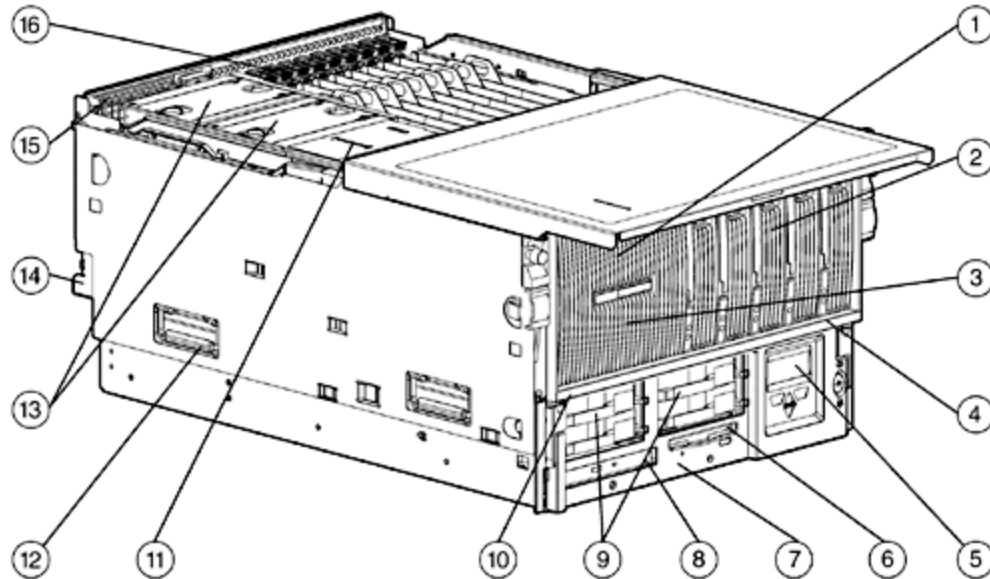


Overview



1. Processor/Memory Module
2. Hot Plug RAID Memory Cartridge
3. Four or Eight Intel Xeon Processors MP with fault tolerant processor power modules
4. DIMM Status LED
5. Integrated Management Display
6. Integrated 1.44-MB Diskette Drive
7. Media Module
8. Integrated Slimline CD/DVD-ROM Drive, (8X speed for DVD and 24X speed for CD)
9. Four 1" Ultra320 SCSI Hot Plug Drive Bays (running U3 speeds)
10. Attention LED Indicators
11. System Interconnect Status Indicator
12. Integrated Lift Handles
13. Redundant Hot Plug Fans
14. Two Redundant Hot Plug Power Supplies
15. I/O Modules
16. Eleven 64-bit PCI-X and PCI I/O expansion slots, all Hot Plug (10 x 100 MHz PCI-X and 1 x 33 MHz PCI)

What's New

- Intel® Xeon® Processor MP 3.0 GHz/4MB, 2.7 GHz/2MB, or 2.2 GHz/2MB, Processors (eight processor capability)
- Integrated HP NC7170 Dual-Port PCI-X 1000T Gigabit Server Adapter in a slot
- Integrated Slimline CD/DVD-ROM Drive now ships standard in new models

At A Glance

- Intel Xeon Processor MP 3.0 GHz/4MB, 2.7 GHz/2MB, 2.2 GHz/2MB Processors (eight processor capability)
- Hot Plug RAID Memory using XOR & ECC-protected memory and user-friendly diagnostics
- The ultimate high-density data center server delivering breakthrough 8-way scalable performance for 7 x 24 multi-server rack environments
- Tool less chassis for enhanced serviceability
- 133 MHz SDRAM DIMM memory that is expandable to 64 GB addressable memory (+16GB for full redundancy)
- Integrated Smart Array 5i Controller (Ultra3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives) (One Internal Channel for RAID Capability for internal drives and one External Channel for tape support only)
- (10) 64-bit/100MHz capable PCI-X slots & (1) 64-bit/33-MHz PCI slot
- Full RILOE II support
- Integrated NC7770 PCI-X Gigabit Server Adapter or Integrated HP NC7170 Dual-Port PCI-X 1000T Gigabit Server Adapter standard depending on the model
- Internal Hot Plug Drive Storage of 1.20 TB (4 x 300 GB Ultra320 1" hard drives running U3)
- Robust set of hot plug and redundant features including Hot Plug RAID Memory, PCI/PCI-X Hot Plug, hot plug drive bays, redundant hot plug fans and power supplies and support for redundant NICs, ASR-2, Remote-Flash Redundant ROM
- Protected by HP Services, including a three-year, Next Business Day on-site, limited, Global warranty and extended Pre-Failure Warranty that covers processors, memory and disk drives - Certain restrictions and exclusions apply.

Standard Features

Processor
One of the following
depending on Model

(4) Intel Xeon Processor MP 3.0 GHz/4MB
(4) Intel Xeon Processor MP 2.7 GHz/2MB
(4) Intel Xeon Processor MP 2.2 GHz/2MB

Cache Memory
One of the following
depending on Model

4-MB Integrated Level 3 cache (per processor)
NOTE: Available with 3.0 GHz models.
2-MB integrated level 3 cache (per processor)
NOTE: Available with 2.7 GHz or 2.2 GHz models.

Upgradability

Upgradable to eight processors

Chipset

HP developed F8 chipset

Memory Protection

Advanced ECC
Hot Plug RAID Memory

Memory

Type 133MHz ECC SDRAM DIMMs
Standard 2 GB
NOTE: Available
with 2.2 GHz model.
Standard 4 GB
NOTE: Available
with 3.0 GHz or 2.7
GHz models.
Maximum 64 GB (80 GB total)

NOTE: All models come standard with all five memory cartridges populated and Hot Plug RAID Memory enabled.
NOTE: In standard Hot Plug RAID Memory mode, addressable memory refers to the portion of memory that is addressable by the OS. Total memory consists of addressable memory plus the redundant memory (stored in the dedicated parity memory cartridge.)

Network Controller

Integrated HP NC7170 Dual-Port PCI-X 1000T Gigabit Server Adapter in a slot
NOTE: Available with 3.0 GHz, 2.7 GHz, and 2.2 GHz models

Standard Features

Expansion Slots	Slot Number	Bus Speed	Bus Number	Hot Plug	PCI Voltage	Notes
	1	64-bit 100MHz PCI-X	11	Yes	3.3V	
	2	64-bit 100MHz PCI-X	11	Yes	3.3V	
	3	64-bit 100MHz PCI-X	9	Yes	3.3V	
	4	64-bit 100MHz PCI-X	9	Yes	3.3V	
	5	64-bit 100MHz PCI-X	7	Yes	3.3V	
	6	64-bit 100MHz PCI-X	7	Yes	3.3V	
	7	64-bit 100MHz PCI-X	5	Yes	3.3V	
	8	64-bit 100MHz PCI-X	5	Yes	3.3V	
	9	64-bit 33MHz PCI	1	Yes	5V	Supported RILOE slot
	10	64-bit 100MHz PCI-X	3	Yes	3.3V	
	11	64-bit 100MHz PCI-X	3	Yes	3.3V	NIC in slot

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

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

NOTE: All slots can accept universal keyed PCI cards.

Storage Controllers Smart Array 5i Controller (integrated on system board) supports (Ultra3) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
Optional support for Ultra3 or Ultra320 storage controllers in an I/O slot to internal drives via array bypass cable kit and required cables ships with all HP ProLiant DL760 in the accessories package.

Storage

Diskette Drive	Integrated 1.44 MB Diskette Drive
Optical Drive	Integrated Slimline CD/DVD-ROM Drive (8X speed for DVD and 24X speed for CD)
Hard Drives	None

Maximum Internal Storage Type Hot Plug SCSI 1.20 TB 4 x 300 GB Ultra320 1" Drives (internal hot plug cage only)
NOTE: The Ultra320 drives run at Ultra 3 speeds.

Interfaces

Serial	1
Pointing Device (Mouse)	1
Graphics	1
Keyboard	1
Network RJ-45	1

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

Standard Features

Form Factor 7U Rack Form Factor; Ships with sliding rack rails and cable management arm; Standard 19" rack-mountable

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 Light-Out and Remote Insight Light-Outs 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/ervers/smartstart . SmartStart version supported (minimum): SmartStart 6.20.
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 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/ervers/manage .
Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides automatic delivery of software and driver change notifications for ProLiant products. Sign up at http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.
ROMPaq, support software, and configuration utilities	The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options available in SmartStart or downloadable from Software and Drivers download pages, linked from the SmartStart website at http://www.hp.com/ervers/smartstart .
Survey Utility and diagnostics utilities	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 – 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.● 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.● 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.

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

Standard Features

information.

NOTE: For more information regarding ProLiant Essentials Software, please see the following URL:

<http://www.hp.com/servers/proliantessentials>

Industry Standard Compliance

ACPI 1.0b Compliant
PCI-X and PCI 2.2 Compliant
PAE Support
Microsoft® Logo certifications

Intelligent Manageability

HP Systems Insight Manager
Remote Insight Lights-Out Edition II (optional)
ROM-Based Setup Utility (RBSU)
Integrated Management Display (IMD)
Server Health logging
Automatic Server Recovery-2 (ASR-2)
System Interconnect Status Indicators
Remote-Flash Redundant ROM
Hot Spare Boot
(NOTE: Upon the event of a failed processor or VRM in a multi-processing environment, the system will automatically reboot and use the remaining good processor(s).)
Power Down Utility
Power Supply Viewer
Pre-Failure Warranty (covers processors, as well as hard drives and memory)

Availability

Hot Plug RAID Memory using Industry Standard ECC Memory
PCI-X/PCI Hot Plug with push button functionality
Redundant Hot Plug Fans
Dynamic sector repairing and drive parameter tracking (with Smart Array controllers)
Fault Tolerant Processor Power Modules
Redundant/adaptive load balancing NIC Support
Redundant Hot Plug Power Supplies

Security

Power-on password
Diskette drive control
Diskette boot control
Network server mode
Security provision
Parallel and serial interface control
Administrator's password
Disk configuration lock
Hot plug access security

Server Power Cords

Two Highline IEC to IEC power cords (PDU adapters) ships standard

Power Supply

Two Redundant Hot Plug 1150/500-Watt power supplies per system. Power supplies are load sharing and provide 1150 Watts of Redundant power for 220-volt input or 500 Watts of Redundant power for 110-volt input.
NOTE: To ensure redundancy of server power, HP requires that 200-240 VAC power be used for all deployments. This will ensure that both power supplies can support up to their maximum configurations, and remain in a redundant power supply state.
NOTE: A maximum of two power supplies are supported and ship standard with each server.

Standard Features

System Fans Two Hot-Plug redundant fans ship standard. Two maximum supported.

Required Cabling For required cabling information, refer to the Web site at:
<http://hp.com/products/servers/ProLiantDL760>.

OS Support Microsoft Windows 2000
Microsoft Windows 2000 Advanced Server
Microsoft Windows Server 2003 (Standard, and Enterprise)
SCO UnixWare®
LINUX (Red Hat, SuSE)

NOTE: For a more complete and up-to-date listing of supported OS's 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 DL760 G2, 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 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>

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/ProLiantdl760/index.html>.

NOTE: Allow a minimum of 48 in (121.92 cm) clearance beyond the front of your rack to permit server installation and removal. This applies to both individual rack installations as well as when aligning rack rows so that the front doors are facing each other.

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, EVA3000 & EVA5000, XP, rackable tape libraries and configurable network switches.

For more information on how to order please contact your sales representative or go to www.hp.com/go/factory-express.

Standard Features

Service and Support

Three-year limited warranty, including hardware diagnostic support, pre-failure warranty (coverage of hard drives, memory and processors). The warranty is fully supported by HP Services and a worldwide network of resellers and service providers. In addition 90-day's getting started software telephone support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services.

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

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
- Education courses
- Extended onsite hardware coverage hours from same business day 13 hours, 5 day to 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 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

Model DL760R02 X3.0-4MB, 4096MB (4P) 348442-xx1	Processor(s)	(4) Intel Xeon Processors MP at 3.0 GHz standard (up to 8 supported)
	Cache Memory	4-MB integrated Level 3 cache (per processor)
	Memory	4096 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
	Network Controller	Integrated HP NC7170 Dual-Port PCI-X 1000T Gigabit Server Adapter in a slot
	Storage Controller	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	Hard Drives	None
	Internal Storage	1.20 TB maximum (with optional hard drives)
	Cache Accelerator	2-MB Cache coherency accelerator embedded on host board
	Optical Drive	Integrated Slimline CD/DVD-ROM Drive (8X/24X)
	Diskette Drive	Integrated 1.44 MB Diskette Drive
	I/O Slots	PCI and PCI-X
Form Factor	7U Rack Form Factor	

Model DL760R02 X2.7-2MB, 4096MB (4P) 348443-xx1	Processor(s)	(4) Intel Xeon Processors MP at 2.7 GHz standard (up to 8 supported)
	Cache Memory	2-MB integrated Level 3 cache (per processor)
	Memory	4096 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
	Network Controller	Integrated HP NC7170 Dual-Port PCI-X 1000T Gigabit Server Adapter in a slot
	Storage Controller	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	Hard Drives	None
	Internal Storage	1.20 TB maximum (with optional hard drives)
	Cache Accelerator	2-MB Cache coherency accelerator embedded on host board
	Optical Drive	Integrated Slimline CD/DVD-ROM Drive (8X/24X)
	Diskette Drive	Integrated 1.44 MB Diskette Drive
	I/O Slots	PCI and PCI-X
Form Factor	7U Rack Form Factor	

Model DL760R02 X2.2-2MB, 2048MB (4P) 348444-xx1	Processor(s)	(4) Intel Xeon Processors MP at 2.2 GHz standard (up to 8 supported)
	Cache Memory	2-MB integrated Level 3 cache (per processor)
	Memory	2048 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (2560 MB total)
	Network Controller	Integrated HP NC7170 Dual-Port PCI-X 1000T Gigabit Server Adapter in a slot
	Storage Controller	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	Hard Drives	None
	Internal Storage	1.20 TB maximum (with optional hard drives)
	Cache Accelerator	2-MB Cache coherency accelerator embedded on host board
	Optical Drive	Integrated Slimline CD/DVD-ROM Drive (8X/24X)
	Diskette Drive	Integrated 1.44 MB Diskette Drive
	I/O Slots	PCI and PCI-X
Form Factor	7U Rack Form Factor	

Models

Country Code Key

xx=B2
xx=29
xx=AA

Rack Code Key

Worldwide
Japan
PRC

Options

ProLiant Essentials Value Pack Software	ProLiant Essentials Performance Management Pack Single Server License	306696-B21
	NOTE: This license allows 1 server to be managed by Performance Management Pack	
	Performance Management Pack, flexible license kit	306697-B21
	NOTE: A single pack is shipped with a single license key for the total number of licenses ordered	
	ProLiant Essentials Workload Management Pack (Featuring Resource Partitioning Manager version 2.0)	303284-B21
	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 Virtual Machine Management Pack, Flexible-Quantity License	372215-B21
	NOTE: For use with multiple servers. This part number can be used to purchase multiple licenses with a single activation key.	
	ProLiant Essentials Virtual Machine Management Pack, Tracking License	372216-B21
	NOTE: For use with signed and implemented Activation Key Agreements only. Purchase of this part number entitles the customer to deploy additional licenses of the product under the terms of the existing Activation Key Agreement.	
	ProLiant Essentials Vulnerability and Patch Management Pack, Single-Server License	371645-B21
	ProLiant Essentials Vulnerability and Patch Management Pack, 10-Server License	372029-B21
	ProLiant Essentials Vulnerability and Patch Management Pack, Flexible-Quantity License	371646-B21
	ProLiant Essentials Vulnerability and Patch Management Pack, Tracking license for new servers	371647-B21
ProLiant Essentials Vulnerability and Patch Management Pack, Tracking license for installed servers	378372-B21	
ProLiant Essentials Vulnerability and Patch Management Pack, 1-Server 10-Desktop Bundle License	389941-B21	
ProLiant Essentials Server Migration Pack, Single-Server License	375345-B21	
ProLiant Essentials Server Migration Pack, Flexible-Quantity License	375346-B21	
ProLiant Essentials Server Migration Pack, Tracking license	375347-B21	
ProLiant Essentials Server Migration Pack, 10-Server License	390739-B21	
NOTE: This license allows 10 servers to be migrated from a physical server to a 10 virtual machines. Or this license can be used to migrate a 10 virtual machines from one virtualization layer i.e. VMware GSX to a different virtualization layer such as VMware ESX or Microsoft Virtual Server 2005.		
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 .		
Software	HP digital asset protection	302316-001
NetServer to ProLiant integrations services	HP NetServer to ProLiant integration and assessment service	304164-002
	NOTE: HP identifies current levels of NetServer support, services, and management. This service helps maximize customer's ability to add ProLiant platforms into their current environment.	
	HP TopTools to Insight Manager 7 installation and startup service	304163-002
	NOTE: Provides on-site review, installation and configuration services for Insight Manager 7. HP will also re-create, as closely as possible, the views and reports from the customer's current TopTools configuration. This service assures a smooth transition to the ProLiant Essentials software.	
HP NetServer to ProLiant Essentials Rapid Deployment Pack installation and startup service	304162-002	
NOTE: Install and configure Rapid Deployment Pack in a test environment, then deploy a server image to a maximum of 250 systems in the production environment. This service helps to assure successful system deployment.		

Options

Processor	NOTE: Intel Xeon 3.0GHz/4MB, 2.7GHz/2MB, 2.2GHz/2MB, 2.8GHz/2MB, 2.5GHz/1MB, 2.0GHz/2MB, 2.0GHz/1MB, and 1.5 GHz/1MB processors cannot be mixed in the same server. They all have to be of the same speed.	
	(4) Intel Xeon MP 3.0GHz -4M Processor Option Kit	351050-B21
	NOTE: This processor option kit (PN 351050-B21) supports the HP ProLiant DL760 G2 and the HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 3.0GH/4MB processors.	
	(4) Intel Xeon MP 2.70GHz -2MB Processor Option Kit	351051-B21
	NOTE: This processor option kit (PN 351051-B21) supports the HP ProLiant DL760 G2 and the HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 2.7GHz/2MB processors.	
	(4) Intel Xeon MP 2.20GHz -2MB Processor Option Kit	351052-B21
	NOTE: This processor option kit (PN 351052-B21) supports the HP ProLiant DL760 G2 and the HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 2.2GHz/2MB processors.	
	(4) Intel Xeon MP 2.80GHz -2MB Processor Option Kit	334037-B21
	NOTE: This processor option kit (PN 334037-B21) supports the HP ProLiant DL760 G2 and the HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 2.8GHz-2MB processors.	
	(4) Intel Xeon MP 2.5GHz-1MB Processor Option Kit	339072-B21
NOTE: This processor option kit (PN 339072-B21) supports the HP ProLiant DL760 G2 and HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 2.5GHz-1MB processors.		
(4) Intel Xeon MP 2.0GHz-1MB Processor Option Kit	334036-B21	
NOTE: This processor option kit (PN 334036-B21) supports the HP ProLiant DL760 G2 and HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 2.0GHz-1MB processors.		
(4) Intel Xeon MP 2.0GHz -2MB Processor Option Kit	287520-B21	
NOTE: This processor option kit (PN 287520-B21) supports the HP ProLiant DL760 G2 and the HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 2.0GHz-2MB processors.		
(4) Intel Xeon MP 1.5GHz-1MB Processor Option Kit	287519-B21	
NOTE: This processor option kit (PN 287519-B21) supports the HP ProLiant DL760 G2 and HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 1.5GHz-1MB processors.		
Memory (SDRAM DIMMs)	2048MB 133MHz ECC SDRAM Memory Option Kit (1 x 2048MB)	317093-B21
	NOTE: A ROM dated later than 2/14/2003 is needed to use 2 GB DIMMs.	
	1024MB 133MHz ECC SDRAM Memory Option Kit (1 x 1024MB)	236854-B21
	512MB 133MHz ECC SDRAM Memory Option Kit (1 x 512MB)	236853-B21
	256MB 133MHz ECC SDRAM Memory Option Kit (1 x 256MB)	236852-B21
NOTE: Memory must be populated in banks of 10. (2 per memory cartridge x 5 cartridges.) All DIMMs in a bank must be the same sku number.		
Optical Drives	DL760 G2 CD/DVD-ROM Drive Option Kit	337057-B21

Options

Hard Drives

Ultra320 SCSI – Universal Hot Plug

300-GB 10,000 rpm U320 Universal Hard Drive (1")	350964-B22
146.8-GB 10,000 rpm U320 Universal Hard Drive (1")	286716-B22
72.8-GB 10,000 rpm U320 Universal Hard Drive (1")	286714-B22
146.8-GB 15,000 rpm U320 Universal Hard Drive (1")	347708-B22
72.8-GB 15,000 rpm U320 Universal Hard Drive (1")	286778-B22
36.4-GB 15,000 rpm U320 Universal Hard Drive (1")	286776-B22

NOTE: All U320 Universal Hard Drives are backward compatible to U2 or U3 speeds. U320 drives require an optional U320 Smart Array Controller or U320 SCSI HBA to support U320 transfer rates.

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:

U320 Hard Drive QS:

http://h18000.www1.hp.com/products/quickspecs/11531_div/11531_div.HTML (Worldwide)

http://h18000.www1.hp.com/products/quickspecs/11531_div/11531_na.HTML (North America)

Storage Controllers

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.	
128-MB Cache Module for Smart Array 5302 Controller	153506-B21
256-MB Battery-Backed Cache Module	254786-B21
NOTE: This 256-MB Battery-Backed Cache Module supports the Smart Array 5300 series controllers, HP StorageWorks Modular Smart Array 1000 and the HP StorageWorks Modular Smart Array 500	
64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter	268351-B21
(The 64-bit/133-MHz Dual Channel Wide Ultra320 SCSI Adapter (268351-B21) will default to Wide Ultra2 when not used with the Wide Ultra3 hard drives.)	
256MB DDR, Battery-Backed Cache Upgrade Kit for SA-6400	273913-B21
NOTE: This 256-MB DDR, Battery-Backed Cache upgrade kit supports the Smart Array 6400 series controller only.	
Ultra320 Expansion Module for SA-6402	273911-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/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)

Options

Communications	HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
	HP NC6170 PCI-X Dual Port 1000SX Gigabit Server Adapter	313879-B21
	NC6770 PCI-X Gigabit Server Adapter, 1000-SX	244949-B21
	HP NC7170 PCI-X Dual Port 1000T Gigabit Server Adapter	290563-B21
	HP NC7771 PCI-X Single Port 1000T Gigabit Server Adapter	313881-B21
	HP NC570C PCI-X Dual-port 4x Fabric Adapter	376158-B21
	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	1150/500-Watt Hot Plug N 1 redundant power supply (North America)	401231-001
	1150/500-Watt Hot Plug N 1 redundant power supply (Int'l)	401231-B31
	1150/500-Watt Hot Plug N 1 redundant power supply (Japan)	401231-291
	NOTE: A maximum of two power supplies are supported by the HP ProLiant DL760 G2 (shipped standard with each server).	
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
Security	HP/Atalla AXL600L SSL Accelerator Card for ProLiant Servers	524545-B21
	AXL300 Accelerator PCI Card for ProLiant Servers	227933-B21
Tape Drives	Ultrium Tape Drives - External, Rack-Mount and Array	
	HP StorageWorks Ultrium 215 Tape Drive, External (Carbon)	Q1545A
	HP StorageWorks Ultrium 215 rack-mount (Carbon) - Single drive installed in a 1U rack-mount kit	A7444A
	HP StorageWorks Ultrium 215 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7492B
	HP StorageWorks Ultrium 230 Tape Drive, External (Carbon)	Q1517A
	HP StorageWorks Ultrium 230, Rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit	350545-B21
	HP StorageWorks Ultrium 230 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7470B
	HP StorageWorks Ultrium 448 Tape Drive, External (Carbonite)	DW017A
	HP StorageWorks Ultrium 448, Rack-mount (Carbonite) - Single drive installed in a 1U rack-mount kit	DW028A
	HP StorageWorks Ultrium 460 Tape Drive, External (Carbon)	Q1520A
	HP StorageWorks Ultrium 460, Rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit	350546-B21
	HP StorageWorks Ultrium 460 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	Q1512B
	HP StorageWorks Ultrium 960 Tape Drive, External (Carbonite)	Q1539A
	HP StorageWorks Ultrium 960 Rack-mount (Carbonite) - Single drive installed in a 3U rack-mount kit	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)	
	http://h18006.www1.hp.com/products/quickspecs/11739_na/11739_na.html (North America)	
http://h18006.www1.hp.com/products/quickspecs/12128_div/12128_div.html (Worldwide)		
http://h18006.www1.hp.com/products/quickspecs/12128_na/12128_na.html (North America)		

Options

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

DAT Drives - External, Rack-Mount and Array Module

HP StorageWorks DAT 72 Tape Drive, External (Carbon)	Q1523A
HP StorageWorks DAT 72 Tape Drive, Internal Hot-Plug (Carbon)	Q1529A
HP StorageWorks DAT 72 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	Q1524B
HP StorageWorks DAT 40 Tape Drive, External (Carbon)	C5687C
HP StorageWorks DAT 40 Tape Drive, Internal Hot-Plug (Carbon)	Q1546A
HP StorageWorks DAT 40 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7497B
HP StorageWorks DAT 24e Tape Drive, External (Flint)	C1556D
HP StorageWorks DAT 24 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7498A

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://h18000.www1.hp.com/products/quickspecs/11883_na/11883_na.HTML
 (North America)

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>

External DLT VS Tape Drives

HP StorageWorks DLT VS80 Tape Drive, External (Carbon) NA	337699-B22
HP StorageWorks DLT VS80 Tape Drive, External (Carbon) Int'l	337699-B31
HP StorageWorks DLT VS80 Tape Drive, External (Carbon) Japan	337699-291

NOTE: Please see the DLT VS80 Tape Drive QuickSpecs for additional options such as host bus adapters, controllers, media, and other options:
http://h18006.www1.hp.com/products/quickspecs/11403_div/11403_div.HTML (Worldwide)
http://h18006.www1.hp.com/products/quickspecs/11403_na/11403_na.HTML
 (North America)

For an up-to-date listing of the latest O/S and software support details for the DLT VS80, please visit: <http://www.hp.com/go/connect>

External and Rack-mount SDLT Tape Drives

HP StorageWorks SDLT 320 Tape Drive, External (Carbon) NA	257319-001
HP StorageWorks SDLT 320 Tape Drive, External (Carbon) Int'l	257319-B31
HP StorageWorks SDLT 320 Tape Drive, External (Carbon) Japan	257319-291
SDLT 600 External Tape Drive, North America	A7519A
SDLT 600 External Tape Drive, Worldwide	A7520A
SDLT 600 in 3U Rack (1) Drive	A7965A

NOTE: Please see the SDLT Tape Drive QuickSpecs for additional options such as adapters, controllers, and media.
http://h18006.www1.hp.com/products/quickspecs/11840_div/11840_div.HTML (Worldwide)
http://h18006.www1.hp.com/products/quickspecs/11840_na/11840_na.HTML
 (North America)

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

Rack-Mount Tape Drive Enclosures

HP StorageWorks 1U Rack-Mount Kit	A7445A
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NOTE: The 1U Rack-mount Kit can support up to 2 half-height tape drives and compatible with multiple Single-Ended and LVD SCSI tape drives including DAT 24, DAT40, DAT72, DLT VS 80, and Ultrium 215 tape drives.

HP StorageWorks 3U Rack-Mount Kit	274338-B21
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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, DLT VS80, SDLT 320, Ultrium 215, Ultrium 230, and Ultrium 460 Tape Drives.

HP StorageWorks 5U Rack-Mount Kit	274339-B21
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NOTE: The 5U Rack-Mount Kit can support up to 4 full-height tape drives and is compatible with SDLT 320, Ultrium 230, and Ultrium 460 tape drives.

Options

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)

http://h18000.www1.hp.com/products/quickspecs/10854_na/10854_na.HTML

(North America)

HP StorageWorks Tape Array 5300

C7508A

NOTE: The Tape Array 5300 is a 3U enclosure that supports up to 2 full-height or 4 half-height hot-swap array modules, including DAT and Ultrium tape drives. Cables and terminators are not included and must be ordered separately.

NOTE: Please see the Tape Array 5300 QuickSpecs for additional information regarding this product.

http://h18000.www1.hp.com/products/quickspecs/11878_div/11878_div.HTML (Worldwide)

http://h18000.www1.hp.com/products/quickspecs/11878_na/11878_na.HTML

(North America)

Accessories for 3U & 5U Rack-mount Tape Drive Kits

LVD Cable Kit, VHDCI/HD68

168048-B21

NOTE: For use with the 3U Rack-mount Kit and 5U Rack-mount Kit only.

LVD Cable Kit, HD68/HD68

242381-B21

NOTE: For use with the 3U Rack-mount Kit and 5U Rack-mount Kit only.

Accessories for 3U & 5U Rack-mount Tape Drive Kits

PSU/Fan Upgrade Kit - Redundant hot-swap power supply unit and fan for Tape Array 5300.

68-pin HD multi-mode terminator

C2364A

1.0m 68-pin VHDCI to 68-pin HD cable

C2361B

2.5m 68-pin VHDCI to 68-pin HD cable

C2362B

5.0m 68-pin VHDCI to 68-pin HD cable

C2365A

10.0m 68-pin VHDCI to 68-pin HD cable

C2363B

0.5m 68-pin HDI to 68-pin HD cable LVD/SE

C2978B

1.5m 68-pin HDI to 68-pin HD cable LVD/SE

C2979B

0.9m 68-pin HDI to 68-pin HD cable LVD/SE

C2911C

2.5m 68-pin HDI to 68-pin HD cable LVD/SE

C2924C

NOTE: For use with Tape Array 5300 only

Options

Tape Autoloaders

DAT Autoloader

HP StorageWorks DAT 72x6 External Autoloader

Q1567A

NOTE: Please see the DAT Tape Autoloader QuickSpecs for additional options such as host bus adapters, controllers and media:

http://h18000.www1.hp.com/products/quickspecs/11985_div/11985_div.HTML (Worldwide)

http://h18000.www1.hp.com/products/quickspecs/11985_na/11985_na.HTML (North America)

HP StorageWorks 1/8 Tape Autoloader

1/8 Ultrium 460 Tape Autoloader, Tabletop

AA927A

1/8SDLT 320 Tape Autoloader, Tabletop

AA926A

1/8 Ultrium 230 Tape Autoloader, Tabletop

C9572CB

1/8 DLT VS80 Tape Autoloader, Tabletop

C9264CB

1/8 Tape Autoloader Rackmount Kit

C9268R

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

NOTE: Please reference the 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>.

HP StorageWorks SSL1016 Tape Autoloader

SSL1016 Ultrium 460 Tape Autoloader

330821-B21

SSL1016 SDLT 320 Tape Autoloader

330816-B21

NOTE: Please reference the SSL1016 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 MSL6000 Tape Library

MSL6030, 1 drive, 30 slots, Ultrium 460, RM

330731-B22

MSL6030, 2 drive, 30 slots, Ultrium 460, RM

330731-B23

MSL6030, 1 drive, 30 slots, Ultrium 460, RM with embedded FC router

330731-B24

MSL6030, 2 drive, 30 slots, Ultrium 460, RM with embedded FC router

330731-B25

MSL6060, 2 drive, 60 slot, Ultrium 460, RM

331196-B21

MSL6060, 2 drive, 60 slot, Ultrium 460, RM with embedded FC router

331196-B22

NOTE: Please reference the 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>.

HP StorageWorks MSL5026S2 Tape Library

MSL5026S2, 1 drive, 26 slots, SDLT 320, RM

293472-B22

MSL5026S2, 2 drive, 26 slots, SDLT 320, RM

293472-B23

MSL5026S2, 1 drive, 26 slots, SDLT 320, RM with embedded FC router

293472-B24

MSL5026S2, 2 drive, 26 slots, SDLT 320, RM with embedded FC router

293472-B25

NOTE: Please reference the MSL5026S2 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>.

HP StorageWorks MSL5052S2 Tape Library

MSL5052S2, 2 drive, 52 slots, SDLT 320, RM

293474-B21

MSL5052S2, 2 drive, 52 slots, SDLT 320, RM with embedded FC router

293474-B24

NOTE: Please reference the MSL5052S2 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>.

HP StorageWorks MSL5030 Tape Library

MSL5030, 1 drive, 30 slots, Ultrium 230, RM

301897-B22

MSL5030, 2 drive, 30 slots, Ultrium 230, RM

301897-B23

Options

MSL5030, 1 drive, 30 slots, Ultrium 230, RM with embedded FC router	301897-B24
MSL5030, 2 drive, 30 slots, Ultrium 230, RM with embedded FC router	301897-B25

NOTE: Please reference the MSL5030 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>.

HP StorageWorks MSL5060 Tape Library

MSL5060, 2 drive, 60 slots, Ultrium 230, RM	301899-B22
MSL5060, 2 drive, 60 slots, Ultrium 230, RM with embedded FC router	301899-B23

NOTE: Please reference the MSL5060 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>.

HP StorageWorks ESL E-Series Tape Libraries

ESL Extended 712e Tape Library, 0 drive, 712 LTO slots	AA934B
ESL Extended 630e Tape Library, 0 drive, 630 SDLT slots	AA935B
ESL Extended 322e Tape Library, 0 drive, 322 LTO slots	AA939B
ESL Extended 286e Tape Library, 0 drive, 286 SDLT slots	AA940B
ESL E-Series Ultrium 460 drive kit	AA937A
ESL E-Series Ultrium 460-FC drive kit	AA941A
ESL E-Series SDLT 320 drive kit	AA936A
ESL E-Series e2400-FC 2G Interface Controller	AA928A

NOTE: Please reference the ESL E-Series Tape Libraries 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>.

Magneto-Optical Jukeboxes

HP StorageWorks 9.1 GB Mid-range Optical Jukeboxes

300mx, 2 drive, 32 slot jukebox	C1150M
600mx, 4 drive, 64 slot jukebox	C1160M
700mx, 2 drive, 76 slot jukebox	C1170M

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.

HP StorageWorks 9.1 GB High-end Optical Jukeboxes

1200mx, 4 drive, up to 128 slots	C1104M
1200mx, 6 drive, up to 128 slots	C1105M
2200mx, 4 drive, up to 238 slots	C1111M
2200mx, 6 drive, up to 238 slots	C1107M
2200mx, 10 drive, up to 238 slots	C1110M

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

1000ux, 2 drive, 32 slot jukebox	AA965A
1900ux, 4 drive, 64 slot jukebox	AA966A
1900ux, 4 mixed drive, 64 slot jukebox	AA968A
2300ux, 2 drive, 76 slot jukebox	AA967A
3800ux, 4 drive, 128 slot jukebox	AA969A
3800ux, 6 drive, 128 slot jukebox	AA970A
7100ux, 4 drive, 238 slot jukebox	AA973A
7100ux, 6 drive, 238 slot jukebox	AA971A
7100ux, 10 drive, 238 slot jukebox	AA972A
7100ux, 6 mixed drive, 238 slot jukebox	AA974A

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.

Options

External Storage	HP StorageWorks Modular Smart Array 20	335921-B21
	NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.	
	HP StorageWorks Modular Smart Array 20 Starter Kit	366172-B21
	NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies. Includes Smart Array 6402/128 Controller.	
	NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 1" Hot Plug Hard Drives.	
	HP StorageWorks Modular Smart Array 30 SB	302969-B21
	NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies.	
	HP StorageWorks Modular Smart Array 30 DB	302970-B21
NOTE: Rack-mountable 14 drive enclosure with dual bus, redundant power supplies.		
NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 1" Hot Plug Hard Drives.		
Redundant Power Supply 499W	338296-B21	
Ultra320 Dual Bus I/O Module for MSA30	287483-B21	
Ultra320 Single Bus I/O Module for MSA30	287484-B21	

HP StorageWorks Modular Smart Array 500	HP StorageWorks Modular Smart Array 500 Generation 2	335880-B21
	NOTE: Please see the Modular Smart Array 500 Generation 2 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at:	
	http://h18000.www1.hp.com/products/quickspecs/11956_na/11956_na.HTML (North America)	
	http://h18000.www1.hp.com/products/quickspecs/11956_div/11956_div.HTML (Worldwide)	

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_na/11935_na.html (North America) http://h18000.www1.hp.com/products/quickspecs/11935_div/11935_div.html (Worldwide)</p> <p>ProLiant Cluster Kit with OpenView Storage Mirroring 364025-B21</p> <p>NOTE: For additional information regarding the ProLiant Cluster Kit with OpenView Storage Mirroring please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11934_na/11934_na.html (North America) http://h18000.www1.hp.com/products/quickspecs/11934_div/11934_div.html (Worldwide)</p> <p>ProLiant Cluster HA/F200 for the Entry Level SAN 364026-B21</p> <p>ProLiant Cluster HA/F200 for the Entry Level SAN (Japan) 364026-291</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_na/11932_na.html (North America) 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_na/11933_na.html (North America) http://h18000.www1.hp.com/products/quickspecs/11933_div/11933_div.html (Worldwide)</p> <p>HP Serviceguard for Linux ProLiant Cluster A.11.15 for SUSE SLES 8 / UnitedLinux 1.0 and Red Hat EL 3 (2 node license cluster kit) 305199-B24</p> <p>HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 and Red Hat EL 3 (2 node license cluster kit) 305199-B25</p> <p>HP Serviceguard for Linux License A.11.15 for SUSE SLES 8 / UnitedLinux 1.0 and Red Hat EL 3 (single license version) 307754-B24</p> <p>HP Serviceguard for Linux A.11.16 for SUSE SLES9 and Red Hat EL 3 (single license version) 307754-B25</p> <p>NOTE: For additional information regarding HP Serviceguard for Linux, 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)</p>
HP StorageWorks Modular Smart Array 1500 cs	<p>Modular Smart Array 1500 Controller Shelf AA986A</p> <p>NOTE: Please see the StorageWorks Modular SAN Array 1500 cs QuickSpecs for additional options and configuration information at: http://www.hp.com/go/MSA1500cs</p>
HP StorageWorks Modular Smart Array 1000	<p>HP StorageWorks Modular Smart Array 1000 201723-B22</p> <p>NOTE: Please see the Modular Smart Array 1000 QuickSpecs for additional options and configuration information at http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML (North America) http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML (Worldwide)</p>

Options

StorageWorks Options	StorageWorks SAN Switch 2/16	322118-B21
	StorageWorks Director 2/64	286809-B21
<p>NOTE: Please see the StorageWorks Director 2/64 QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/11003_na/11003_na.HTML (North America) http://h18000.www1.hp.com/products/quickspecs/11003_div/11003_div.HTML (Worldwide)</p>		
UPS and PDU Power Cord Matrix	<p><i>Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units.</i> ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf.</p>	
External Storage - Tower & Rack	Modular Smart Array 30 SB (Rack-mountable 14 drive enclosure with single bus, redundant power supplies)	302969-B21
	Modular Smart Array 30 DB (Rack-mountable 14 drive enclosure with dual bus, redundant power supplies)	302970-B21
	<p>NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 1" Hot Plug Hard Drives.</p>	
	StorageWorks S/B U320 I/O Module for MSA30	287484-B21
	StorageWorks D/B U320 I/O Module for MSA30	287483-B21
Uninterruptible Power Systems – Rack Mountable	HP UPS R1500 XR (1440VA, 1340 Watt), Low Voltage (NA)	204404-001
	HP UPS R1500 XR (1500VA, 1340 Watt), High Voltage (Int'l)	204404-B31
	HP UPS R1500 XR (1500VA, 1340 Watt), Low Voltage (Japan)	204404-291
	HP UPS R3000 XR (2880VA, 2700 Watt), Low Voltage (NA)	192186-001
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (NA)	192186-002
	HP UPS R3000 XR (2400VA, 2250 Watt), Low Voltage (Japan)	192186-291
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Japan)	192186-292
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Int'l - detachable cord)	192186-B31
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A IEC309 Plug)	192186-B32
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A CEE 7/7 SCHUKO Plug)	192186-B33
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (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
	UPS R12000 XR N+x (200-240V) (WW-hardwired)	207552-B22
<p>NOTE: The UPS R12000 XR has a hardwired input and output; requires a 100A circuit.</p>		
HP Power Distribution Unit with Power Monitoring	HP Power Distribution Unit with Power Monitoring Model S2324 - dual input, 3 phase, 24A (NA/JPN)	370959-D71
	HP Power Distribution Unit with Power Monitoring Model S1324 - single input, 3 phase, 24A (NA/JPN)	370960-D71
	HP Power Distribution Unit with Power Monitoring Model S2140 - dual input, 1 phase, 40A (NA/JPN)	370961-D71
	HP Power Distribution Unit with Power Monitoring Model S1140 - single input, 1 phase, 40A (NA/JPN)	370962-D71
	HP Power Distribution Unit with Power Monitoring Model S2316 - dual input, 3 phase, 16A (INTL)	370963-B31
	HP Power Distribution Unit with Power Monitoring Model S1316 - single input, 3 phase, 16A (INTL)	370964-B31
	HP Power Distribution Unit with Power Monitoring Model S2132 - dual input, 1 phase, 32A (INTL)	370965-B31
	HP Power Distribution Unit with Power Monitoring Model S1132 - single input, 1 phase, 32A (INTL)	370966-B31

Options

Modular PDUs 1U/0U (Up to 32 outlets) NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	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) NOTE: This mPDU (252663-B21), 40A model has a hardwired input.	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_na/11041_na.HTML (North America) http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.HTML (Worldwide)	252663-B32
<hr/>		
Custom Builder	Please see the Enterprise Configurator for configuration assistance at: http://www.hp.com/products/configurator .	
<hr/>		
Third Party Rack Kit	Rack Adapter Kit NOTE: This kit allows HP rack servers to fit in racks that are 24" wide.	332815-B21
	Third Party Rack Kit NOTE: The Third party rack kit supports the HP ProLiant ML530 G2, HP ProLiant ML570 G2, HP ProLiant DL740, and HP ProLiant DL760 G2. Provides support for any rack, square hole or round hole (including HP Rack System /E and HP Systems) with an adjustment range from 23 1/2" – 34" deep. NOTE: The Third Party Rack Kit is required for round hole racks or for square hole racks that do not conform to the adjustment range of the standard rail that ships with the server. Telco Rack Support NOTE: Support for all 2-post Telco racks requires the Third Party Rack Kit (PN 274739-B21) kit plus an additional option kit from Rack Solutions. The Rack Solutions brackets can be purchased at: http://www.racksolutions.com/compaq .	274739-B21
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Options

HP Rack 5000 Series (Graphite Metallic)	HP 5642 Rack-Unassembled	358254-B21
Rack Options for Rack 5000 Series	Stabilizer Kit for 5642 rack (Graphite Carbon) NOTE: The stabilizing kit is used to prevent rack from tipping over.	374493-B21
	Baying Kit for 5642 rack (Graphite Carbon) NOTE: The baying kit is used to join two or more HP 5642 racks.	374499-B21
HP Rack 10000 Series (Graphite Metallic)	10642 (42U) Infrastructure Rack (Low Voltage)	379006-001
	10642 (42U) Infrastructure Rack (High Voltage)	379005-001
	HP Rack S10614 (14U) Rack Cabinet – Shock Pallet	292302-B22
	HP Rack 10842 (42U, 800mm wide) – Pallet	257415-B21
	HP Rack 10842 (42U, 800mm wide) – Shock Pallet	257415-B22
	HP Rack 10647 (47U) – Pallet	245160-B21
	HP Rack 10647 (47U) – Crated	245160-B23
	HP Rack 10642 (42U) – Pallet	245161-B21
	HP Rack 10642 (42U) – Shock Pallet	245161-B22
	HP Rack 10642 (42U) – Crated	245161-B23
	HP Rack 10636 (36U) – Pallet	245162-B21
	HP Rack 10636 (36U) – Shock Pallet	245162-B22
	HP Rack 10636 (36U) – Crated	245162-B23
	HP Rack 10622 (22U) – Pallet	245163-B21
	HP Rack 10622 (22U) – Shock Pallet	245163-B22
	HP Rack 10622 (22U) – Crated	245163-B23
<p>NOTE: -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) -B23 (crated) used for air shipments of empty racks</p> <p>NOTE: Please see the Rack 10000 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/10995_div/10995_div.HTML (Worldwide) http://h18000.www1.hp.com/products/quickspecs/10995_na/10995_na.HTML (North America)</p> <p>NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html.</p>		
Rack Options for HP Rack 10000 Series	NOTE: For additional information regarding Rack Options, please see the following URL: http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html .	
	HP Rack Light Kit (Neon)	361589-B21
	HP Rack Plinth Kit (Carbon)	251960-B21
	42U Side Panel – Graphite Metallic	246099-B21
	36U Side Panel – Graphite Metallic	246102-B21
	47U Side Panel – Graphite Metallic	255486-B21
	TFT5600 Rack Keyboard Monitor	221546-xx1
	Country Code Key (for TFT5600 Rack Keyboard Monitor (PN 221546-xx1))	

Options

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

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://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html>.

HP KVM Switch Options

Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
IP Console Switch Box (KVM/IP), 1 x 1 x 16	262585-B21
IP Console Switch Box (KVM/IP), 3 x 1 x 16	262586-B21
HP 1x4 USB/PS2 KVM Switch, RM (ALL)	371302-B21
HP 1x4 USB/PS2 KVM Switch, TT, (EURO)	371301-A21
HP 1x4 USB/PS2 KVM Switch, TT (UK)	371301-031
HP 1x4 USB/PS2 KVM Switch, TT, (AUST/NZ)	371301-011
HP 1x4 USB/PS2 KVM Switch, TT, (NA/JPN)	371301-D71
PS/2 Interface Adapter, 8 pack	262587-B21
PS/2 Interface Adapter, 1 pack	262588-B21
CAT5 KVM Expansion Module	262589-B21
Serial Interface adapter - 1 Pack with power supply	373035-B21
CAT5e Cable 3', 4 pack	263474-B21
CAT5e Cable 6', 8 pack	263474-B22
CAT5e Cable 12', 8 pack	263474-B23
CAT5e Cable 20', 4 pack	263474-B24
CAT5e Cable 40', 1 pack	263474-B25

NOTE: For additional information regarding HP KVM Switches and options, please see the following URL:

<http://h18004.www1.hp.com/products/servers/proliantstorage/rack-options/list.html#console>

Options

Service and Support Offerings (HP Care Pack Services)

The Service and Support Offerings specifying Microsoft O/S in the description cover Windows NT, Windows 2000 Server/Advanced Server or Novell NetWare Operating System.

Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years	U4623A
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4623E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years	U4624A
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4624E

Installation & Start-up Services

Hardware Installation	U4633A
Hardware Installation, Electronic	U4633E
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.	U4634A
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	U4634E

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.	U4635A
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	U4635E
Onsite HW support, 8am-9pm, M-F, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays	U4637A
Onsite HW support, 8am-9pm, M-F, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic	U4637E

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.	U4636A
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	U4636E
Onsite HW support 24x7, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays.	U4638A
Onsite HW support 24x7, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U4638E

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

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years	U4625A
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4625E

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

Memory

HP ProLiant DL760 G2 2.2GHz/2MB or 2.0GHz/1MB, 2048MB (4P)

Standard Memory

2048-MB addressable buffered ECC SDRAM DIMM memory (2 x 256-MB DIMMs x 5 Hot-Plug RAID Memory Cartridges. The 5th cartridge is populated for redundancy.)

Standard Memory Plus Optional Memory

Up to 51,200-MB of addressable ECC SDRAM DIMM memory is available with the installation of optional ECC SDRAM DIMM memory expansion kits.

Standard Memory Replaced with Optional Memory

Up to 65,536-MB of addressable ECC SDRAM DIMM memory is available with the removal of standard memory and the installation of optional ECC SDRAM DIMM memory expansion kits.

NOTE: 8 slots per Hot-Plug RAID Memory Cartridge. Up to 64-GB addressable memory total. Memory must be added in banks of two DIMMs per cartridge across all five (four if running in a non-redundant mode) Hot-Plug RAID Memory Cartridges. Charts do not represent all possible configurations.

Memory		Slot							
		1	2	3	4	5	6	7	8
Cartridge 1 (C1)	Standard	256 MB	256 MB	empty	empty	empty	empty	empty	empty
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 2 (C2)	Standard	256 MB	256 MB	empty	empty	empty	empty	empty	empty
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 3 (C3)	Standard	256 MB	256 MB	empty	empty	empty	empty	empty	empty
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 4 (C4)	Standard	256 MB	256 MB	empty	empty	empty	empty	empty	empty
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 5 (C5)	Standard	256 MB	256 MB	empty	empty	empty	empty	empty	empty
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB

Following are memory options available from HP:

- 2048MB 133MHz ECC SDRAM Memory Option Kit (1x2048MB) 317093-B21
NOTE: A ROM dated later than 2/14/2003 is needed to use 2 GB DIMMs.
- 1024MB 133MHz ECC SDRAM Memory Option Kit (1x1024MB) 236854-B21
- 512MB 133MHz ECC SDRAM Memory Option Kit (1x512MB) 236853-B21
- 256MB 133MHz ECC SDRAM Memory Option Kit (1x256MB) 236852-B21

Memory

HP ProLiant DL760 G2 3.0GHz/4MB, 2.7GHz/2MB, 2.5GHz/2MB or 2.8 GHz/2MB 4096MB (4P)

Standard Memory

4096-MB buffered ECC SDRAM DIMM memory (2 x 512-MB DIMMs x 5 Hot-Plug Memory Cartridges. The 5th cartridge is populated for redundancy.)

Standard Memory Plus Optional Memory

Up to 53,248-MB of SDRAM DIMM memory is available with the installation of optional SDRAM DIMM memory expansion kits.

Standard Memory Replaced with Optional Memory

Up to 65,536-MB of SDRAM DIMM memory is available with the removal of standard memory and the installation of optional SDRAM DIMM memory expansion kits.

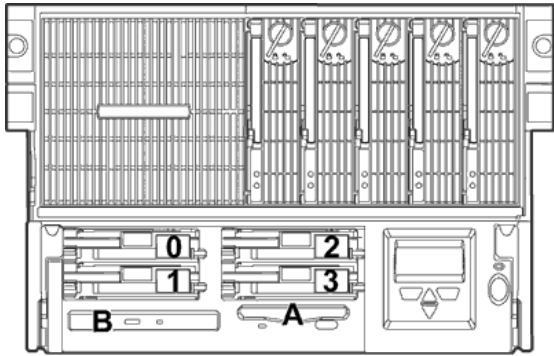
NOTE: 8 slots per Hot-Plug RAID Memory Cartridge. Up to 64-GB addressable memory total. Memory must be added in banks of two DIMMs per cartridge across all five (four if running in a non-redundant mode) Hot-Plug RAID Memory Cartridges. Charts do not represent all possible configurations.

Memory		Slot							
		1	2	3	4	5	6	7	8
Cartridge 1 (C1)	Standard	512 MB	512 MB	empty	empty	empty	empty	empty	
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 2 (C2)	Standard	512 MB	512 MB	empty	empty	empty	empty	empty	
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 3 (C3)	Standard	512 MB	512 MB	empty	empty	empty	empty	empty	
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 4 (C4)	Standard	512 MB	512 MB	empty	empty	empty	empty	empty	
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 5 (C5)	Standard	512 MB	512 MB	empty	empty	empty	empty	empty	
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB

Following are memory options available from HP:

- 2048MB 133MHz ECC SDRAM Memory Option Kit (1x2048MB) 317093-B21
NOTE: A ROM dated later than 2/14/2003 is needed to use 2 GB DIM
- 1024MB 133MHz ECC SDRAM Memory Option Kit (1x1024MB) 236854-B21
- 512MB 133MHz ECC SDRAM Memory Option Kit (1x512MB) 236853-B21
- 256MB 133MHz ECC SDRAM Memory Option Kit (1x256MB) 236852-B21

Storage



- 0 - 3 1" Ultra320 SCSI Hot Plug drive bays
- A Integrated 1.44MB Diskette drive
- B Integrated Slimline CD/DVD-ROM Drive (8X/24X)

Drive Support

	Quantity Supported	Position Supported	Controller
Integrated Media			
Integrated 1.44-MB Diskette Drive	Up to 1	A	Integrated
Integrated Slimline CD/DVD-ROM Drive (8X/24X)	Up to 1	B	Integrated IDE

Hard Drives

Ultra320 Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
1-inch	Up to 4	0-3	
300-GB 10,000 rpm			Integrated 5i Smart Array Controller
146.8-GB 10,000 rpm			Smart Array 6402/128 Controller
72.8-GB 10,000 rpm			Smart Array 641 Controller
146.8-GB 15,000 rpm			Smart Array 642 Controller
72.8-GB 15,000 rpm			64-bit/133-MHz Dual Channel Ultra320 SCSI Adapter
36.4-GB 15,000 rpm			

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

Storage

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 30 Family	Up to 13	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller 64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
Modular Smart Array 500 G2 System	1	External	Please see the Modular Smart Array 500 QuickSpecs for the latest list of supported HBAs: http://www.hp.com/go/msa500
Modular Smart Array 1000	Please see the Modular Smart Array 1000 QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1000 QuickSpecs (URL below) for the latest list of supported HBAs
Modular Smart Array 1500 cs	Please see the Modular Smart Array 1500 cs QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1500 cs QuickSpecs (URL below) for the latest list of supported HBAs

Modular Smart Array 1000:

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

http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML (North America)

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

Maximum Storage Capacity - (SCSI Attached)

Internal	1.20 TB (4 x 300 GB Ultra320 1" Drives)
External	184.80 TB hot plug SCSI storage (44 x (14 x 300 GB Ultra320 1" Drives))
Total	186.00 TB

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/North_America/10233.html (North America)

<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 & Tape Libraries listed below, please see the following:

http://h18000.www1.hp.com/products/quickspecs/North_America/10809.html (North America)

<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>

	Quantity Supported	Position Supported	Controller
HP StorageWorks Tape Drives, Internal Hot Plug DAT 72 Tape Drive DAT 40 Tape Drive	Up to 2	0+1, 2+3	Smart Array 5i Controller (integrated on system board) Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller Smart Array 641 Controller 64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks Tape Drives, External	Up to 2	External	64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

Storage

Ultrium 215
 Ultrium 230
 Ultrium 448
 Ultrium 460
 DAT 72 Tape Drive
 DAT 40 Tape Drive
 DAT 24 Tape Drive
 DLT VS80 Tape Drive
 DLT VS160 Tape Drive
 SDLT 320 Tape Drive

HP StorageWorks Tape Drives, External 1 External 64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter
 Ultrium 960 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

HP StorageWorks Autoloaders, External 1 autoloader per SCSI channel External 64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter
 DAT 72x6 Tape Autoloader 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
 1/8 Tape Autoloader
 SSL1016 Tape Autoloader

HP StorageWorks Rack-mount Tape Drive Enclosures 1 per SCSI channel External 64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter
 1U Rack-Mount Kit 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
 3U Rack-Mount Kit
 5U Rack-Mount Kit

HP StorageWorks Tape Libraries, External Please reference the MSL Tape Library QuickSpecs to determine configuration requirements External 64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter
 MSL6060 (Ultrium 460 - based) 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
 MSL6030 (Ultrium 460 - based)
 MSL5026S2 (SDLT 320-based)
 MSL5052S2 (SDLT 320-based)
 MSL5030 (Ultrium 230 - based)
 MSL5060 (Ultrium 230 - based)

HP StorageWorks ESL E-Series Tape Libraries Please reference the ESL E-series Tape Libraries QuickSpecs to determine configuration requirements External 64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter
 ESL 712e 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
 ESL 630e
 ESL 322e
 ESL 286e

Technical Specifications

System Unit	Dimensions (HxWxD)	12.14 x 17.5 x 27 in (30.83 x 44.45 x 68.58 cm)		
	Weight	165 lb (75 kg)		
	No hard drives installed, two power supplies			
	Input Requirements (per power supply)	Rated Input Voltage (lowline/highline)	100 to 120 VAC/200 to 240 VAC	
		Rated Input Frequency	47 to 63 Hz (lowline/highline)	
		Input Power	740W/1700W (lowline/highline)	
		Rated Input Current (lowline/highline)	8A at 100 VAC/10A at 200 VAC	
	BTU Rating (Maximum output) (NOTE that the maximum heat maximum power) output by the server is equal to the electrical power input.)	1555 Watts [5309 BTU/hr] (System is configured to draw maximum power)		
	Power Supply Output Power (per power supply)	Rated Steady-State Power	500W/1150W (lowline/highline)	
		Maximum Peak Power	540W/1150W (lowline/highline)	
	Temperature Range	Operating	50° to 95° F at sea level, altitude de-rating of 1.8° F per 1,000 ft to 10,000 ft (10° to 35° C at sea level, altitude de-rating of 1°C per 300 m to 3,000 m). Maximum rate of change is 18°F/Hr (10°C/Hr)	
		Non-operating	-22° to 140° F (-30° to 60° C). Maximum rate of change is 36° F/Hr (20° C/Hr)	
		Shipping	-22° to 122° F (-30° to 50° C)	
	Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity, 82.4°F (28°C) maximum wet bulb temperature, non-condensing	
		Non-operating	5 to 95% relative humidity, 101.7°F (38.7°C) maximum wet bulb temperature, non-condensing	
Maximum Wet Bulb Temperature	101.7° F (38.7° C)			
Acoustic Noise	Idle (Fixed Disk Drives Spinning)			
	L_{WA}d (BELS)	6.9		
	L_{pAm} (dBA)	53		

Technical Specifications

Power Supply	1150/500W, Hot Plug Redundant (2 standard)	One Redundant Power Supply (optimized to provide full redundancy at 220 volts)	
	Input Specifications	Normal Line Voltage	100 to 120 VAC/200 to 240 VAC
		Range Input Line	90 to 132 VAC/180 to 265 VAC
		Frequency Range	47 to 63 Hz
		Power Factor	0.95
		Input Current	8 A at 100 VAC/10 A at 200 VAC
		Inrush Current	<70 A at 132 VAC (cold start)
		Holdup Time	20 ms from zero crossing at 120 VAC
	General Specifications	Full Output Rating	To 104° F (40° C) and 5,000 ft (1524 m)
			To 89.6° F (32° C) and 10,000 ft (3,048 m) (derate linearly)
		Minimum Load	1 A on 5 V output; 1 A on 12 V output; 0.5 A on 3.3 V output
	Ambient Temperature Range	Operating	41° to 122° F (5° to 50° C)
		Storage	-40° to 185° F (-40° to 85° C)
	Dielectric Voltage Withstand	Input to Output	3,000 VAC/min
		Input to Ground	1,500 VAC/min
Input Transient Susceptibility	Common and Differential Mode (superimposed on AC line)	2,500 V, 1μs, damped sinusoid 600 V, 10 μs pulse	
	Differential Mode	20% step change in AC input voltage	

Slim Line CD/ DVD-ROM Combo Drive (8X/24X)	Shipping Dimensions	13.88 x 11.38 x 9.25 in (35.26 x 28.91 x 23.50 cm)			
	Shipping Weight	5 lb (2.27 kg)			
	Disk	Applicable Disk	DVD-R (Read Only)		
			2.6 GB/side DVD-RAM (Read Only)		
			5.2 GB/side DVD-RAM (Read Only)		
			CD-ROM Mode-1 data disc		
			CD-ROM Mode-2 data disc		
			CD Audio disc		
			CD-Extra		
			CD-ROM		
			CD-R		
			CD Text		
			PhotoCD		
			CD-I (mode 2)		
			CD-I Ready		
CD-Bridge					
Capacity	DVD-ROM	DVD-SL		4.7 GB/side	
		DVD-DL		8.5 GB/side	
		Double Sided		9.40 GB/side	
		DVD-R		3.95 GB/side	
		DVD-RAM		2.6 GB/side and 5.2 GB/	
		CD-ROM	Mode-1		650 MB (550 MB)
	Mode-2		742 MB (640 MB)		
Block Size	DVD	DVD		2,048 bytes	
		CD		2,352 (Mode-0)	

Technical Specifications

		2352, 2340, 2336, 2048 bytes (Mode-1)
		2352, 2340, 2336, 2048 bytes (Mode-2)
	Diameter	120 mm, 80 mm (with adapter at vertical mounting mode)
Loading Mechanism	Tray type	
Interface	EIDE (ATAPI)	
Access Times (typical)	Random	DVD-ROM < 120 ms, CD-ROM < 110 ms
	Full-Stroke	DVD-ROM < 240 ms, CD-ROM < 160 ms
Audio Output Level (typical)	Line-out	CD 0.7 Vrms at 47 Kohms Load
Data Transfer Rate	DVD-ROM	Single Layer 10.8 MB/sec. Max.
	DVD-RAM	2.77 MB/sec. Maxz
	CD-ROM	7.2 MB/sec. Max.
Cache Buffer	2 MB	
Spin-up Time (typical)	less than 10 seconds	
MTBF	120,000 Power On Hours (POH)	
Ambient Temperature	Operating	-22° to 140° F (-30° to 60° C)
Relative Humidity	Operating	10% to 80%
	Storage/ Transportation	5% to 95%
Dimensions	(HxWxD, maximum)	0.5 x 5.04 x 5.1 in (12.7x128x129.4 mm)
Option Kit Contents	DVD-ROM drive with installation guide, warranty card, registration card	

Smart Array 5i Controller (integrated on system board)	Protocol	Wide Ultra3 SCSI
	Processor	32-bit RISC
	XOR engine	Hardware RAID
	Electrical interface	Low Voltage Differential (LVD)
	Simultaneous Drive Transfer Channels	2
	Channel Transfer Rate	320 MB/s total; 160 MB/s per channel
	SCSI Port Connectors	One external and one internal SCSI port
	Memory	32 MB of DRAM used for code, transfer buffers, and non-battery-backed read cache
	Peak transfer rate	160 MB/s
	Logical Drives Supported	32
	Software Upgradeable Firmware	Yes
	RAID Support	RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping and Mirroring) RAID 1 (Mirroring) RAID 0 (Stripping)
	Disk Drive and Enclosure Protocol Support	Ultra2 and Ultra3

Technical Specifications

NC7770 PCI-X Gigabit Server Adapter	Network Interface	10/100/1000-T	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	64-bit/133MHz 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-T (Half and Full-Duplex)	2000 Mb/s
Connector	RJ-45		
Cable Support	10Base-T	Category 3,4 or 5 UTP; up to 328 ft (100 m)	
	10/100/1000Base-T	Category 5 UTP (2 pair); up to 328 ft (100 m)	

NC7170 Dual-Port PCI-X 1000T Gigabit Server Adapter	Network Interface	Two 10/100/1000-T ports	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
		IEEE 802.3ad, IEEE 802.3p, and IEEE 802.3Q	
	Data Transfer Method	64-bit/133MHz PCI-X, compatible with 64/100, 64/66, 64/33 and 32/33	
	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-T (Half and Full-Duplex)		2000 Mb/s	
Connector	Two RJ-45		
Cable Support	10Base-T	Category 3,4 or 5 UTP; up to 328 ft (100 m)	
	10/100/1000Base-T	Category 5 UTP (2 pair); up to 328 ft (100 m)	

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