host Bus Adapter for W2K, Windows Server 2003 and Linux **NOTE:** FCA2214DC StorageWorks 2 Gb Dual Port, Fibre Channel Host Bus Adapter is a 64-bit/133 MHz, PCI-X-to Fibre Channel Host Bus Adapter (HBA) with an embedded multi-mode optical interface. **NOTE:** For additional information on Fibre Channel Host Bus Adapters and San Switches visit the following URL: http://h18000.www1.hp.com/storage/saninfrastructure.html	321835-B21

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 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 UPS R12000 XR N+x (200-240V) (WW-hardwired)	207552-B22

NOTE: The UPS R12000 XR has a hardwired input and output connection.

HP Power Distribution Unit with Power Monitoring		
	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

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)	252663-D71

NOTE: This mPDU (252663-D71) may also be used to connect the low volt model of the UPS R3000 XR.

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)	252663-B24

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.

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)	252663-B32

Options

NOTE: Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including shorter jumper cables and country specific power cords:
http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.HTML (Worldwide)

USB Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
	256MB HP Drive Key II (USB 2.0)	PH657A

Other	ProLiant ML3xx Internal to External SCSI Cable Option Kit (HD68)	159547-B22
	ProLiant ML3xx Internal to External SCSI Cable Option Kit (VHDCI)	333370-B21
	NOTE: These kits allow the unused U320 SCSI port on the system board to route externally out the rear of the unit through a PCI slot if operating the unit in simplex mode (only one SCSI channel used).	

Third Party Rack Adapter Kit (for wide racks)	Rack Adapter Kit	332815-B21
	NOTE: Not required for most racks. This kit allows HP rack servers to fit in racks that are 24" wide.	

Rack Shipping Kit	Shipping Kit for Round Hole Racks	371482-B21

HP Rack 5000 Series (Graphite Metallic)	HP 5642 Rack-Unassembled	358254-B21
	NOTE: Please see the HP Rack 5642 QuickSpecs for additional part numbers and Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.HTML (Worldwide)	
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.	

Options

HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet - Crated	AF003A
	10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	AF004A
	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: xxxxxx-B21 (pallet) used to ship empty racks shipped on a truck. xxxxxx-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels).
xxxxxx-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.

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.

TFT7600RKM US	AG052A
TFT7600RKM UK	AG053A
TFT7600RKM GR	AG054A
TFT7600RKM FR	AG055A
TFT7600RKM IT	AG056A
TFT7600RKM SP	AG057A
TFT7600RKM DEN	AG058A
TFT7600RKM NOR	AG059A
TFT7600RKM SE/FI	AG060A
TFT7600RKM SWI	AG061A
TFT7600RKM PORT	AG062A
TFT7600RKM BEL	AG063A
TFT7600RKM JPN2	AG064A
TFT7600RKM RUS	AG065A
TFT7600RKM INTL	AG066A
1U Rack Keyboard & Drawer (Carbon)	257054-xx1

Country Code Key (for 1U Rack Keyboard & Drawer (PN 257054-xx1)

XX = 001	US	XX = 091	Norway
XX = 031	UK	XX = 101	Sweden/Finland
XX = 041	Germany	XX = 111	Switzerland
XX = 051	France	XX = 131	Portugal
XX = 061	Italy	XX = 181	Belgium
XX = 071	Spain	XX = 291	Japan
XX = 081	Denmark	XX = B31	International

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

Options

HP KVM Switch Options	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/rackandpower

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 or
http://h20219.www2.hp.com/services/cache/10768-0-0-225-121.html.

Memory

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

HP ProLiant Model DL385 Models

Standard Memory

1 GB PC3200 DDR SDRAM running at 400MHz comes installed (2 x 512 MB SDRAM)

Standard Memory Plus Optional Memory

Up to 25 GB memory is available with the optional installation of PC3200 Registered DDR SDRAM DIMM Memory Option Kit (This assumes using 2 processors)

Standard Memory Replaced with Optional Memory

Up to 32 GB of memory is available with the removal of the standard 512 MB of memory and the optional installation of PC2700 (4GB DIMMS) Registered DDR SDRAM DIMM Memory Option Kit

NOTE: Chart does not represent all possible memory configurations (slots 5 - 8 are available when second processor is added).
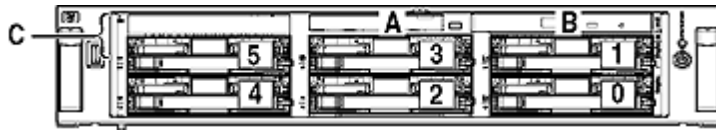
Memory		Slot							
		1	2	3	4	5	6	7	8
Standard	1 GB	Empty	Empty	512 MB	512 MB	Empty	Empty	Empty	Empty
Optional	25 GB	4 GB	4 GB	512 MB	512 MB	4 GB	4 GB	4 GB	4 GB
Maximum	32 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB

Following are memory options available from HP:

- 1 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 512 MB)   376638-B21
- 2 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 1 GB)   376639-B21
- 4 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 2 GB)   379300-B21
- 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB)   395409-B21
  NOTE: The Redundant Fan Option Kit (PN 293048-B21) is required to be installed when the 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) (PN 395409-B21) is used.

Storage

0 - 5	Six Ultra320 SCSI hot plug hard drive bays
A	1.44-MB Diskette Drive (optional)
B	24x IDE CD-ROM (Universal Media Bay)
C	Six Wide Ultra3/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
IDE CD-ROM Drive	1	B	Integrated IDE **NOTE:** Standard
Slimline DVD-ROM (8x24x) Option Kit (Servers)	1	B	Integrated IDE **NOTE:** Optional
Slimline CD-RW/DVD-ROM Combo Option Kit	1	B	Integrated IDE **NOTE:** Optional

Hard Drives

Ultra320 SCSI - Hot Plug Drives

	Quantity Supported	Position Supported	Controller
300GB U320 10K 146.8GB U320 10K 72.8GB U320 10K 146.8GB U320 15K 72.8GB U320 15K 36.4GB U320 15K	Up to 6	0-5	Smart Array 6i Controller (integrated on system board) Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 641 Controller Smart Array 642 Controller

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	1-8	Smart Array P600 Controller

SFF SAS - Hot Plug Drives

Storage

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

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 50 Enclosure	1	External	Smart Array P600 Controller
Modular Smart Array 500 G2	1 per SCSI	External	Smart Array 642 Controller (used as Host Bus Adapter) Please see the Modular Smart Array 500 G2 QuickSpecs for the latest list of supported HBAs: http://www.hp.com/go/msa500
Modular Smart Array 1500 cs	Please see the Modular Smart Array 1500 cs QuickSpecs 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 cs: http://www.hp.com/go/MSA1500cs

Maximum Storage Capacity - (Modular Smart Array SCSI Attached)

Internal	1.80TB (6 x 300GB Ultra320)
External	54.60TB (13 x (14 x 300GB Ultra320))
Total	56.40TB

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

Storage

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	0-5	Smart Array 6i Controller (integrated on system board)
HP StorageWorks Tape Drives, USB External DAT 24 USB DAT 40 USB DAT 72 USB	1	External	Adaptec USB2connect 3100LP adapter orderable at http://www.adaptec.com (Windows only)
HP StorageWorks Tape Drives, External Ultrium 232 Ultrium 448 Ultrium 460 DAT 40 DAT 72 DLT VS80 DLT VS160 SDLT 320	Up to 2	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks Tape Drives, External Ultrium 960 SDLT 600	1 per SCSI Channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
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 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

Storage

HP StorageWorks Autoloaders, External DAT 72x6 Tape Autoloader 1/8 Tape Autoloader	1 autoloader per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
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: DL385 - Click on: "Power Calculator" link. (You may need to scroll down to see it.)	
	Power Supply Output Power (per power supply)	Rated Steady-State Power	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%
	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	Ultra320, 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)	0/2 NOTE: The ProLiant DL385 does not have an external SCSI port
	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)	Protocol	3 Gb Serial Attached SCSI
	Architecture	1.5 Gb SATA
	SAS Connectors	64-bit
	Data Transfer Method	1 internal & 1 external/internal shared x4 Wide Port SAS connectors
	PCI Bus Speed	64-Bit PCI bus-master
	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 Disk Drive and	4-MB flashable ROM
	Enclosure Protocol Support	3 Gb SAS and 1.5 Gb SATA

NC7782 Dual Port PCI-X Gigabit NIC(embedded) **10/100/1000 WOL** (Wake On LAN)	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)

Technical Specifications