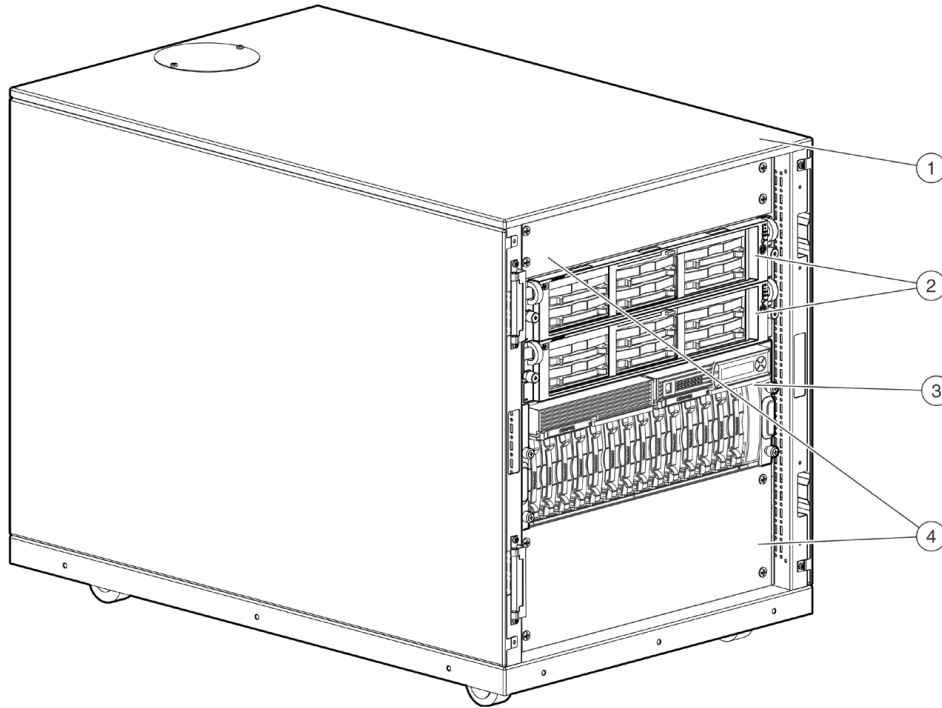


Overview



1. 14U rack
2. Two 2U Servers

3. 4U Shared Storage with 14 1" Hot Plug Drives Bays
4. Open rack space for options (6U total)

What's New

- Features ProLiant DL380 G3 3.06 GHz - 512KB Cache/533MHz Servers

At A Glance

- Two DL380 G3 Servers (1 processor per server) plus the Modular Smart Array 500 system combined in a 14U Rack
- DL380 features (per server):
 - Intel® Xeon® 3.06 GHz Processor (dual capability) with 512-KB level 2 ECC cache
 - 1024-MB (expandable to 12GB) of 2-way interleaved capable PC2100 DDR SDRAM running at 266 MHz, with advanced ECC capabilities and online spare capabilities.
 - Three available 64 bit PCI-X expansion slots: two Hot Plug 100-MHz and one 133MHz slot
 - Two NC7781 PCI-X Gigabit NICs (embedded)
 - Integrated Smart Array 5i Plus Controller with optional battery backed write cache option kit.
 - Integrated Lights-Out (iLO) Management standard on system board
 - Support for up to six 1 Ultra320 SCSI hot plug hard drives or five hot plug hard drives and one AIT/DAT hot plug tape drive
 - Internal hot plug capacity 1.80 TB maximum (6 x 300 GB Ultra320 1" hard drive)
 - Tool-less sliding rails and cable management arm for easy serviceability and in-rack access to major components 400-Watt Hot Plug Power Supply and Hot Pluggable Fans (optional redundancy for both)
- Modular Smart Array 500 features:
 - 4U Rack Mount SCSI Storage, Dual Bus, one Modular Smart Array 500 controller (redundant optional)
 - 14 hot plug drive bays, up to 4.20 TB storage (with 300 GB Ultra320 1" hard drive)
 - 4-Port Shared storage module option for the highest level of availability (multi-path software included)
 - RAID-ADG (Advanced Data Guarding)
 - Battery-Backed 128-MB cache, upgrade to 512-MB cache
 - Hot Plug redundant power supplies and fans
 - Tool-less rack-rail included
- Protected by HP Services, including a three-year, Next Business Day, on-site limited Global warranty and extended Pre-Failure Warranty, which covers processors, memory, and hard drives - Certain restrictions and exclusions apply. Consult the HP Customer Support Center at 1-800-345-1518 for details

Standard Features (DL380 Generation 3 Packaged Cluster - Racked)

Packaging	14U rack Shock resistant pallet Servers & Storage are rack installed Fully pre-wired
Server	ProLiant DL380 G3 Server (Qty 2) NOTE: Complete information on the server can be found in the following QuickSpecs: http://h18004.www1.hp.com/products/servers/proliantdl380/description-g3.html#quickspecs .
Shared Storage	Modular Smart Array 500 (Qty 1) NOTE: Complete information on the storage can be found in the following QuickSpecs: http://h18004.www1.hp.com/products/servers/proliantstorage/sharedstorage/sacluster/quickspecs .
Rack with Shock Pallet	S10614 14U Rack with Shock Pallet (Qty 1) For complete options of the 14U Rack, please refer to the HP Rack 100000 Series. http://h18004.www1.hp.com/products/servers/proliantstorage/racks/10000series/benefits2.html#options
Documentation	Cluster set-up poster and configuration guide
OS Support	<u>Microsoft® Cluster Service</u> <ul style="list-style-type: none">● Microsoft Windows® Server 2003 Enterprise Edition● Microsoft Windows 2000 Advanced Server● Microsoft Windows NT® EE 4.0 <u>Novell Cluster Service</u> <ul style="list-style-type: none">● Novell NetWare 5.1● Novell NetWare 6.0● Novell Netware 6.5 <u>HP Service Guard Cluster Service for Linux</u> <ul style="list-style-type: none">● Red Hat Linux 7.3● Red Hat Enterprise Linux ES 2.1, AS 2.1● UnitedLinux 1.0, (including SuSE Linux Enterprise Server 8) <u>SteelEye's Lifekeeper for Linux</u> <ul style="list-style-type: none">● Red Hat Linux 7.2, 7.3, 8.0● Red Hat Enterprise Linux 2.1● UnitedLinux 1.0 (including SUSE Linux Enterprise Server 8)● SUSE Linux Enterprise Server 7 (SLES7) <p>Please refer to compatibility matrix http://www.hp.com/products/sharedstorage for latest compatibility information. NOTE: For an up-to-date listing of the latest drivers available for the HP ProLiant DL380 Packaged Cluster, 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</p>

Standard Features (DL380 Generation 3 Packaged Cluster - Racked)

High Availability Kit, Smart Array Multipath Software and 4-Port Module (Optional)

Enhance cluster fault tolerance by adding dual paths from the host servers to the shared storage. This provides an additional level of fault tolerance by adding redundancy and performance to both the HBA in the host server as well as the SCSI cables connecting the host servers to the shared storage. Smart Array Multipath software delivers dual path functionality and supports failover capabilities for redundant host bus adapters (HBAs) in a server with redundant cabling to a Modular Smart Array 500. This fault-tolerance tool enhances availability of clustering and direct attached storage (DAS) solutions with up to two servers managing up to 4.20 TB of stored data.

When an HBA failure occurs, the software moves the logical drives from the path of the failed HBA to the path of the redundant HBA located in the same server.

- Increase availability by protecting against connectivity (HBA) and cable failures and accidental pull-outs.
- Ships with 4-Port Shared Storage Module part number 292944-B21
- Increase performance with Static LUN Balancing (Microsoft OS) enables the administrator to optimize I/O by assigning specific volumes to specific paths in the storage system. If one path fails the system moves volumes to the path for redundant HBA for I/O management.
- Increase performance with Static Load (read-only) Balancing (Linux OS) enables the HBAs to optimize I/O with dual paths to the same volumes in the storage system. If one HBA fails the system moves volumes to the path for the redundant HBA for I/O management.

Operating Systems supported: Windows 2000 Advanced Server; Windows 2003 Enterprise Edition, Red Hat Enterprise Linux ES/AS 2.1, UnitedLinux 1.0 (including SUSE Linux Enterprise Server 8), SUSE Linux Enterprise Server 7 (see MSA500 Compatibility Matrix for latest updates:

<http://h18004.www1.hp.com/products/servers/proliantstorage/sharedstorage/sacluster/index.html>

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 HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the enclosure, as well as 22" and smaller external monitors and tower UPS options up to 3KVA. 22" and smaller external monitors will be covered at the same service level and coverage period as the server. 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>

Standard Features (DL380 Generation 3 server)

Processor (per server)	Intel Xeon Processor 3.06 GHz-512KB Cache/533 MHz		
Cache Memory (per processor)	512-KB L2 Cache		
Upgradability (per server)	Upgradable to dual processing		
Chipset (per server)	ServerWorks GC-LE Chipset NOTE: For more information regarding ServerWorks, please see the following URL: http://www.serverworks.com/products/overview.html .		
Memory (per server)	Standard	1024 MB of 2-way interleaved capable PC2100 DDR SDRAM running at 266 MHz, with Advanced ECC capabilities and online spare capabilities	
	Maximum	12 GB	
Network Controller (per server)	Two NC7781 PCI-X Gigabit NICs (embedded)		
Expansion Slots (per server)	I/O (3 Total, 3 available)	PCI Voltage:	
	64-bit/100-MHz Hot Plug PCI	2	3.3 Volt or universal cards
	64-bit/133-MHz Non Hot Plug PCI	1	
	PCI		
Storage Controllers (per server)	Smart Array 5i Controller (integrated on system board) NOTE: For complete list of devices supported the Smart array 5i Controller see the following: http://h18000.www1.hp.com/products/quickspecs/10890_na/10890_na.HTML (North America) http://h18000.www1.hp.com/products/quickspecs/10890_div/10890_div.HTML (Worldwide)		
Storage (per server)	Diskette Drive	1.44 MB Diskette Drive	
	Optical Drive	24x IDE CD-ROM Drive (Universal Media Bay)	
	Hard Drives	None	
	Maximum Internal Storage	1.80 TB (6 x 300 GB Ultra320 1")	
Interfaces (per server)	Serial	1	
	Pointing Device (Mouse)	1	
	Graphics	1	
	Keyboard	1	
	External SCSI (VHDCI)	1	
	Network RJ-45	3 (1 for iLO)	
	USB	2	
	NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html .		

Standard Features (DL380 Generation 3 server)

Graphics (per server) Integrated ATI Rage XL Video Controller with 8-MB SDRAM Video Memory

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

Standard Features (DL380 Generation 3 server)

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/servers/smartstart . SmartStart version supported (minimum): SmartStart 6.40.
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 Insight Manager 7 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 .
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/servers/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.● Intelligent Networking Pack - detects and analyzes network bottlenecks or broken network linkages and steers traffic to the optimum route based on network conditions.

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>

Standard Features (DL380 Generation 3 server)

Industry Standard Compliance	<ul style="list-style-type: none"> ACPI 1.0b Compliant PCI-X and PCI 2.2 Compliant WOL Support Microsoft Logo certifications USB version 1.1
Intelligent Manageability	<ul style="list-style-type: none"> Insight Manager 7 HP Systems Insight Manager Redundant ROM Remote Flash ROM Integrated Lights-Out Support Management Agent Automatic Server Recovery (ASR) Remote Insight Lights-Out Edition (optional) Integrated Management Log Drive Parameter Tracking (with Smart Array Controllers) Dynamic Sector Repairing (with Smart Array Controllers) Hot Spare Boot (NOTE: Upon the event of a failed processor or VRM in a multi-processing environment, the system will automatically reboot and use the remaining good processor(s).) Pre-Failure Warranty (covers processors, hard drives and memory)
Security	<ul style="list-style-type: none"> Power-on password Keyboard password Diskette drive control Diskette boot control QuickLock, Network Server Mode Serial interface control Administrator's password Disk configuration lock
Server Power Cords (per server)	<ul style="list-style-type: none"> One (1) Lowline power cord ships standard
Power Supply (per server)	<ul style="list-style-type: none"> 400 Watt, CE Mark Compliant Optional Hot Plug Redundant Power Supply and DC Redundant Power Supply Capability
System Fans (per server)	<ul style="list-style-type: none"> Each server node contains 5 hot plug fans standard. An optional fan upgrade kit consists of 3 additional hot plug fans for fan redundancy. Hot Plug Redundant Fan Option Kit available. (PN 293048-B21).
Required Cabling	<ul style="list-style-type: none"> For required cabling information, refer to the HP Web site at http://h18000.www1.hp.com/solutions/enterprise/highavailability/dl380/index.html.

Standard Features (Modular Smart Array 500)

Modular Smart Array 500 The HP Modular Smart Array 500 is the next generation Ultra3 SCSI (supporting Ultra320 hard drives) storage system designed specifically for 2-node clustering and multiple node (up to 4 servers) Direct Attached Storage (DAS). Designed to reduce the complexity and expense of clustering and DAS, the Modular Smart Array 500 is built upon Smart Array and ProLiant technologies to provide advanced data protection features yet is simple to deploy, configure and manage. Ideal for entry-level clustering and DAS, the Modular Smart Array 500 is based on SCSI technology, making it a familiar and powerful clustering solution. As the customer's clustering and storage requirements grow, the Modular Smart Array 500 may be converted to a SAN array by replacing the controller(s) and I/O module and installing a FC I/O (FC HUB) or FC switch, providing the customer with extended hardware investment protection into the future.

The Modular Smart Array 500 combines the array controller shelf and the drive shelf, which holds up to fourteen 1 HP Universal Disk drives in a single 4U rack mount cabinet, that's over 2 terabytes of storage.

Modular Smart Array 500 key features

- High performance Smart Array controller(s) with LCD for system status messages.
- 4U rack mount chassis combining both the controller and disk shelf.
- Ultra3 SCSI back panel and drive interconnect.
- Optional redundant Smart Array controller.
- SSP (Selective Storage Presentation) – for DAS applications only.
- Support for up to 14 Ultra320, Ultra3 and Ultra2 Universal 1 Drives.
- Support for select ProLiant servers (see Server Compatibility on page 14 or <http://www.hp.com/products/sharedstorage> for latest compatibility).
- Redundant power supplies and fans are standard.
- RAID levels 0, 1, 1+0, 5, RAID ADG.
- Optional 4-Port Shared Storage Module with Smart Array Multipath software.
- Array Configuration Utility (ACU) and CPQONLIN for online storage management.
- Insight Manager 7.

High Levels of Performance, Data Protection and Functionality

- **High Performance** – Data transmission rate of 14,000 IOPS – 2 Node cluster configuration using Smart Array 5i Plus embedded controller in the ProLiant servers.
- **Storage Capacity** – The Modular Smart Array 500 cabinet supports up to fourteen 1" Universal hard drives, for a maximum of 4.20 TB of storage capacity using HP 300 Ultra320 SCSI Universal 1" hard drives.
- **Data Protection** – Modular Smart Array 500 is designed for a high level of data protection. It includes redundant controllers (optional), redundant fans and power supplies (standard); multiple I/O path capability with Smart Array Multipath software option, transportable battery-backed cache and RAID ADG (standard).
- **Storage Manageability** – The Smart Array Controllers feature familiar configuration and management tools such as ACU and SSP. Online Management Features: Online Capacity Expansion (single path only), Online RAID Level Migration, Online Stripe Size Migration, Online Spares (Global), User Selectable Read/Write cache, User Selectable Expand and Rebuild Priority.
- **Choice of Computing Platform** – The Modular Smart Array 500 is designed and qualified for ProLiant servers.
- **Advanced Data Guarding (RAID ADG) Fault Tolerance** – This is the highest level of RAID fault tolerance. It allocates two sets of parity data across drives and allows simultaneous write operations. This level of fault tolerance can withstand two simultaneous drive failures without downtime or data loss.

Standard Features (Modular Smart Array 500)

Low Total Cost of Ownership

The modular, scalable design of the Modular Smart Array 500 provides an extremely flexible platform. You can buy what you need today and purchase additional capacity and performance as your data storage needs grow, instead of making a large up-front investment. Additional drives, controllers, and cache can be easily added as your needs dictate.

- **Universal Hard Drive** – Since the Modular Smart Array 500 supports Universal 1" Ultra320, Ultra3 and Ultra2 drives, your investment in SCSI technology is protected and cost is minimized as you add new drives. Sharing of a common universal drive form factor between your server and storage can significantly reduce needs for hardware and spare inventory, and offer overall reduction in storage management and business costs.
- **Pre-Failure Warranty** – Drives installed in a Modular Smart Array 500 and monitored under Insight Manager are supported by a Pre-Failure (replacement) Warranty.
NOTE: Pre-Failure Warranty allows for the replacement of designated drives in Modular Smart Array 500 before they actually fail when using Insight Manager on ProLiant servers.
NOTE: Some operating systems may not support all of these features.
- **Integrated Configuration and Management Tools** – The Modular Smart Array 500 utilizes a standard, integrated set of management and utility software. These tools consistently lower the cost of ownership by reducing training and technical expertise necessary to install and maintain HP server storage.

Modular Smart Array 500

The 4U array houses up to fourteen 1" Universal hot pluggable Ultra320, Ultra3 and/or Ultra2 drives. Each Modular Smart Array 500 includes the following standard components: Modular Smart Array 500 Controller, 2-port Ultra3 SCSI I/O Module, dual hot pluggable fans/power supplies, two power cables, two VHDCI SCSI cables and a crossover Ethernet cable.

Modular Smart Array 500 Controller

The Modular Smart Array 500 Controller is an integrated RAID controller with an integrated LCD/LED status display and 128-MB read/write battery-backed cache (expandable to 512MB per controller). One Modular Smart Array 500 Controller is included with the Modular Smart Array 500; the redundant Modular Smart Array 500 Controller is an option.

Key Features

- Redundant controller optional
- Standard 128-MB Battery Backed Cache, upgradeable to 512 MB maximum
- SSP (Selective Storage Presentation)
- RAID levels 0, 1, 1+0, 5 and RAID ADG
- Redundant Power Supplies and Fans
- 4U Chassis supports up to 14 HP Universal 1" Hot Plug Hard Drives
- Remote configuration and monitoring via ACU & Insight Manager 7
- Multipath I/O option with static load balancing

Modular Smart Array 500 Controller Management Features

- Online RAID Level Migration: allows for online post-configuration change to RAID level without destroying data or volume information.
- Online Capacity Expansion: allows for adding storage to an operational Modular Smart Array 500-reducing expensive server downtime (single path configuration only).
- Online Volume Extension: allows for the capacity growth of existing logical volumes (single path configuration only).
- Logical Drive Capacity Extension: allows the user to increase the size of existing logical drives online under Windows NT and offline for other operating systems.
- Online Stripe Size Migration: Allows changing stripe sizing of a logical drive.
- User Selectable Read/Write Cache size, allocate cache sizes.
- User Selectable Expand and Rebuild Priority.

Controller Firmware Cloning

Enhanced Controller Firmware Auto-Cloning allows customer choice of controller firmware version when adding redundant controller with different firmware version.

Standard Features (Modular Smart Array 500)

Selective Storage Presentation (DAS only)	SSP support standard on both the base 2-port model of Modular Smart Array 500 as well as the optional 4-port Shared Storage Module. SSP allows the administrator to create volumes and assign access rights to a particular host server. This allows sharing the Modular Smart Array 500 with up to 4 host servers maximizing storage capacity utilization. SSP also allows online capacity expansion as well as online volume extension in DAS configurations.
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RAID	Several fault tolerant configurations keep data available and servers running while drives are being replaced, including: <ul style="list-style-type: none">● Advanced Data Guarding (RAID ADG): Allocates the equivalence of 2 parity drives across multiple drives and allows simultaneous write operations.● Distributed Data Guarding (RAID 5): Allocates parity data across multiple drives and allows simultaneous write operations.● Drive Mirroring (RAID 1 and 1+0 Striped Mirroring): Allocates half of the drive array to data and the other half to mirrored data, providing two copies of every file.
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SCSI Ports	2 external VHDCI connectors standard. Optional 4-port Shared Storage Module with 4 VHDCI connectors and multi-path software included.
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SCSI I/O Module	The I/O module on the Modular Smart Array 500 includes an integrated Environmental Monitoring Unit which performs several functions including monitoring the enclosure functions, providing I/O connectors and signaling enclosure status. Modular Smart Array 500 ships standard with a 2-Port I/O Module. The 4-Port Shared Storage Module with Smart Array Multipath is available as an option. The 4-Port Shared Storage Module may be deployed as follows: <ul style="list-style-type: none">● As the shared storage component with up to four servers in a DAS (Direct Attached Storage) configuration.● Multiple I/O paths to a two node cluster or two direct attached servers.● Operating Systems supported: Windows 2000 Server; Windows 2000 Advanced Server; Advanced Server 2.1
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Logical Drives	Up to 32 logical drives
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Software Components	The Modular Smart Array 500 utilizes a single, consistent set of utility software for storage and RAID management, setup, configuration and troubleshooting. This consistency reduces the cost of ownership by reducing the training and technical expertise necessary to install and maintain your HP server storage solution.
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Configuration Utilities	Array Configuration Utility (ACU) [On-line for Microsoft® and Linux, Remote Web-Based & Off-line] Option ROM Configuration for Arrays (ORCA) CPQONLIN [On-line for Novell]
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Management/Health Utilities	HP Systems Insight Manager
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Array Configuration Utility (ACU)	<ul style="list-style-type: none">● Provides a graphical view of HP drive array configurations.● Easy to use Wizards for configuration.● Web Based ACU supports On-Line, Remote Web Based and Off-line configuration.● Supports on-line configuration for Microsoft and Linux.● Configures SSP.
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Standard Features (Modular Smart Array 500)

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>.

CPQONLIN

Netware online configuration tool.

Data Migration and DtS Technology

The Smart Array architecture provides a quick and easy way to migrate from the Modular Smart Array 500 to the HP StorageWorks Modular Smart Array 1000 (MSA1000).

In order to convert the Modular Smart Array 500 to a SAN, simply remove the Modular Smart Array 500 Controller(s) and replace them with MSA1000 Controller(s) and add FC I/O board or FC Switch (please refer to the MSA1000 QuickSpecs for additional SAN requirements information). This is what we call DtS Technology (DAS-to-SAN technology).

NOTE: Please see the OPTIONS section called "SAN Upgrade Options" for details on the options required to migrate.

NOTE: Please see the HP StorageWorks 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)

Models

Important: Order the Rack integration SKU 342467-888 along with the base SKU 339945-001 to receive a complete Integrated Cluster in the 14U rack.

DL380 Generation 3 (G3) Packaged Cluster	Processor(s)	(1) Intel Xeon Processor 3.06 GHz standard (up to 2 supported) 512KB L2 ECC cache
(2 per DL380 G3 Server) 339945-001	Memory	1024 MB (Standard) to 12 GB (Maximum) of 2 way interleaved capable PC2100 DDR SDRAM running at 200MHz, with Advanced ECC capabilities
Rack Integration: 342467-888	Network Controller	(2) NC7781 PCI-X Gigabit NIC (embedded)
	Storage Controller	Smart Array 5i Plus Controller (integrated on system board)
	Hard Drives	None ship standard
	Internal Storage	1.80 TB max (with optional hard drives)
	Optical Drive	24x IDE CD-ROM Drive (MultiBay)
	Diskette Drive	1.44 MB Diskette Drive
	Modular Smart Array 500	1 Modular Smart Array 500 with 14 1" drive bays. Includes one Smart Array Storage Controller, redundant optional
	Form Factor	Rack (14U)

Options (DL380 Generation 3 Packaged Cluster - Racked)

Fan	DL380 G3 Redundant Fan Option Kit NOTE: Hot Plug Redundant Fan Option Kit (PN 293048-B21) contains three fans per kit.	293048-B21
Processor	Intel Xeon X3.06-512KB/533MHz Processor Option Kit	257916-B21
Memory	512-MB of advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (2 x 256 MB) 1024-MB of advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (2 x 512 MB) 2048-MB of advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (2 x 1024 MB) 4096MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (2x 2048 MB) NOTE: The 4096MB of Advanced ECC PC2100 DDR Memory kit (300682-B21) can only be used in 3.06GHz and faster models.	300678-B21 300679-B21 300680-B21 300682-B21
AC Power Supply (for server)	Hot Plug AC Redundant Power Supply Module (NEMA cord) NA	313054-001
DC Power Supply (for server)	DC Power Supply for the DL380 G3 Server NOTE: The DL380 G3 server ships with one AC power supply. Therefore to convert to redundant DC power supplier, two must be purchased (per server)	268290-B21
DC Power Supply (for storage system)	48 Volt Power Supply for Modular Smart Array 500 NOTE: Two supplies must be purchased to maintain redundancy in the storage system	302028-B21

Options (DL380 Generation 3 Packaged Cluster - Racked)

ProLiant Essentials Value Pack Software	<p>Rapid Deployment Pack, 1 User, V1.x 267196-B21 NOTE: This license allows 1 server to be managed and deployed via the Deployment Server. NOTE: Please see the following white paper to utilize Rapid Deployment on the Packaged Cluster: http://h18004.www1.hp.com/solutions/enterprise/highavailability/whitepapers/index.html.</p> <p>Rapid Deployment Pack, 10 Users, V1.x NOTE: This license allows 10 servers to be managed and deployed via the Deployment Server. NOTE: Please see the following white paper to utilize Rapid Deployment on the Packaged Cluster: http://h18004.www1.hp.com/solutions/enterprise/highavailability/whitepapers/index.html.</p> <p>Flexible Quantity License Kit 302127-B21 License-Only – for use with a Master License Agreement 302128-B21 ProLiant Essentials Recovery Server Option Pack 280189-B21 ProLiant Essentials Performance Management Pack v2.0, Single License 306696-B21 NOTE: This license allows 1 server to be managed by Performance Management Pack ProLiant Essentials Performance Management Pack, 10 Pack Server License 374055-B21 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</p> <p>ProLiant Essentials Integrated Lights-out advanced pack 263825-B21 (Featuring: sophisticated virtual administration)</p> <p>ProLiant Essentials Intelligent Networking Pack, 1 License 372906-B21 ProLiant Essentials Intelligent Networking Pack Flex License 372950-B21 ProLiant Essentials Intelligent Networking Pack Track License 372951-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.</p> <p>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.</p> <p>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.</p> <p>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</p> <p>NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to: http://h18000.www1.hp.com/products/servers/proliantessentials/index.html 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://h18000.www1.hp.com/products/servers/proliantessentials/index.html.</p>
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Options

Communications	NC6170 Dual Port PCI-X 1000SX Gigabit Server Adapter	313879-B21
	NC6770 PCI-X Gigabit Server Adapter, 1000-SX	244949-B21
	NC7170 Dual Port PCI-X 1000T Gigabit Server Adapter	313881-B21
	NOTE: Any NC61XX, NC71XX or NC77XX NIC can be used for redundancy with the embedded NC7781 Network Controller.	
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Optical Drives	16X DVD-ROM Drive Option Kit (Carbon)	217053-B21
	Slimline CD-RW/DVD-ROM Combo Drive Option Kit	331903-B21
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Hard Drives	Ultra320 - 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 Ultra320 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. Ultra320 drives run at U3 speeds in the Modular Smart Array 500.	
	NOTE: Please see the Wide Ultra320 Universal Hot Plug QuickSpecs for additional technical information on the hard drives Support details, please see the following: http://h18000.www1.hp.com/products/quickspecs/11531_div/11531_div.HTML (Worldwide) http://h18000.www1.hp.com/products/quickspecs/11531_na/11531_na.HTML (North America)	
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Redundant Storage Controller	Modular Smart Array 500 Redundant Controller Option Kit	218252-B21
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Storage Controller Memory	128-MB Cache Module for Modular Smart Array 500 Controller	153506-B21
	256-MB Cache Module for Modular Smart Array 500 Controller	254786-B21
NOTE: Optional storage memory allows the following configurations: 1x128 MB, 2x128 MB, 1x256 MB, 2x256 MB.		
NOTE: When redundant controllers are installed, the cache configurations in both controllers must be identical.		
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4-Port Module	4-port shared storage module with Smart Array Multipath	292944-B21
NOTE: Multipath for clustering requires a Smart Array 532 Controller (225338-B21) for each server.		
Operating Systems supported: Windows 2000 Advanced Server; Windows 2003 Enterprise Edition, Red Hat Enterprise Linux ES/AS 2.1, SuSE Linux Enterprise Server 7 (see MSA500 Compatibility Matrix for latest updates: http://h18004.www1.hp.com/products/servers/proliantstorage/sharedstorage/sacluster/index.html		
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Options

Storage Controllers	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS	284688-B21
	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter	268351-B21
<p>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:</p> <p>http://h18000.www1.hp.com/products/quickspecs/11063_div/11063_div.HTML (Smart Array 5i Plus)</p> <p>http://h18000.www1.hp.com/products/quickspecs/11555_div/11555_div.HTML (U320 Adapter)</p>		
SAN Upgrade Options	MSA1000 Fabric Switch	218232-B21
	2Gb/s SFP SW Transceiver Kit	221470-B21
<p>NOTE: The MSA1000 controller and the MSA Fibre Channel I/O module (or the MSA Fabric Switch 6) are required for conversion. To obtain conversion procedure document go to http://www.hp.com/products/sharedstorage and download "Converting Modular Smart Array 500 to Modular SAN Array 1000" document.</p>		
Management Options	Remote Insight Lights-Out Edition II (NA, LA)	227251-001
Security	HP/Atalla AXL600L SSL Accelerator Card for ProLiant Servers	524545-B21
	AXL300 Accelerator PCI Card for ProLiant Servers	227933-B21
Tape Drives	<p>NOTE: External tape devices, including both tape drives and tape arrays/enclosures, can be directly connected to the VHDCI SCSI port located on the back of the server. Use of a SCSI adapter to connect these devices is optional, not required.</p> <p>External, Rack-Mount and Array Module Ultrium Tape Drives</p> <p>HP StorageWorks Ultrium 215 Tape Drive, External (Carbon) Q1545A</p> <p>HP StorageWorks Ultrium 215 rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit 350544-B21</p> <p>HP StorageWorks Ultrium 215 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300 C7492B</p> <p>HP StorageWorks Ultrium 230 Tape Drive, External (Carbon) Q1517A</p> <p>HP StorageWorks Ultrium 230, Rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit 350545-B21</p> <p>HP StorageWorks Ultrium 230 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300 C7470B</p> <p>HP StorageWorks Ultrium 460 Tape Drive, External (Carbon) Q1520A</p> <p>HP StorageWorks Ultrium 460, Rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit 350546-B21</p> <p>HP StorageWorks Ultrium 460 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300 Q1512B</p> <p>NOTE: Please see the HP StorageWorks Ultrium 215, 230, and 460 Tape Drive QuickSpecs for additional options such as controllers, media, and other related items:</p> <p>http://h18006.www1.hp.com/products/quickspecs/11739_div/11739_div.html (Worldwide)</p> <p>http://h18006.www1.hp.com/products/quickspecs/11739_na/11739_na.html (North America)</p> <p>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</p> <p>External, Hot-Plug, and Array Module DAT Drives</p> <p>HP StorageWorks DAT 72 Tape Drive, External (Carbon) Q1523A</p> <p>HP StorageWorks DAT 72 Tape Drive, Internal Hot-Plug (Carbon) Q1529A</p> <p>HP StorageWorks DAT 72 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300 Q1524B</p> <p>HP StorageWorks DAT 40 Tape Drive, External (Carbon) C5687C</p>	

Options

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 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

NOTE: Please see the SDLT 320 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 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.

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

Options

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

Tape Autoloaders

DAT Autoloader

HP StorageWorks DAT 40x6 Tape Autoloader, External (Flint) C5717C

NOTE: Please see the DAT 40x6 Tape Autoloader QuickSpecs at <http://www.hp.com/go/tape> for additional options such as host bus adapters, controllers and media.

HP StorageWorks 1/8 Tape Autoloader

1/8 Ultrium 230 Tape Autoloader, Tabletop C9572CB

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 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>

Cluster Options

HP Serviceguard for Linux ProLiant Cluster (2 node license cluster kit) A.11.15 305199-B24

NOTE: Kit includes 2 licenses, documentation and an Ethernet crossover cable.

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)

NOTE: NetWare Cluster Services (NWCS) can be purchased separately from Novell as part of the operating system.

NOTE: Microsoft Cluster Services (MSCS) can be purchased separately from Microsoft as part of the operating system.

ProLiant Parallel Database Cluster for Linux - Oracle9i Real Application Cluster 308225-B22

NOTE: For additional information regarding the ProLiant Parallel Database Cluster for Linux, please see the following QuickSpecs at:

http://www5.compaq.com/products/quickspecs/11688_na/11688_na.html
(North America)

http://www5.compaq.com/products/quickspecs/11688_div/11688_div.html
(Worldwide)

Options

Uninterruptible Power Systems – Rack Mountable	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 R3000 XR (2880VA, 2700 Watt), Low Voltage (NA)	192186-001
	HP UPS R1500 XR (1500VA, 1340 Watt), Low Voltage (NA)	204404-001
	HP Modular Power Distribution Unit (mPDU), Low Volt Model, 24A (100-127 VAC) (NA)	252663-D71
	NOTE: The above mPDU may also be used to connect to the low volt model of the UPS R3000 XR.	
	Six Port Card	192185-B21
NOTE: Supports tower and rack UPS XR models ranging from 1000 - 3000VA.		
NOTE: The components for the recommended Packaged Cluster UPS solution require the ordering of: 1 UPS R1500, and one Six port card.		
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 .	
Custom Builder	Please see the Enterprise Configurator for configuration assistance at: http://www.hp.com/products/configurator .	
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)	374493-B21
	NOTE: The stabilizing kit is used to prevent rack from tipping over.	
	Baying Kit for 5642 rack (Graphite Carbon)	374499-B21
	NOTE: The baying kit is used to join two or more HP 5642 racks.	
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
	NOTE: -B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels).	
	NOTE: It is mandatory to use a shock pallet in order to ship racks with equipment installed. Not all equipment is qualified to be shipped in the Rack 10000 series.	
	NOTE: Please see the Rack 10000 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/10995_div/10995_div.HTML (Worldwide) http://h18000.www1.hp.com/products/quickspecs/10995_na/10995_na.HTML (North America)	

Options

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))

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
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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>.

Options

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>

Service and Support Offerings (HP Care Pack Services)	Hardware Services 4-Hour On-site Service	
	4-Hour On-site Service, 13-Hour x 5-Day Coverage, 3 Years (U.S. Part Number)	331079-002
	4-Hour On-site Service, 13-Hour x 5-Day Coverage, 3 Years (Canadian Part Number)	FP-CW3EC-36
	4-Hour On-site Service, 24-Hour x 7-Day Coverage, 3 Years (U.S. Part Number)	191098-002
	4-Hour On-site Service, 24-Hour x 7-Day Coverage, 3 Years (Canadian Part Number)	FP-CW7EC-36
	Installation & Start-up Services	
	Hardware Installation (U.S. Part Number)	201617-002
	Hardware Installation (Canadian Part Number)	FP-CWINS-EC
	W2K AS Cluster Configuration HP Care Pack	
	Install & Configure MS Windows 2000 Advanced Sever Cluster software on a cluster (6-3 Part Number for U.S.)	248497-002
	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. (U.S. Part Number)	239953-002
	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. (Canadian Part Number)	FM-M01E6-36
	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. (U.S. Part Number)	331081-002
	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. (Canadian Part Number)	FM-L01E6-36
	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. (U.S. Part Number)	239955-002
	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. (Canadian Part Number)	FM-M02E6-36
	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. (U.S. Part Number)	331082-002

Options

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. (Canadian Part Number)	FM-L02E6-36
HP Care Pack Priority Services for ProLiant Servers - Priority Silver Level	
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, 1 System Healthcheck per year (6-3 Part Number for U.S.)	239957-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (6-3 Part Number for U.S.)	239959-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review (6-3 Part Number for U.S.)	239997-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Novell NetWare Operating System (6-3 Part Number for U.S.)	239999-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, 1 System Healthcheck per year (2-5-2 Part Number for Canada)	FM-M04E6-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (2-5-2 Part Number for Canada)	FM-M24E6-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review (2-5-2 Part Number for Canada)	FM-N04E6-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Novell NetWare Operating System (2-5-2 Part Number for Canada)	FM-N24E6-36
HP Care Pack Priority Services for ProLiant Servers - Priority Gold Level	
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response - critical, 1-hr response non-critical for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, Upgrade Impact Planning (10 hours) 2 System Healthcheck per year (6-3 Part Number for U.S.)	239961-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (6-3 Part Number for U.S.)	239963-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response - critical, 1-hr response non-critical for Novell Netware Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, Upgrade Impact Planning (10 hours) 2 System Healthcheck per year (6-3 Part Number for U.S.)	240001-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Novell Netware Operating System (6-3 Part Number for U.S.)	240003-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response - critical, 1-hr response non-critical for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, Upgrade Impact Planning (10 hours) 2 System Healthcheck per year (2-5-2 Part Number for Canada)	FM-M08E6-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (2-5-2 Part Number for Canada)	FM-M28E6-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response - critical, 1-hr response non-critical for Novell Netware Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification,	FM-N08E6-36

Options

Upgrade Impact Planning (10 hours) 2 System Healthcheck per year (2-5-2 Part Number for Canada)	
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Novell Netware Operating System (2-5-2 Part Number for Canada)	FM-N28E6-36
HP Care Pack Priority Services for ProLiant Servers - Priority Gold Executive Level	
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response - critical, 1-hr response non-critical for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, Upgrade Impact Planning (10 hours) 2 System Healthcheck per year (6-3 Part Number for U.S.)	239965-002
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (6-3 Part Number for U.S.)	239967-002
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response - critical, 1-hr response non-critical for Novell Netware Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, Upgrade Impact Planning (10 hours) 2 System Healthcheck per year (6-3 Part Number for U.S.)	240005-002
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Novell Netware Operating System (6-3 Part Number for U.S.)	240007-002
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response - critical, 1-hr response non-critical for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, Upgrade Impact Planning (10 hours) 2 System Healthcheck per year (2-5-2 Part Number for Canada)	FM-M09E6-36
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (2-5-2 Part Number for Canada)	FM-M29E6-36
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response - critical, 1-hr response non-critical for Novell Netware Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, Upgrade Impact Planning (10 hours) 2 System Healthcheck per year (2-5-2 Part Number for Canada)	FM-N09E6-36
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Novell Netware Operating System (2-5-2 Part Number for Canada)	FM-N29E6-36

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

Memory

ProLiant DL380 G3 Packaged Cluster - Racked

STANDARD MEMORY

1024-MB PC2100 Registered DDR SDRAM DIMM Memory running at 266MHz comes installed (2 x 512-MB SDRAM)

STANDARD MEMORY PLUS OPTIONAL MEMORY

Up to 9,216-MB memory is available with the optional installation of PC2100 Registered DDR SDRAM DIMM Memory Option Kit.

STANDARD MEMORY REPLACED WITH OPTIONAL MEMORY

Up to 12,288-MB of memory is available with the removal of the standard 1024-MB of memory and the optional installation of PC2100 Registered DDR SDRAM DIMM Memory Option Kit

NOTE: Chart does not represent all possible configurations.

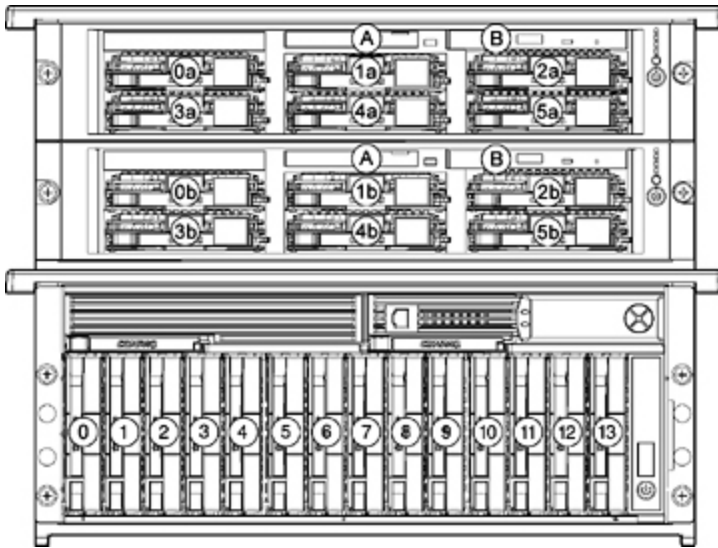
Memory		Slot					
		1	2	3	4	5	6
Standard	1024 MB	512 MB	512 MB	Empty	Empty	Empty	Empty
Optional	9,216 MB	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB
Maximum	12,288 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB

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

Following are memory options available from HP:

- 4096-MB of advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (2 x 2048 MB) 300682-B21
NOTE: The 4096MB of Advanced ECC PC2100 DDR Memory kit (300682-B21) can only be used in 3.06GHz and faster models.
- 2048-MB of advanced ECC PC2100 DDR SDRAM DIMM Memory Option Kit (2 x 1024 MB) 300680-B21
- 1024-MB of advanced ECC PC2100 DDR SDRAM DIMM Memory Option Kit (2 x 512 MB) 300679-B21
- 512-MB of advanced ECC PC2100 DDR SDRAM DIMM Memory Option Kit (2 x 256 MB) 300678-B21

Storage



0a - 5a	Six 1" SCSI hot plug hard drive bays
0b-5b	Six 1" SCSI hot plug hard drive bays
0-13	Fourteen 1" SCSI hot plug hard drive bays
A	1.44-MB Diskette Drive
B	24x IDE CD-ROM (Slimline)
0a & 0b	Convertible 1.6 drive bay - supports either (1) 1 Hot Plug Drive or (1) 1.6 AIT or 20/40/100-GB DAT Hot Plug Tape Drive

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
1.44-MB Diskette Drive	Up to 1	A	Integrated
IDE CD-ROM Drive	Up to 1	B	Integrated IDE

Hard Drives

Ultra320 Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
1-inch	Up to 26	0a-5a, 0b-5b, 0-13	
300-GB 10,000 rpm			Smart Array 5i Plus Controller (integrated on system board) Modular Smart Array 500 controller
146.8-GB 10,000 rpm			
72.8-GB 10,000 rpm			
146.8-GB 15,000 rpm			
72.8-GB 15,000 rpm			
36.4-GB 15,000 rpm			

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. Ultra320 drives run at U3 speeds in the Modular Smart Array 500.

Maximum Storage Capacity - (Per ProLiant DL380 G3 Server)

Internal 1.80 TB (6 x 300 GB Ultra320 1")

Maximum Shared Storage Capacity (Modular Smart Array 500)

Internal 4.20 TB (14 x 300 GB Ultra320 1")

Storage

Tape Drives and Tape Autoloaders

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 and 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 DAT 40 Tape Drive, Internal Hot-Plug	1 (per server)	0a-0b	Smart Array 5i Controller (integrated on system board)
HP StorageWorks DAT 72 Tape Drive, Internal Hot-Plug			64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
Ultrium 215, External	External	N/A	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
Ultrium 230, External			64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
Ultrium 460, External			
HP StorageWorks DAT 72 Tape Drive, External	External	N/A	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
HP StorageWorks DAT 40 Tape Drive, External			64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks DAT 24 Tape Drive, External			
HP StorageWorks DLT VS80 Tape Drive, External	External	N/A	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
			64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks SDLT 320 Tape Drive, External	External	N/A	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
			64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks DAT 40x6 Tape Autoloader, External	External	N/A	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
			64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
1/8 Ultrium 230 Tape Autoloader	1 autoloader per SCSI channel	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
			64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

Power Specifications

Part Number	194989-001
Spare Kit	19982-B21
Operational Input Voltage Range (V rms)	90 TO 264
Frequency Range (Nominal) (Hz)	47 to 63 (50/60)

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	400	400	400	400	400	400
Nominal Input Current (A rms)	5.8	5.0	2.7	2.5	2.4	2.3
Max Rated Input Wattage Rating (Watts)	571	563	548	541	541	541
Max. Rated VA (Volt-Amp)	583	575	559	552	552	552
Efficiency (%)	70	71	73	74	74	74
Power Factor	0.98	0.98	0.98	0.98	0.98	0.98
Leakage Current (mA)	0.31	0.36	0.65	0.69	0.72	0.75
Maximum Inrush Current (A peak)	50	50	50	50	50	50
Maximum Inrush Current duration	20	20	20	20	20	20

System Specifications

ProLiant DL380 Generation 3 Server Fully Configured

Up to 2 Processors, 6 Memory Slots, 6 Hard Drives, 3 PCI Slots, and 2 Hot Plug Power Supplies

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Fully Loaded System Input Wattage (W)	431	415	403	398	398	398
Fully Loaded System Input Current (A rms)	4.4	3.8	2.0	1.8	1.8	1.7
Fully Loaded System Thermal (BTU- Hr)	1435	1415	1376	1357	1357	1357
Fully Loaded System VA (Volt-Amp)	443	437	412	406	406	406
System Leakage with all power supplies loaded (mA)	0.63	0.72	1.30	1.38	1.44	1.50
System Inrush Current with all power supplies loaded (A)	100	100	100	100	100	100
Power cord requirements	Nema 5-15P to IEC320-C13			Option no./Spare no.: See Chart below		
	IEC320-C13 to IEC320-C14			Option no./Spare no.: 142257-002/142258-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/powercalcs.asp>.

To drill down to calculators:

- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: DL380 G3 Packaged Cluster
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

Power Cord Part Number	163719-002
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Power Specifications

Modular Smart Array 500 Power Specifications

Nominal Input Voltage (Vrms)	100V 60 Hz	120V 60 Hz	208 60 Hz	220V 50 Hz	240V 50 Hz
Nominal Input Current(Vrms)	4.50	3.69	2.08	1.97	1.80
Nominal Input Current (Watt)	448	442	429	428	427
Maximum Input Current (Vrms)	6.73	5.47	3.05	2.88	2.63
Maximum Input Current (Watt)	669	654	630	628	626
Efficiency (ratio of DC output to real input power at 499 Watts)	0.73	0.73	0.78	0.78	0.78
Inrush Current	65 Amps	65 Amps	65 Amps	65 Amps	65 Amps
Reliability					
Life Expectancy	Minimum life expectancy is 5 years				

Technical Specifications

System Unit- DL380 G3 Server	Dimensions (HxWxD)	3.38 x 17.5 x 25.75 in (8.59 x 44.45 x 65.40 cm)		
	Weight	Maximum	60 lb (27.22 kg)	
		No drives	47.18 lb (20.41 kg)	
	Input Requirements (per power supply)	Range Line Voltage	90 to 132 VAC/180 to 265 VAC	
		Nominal Line Voltage	100 to 120 VAC/220 to 240 VAC	
		Rated Input Current	6A (110V) to 3A (220V)	
		Rated Input Frequency	50 to 60 Hz	
		Rated Input Power	600W	
		BTU Rating	1,475 BTU/HR	
	SCSI Connectors	Three HD68 connectors (2 internal, 1 external) supporting Ultra2		
	Power Supply Output Power (per power supply)	Rated Steady-State Power	400W	
		Maximum Peak Power	400W	
	Temperature Range	Operating	50° to 95° F (10° to 35° C)	
		Shipping	-40° to 158° F (-40° to 70° C)	
	Relative Humidity (non-condensing)	Operating	10% to 90%	
		Shipping	5% to 95%	
	Maximum Wet Bulb Temperature	82.4° F (28° C)		
	Acoustic Noise	Idle (Fixed Disk Drives Spinning)		
			L WAd (BELS)	7.0-7.2
		L pAm (dBA)	55-56	
Operating (Random Seeks to Fixed Disks)				
		L WAd (BELS)	7.0-7.3	
		L pAm (dBA)	55-57	

Modular Smart Array 500	Dimension	6.9 x 19 x 20.5 in (17.5 x 48.3 x 52.1 cm)		
	Weight	Maximum	50 lb (22.7 kg)	
		(No drives dual power supplies)		
	Input Requirements (per power supply)	Rated Input Voltage	100 to 240 VAC/100 to 240 VAC (per power supply)	
		Rated Input Frequency	50 to 60 Hz	
		Rated Input Current	6 A Max	
		Input Power (Max)	549 W	
		Heat Dissipation (max)	1876 Btu/hr	
	Temperature Range	Operating	50° to 95° F (10° to 35° C)	
		Shipping	-22° to 12° F (-30° to 50° C)	
	Relative Humidity (non-condensing)	Operating	10% to 90%	
Non-operating		up to 95%		
Maximum Wet Bulb Temperature	Long-Term	84.2° F (29° C)		
	Short-Term	86° F (30° C)		

Technical Specifications

DL380 Packaged Cluster	S10614 Rack Physical Characteristics		
	Dimensions	Total Cabinet Area	(A) 43 x 39.691 x 24 in (A) (109.22 x 100.82 x 60.96 cm)
		Shipping (with packaging materials)	52.25 x 48 x 32 in (132.72 x 121.92 x 81.28 cm)
	Weight	Operating	176 lb (79.89 kg)
	Load	Static	600 lb (270 kg)
		Dynamic	500 lb (227 kg)
	Color	Graphite Metallic	doors
		Carbon	frame

Slim Line CD-RW/DVD-ROM 24X Combo Drive (Multibay)	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-ROM 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-RW 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	2,048 bytes
			CD	2,352 (Mode-0) 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	

Technical Specifications

	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 (sustained)	DVD-ROM	Single Layer 10.8 MB/sec. Max.
	DVD-RAM	2.77 MB/sec. Max
	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	

Technical Specifications

Integrated Smart Array 5i Plus Controller	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, 100 MHz (integrated on system board)
	PCI-X Peak Data Transfer Rate	800 MB/s
	SCSI Protocols Supported	Ultra3, Ultra2
	SCSI Peak Data Transfer Rate	160 MB/s per channel NOTE: For ProLiant servers having TWO internal drive bays on separate SCSI ports: SCSI Peak Data Transfer Rate is 320 MB/s total; 160 MB/s per channel and Channels is 2.
	Channels	2 NOTE: For ProLiant servers having two internal drive bays on separate SCSI ports: SCSI Peak Data Transfer Rate is 320 MB/s total; 160 MB/s per channel and Channels is 2.
	SCSI Ports (external/internal)	0/2 NOTE: For ProLiant servers having two internal drive bays on separate SCSI ports: SCSI Peak Data Transfer Rate is 320 MB/s total; 160 MB/s per channel and Channels is 2.
	Drives Supported (maximum)	Maximum = total number of drives NOTE: Maximum is the total number of internal drives on each specific ProLiant server.
	Cache	64 MB Read and/or Write Cache
	Battery-Backed Write Cache	Yes, with installation of Battery-Backed Write Cache Enabler, up to 64MB
	RAID Support	0, 1, 1+0, 5
	Logical Drives (maximum)	Maximum = total number of drives
	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

NC7781 PCI-X Gigabit NIC (embedded) 10/100/1000 WOL (Wake On LAN)	Network Interface	10Base-T/100Base-TX/1000 BaseTX	
	Compatibility	IEEE 802.3/802.3u compliant	
	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
		1000BaseTX (Half-Duplex)	1000Mb/s
		1000BaseTX (Full-Duplex)	2000 Mb/s
	Connector	RJ-45	
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
	100Base-TX	Category 5 UTP; up to 328 ft (100 m)	
	1000BaseTX	Category 5 UTP; up to 328 ft (100 m)	

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