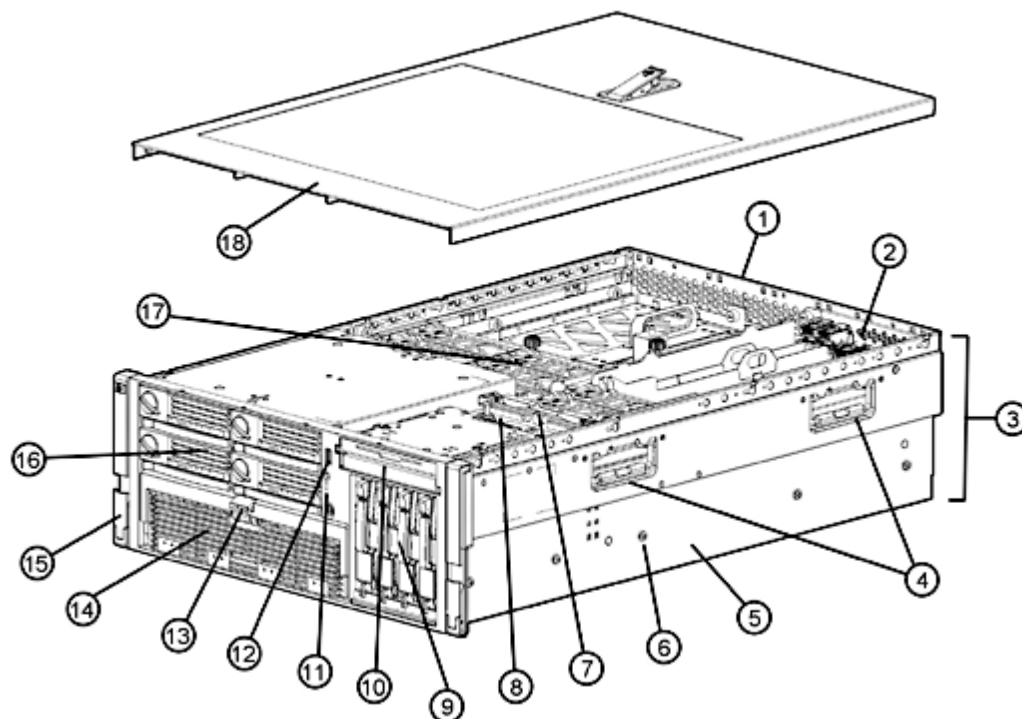*Overview*

SCSI model shown

1. Dual Hot Plug Redundant Power Supplies (one standard with 1P Models, requires optional RPS for redundancy)

2. Up to Seven I/O Slots: 5 Standard 64-bit PCI-X (Three 133MHz and Two 100MHz). Optional Mezzanine adds Two Hot Plug 64-bit/133MHz PCI-X or two X4 PCI Express, or one X8 PCI Express

3. 4U (7" Height) Rack Form Factor

4. Server Lifting Handles

5. SCSI Models ship with Smart Array 6i Ultra320 array controller with optional 128MB Battery Backed Write Cache (BBWC ships standard with some models)

6. Universal Tool-less "Snap In" Sliding Rail Solution

7. Wide Ultra3/U320 Duplex Drive Cage (can be Simplex configured)

8. QuickFind Diagnostic Display

9. Support for up to four Ultra320 SCSI hot plug hard drives or two hot plug hard drives and one DAT 40 or DAT 72 hot plug tape drive
Serial Attached SCSI(SAS) Model has support for up to 8 Small Form-Factor (SFF) SAS or Serial ATA (SATA) drives

10. Support for up to Two Slimline Drives (Ejectable, DVD Drive standard, Floppy Drive optional with all models)

11. Front Panel LED Display (internal and external health, Two Network Port Status, Unit ID light) and Power Button

12. One front accessible USB 2.0 port, Two rear accessible USB 2.0 ports (all bootable)

13. Front accessible Processor drawer (allows access to Processors and Processor Power Modules)

14. Support for up to four Dual-core or Single-core 64-bit Intel® Xeon™ MP Processors with 667 MHz FSB and up to 8MB L3 cache

15. Quick release levers for fast server access

16. Front accessible Hot Plug RAID Memory (One Memory Board ships Standard with all models)

17. Six Hot Plug Redundant Fans Standard on all models

18. Quick Removal Access Panel

At A Glance

The ProLiant DL580 G3 server is an enterprise class, 4-way server designed for maximum scalability and high availability. Its

Overview

radically redesigned chassis offers unsurpassed flexibility and serviceability in a versatile, rack-optimized form factor.

Based upon the latest industry standard processing, memory, I/O and networking technologies, the ProLiant DL580 G3 provides the highest levels of performance demanded by today's compute intensive applications. Unparalleled high availability features, including front-accessible Hot Plug RAID Memory, integrated Ultra320 Smart Array 6i controller or Smart Array P600/256 BBWC Controller (SAS), duplex drive cage, and hot-plug redundant components, guarantee maximum uptime. Integrated Lights-Out (iLO) technology allows remote administration from a standard web-browser without ever having to visit the server. Within the 4U dense form factor, it's highly expandable architecture provides maximum application deployment flexibility with the ability to add PCI-Express, hot plug PCI-X or battery-backed write cache options. Innovative new features, such as the ability to access processors, memory, hard drives, and power supplies while the unit remains secured in the rack, enable rapid response to service events, radically decreasing overall IT costs and server downtime.

- **Processors:**
    - Supports up to four Dual-core or Single core 64-bit Intel® Xeon™ MP processors and HT Technology
    - Dual independent 667MHz Front Side Buses and up to 8MB of L3 cache
    - Industry Standard Intel E8500 Chipset
- **Memory:**
    - Up to 64GB of PC2-3200R 400MHz DDR2 Memory can be configured in Hot Plug Mirrored, Hot Plug RAID, Online Spare or Advanced ECC modes
- **Storage Controller:**
    - SCSI Models include integrated Ultra320 Smart Array 6i Controller with 64MB RAM and optional 128MB Battery-Backed Write Cache (BBWC) Enabler option kit
    - SAS Models include HP Smart Array P600/256 BBWC Controller and 8-bay SAS Cage Option
- **Internal Drive Support:**
    - Internal hot plug hard drive capacity up to 1.2TB (4 x 300GB U320)
    - Support for up to four Ultra320 SCSI hot plug hard drives or three hot plug hard drives and one DAT hot plug tape drive
    - Slimline DVD Drive standard, Floppy Drive optional on all models (ejectable)
    - Simplex or Duplex configurable Wide Ultra3/U320 Duplex Drive Cage
    - Optional Serial Attached SCSI (SAS) /Serial ATA Drive Cage upgrade kit and controller for all models
- **Network Controller:**
    - Embedded NC7782 PCI-X Gigabit Server Adapter
- **Expansion Slots:**
    - Up to 7 Total: (5) Standard 64-bit PCI-X (Three 133MHz and Two 100MHz); Optional Mezzanine adds Two Hot Plug 64-bit/133MHz PCI-X, Two X4 PCI Express, or One X8 PCI Express
- **USB 2.0 Ports:**
    - 3 Total: (1) front; (2) rear accessible ports (configurable for boot capability)
- **Redundancy:**
    - Rear accessible Hot Plug Redundant Power Supplies (RPS optional on some models)
    - Hot Plug Fans with full redundancy
- **Management:**
    - Integrated Lights-Out (iLO) Shared Network Port enables access to the iLO management processor through one of the embedded system NIC's (Can be disabled). This allows access to iLO without requiring a separate, dedicated network connection for iLO.
    - HP Power Regulator for ProLiant delivering server level, policy based power management with industry leading energy efficiency and savings on system power and cooling costs
    - Integrated Lights-Out industry leading remote management with new support for two-factor authentication, schema-free Microsoft Active Directory integration, Power Regulator p-state reporting, USB key virtual media and VLAN on the shared network port
    - Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU), HP Systems Insight Manager, Status LED's including system health and UID, and SmartStart
- **Form Factor:**
    - Rack (4U; 7 inches)
- **Deployment/Serviceability:**

Overview

- ○ Front accessible Hot Plug RAID Memory (Configurable for Standard, Mirrored or RAID) provides maximum up-time, flexibility and serviceability
- ○ Front accessible Processor and Processor Power Modules allow server to stay safely secured in the rack during servicing
- ○ Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components
- ○ Tool-less access to all system components for easy in rack serviceability
- Warranty:
  - ○ Protected by HP Services and a worldwide network of resellers and service providers. Three-year Next Business Day, on-site limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI/SAS hard drives. SATA hard drives have a one-year warranty.

Standard Features

Processor *One or more of the following depending on Model*	**NOTE:** A HP ProLiant DL580 G3 Dual-core Processor Blank Kit is required if upgrading a DL580G3 system with less than 4 Dual-core processors. 64-bit Dual-core Intel® Xeon™ Processor 7040 (3.00 GHz, 2x2M L2 Cache, 667MHz FSB) 64-bit Dual-core Intel® Xeon™ Processor 7020 (2.66 GHz, 2x1M L2 Cache, 667MHz FSB) 64-bit Intel® Xeon™ Processor MP 3.33 GHz, 8MB L3 cache, 667MHz FSB 64-bit Intel® Xeon™ Processor MP 3.00 GHz, 8MB L3 cache, 667MHz FSB 64-bit Intel® Xeon™ Processor MP 2.83 GHz, 4MB L3 cache, 667MHz FSB 64-bit Intel® Xeon™ Processor MP 3.66 GHz, 1MB L2 cache, 667MHz FSB 64-bit Intel® Xeon™ Processor MP 3.16 GHz, 1MB L2 cache, 667MHz FSB
Upgradeability	Utilize the HP ProLiant DL580 G3 to enable transitions to new industry technologies such as Dual-core processing, Serial-attached SCSI and SATA drives, and PCI Express All U320 Models upgradeable to SAS/SATA
Chipset	Industry Standard Intel E8500 Chipset **NOTE:** For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/

Memory *One of the following depending on Model*	Type	PC2-3200R 400MHz DDR2
	Standard (1P base models)	1024 MB
	Standard (2P base models)	2048 MB
	Maximum	64 GB
	NOTE: 64 GB achieved with use of four memory cartridges and sixteen 4 GB PC2-3200 Memory Modules. The HP ProLiant DL580 G3 will accept both single rank and dual rank DIMMs in all sockets.	

Network Controller	Embedded NC7782 PCI-X Gigabit Server Adapter

Expansion Slots with No Mezzanine Option	Bus speed	Bus number	Hot Plug	PCI Voltage	Notes
1	N/A	N/A	N/A	N/A	Standard
2	N/A	N/A	N/A	N/A	Standard
3	64-bit / 133 MHz PCI-X	12	No	3.3 Volt	Standard
4	64-bit / 133 MHz PCI-X	15	No	3.3 Volt	Standard
5	64-bit / 133 MHz PCI-X	19	No	3.3 Volt	Standard
6	64-bit / 100 MHz PCI-X	22	No	3.3 Volt	Standard
7	64-bit / 100 MHz PCI-X	22	No	3.3 Volt	Standard

Standard Features

Expansion Slots with PCI-X Mezzanine Option	Bus speed	Bus number	Hot Plug	PCI Voltage	Notes
1	64-bit / 133 MHz PCI-X	6	Yes	3.3 Volt	Optional
2	64-bit / 133 MHz PCI-X	9	Yes	3.3 Volt	Optional
3	64-bit / 133 MHz PCI-X	13	No	3.3 Volt	Standard
4	64-bit / 133 MHz PCI-X	16	No	3.3 Volt	Standard
5	64-bit / 133 MHz PCI-X	20	No	3.3 Volt	Standard
6	64-bit / 100 MHz PCI-X	23	No	3.3 Volt	Standard
7	64-bit / 100 MHz PCI-X	23	No	3.3 Volt	Standard
Expansion Slots with PCI Express X4 Mezzanine Option	**Bus speed**	**Bus number**	**Hot Plug**	**PCI Voltage**	**Notes**
1	PCI Express X4	5	No	N/A	Optional
2	PCI Express X4	8	No	N/A	Optional
3	64-bit / 133 MHz PCI-X	12	No	3.3 Volt	Standard
4	64-bit / 133 MHz PCI-X	15	No	3.3 Volt	Standard
5	64-bit / 133 MHz PCI-X	19	No	3.3 Volt	Standard
6	64-bit / 100 MHz PCI-X	22	No	3.3 Volt	Standard
7	64-bit / 100 MHz PCI-X	22	No	3.3 Volt	Standard
Expansion Slots with PCI Express X8 Mezzanine Option	**Bus speed**	**Bus number**	**Hot Plug**	**PCI Voltage**	**Notes**
1	PCI Express X8	5	No	N/A	Optional
2	N/A	N/A	N/A	N/A	Standard
3	64-bit / 133 MHz PCI-X	12	No	3.3 Volt	Standard
4	64-bit / 133 MHz PCI-X	15	No	3.3 Volt	Standard
5	64-bit / 133 MHz PCI-X	19	No	3.3 Volt	Standard
6	64-bit / 100 MHz PCI-X	22	No	3.3 Volt	Standard
7	64-bit / 100 MHz PCI-X	22	No	3.3 Volt	Standard

QuickSpecs

HP ProLiant DL580 Generation 3 (G3)

Standard Features

Manageability	Integrated Lights-Out (iLO) Standard Management (ASIC on the System Board)

Storage Controllers	Smart Array 6i Controller (integrated on system board)
	HP Smart Array P600/256 BBWC Controller (in a slot) and 8-Bay SAS Drive Cage (SAS models only)

Storage Data Protection

The Battery-Backed Write Cache (BBWC) Enabler for the embedded Smart Array 6i Controller protects up to 128-MB write cache memory from hard boot, power, controller, or system board failures.

- Standard on 2P Models, optional with others
- Battery charge/life: Up to 72 hours/3 years
- Transportable data protection
- Increases overall controller performance

NOTE: Safely transport your write cache data to another HP ProLiant DL580 G3 in the data center by removing the BBWC Enabler and 6i Controller Memory Module simultaneously (connected by short cable).

Storage

Diskette Drive	None Standard - Optional Slimline Floppy Drive available (ejectable)
Optical Drive	Slimline DVD-ROM Drive Standard on all models (ejectable)
Hard Drives	None ship standard
Hard Disk Drive Backplane	Internal Wide Ultra3/U320 backplane supports up to four hard disk drives and is easily configurable to support simplex (4x1) or duplex mode (2x2) Standard shipping configuration is the duplex mode.
	NOTE: Does not apply to 8-Bay SAS Drive Cage

Maximum Internal Storage Type

Hot Plug SCSI	1.20TB	4 x 300GB Ultra320 drives (internal hot plug Ultra3 drive cage)
Hot Plug SAS	1.168TB	8 x 146GB SFF SAS drives (internal hot plug)

Interfaces

Serial	1
Pointing Device (Mouse)	1
Graphics	1
Keyboard	1
USB 2.0 Ports	3 total: 1 front; 2 rear
	NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html
iLO Remote Management	1
Network RJ-45	2

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

DA - 12195   North America — Version 30 — May 14, 2007   Page 6

Standard Features

Form Factor	Rack (4U = 7 inches), ships with Quick Deploy Sliding Rail System, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components.
	Space saving form factor (4U) provides space efficiencies while providing maximum deployment flexibility.

ProLiant Essentials Foundation Pack Software	HP Systems Insight Manager	HP Systems Insight Manager (HP SIM) provides a unified, secure and extensible environment to centrally manage servers, storage and other infrastructure devices across multiple operating system platforms.
		Through a single management view, HP SIM provides core management services that include device discovery and identification, event views, health monitoring, inventory data collection, software version control and reporting. HP SIM is built on industry standards and is extensible with value-added ProLiant Essentials, Integrity Essentials and Storage Essentials software to meet individual management needs. For more details on HP SIM visit http://www.hp.com/go/hpsim.
		HP SIM provides organizations with the following benefits:

- Simplifies and consolidates infrastructure lifecycle management using task and query based functionality
- Provides the foundation for infrastructure automation and virtualization
- Enables IT management based on business processes not hardware platforms
- Lowers infrastructure maintenance cost and frees resources for innovation
- Maximizes resource utilization with virtualization technologies
- Provides a central point of integration between infrastructure and Enterprise management tools such as HP OpenView

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

Standard Features

Insight Management Agents	Insight Management Agents should be installed on all HP servers to present system instrumentation, health and configuration information into HP Systems Insight Manager and the HP System Management Homepage. The HP System Management Homepage aggregates systems data from Insight Management Agents and other HP management tools, providing a consolidated browser-based interface for managing individual servers, Insight Management Agents and The HP System Management Homepage are included on ProLiant Support Packs, and can also be installed using the server profiles provided with the ProLiant Essentials Rapid Deployment Pack. For additional information about the Management Agents and the HP System Management Homepage please visit the management Web site at http://www.hp.com/servers/manage
Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides automatic delivery of software and driver change notifications for ProLiant products. Sign up at http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.
ROMPaq, support software, and configuration utilities	The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options available in SmartStart or downloadable from Software and Drivers download pages, 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:

- Rapid Deployment Pack (RDP) is an automated deployment and provisioning solution for all ProLiant servers. RDP includes the ProLiant Integration Module featuring ProLiant server pre-configured events for OS installation, and optimized software drivers, firmware and management agents. Every RDP disc includes 10-node trial licenses for evaluation purposes. RDP requires a license for each server deployed and is available for purchase with HP servers. For more information, visit: http://www.hp.com/servers/rdp.
- Workload Management Pack - provides easier management of complex environments, improving overall server utilization and enabling Windows® 2000 customers for the first time to confidently deploy multiple applications on a single multiprocessor ProLiant Server.
- Intelligent Networking Pack - detects and analyzes network bottlenecks or broken network linkages and steers traffic to the optimum route based on network conditions, plus it provides an extra layer of protection. The virus throttle feature of the solution slows the propagation of fast spreading virus.
- Vulnerability and Patch Management Pack - identifies and remediates software security vulnerabilities due to missing patches as well operating system configurations that can be exploited by viruses, worms, and other blended threats.
- Virtual Machine Management Pack - provides central management and control of virtual machines from Microsoft and VMware. Integrated approach provides the ability to manage both physical and

Standard Features

virtual resources from a single management console.

- Server Migration Pack - The Server Migration Pack automates the manual processes required for migrating servers between physical or virtual platforms (P2V, V2P, and V2V).

Optional Remote Management Packs

- Integrated Lights-Out Advanced Pack - upgrades the Integrated Lights-Out processor to full virtual presence and control with graphical console and virtual media.

NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to http://www.hp.com/servers/proliantessentials or the various ProLiant Essentials Value Pack product QuickSpecs for more information.
NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.hp.com/servers/proliantessentials.

Industry Standard Compliance	ACPI 1.0a. Compliant
	PCI 2.2 Compliant
	PXE Support
	WOL Support
	Physical Address Extension (PAE) Support
	Microsoft® Logo certifications
	USB 2.0 Support

Remote Management

Integrated Lights Out (iLO) Standard Management:

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

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

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

Standard Features

Intelligent Manageability

HP Systems Insight Manager
SmartStart
Redundant ROM
Remote Flash ROM
Management Agents
Integrated Management Log (IML)
Automatic Server Recovery-2 (ASR-2)
ROM-Based Setup Utility (RBSU)
Dynamic Sector Repairing (with Smart Array Controllers)
Drive Parameter Tracking (with Smart Array Controllers)
Pre-Failure Warranty (covers processors, SCSI/SAS hard drives and memory)
Redundant/adaptive load balancing NIC Support
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).

Availability

- **HP Advanced Memory Protection Technology** - delivers unsurpassed memory protection and server availability with the following supported modes of operation:
  - Advanced ECC (1 or More Memory Boards)
    Advanced ECC Memory is the default memory protection mode for the HP ProLiant DL580 G3. In Advanced ECC, the server is protected against correctable memory errors. The server will provide notification if the level of correctable errors exceeds a predefined threshold rate. The server does not fail because of correctable memory errors.

    Advanced ECC provides additional protection over Standard ECC in that it is possible to correct certain memory errors that would otherwise be uncorrectable and result in server failure. Whereas Standard ECC can correct single-bit memory errors, Advanced ECC can correct single-bit and multi-bit memory errors if all failed bits are on the same DRAM device on the DIMM. Advanced ECC is the only mode in which hot-add operations are supported by adding a memory board with memory to the server while it is running.

  - Online Spare Memory (1 or More Memory Boards)
    Offers a higher level of memory protection than Advanced ECC alone. If the number of single-bit correctable errors on a bank exceeds the pre-defined error threshold, that bank will fail over to the online spare bank without intervention or server interruption. The failed memory can then be replaced at the user's convenience during a scheduled maintenance window.

    Online Spare Memory is achieved by protecting active memory with online spare memory on the same memory board. No operating system support is required.

  - Hot Plug Mirrored Memory (2 or 4 Memory Boards)
    Hot Plug Mirrored Memory provides a higher level of availability than Advanced ECC and Online Spare Memory. With Hot Plug Mirrored Memory, the server is protected against uncorrectable memory errors that would otherwise result in server failure. Hot Plug Mirrored Memory allows the server to keep two copies of all memory data on separate memory boards. If an uncorrectable error is encountered, the proper data is retrieved from the memory board that did not fail. In addition, Hot Plug Mirrored Memory allows failed or degraded DIMMs to be replaced while the server is running without requiring server downtime. The memory board with the failed DIMMs can be removed from the front of the server, failed DIMMs replaced, and the board re-inserted into the server without disengaging the server from the rack or interrupting the operating system.

○ Hot Plug RAID Memory (4 Memory Boards)
Hot Plug RAID Memory provides a similar level of protection as Hot Plug Mirrored Memory but obtains this protection using a smaller percentage of the installed memory. While Hot Plug Mirrored Memory keeps two copies of all memory data, Hot Plug RAID Memory keeps only one copy of all memory data and additional parity information. If an uncorrectable memory error is encountered, the server can create the proper data using data from the parity information and the other memory boards that contain no failures. In a Hot Plug RAID Memory configuration, 75% of the installed memory is available to the Operating System; 50% more than in a Hot Plug Mirrored Configuration. As with Hot Plug Mirrored Memory, Hot Plug RAID Memory allows failed DIMMs to be replaced while the server remains running and safely engaged in the rack.

	# of Memory Boards Installed			
Supported Modes	1 Board	2 Boards	3 Boards	4 Boards
Number of DIMMs Supported	4	8	12	16
Maximum Memory Supported	16 GB	32 GB	48 GB	64 GB
Advanced ECC Memory Protection	Yes	Yes	Yes	Yes
Online Spare Memory	Yes	Yes	Yes	Yes
Hot Plug Mirrored Memory	No	Yes	No	Yes
Hot Plug RAID Memory	No	No	No	Yes

- PCI-X Hot Plug Technology (Two 64bit/133-MHz PCI-X hot plug slots available with the Hot Plug PCI-X Mezzanine Option)
- Smart Array 6i Controller with optional Battery Backed Write Cache (BBWC) Enabler provides transportable data protection and increases overall controller performance. Up to 128MB Battery Backed Write Cache protection optional on HP ProLiant DL580 G3 (BBWC Enabler ships standard with 2P Dual-core 7040 3.00 GHz/2x2M and 3.33 GHz/8M base models)
- Hot Plug Redundant Fans - Six Hot Plug Redundant Fans ship standard with all models.
- Front Accessible Chassis - Redesigned chassis allows access to memory, processors and hard drives from the front of the server while it remains safely engaged in the rack. This provides easier serviceability and lowers the chance of interfering with neighboring servers' cables and components.
- Hot Plug Universal Drives - Up to four Hot Plug Universal drives are supported with ability to configure for Duplex or Simplex Backplane functionality.
- Hot Plug Redundant Power Supplies - Two Hot Plug Redundant Power Supplies ship standard with all 2P base models (2nd Hot Plug Redundant Power Supply is optional with 1P base models)

Standard Features

Serviceability	• Front and Rear accessibility provides unsurpassed serviceability by allowing the server to remain safely secured in the rack while maintaining Hot Plug RAID Memory, Hot Plug Universal Hard Drives, Hot Plug Redundant Power Supplies, as well as Processors and Processor Power Modules.

- Innovative Diagnostic Lighting
- QuickFind Diagnostic Display - precisely depicts all major subsystems of the server (PCI-X I/O, Memory, CPU, Redundant Cooling, Interlock, Thermtrip) and gives instant visual indication of fault status. Located on top front of server.
- LED display on front panel indicates power, internal health, external health, Unit ID light.
- LED display on Memory board indicates Memory status, health, and protection mode.
- LED display on Processor board indicates Processor and Processor Power Module health.
- Tool-less, virtually cable-less interior design
    - Tool-less access to interior of server
    - Up to two, Slimline media drives are removable without the use of tools (ejectable)
    - Rear Access to Hot Plug Redundant Power Supplies
    - PCI Card Guides locks full length PCI cards in place
    - SCSI Duplex/Simplex Drive Cage connects directly to system board - no cables.
      NOTE: Configure your SCSI Duplex/Simplex Drive Cage by means of simple switch (duplex to simplex) located on the cage itself. System ships standard in Duplex mode.
    - Six individually removable fans connect without cables to the system board
    - Processor/PPM Retention Cage securely locks Processors into their sockets
    - Tool-less removal of system board
- Quick Deploy Rails
    - Tool-less design "snap in" rail and ambidextrous cable management arm

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Security

Power-on password
Keyboard password
Diskette drive control
Diskette boot control
Network Server Mode
Serial interface control
Administrator's password
Removable Diskette drive (optional)
Removable CD-ROM or DVD drive

Power Regulator

Power Regulator is a new operating system-independent power management feature of HP ProLiant servers that enables dynamic or static changes in CPU performance and power states. In dynamic power mode, Power Regulator automatically adjusts the server's power usage and performance to match CPU application activity. This improves server energy efficiency by giving CPUs full power for applications when they need it and enabling power savings without performance degradation when application activity is reduced.

Server Power Cords

NOTE: For HP ProLiant DL580 server, a C19 to C20 2.8M jumper cord ships standard. If customers require a local power cord, they can check the power cord matrix for the appropriate county specific sku. Please see the following power cord matrix for details: http://www.hp.com/go/powercordmatrix

Standard Features

Power Supply	910W (low line), 1300W (high line) with 12V main output. Size is 2.8"(H) X 4.9"(W) X 7.5"(L).

Power Supply

910W (low line), 1300W (high line) with 12V main output. Size is 2.8"(H) X 4.9"(W) X 7.5"(L).
NOTE: One Hot Plug Power Supply ships standard with 1P base models (optional Redundant Hot Plug Power Supply Option Kit).
NOTE: Two Hot Plug Power Supplies ship standard with 2P base models.

UPS and PDU Power Cord Matrix

Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units:
ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf.

System Fans

Standard — 6 Hot plug, redundant fans (individually removable)
Maximum — 6 Hot plug, redundant fans (individually removable)

Required Cabling

For required cabling information, refer to the HP Web site at
http://h18000.www1.hp.com/products/servers/proliantDL580/.

OS Support

Windows Server 2003
Microsoft Windows 2000
Red Hat Enterprise Linux
SUSE Linux Enterprise Server
Novell Netware
Sun Solaris Intel Platform Edition
VMware Virtualization Software

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

NOTE: For an up-to-date listing of the latest drivers available for the HP ProLiant DL580, please see: http://www.hp.com/support.

NOTE: For more Linux OS support & certification information, please visit our the ProLiant & Bladesystem Server Linux matrix http://h18004.www1.hp.com/products/servers/linux/hpLinuxcert.html

NOTE: For more complete and up-to-date information on how to buy server operating systems from HP please visit the OS product site at: http://h18004.www1.hp.com/products/servers/software/OEM.html
NOTE: For more information on HP's Certified and Supported ProLiant Servers, please visit the VMware Server Support Matrix at:
http://h18004.www1.hp.com/products/servers/software/vmware/hpvmwarecert.html.

Standard Features

Rack Airflow Requirements	**Rack 10000 series Cabinets** The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors. **CAUTION:** If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment: - Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 5,350 sq cm (830 square inches) 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 7 cm (2.75 inches). **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://www5.HP.com/products/servers/proliantdl580/index.html.

Rack Mounting Requirements	HP ProLiant DL580 G3 rack models provide tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000, HP/E series and H9 series) with an adjustment range from 24" - 36" in depth. The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management. **NOTE:** Cable management arm must be removed to access Hot Plug Power Supplies when the cable management arm is mounted on the right. **HP ProLiant DL580 G3 in Telco Racks** Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions (http://www.racksolutions.com/hp/)

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

HP Enterprise Configurator	The HP eCo-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance.

Standard Features

Service and Support

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

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

HP Care Pack services include coverage for the HP branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as 22" and smaller external monitors and tower UPS options up to 3kVA; these items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

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

To fully capitalizing on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

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

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

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

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

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

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

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

- *Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays*

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

Solutions

Solutions

The HP ProLiant DL580 G3 server is an enterprise class, 4-way server designed for maximum scalability and high availability. It's radically redesigned chassis offers unsurpassed flexibility and serviceability in a versatile, rack-optimized form factor.
Based upon the latest industry standard processing, memory, I/O and networking technologies, the HP ProLiant DL580 G3 provides the highest levels of performance demanded by today's compute intensive applications. Unparalleled high availability features, including Hot Plug RAID Memory technology, an integrated U320 Smart Array 6i controller, duplex drive cage, and hot-plug redundant components guarantee maximum uptime. The HP ProLiant DL580 G3's Integrated Lights-Out technology, allows remote administration from a standard web-browser without ever having to visit the server. Within the 4U dense form factor, the HP ProLiant DL580 G3's highly expandable architecture provides maximum application deployment flexibility with the ability to add PCI-Express, hot plug PCI-X or battery-backed write cache options. Innovative new features, such as the ability to access processors, memory, hard drives, and power supplies while the unit remains secured in the rack, enable rapid response to service events, radically decreasing overall IT costs and server downtime.

Typical Usage:

Space-constrained corporate data centers and service providers

- With up to 1.2TB of internal storage, 16 DIMM sockets and PCI-Express or hot-plug PCI-X mezzanine options; the HP ProLiant DL580 G3 packs the storage, memory, and I/O you need in a versatile, 4U chassis
- Ambidextrous cable management and a quick deploy rail solution make racking a snap
- Availability features including hot plug RAID memory, hot plug redundant power, hot plug redundant fans, hot plug PCI-X and hot plug RAID hard drives keep environments up and running and users productive

Database, Messaging and Business Applications

- The latest 64-bit Intel® Xeon™ processors with Hyper-Threading, DDR-2 memory, and large internal storage capacity provide scalability for everything from web apps to mail servers to databases
- Five standard full-length PCI-X slots and the ability to add either two additional X4 PCI Express, one additional X8 PCI Express, or two additional hot plug PCI-X slots, provide powerful and flexible I/O alternatives
- Integrated dual-port 10/100/1000 gives you the connectivity and bandwidth needed in today's database or business applications environments
- Easily attach to SAN or NAS and manage from one location

Server Consolidation

- Scalability, availability and built-in serviceability make the HP ProLiant DL580 G3 the perfect platform for server consolidation solutions
- The ProLiant HP DL580 G3 and ProLiant Essentials make it easy to deploy, manage, and migrate virtualized servers with VMware or Microsoft Virtual Server
- Integrated Lights-Out enables administrators to manage the HP ProLiant DL580 G3 from remote locations

For more solutions visit: http://www.hp.com/solutions/proliantdl580.

QuickSpecs

Models

SCSI Models

DL580R03 X7040 DC, 2GB (2P)
399779-001

Processor(s)	2) 64-bit Dual-core Intel Xeon 7040 Processors 3.00 GHz (up to 4 supported)
Cache Memory	2x2MB level 2 cache
Memory	(1) Memory Cartridge (up to 4 supported) 2GB (2 x 1GB) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 PCI-X Gigabit Server Adapter
Storage Controller	Smart Array 6i Controller (Ultra320, integrated on system board) with 128MB Battery Backed Write Cache
Manageability	Integrated Lights-Out (iLO) Standard Management
Hard Drives	None ship standard
Internal Storage	1.2TB max (with optional U320 Universal Hot Plug hard drives, upgradeable to SAS)
Power Supply	(2) Hot Plug Redundant Power Supplies
Optical Drive	Slimline DVD-ROM Drive (8X/24X) (ejectable)
Diskette Drive	None ship standard (optional Ejectable Slimline Floppy Drive)
Form Factor	Rack 4U

DL580R03 3.33 GHz-8MB, 2GB (2P)
364635-001

Processor(s)	(2) Intel Xeon MP Processors 3.33 GHz (up to 4 supported)
Cache Memory	8MB level 3 cache
Memory	(1) Memory Cartridge (up to 4 supported) 2GB (2 x 1GB) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
Network Controller	Embedded NC7782 PCI-X Gigabit Server Adapter
Storage Controller	Smart Array 6i Controller (Ultra320, integrated on system board)
Manageability	Integrated Lights-Out (iLO) Standard Management
Hard Drives	None ship standard
Internal Storage	1.2TB max (with optional U320 Universal Hot Plug hard drives, upgradeable to SAS)
Power Supply	(2) Hot Plug Redundant Power Supplies
Optical Drive	Slimline DVD-ROM Drive (8X/24X) (ejectable)
Diskette Drive	None ship standard (optional Ejectable Slimline Floppy Drive)
Form Factor	Rack 4U

Models

DL580R03 3.00 GHz-8MB, 2GB (2P) 364634-001	Processor(s)	(2) Intel Xeon MP Processor 3.00 GHz (up to 4 supported)
	Cache Memory	8MB level 3 cache
	Memory	(1) Memory Cartridge (up to 4 supported) 2GB (2 x 1GB) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 PCI-X Gigabit Server Adapter
	Storage Controller	Smart Array 6i Controller (Ultra320, integrated on system board)
	Manageability	Integrated Lights-Out (iLO) Standard Management
	Hard Drives	None ship standard
	Internal Storage	1.2TB max (with optional U320 Universal Hot Plug hard drives, upgradeable to SAS)
	Power Supply	(2) Hot Plug Redundant Power Supplies
	Optical Drive	Slimline DVD-ROM Drive (8X/24X) (ejectable)
	Diskette Drive	None ship standard (optional Ejectable Slimline Floppy Drive)
	Form Factor	Rack 4U
DL580R03 X7020 DC, 1GB (1P) 399778-001	Processor(s)	(1) 64-bit Dual-core Intel Xeon 7020 Processor 2.66 GHz (up to 4 supported)
	Cache Memory	2x1MB level 2 cache
	Memory	(1) Memory Cartridge (up to 4 supported) 1 GB (2 x 512 MB) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 PCI-X Gigabit Server Adapter
	Storage Controller	Smart Array 6i Controller (Ultra320, integrated on system board)
	Manageability	Integrated Lights-Out (iLO) Standard Management
	Hard Drives	None ship standard
	Internal Storage	1.2TB max (with optional U320 Universal Hot Plug hard drives, upgradeable to SAS)
	Power Supply	(1) Hot Plug Redundant Power Supply
	Optical Drive	Slimline DVD-ROM Drive (8X/24X) (ejectable)
	Diskette Drive	None ship standard (optional Ejectable Slimline Floppy Drive)
	Form Factor	Rack 4U

Models

DL580R03 2.83 GHz-4MB 1GB (1P) 364633-001		
	Processor(s)	(1) Intel Xeon MP Processor 2.83 GHz (up to 4 supported)
	Cache Memory	4MB level 3 cache
	Memory	(1) Memory Cartridge (up to 4 supported) 1 GB (2 x 512 MB) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 PCI-X Gigabit Server Adapter
	Storage Controller	Smart Array 6i Controller (Ultra320, integrated on system board)
	Manageability	Integrated Lights-Out (iLO) Standard Management
	Hard Drives	None ship standard
	Internal Storage	1.2TB max (with optional U320 Universal Hot Plug hard drives, upgradeable to SAS)
	Power Supply	(1) Hot Plug Redundant Power Supply
	Optical Drive	Slimline DVD-ROM Drive (8X/24X) (ejectable)
	Diskette Drive	None ship standard (optional Ejectable Slimline Floppy Drive)
	Form Factor	Rack 4U

DL580R03 3.66 GHz-1MB 1GB (1P) 385999-001		
	Processor(s)	(1) Intel Xeon MP Processors 3.66 GHz (up to 4 supported)
	Cache Memory	1MB level 2 cache
	Memory	(1) Memory Cartridge (up to 4 supported) 1 GB (2 x 512 MB) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 PCI-X Gigabit Server Adapter
	Storage Controller	Smart Array 6i Controller (Ultra320, integrated on system board)
	Manageability	Integrated Lights-Out (iLO) Standard Management
	Hard Drives	None ship standard
	Internal Storage	1.2TB max (with optional U320 Universal Hot Plug hard drives, upgradeable to SAS)
	Power Supply	(1) Hot Plug Power Supply
	Optical Drive	Slimline DVD-ROM Drive (8X/24X) (ejectable)
	Diskette Drive	None ship standard (optional Ejectable Slimline Floppy Drive)
	Form Factor	Rack 4U

QuickSpecs

Models

DL580R03 3.16 GHz- 1MB 1GB (1P) 377239-001	Processor(s)	(1) Intel Xeon MP Processors 3.16 GHz (up to 4 supported)
	Cache Memory	1MB level 2 cache
	Memory	(1) Memory Cartridge (up to 4 supported) 1 GB (2 x 512 MB) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities
	Network Controller	Embedded NC7782 PCI-X Gigabit Server Adapter
	Storage Controller	Smart Array 6i Controller (Ultra320, integrated on system board)
	Manageability	Integrated Lights-Out (iLO) Standard Management
	Hard Drives	None ship standard
	Internal Storage	1.2TB max (with optional U320 Universal Hot Plug hard drives, upgradeable to SAS)
	Power Supply	(1) Hot Plug Power Supply
	Optical Drive	Slimline DVD-ROM Drive (8X/24X) (ejectable)
	Diskette Drive	None ship standard (optional Ejectable Slimline Floppy Drive)
	Form Factor	Rack 4U

Configuration Information - Factory Integrated Models

NOTE: HP does not allow factory integration of options into standard models listed above.
Configure-to-order servers must start with a CTO Chassis.
NOTE: This product offering does not support HP Factory Express Server Configuration Level 1.
NOTE: FIO indicates that this option only available as a Factory Installable Option.
NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

Step 1: Base Configuration

Models	HP ProLiant DL580 G3 Highly Serviceable Rack Chassis	364636-405

Factory Integrated Model ships with:

Embedded NC7782 PCI-X Gigabit Server Adapter

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

Five Standard 64-bit non-hot plug PCI-X slots (3 x 133MHz, 2 x 100MHz)

One (1) Hot Plug Power Supply with one (1) low line NEMA power cord and One high-line IEC power cord

Six (1) Redundant Hot Plug Fans

Wide Ultra3/U320 Duplex Drive Cage (can be Simplex configured)

Integrated Lights-Out (iLO) Standard Management

Rack (4U), 7-inch

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

Processors	64-bit Dual-core Intel® Xeon™ 7040 (3.00GHz, 2x2M L2) 580 G3 FIO NOTE: If more than one processor is desired, additional processor selections would be 399889-B21. If High Performance Pack features are desired, select 404082-001 and any desired additional processors.	399889-L22
	64-bit Dual-core Intel® Xeon™ 7020 (2.66GHz, 2x1M L2) 580 G3 FIO NOTE: If more than one processor is desired, additional processor selections would be 399888-B21.	399888-L22
	64-bit Intel® Xeon™ 3.33-8M 580 G3 FIO NOTE: If more than one processor is desired, additional processor selections would be 348111-B21. If High Performance Pack features are desired, select 391717-001 and any desired additional processors.	348111-L22
	64-bit Intel® Xeon™ 3.00-8M 580 G3 FIO NOTE: If more than one processor is desired, additional processor selections would be 348110-B21. If High Performance Pack features are desired, select 391718-001(U320) or 393768-001(SAS) and any desired additional processors.	348110-L22
	64-bit Intel® Xeon™ 2.83-4M 580 G3 FIO NOTE: If more than one processor is desired, additional processor selections would be 348109-B21.	348109-L22
	64-bit Intel® Xeon™ 3.66-1M 580 G3 FIO NOTE: If more than one processor is desired, additional processor selections would be 385903-B21.	385903-L22
	64-bit Intel® Xeon™ 3.16-1M 580 G3 FIO NOTE: If more than one processor is desired, additional processor selections would be 375369-B21.	375369-L22

Configuration Information - Factory Integrated Models

Base Memory	8 GB (2 x 4 GB 2RANK) PC2-3200R 400MHz DDR2 Option Kit	404122-B21
	NOTE: Requires baffled Memory Board Replacement Cover - included in kit.	
	4 GB (2 x 2 GB 2RANK) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities	375004-B21
	NOTE: If 2GB DIMM's are desired, 2GB 2RANK DIMM's are recommended with the HP ProLiant DL580 G3. However, 2GB 1RANK DIMM's are also supported for commonality with other HP ProLiant servers.	
	4 GB (2 x 2 GB 1RANK) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities.	343057-B21
	NOTE: If 2GB DIMM's are desired, 2GB 2RANK DIMM's are recommended with the HP ProLiant DL580 G3. However, 2GB 1RANK DIMM's are also supported for commonality with other HP ProLiant servers.	
	2 GB (2 x 1 GB 1RANK) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities	343056-B21
	1 GB (2 x 512 MB 1RANK) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities	343055-B21

Step 3: Choose Additional Factory Integratable Options

High Performance Model Options

The HP ProLiant DL580 G3 Performance Packs include the latest performance technologies and enterprise class availability features pre-installed for convenience and value. In addition to the standard features listed in Step 1, the Performance Packs include the following:

- 2nd Intel Xeon Processor MP and Processor Power Module
- 2nd Rear Accessible Hot Plug Redundant Power Supplies
- The X7040 DC and 3.33 GHz Performance Packs also include the 128MB Battery Backed Write Cache for the embedded Smart Array 6i controller
- The HP ProLiant DL580 G3 SAS Performance Pack includes the Smart Array P600 Controller

NOTE: 8-Bay SAS/SATA Cage (379090-B21) not included but is required, please include in order. SAS Performance pack includes the Smart Array P600/256 BBWC Controller.

DL580G3 X7040 (3.00 GHz, 2x2MB L2 Cache) HPM Performance Pack	404082-001
DL580G3 X3.33 GHz/667-8MB HPM Performance Pack	391717-001
DL580G3 X3.00 GHz/667-8MB HPM Performance Pack	391718-001
DL580G3 X3.00 GHz/667-8MB HPM SAS Performance Pack	393768-001

NOTE: 8-Bay SAS/SATA Cage (379090-B21) not included but is required, please include in order. SAS Performance pack includes the Smart Array P600/256 BBWC Controller.

Configuration Information - Factory Integrated Models

SAS Options	8-Bay SAS/SATA Cage Option Kit	379090-B21

NOTE: Required to configure all SAS models.
NOTE: May be ordered with a SAS/SATA Controller such as the Smart Array P600/256 BBWC Controller and the desired quantity of SFF SAS Universal Hard Drives/SFF SATA hard drives OR may be ordered with one of the following SAS Starter Kits.

	SAS Starter Kit - 36 GB	396221-B21

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

	SAS Starter Kit - 72 GB	396220-B21

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

Step 4: Choose Additional Options for Factory Integration

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

Options

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

ProLiant DL580 Unique Options	Hot Plug 64-bit/133MHz PCI-X Mezzanine Option NOTE: Adds two Hot Plug PCI-X slots.	377520-B21
	PCI Express X4 Mezzanine Option NOTE: Adds two PCI Express (X4) I/O slots. Each slot will accept PCI Express cards with X1 through X8 connectors and utilize X4 lanes.	377522-B21
	PCI Express X8 Mezzanine Option NOTE: Adds one PCI Express (X8) I/O slot. The slot will accept PCI Express Cards with X1 through X8 connectors and utilize X8 lanes.	389876-B21
	DL580 G3 Memory Board NOTE: The HP ProLiant DL580 G3 utilizes up to four Memory Boards that support up to four DIMMs each. These memory boards are Front accessible providing unsurpassed levels of memory protection as well as scalability for the most memory-intensive applications. See Memory Configuration Diagram. NOTE: One Memory Board ships standard with all models.	364639-B21

ProLiant Essentials Value Pack Software	ProLiant Essentials Intelligent Networking Pack	
	ProLiant Essentials Intelligent Networking Pack - Windows Edition, Single Server License NOTE: For use with a single server. Contains one license with a unique license activation key and documentation. NOTE: For additional ProLiant Intelligent Networking Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12062_na/12062_na.HTML	436225-B21
	ProLiant Essentials Intelligent Networking Pack - Linux Edition, Single Server License NOTE: For additional ProLiant Intelligent Networking Pack - Linux License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12327_na/12327_na.HTML	436229-B21
	ProLiant Essentials Rapid Deployment Pack Windows Edition and Linux Edition Release	
	Rapid Deployment Pack, Single-Server License NOTE: This license allows 1 server to be deployed and managed via RDP.	267196-B21
	ProLiant Essentials Rapid Deployment Pack - Physical Media Kit	434559-B21
	ProLiant Essentials Rapid Deployment Pack Flatpack - single-server license	434560-B21
	NOTE: For additional ProLiant Essentials Rapid Deployment Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11053_na/11053_na.HTML	
	ProLiant Essentials Workload Management Pack	
	ProLiant Essentials Workload Management Pack, Single Server License	303284-B21
	NOTE: For additional ProLiant Workload Management Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11452_na/11452_na.HTML	
	ProLiant Essentials Virtualization Management Software	
	ProLiant Essentials Virtual Machine Management Pack, Single-Server License NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.	435661-B21

Options

HP ProLiant Essentials Virtual Machine Management and Server Migration Pack, Media Only	442213-B21
ProLiant Essentials Server Migration Pack, Single-Migration License	435663-B21

NOTE: Contains one license, enabling 1 server migration, with a unique license activation key and documentation.
NOTE: This license allows 1 server to be migrated from a physical server to a virtual machine. Or this license can be used to migrate a virtual machine from one virtualization layer i.e. VMware GSX to a different virtualization layer such as VMware ESX or Microsoft Virtual Server 2005.

ProLiant Essentials Server Migration Pack - P2P Edition, 1 Year Unlimited Migration License - License Only, No Media	444762-B21
HP ProLiant Essentials Server Migration Pack - Physical to ProLiant Edition. 1 Year Unlimited Migration License	412982-B21
ProLiant Essentials Server Migration Pack - Physical to ProLiant Edition, Single-Migration License	412978-B21

NOTE: For additional ProLiant Essentials Virtualization Management Software License Kits please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12328_na/12328_na.HTML

ProLiant Essentials Vulnerability and Patch Management Pack

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

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

NOTE: For additional ProLiant Vulnerability and Patch Management Pack License Kits, please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12111_na/12111_na.HTML

NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to http://www.hp.com/servers/proliantessentials or the various ProLiant Essentials Value Pack product QuickSpecs for more information.
NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.hp.com/servers/proliantessentials.

Remote Management	**Integrated Lights-Out Advanced Pack**	
	Integrated Lights-Out Advanced Pack, 1 server	263825-B21

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

NOTE: For additional Integrated Light-Out Advanced Pack License Kits please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12326_div/12326_div.HTML

QuickSpecs

Options

Processor	Dual-core Intel Xeon 7040 (3.00GHz-2x2MB) Processor Option Kit	399889-B21
	NOTE: This processor option kit (PN 399889-B21) supports the HP ProLiant ML570 G3 and the HP ProLiant DL580 G3.	
	Dual-core Intel Xeon 7020 (2.66GHz-2x1MB) Processor Option Kit	399888-B21
	NOTE: This processor option kit (PN 399888-B21) supports the HP ProLiant ML570 G3 and the HP ProLiant DL580 G3.	
	Intel Xeon MP X3.33 GHz-8MB Processor Option Kit	348111-B21
	Intel Xeon MP X3.00 GHz-8MB Processor Option Kit	348110-B21
	Intel Xeon MP X2.83 GHz-4MB Processor Option Kit	348109-B21
	Intel Xeon MP X3.66 GHz-1MB Processor Option Kit	385903-B21
	Intel Xeon MP X3.16 GHz-1MB Processor Option Kit	375369-B21

Memory (DIMMs)	8 GB (2 x 4 GB 2RANK) PC2-3200R 400MHz DDR2 Option Kit	404122-B21
	NOTE: Requires baffled Memory Board Replacement Cover - included in kit.	
	4 GB (2 x 2 GB 2RANK) PC2-3200R 400MHz DDR2 Option Kit	375004-B21
	NOTE: With Advanced ECC and online spare memory capabilities. 2GB 2RANK DIMM's are recommended with the HP ProLiant DL580 G3. However, 2GB 1RANK DIMM's are also supported for commonality with other HP ProLiant servers.	
	4 GB (2 x 2 GB 1RANK) PC2-3200R 400MHz DDR2 Option Kit	343057-B21
	NOTE: With Advanced ECC and online spare memory capabilities.	
	2 GB (2 x 1 GB 1RANK) PC2-3200R 400MHz DDR2 Option Kit	343056-B21
	NOTE: With Advanced ECC and online spare memory capabilities.	
	1 GB (2 x 512 MB 1RANK) PC2-3200R 400MHz DDR2 Option Kit	343055-B21
	NOTE: With Advanced ECC and online spare memory capabilities.	
	DL580 G3 Memory Board	364639-B21
	NOTE: The HP ProLiant DL580 G3 utilizes up to four Memory Boards that support up to four DIMMs each. These memory boards are Front accessible providing unsurpassed levels of memory protection as well as scalability for the most memory-intensive applications. See Memory Configuration Diagram. NOTE: One Memory Board ships standard with all models.	

Diskette Drive	Slimline Floppy Diskette Drive Option Kit	390164-B21
	NOTE: Ejectable drive.	

Optical Drives	Slimline CD-RW/DVD-ROM Combo Drive Option Kit	331903-B21
	NOTE: Ejectable drive.	
	Slimline DVD-ROM Drive (8X/24X) Option Kit	264007-B21
	NOTE: Ejectable drive.	
	HP DVD+R/RW 8X Slim	383975-B21
	NOTE: Ejectable drive	
	Slimline CD-ROM Drive 24X	356963-B21

Options

SAS Drive Cage	8-Bay SAS/SATA Cage Option Kit	379090-B21
	NOTE: The SAS/SATA Cage can be used in conjunction with a SAS/SATA Controller such as the Smart Array P600/256 BBWC Controller to upgrade all U320 models to SAS. The SAS Model ships standard with these items.	

Hard Drives

Ultra320 SCSI - Universal Hot Plug

HP 300GB U320 10K Universal HDD	350964-B22
HP 146GB U320 10K Universal HDD	286716-B22
HP 72GB U320 10K Universal HDD	286714-B22
HP 300GB U320 15K Universal HDD	411089-B22
HP 146GB U320 15K Universal HDD	347708-B22
HP 72GB U320 15K Universal HDD	286778-B22
HP 36GB U320 15K Universal HDD	286776-B22

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

NOTE: Please see the Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature:
http://h18000.www1.hp.com/products/quickspecs/11531_na/11531_na.HTML

SFF SAS Hot Plug

HP 146GB 3G SAS 10K SFF SP HDD	431958-B21
HP 72GB 3G SAS 10K SFF SP HDD	375861-B21
HP 72GB 3G SAS 15K SFF SP HDD	431935-B21
HP 36GB 3G SAS 10K SFF SP HDD	375859-B21
HP 36GB 3G SAS 15K SFF SP HDD	431933-B21

NOTE: Please see the SAS Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature:
http://h18000.www1.hp.com/products/quickspecs/12224_na/12224_na.HTML

SFF SATA Hot Plug

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

NOTE: SATA drives have a 1 year warranty. Please see the SATA Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, physical configuration, and operating temperature:
http://h18000.www1.hp.com/products/quickspecs/11940_na/11940_na.HTML

Storage Controllers

SAS Controllers

Smart Array P600 Controller

HP Smart Array P600/256 BBWC Controller		337972-B21
NOTE: The Smart Array P600 Controller supports internal and external Serial Attached SCSI and Serial ATA drives. It is supported in all HP ProLiant DL580 G3 Models. Ships standard on SAS Model.		
NOTE: Internal usage of the Smart Array P600 Controller requires the 8-Bay SAS/SATA Drive Cage Option Kit. Ships standard on SAS Model.		
512MB DDR BBWC Upgrade		372538-B21

NOTE: Please see the following QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/12247_na/12247_na.HTML
(Smart Array P600 Controller)

SAS HBA

HP 8 Internal Port SAS HBA with RAID   347786-B21

NOTE: Please see the following QuickSpecs for additional information:
http://h18004.www1.hp.com/products/quickspecs/12332_na/12332_na.html
(SAS HBA)

SCSI Controllers

128MB Battery-Backed Write Cache with Battery Housing   346914-B21
NOTE: This Battery-Backed Write Cache Enabler Option Kit is for the integrated Smart Array 6i Controller. This BBWC ships standard on 2P Model with 3.33GHz/8MB processors.

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.

DL580 G3 Cable Assembly, SCSI, Ultra3, LVDS   288874-B21
NOTE: All HP ProLiant DL580 G3 models ship standard with the integrated Smart Array 6i Controller, which has been designed to deliver maximum performance and availability across the internal SCSI Duplex backplane.

- The Ultra3 SCSI cable is required only if the customer chooses to bypass the Smart Array 6i Controller and connect slot-based SCSI adapters or RAID controllers to the internal SCSI Duplex backplane.
- Two cables are required to maintain the standard, duplexed configuration of the backplane. One cable is required if the simplex configuration is chosen.

The backplane is easily configured to simplex mode by means of a simple switch duplex to simplex) located on the top of the backplane itself.

Ultra320 Expansion Module for SA-6402   273911-B21

64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2   374654-B21

NOTE: Please see the following QuickSpecs for Technical Specifications and additional information:
http://h18000.www.1.hp.com/products/quickspecs/12030_na/12030_na.HTML
(Smart Array 6i)
http://h18000.www1.hp.com/products/quickspecs/11587_na/11587_na.HTML
(Smart Array 6400 Series)
http://h18000.www1.hp.com/products/quickspecs/12067_na/12067_na.HTML
(Smart Array 641)
http://h18000.www1.hp.com/products/quickspecs/12069_na/12069_na.HTML
(Smart Array 642)
http://h18000.www1.hp.com/products/quickspecs/11943_na/11943_na.HTML
(Single Channel U320 SCSI G2 HBA)

Options

Communications	HP NC110T PCI Express Gigabit Server Adapter	434905-B21
	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
	HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
	HP NC340T PCI-X 4-port 1000T Gigabit Server Adapter	391661-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
	HP NC510F PCIe 10 Gigabit Server Adapter **NOTE:** A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510F adapter.	414126-B21
	HP NC510C PCIe 10 Gigabit Server Adapter **NOTE:** A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510C adapter.	414129-B21
	HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21

Redundant Options	910W (low line), 1300W (high line) Hot Plug Redundant Power Supply **NOTE:** Includes Nema 5-15P to IEC320-C19.	348114-001
	910W (low line), 1300W (high line) Hot Plug Redundant Power Supply **NOTE:** Includes C14 to C19 IEC cable.	348114-B21

Tape Drives	**NOTE:** For a complete listing of HP Tape Drive offerings supported with this HP ProLiant server, please see: http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html	
	NOTE: The following tape drives are recommended for use with this HP ProLiant server.	
	USB Tape Drives	
	HP StorageWorks Ultrium 232 Internal Tape Drive (Carbonite) **NOTE:** HP recommends combining this tape drive with the 1U SCSI Rack-Mount kit (A7445B) for a complete rack-mount solution.	DW064A
	HP StorageWorks 3U SCSI Rack-mount kit with one Ultrium 960 (Carbonite)	Q1595B
	HP StorageWorks Ultrium 232 Internal Tape Drive (Carbonite) **NOTE:** HP recommends combining this tape drive with the 1U SCSI Rack-Mount kit (A7445B) for a complete rack-mount solution.	DW064A
	HP StorageWorks 3U SCSI Rack-mount kit with one Ultrium 460 (Carbon)	350546-B22
	HP StorageWorks 1U SCSI Rack-mount kit with one Ultrium 448 SCSI Tape Drive (Carbonite)	DW028B
	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_na/11739_na.html http://h18006.www1.hp.com/products/quickspecs/12128_na/12128_na.html	
	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	
	Rack-Mount Tape Drive Enclosures	

Options

	HP StorageWorks 1U SCSI Rack-Mount kit	A7445B

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

HP StorageWorks 1U USB Rack-Mount Kit   A8007A

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

HP StorageWorks 3U Rack-mount kit   274338-B22

NOTE: The 3U Rack-mount Kit can support up to (2) full-height or (4) half-height tape drives and compatible with multiple LVD SCSI tape drives including DAT 40, DAT 72, DLT VS160, SDLT 320, SDLT 600, Ultrium 232, Ultrium 460, Ultrium 448, Ultrium 920 and Ultrium 960 tape drives.

NOTE: Please see the Rack-Mount Tape Drive Kits QuickSpecs for additional information regarding these kits: http://h18000.www1.hp.com/products/quickspecs/10854_na/10854_na.HTML

Tape Autoloaders

HP StorageWorks DAT Autoloader

HP StorageWorks DAT 72x10 tape autoloader	AE313A

HP StorageWorks 1/8 Tape Autoloader

HP StorageWorks 1/8 Ultrium 920 G2 Tape Autoloader	AH165A
HP StorageWorks 1/8 Ultrium 448 G2 Tape Autoloader	AH164A
HP StorageWorks 1/8 Ultrium 232 G2 Tape Autoloader	AH163A
HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit	AH166A

NOTE: Required to install the 1/8 G2 Autoloaders in a standard 19-inch rack; includes rails and rackmount instructions

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

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Tape Libraries

HP StorageWorks MSL2024 Tape Library

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

HP StorageWorks MSL4048 Tape Library

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

Options

HP StorageWorks MSL4048 2 Ultrium 960 4GB FC Drive Library	AG325B

HP StorageWorks MSL6000 Tape Library

Ultrium 960 technology

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

Ultrium 460 technology

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

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

Cluster Options

ProLiant Cluster Starter Kit	364023-B22

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

HP HA/F200 for Entry SAN Cluster	364026-B22

NOTE: For additional information regarding the ProLiant Cluster for Entry Level SAN please see the following QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/11932_na/11932_na.html

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

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

HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 & 10 and Red Hat EL 3 & 4 (2 node license cluster kit)	305199-B26
HP Serviceguard for Linux A.11.16 for SUSE SLES 9 & 10 and Red Hat EL 3 & 4 (single license version)	307754-B26
HP Serviceguard for Linux and Red Hat Global File System - 1 year subscription	T2798AA#001
HP Serviceguard for Linux and Red Hat Global File System - 3 years subscription	T2798AA#003

NOTE: For additional information regarding the HP Serviceguard for Linux License, please see the following QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/11518_na/11518_na.html
NOTE: For configuration/certification options for the HP Parallel Database Cluster for Oracle RAC please go to: http://www.hp.com/solutions/highavailability/oracle

Options

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

Options

StorageWorks Options	NOTE: For the complete listing of Fibre Channel Host Bus Adapters for Windows 2000, Windows Server 2003 and Linux, please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	HP StorageWorks FC2142SR 4Gb PCI-e HBA	A8002A
	HP StorageWorks FC2242SR Dual Channel 4 Gb PCI-e HBA	A8003A
	HP StorageWorks FC1142SR 4Gb PCI-e HBA	AE311A
	HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-e HBA	AE312A
	HP StorageWorks FC2143 4Gb PCI-X 2.0 -to-Fibre Channel HBA	AD167A
	HP StorageWorks FC2243 Dual Channel 4Gb PCI-X 2.0 HBA	AD168A
	HP StorageWorks FC1143 4Gb PCI-X 2.0 HBA	AB429A
	HP StorageWorks FC1243 Dual Channel 4Gb PCI-X 2.0 HBA	AE369A

Uninterruptible Power Systems – Rack	HP, R1.5kVA UPS, 1U	AF419A
	HP R3000 VA UPS, 2U, L5-30 NOTE: Replaces non-RoHs compliant part number 192186-001.	AF422A
	HP R3000 VA UPS, 2U, L6-20 NOTE: Replaces non-RoHs compliant part number 192186-002.	AF423A
	HP R5500 VA UPS NOTE: Replaces non-RoHs compliant part number 326529-D71.	AF426A

HP Monitored Power Distribution Unit (PDU)	HP Monitored Power Distribution Unit: Full Rack Version	
	HP 17.3 kVA S2324 Monitored PDU- dual input, 3U, 24A NOTE: Replaces non-RoHs compliant part number 370959-D71.	AF503A
	HP 8.3 kVA S1324 Monitored PDU- single input, 3U, 24A NOTE: Replaces non-RoHs compliant part number 370960-D71.	AF504A
	HP 16.6 kVA S2140 Monitored PDU- dual input, 1U, 40A NOTE: Replaces non-RoHs compliant part number 37061-D71.	AF505A
	HP 8.6 S1140 Monitored PDU- single input, 1U, 40A NOTE: Replaces non-RoHs compliant part number 370962-D71.	AF506A
	HP Monitored Power Distribution Unit: Half Rack Version	
	HP 17.3 kVA S348 Monitored PDU- single input, 3-phase, 60A	AF916A
	HP 4.9kVA S124 Monitored PDU- single input, 1U, 24A	AF914A

Modular Power Distribution Units 1U/0U (Up to 32 outlets) NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	3.6kVA Model - mPDU, 16A, High	252663-B24
	2.8 kVA Model - mPDU, 24A, Low	252663-D71
	4.9kVA Model - mPDU, 24A, High	252663-D72
	8.3kVA Model - mPDU, 40A, High	252663-B21
	8.3kVA Model - mPDU, 40A, High (power cord attached)	252663-D73
	8.3kVA Model - mPDU 40A, High (core only)	252663-D75
	4.9kVA Model - mPDU 24A, High (core only)	252663-D74
	NOTE: Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including cables: http://h18000.www1.hp.com/products/quickspecs/11041_na/11041_na.HTML	

QuickSpecs

Options

| USB Options | USB 2-Button Optical Scroll Mouse (Carbonite/Silver) | DC172B |
| | 1.44MB External USB Floppy Drive | DC141B |

HP Rack 5000 Series
(Graphite Metallic)

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

HP Rack 10000 G2 Series
(Carbon/Graphite Metallic)

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

NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.
NOTE: Please see the Rack 10000 G2 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12402_na/12402_na.HTML
NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.

HP Rack 10000 Series
(Graphite Metallic)

HP Rack S10614 (14U) Rack Cabinet – Shock Pallet — 292302-B22
NOTE: xxxxxx-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). xxxxxx-B23 (crated) used for air shipments of empty racks.
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_na/10995_na.HTML
NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.

Options

Keyboards and Monitors	TFT7210R Rack Mounted 17" Monitor	348373-B21
	TFT7600 Rackmount Keyboard Monitor	AG052A
	1U Rackmount Keyboard with USB	AG072A

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

HP KVM Switch Options	2x1x16 IP Console Switch with Virtual Media	AF601A
	4x1x16 IP Console Switch with Virtual Media	AF602A
	2x16 Server Console Switch with Virtual Media	AF600A
	PS/2 Virtual Media Interface Adapter, 1 pack	AF604A

NOTE: Requires PS/2 and one USB port on server.

	Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
	Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
	PS/2 Interface Adapter, 1 pack	262588-B21
	PS/2 Interface Adapter, 8 pack	262587-B21
	USB Interface Adapter, 1 pack	336047-B21
	Serial Interface adapter - 1 Pack with power supply	373035-B21

NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm.

	HP 1x4 Server Console Switch	AF611A
	PS2 Server Console Cable, 6 ft, 2 pack	AF612A
	USB Server Console Cable, 6 ft, 2 pack	AF613A

NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.

HP Serial Console Server Options	HP 16 Port Serial Console Server	AF101A
	HP 48 Port Serial Console Server	AF102A
	Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
	Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A

NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm.

NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.

Options

Service and Support Offerings (HP Care Pack Services)	*Hardware Services On-site Service*	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4607E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4608E
	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, Electronic	U4609E
	Installation & Start-up Services	
	Hardware Installation, Electronic	U4617E
	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	U4618E
	Installation and Startup for Essentials Rapid Deployment Pack, Electronic	U5683E
	Support Plus	
	Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic	U4619E
	Support Plus 24	
	Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U4620E
	Onsite HW support 24x7, 4hr response and RedHat AS O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U9239E
	Onsite HW support 24x7, 4hr response and SuSE O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U6316E

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

Memory

HP ProLiant DL580 G3 2P Models including SAS Models
NOTE: Memory configurations listed do not apply to "Factory Integrated Models".
Standard Memory
2 GB 400MHz DDR-2 SDRAM (PC2-3200R Registered SDRAM Memory with Advanced ECC functionality)

Standard Memory Plus Optional Memory and Optional Memory Boards
Up to 58 GB of memory is available with the optional installation of PC2-3200R Registered SDRAM Memory kits and the use of all four optional memory boards.

Standard Memory Replaced with Optional Memory and Optional memory board
Up to 64 GB of memory is available with the removal of the standard 1 GB or 2 GB of memory, the optional installation of PC2-3200R Registered SDRAM Memory Kits and the use of all four optional memory boards.

NOTE: Memory must be added in banks of two DIMMS. This chart does not represent all possible memory configurations. Additional requirements may apply to enable Advanced Memory Protection features.

Standard Memory		Standard Memory Board (Slots)			
Standard	2 GB	1	2	3	4
		1 GB	1 GB	Empty	Empty
Optional Memory Summary		Standard Memory Board (Slots)			
Optional (Standard Memory Plus Optional Memory Boards and Optional Memory)	58 GB	1	2	3	4
		1 GB	1 GB	4 GB	4 GB
		Optional Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Third Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Fourth Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
Maximum Memory Summary		Standard Memory Board (Slots)			
Maximum (Standard Memory Replaced with Optional Memory with Optional Memory board)	64 GB	1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB

Memory

HP ProLiant DL580 G3 1P Models
NOTE: Memory configurations listed do not apply to "Factory Integrated Models".
Standard Memory
1 GB 400MHz DDR-2 SDRAM (PC2-3200R Registered SDRAM Memory with Advanced ECC functionality)

Standard Memory Plus Optional Memory and Optional Memory Boards
Up to 57 GB of memory is available with the optional installation of PC2-3200R Registered SDRAM Memory kits and the use of all four optional memory boards.

Standard Memory Replaced with Optional Memory and Optional memory board
Up to 64 GB of memory is available with the removal of the standard 1 GB or 2 GB of memory, the optional installation of PC2-3200R Registered SDRAM Memory Kits and the use of all four optional memory boards.

NOTE: Memory must be added in banks of two DIMMS. This chart does not represent all possible memory configurations. Additional requirements may apply regarding the configuration of single-rank/dual-rank DIMMs and to enable Advanced Memory Protection features.

Standard Memory		Standard Memory Board (Slots)			
Standard	1 GB	1	2	3	4
		512MB	512MB	Empty	Empty
Optional Memory Summary		Standard Memory Board (Slots)			
Optional (Standard Memory Plus Optional Memory Boards and Optional Memory)	57 GB	1	2	3	4
		512MB	512MB	4 GB	4 GB
		Optional Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Third Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Fourth Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
Maximum Memory Summary		Standard Memory Board (Slots)			
Maximum (Standard Memory Replaced with Optional Memory with Optional Memory board)	64 GB	1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB

Memory

The following memory options are available from HP:

- 1 GB (2 x 512 MB 1RANK) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities   343055-B21
- 2 GB (2 x 1 GB 1RANK) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities   343056-B21
- 4 GB (2 x 2 GB 1RANK) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities   343057-B21
- 4 GB (2 x 2 GB 2RANK) PC2-3200R 400MHz DDR2 with Advanced ECC and online spare memory capabilities   375004-B21
- 8 GB (2 x 4 GB 2RANK) PC2-3200R 400MHz DDR Option Kit with Advanced ECC and online spare memory capabilities   404122-B21
  NOTE: Requires baffled Memory Board Replacement Cover- included in kit.

NOTE: The HP ProLiant DL580 G3 utilizes up to four Memory Boards that support up to four DIMMs each. These memory boards are Front accessible providing unsurpassed levels of memory protection as well as scalability and serviceability for the most memory-intensive applications.

NOTE: One Memory Board ships standard with all models.

- DL580 G3 Memory Board   364639-B21

Storage
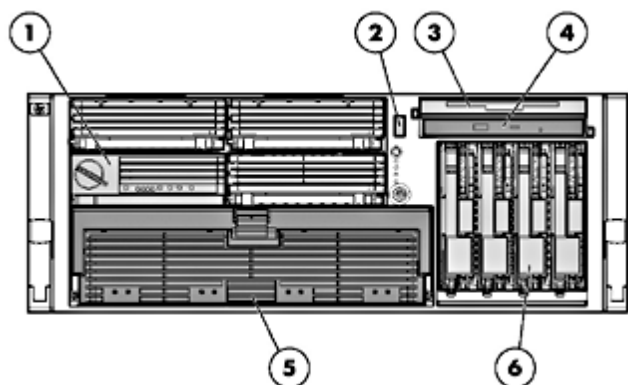
1 Front-accessible DL580 G3 Memory Board, one standard, up to four configurable

2 Front-accessible USB 2.0 Port

3 Slimline 1.44-MB Diskette Drive (ejectable, optional)

4 Slimline DVD-ROM Drive (8X/24X) (ejectable, standard)

5 Front-accessible DL580 G3 Processor Board (allows front access to processors and Processor Power Modules)

6 Ultra320 Drive Cage (Duplex or Simplex configurable). Duplex is standard shipping configuration OR

7 8-Bay SAS/SATA Drive Cage. Supports up to 8 Small Form Factor (SFF) SAS or SATA Hot Plug Drives.
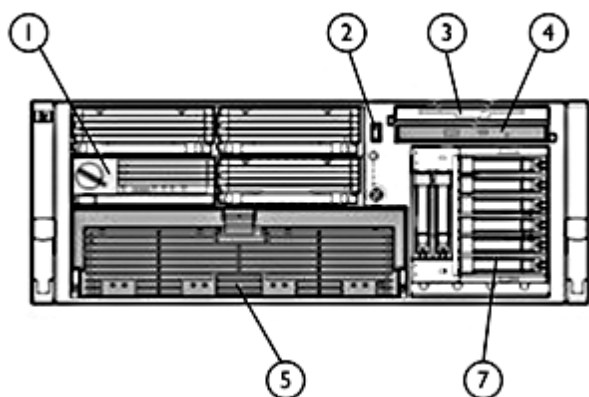
Drive Support

	Quantity Supported	Position Supported	Controller
Slimline Drives (ejectable)			
1.44-MB Slimline Diskette Drive	Up to 2	3 or 4	Integrated
IDE slimline CD-ROM Drive	Up to 2	3 or 4	Integrated IDE
Slimline DVD-ROM Drive (8X/24X) Option Kit	Up to 2	3 or 4	Integrated IDE

NOTE: The HP ProLiant DL580 G3 can support a maximum of two Slimline drives (ejectable). Additional configuration settings may be required if running 2 Diskette Drives. When running 1 diskette drive, the top bay is the default location, but can be changed with additional configuration settings.

Storage

Hard Drives

Ultra320 Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
300GB U320 10K 146GB U320 10K 72GB U320 10K 300GB U320 15K 146GB U320 15K 72GB U320 15K 36GB U320 15K	Up to 4	6	Smart Array 6i Plus Controller (integrated on system board) Smart Array 6402/128 Controller Smart Array 641 Controller Smart Array 642 Controller 64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2

SFF SAS Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
146GB 3G SAS 10K SP 72GB 3G SAS 10K SP 72GB 3G SAS 15K SP 36GB 3G SAS 10K SP 36GB 3G SAS 15K SP	Up to 8	7	HP Smart Array P600/256 BBWC Controller

SFF SATA Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
60GB 1.5G SATA 5.4K 120GB 1.5G SATA 5.4K	Up to 8	7	SHP Smart Array P600/256 BBWC Controller

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 30 Family	Up to 28	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller 64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
Modular Smart Array 50 Enclosure	Up to 14	External	HP Smart Array P600/256 BBWC Controller
Modular Smart Array 500 G2	Please see the Modular Smart Array 500 G2 QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 500 G2 QuickSpecs for the latest list of supported HBAs

Storage

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 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 for the latest list of supported HBAs

Maximum Storage Capacity – (External Enclosure Attached)

Internal	1.20TB (4 x 300GB Ultra320 SCSI Drives)
External	117.60TB (28 x (14 x 300GB Ultra320 SCSI Drives))
Total	119.80TB

Maximum Storage Capacity - (Using SAS internal with External SAS Enclosure Attached)

Internal	1.168TB (8 x 146GB SFF SAS Drives)
External	20.440TB (14 MSA50 Enclosures x 10 x 146GB SFF SAS Drives)
Total	21.608TB

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

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

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

	Position Supported	Controller	Controller Part Number
HP StorageWorks Tape Drives, External DAT 24 USB DAT 40 USB DAT 72 USB	External	USB 2.0 Port	N/A

Storage

HP StorageWorks Tape Drives, External Ultrium 232 Ultrium 448 Ultrium 460 Ultrium 920 Ultrium 960 DAT 40 DAT 72 DLT VS160 SDLT 600	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
HP StorageWorks Autoloaders, External DAT 72x10 Autoloader 1/8 G2 Tape Autoloader	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
HP StorageWorks SCSI Rack-Mount Tape Drive Enclosures 1U Rack-Mount Kit 3U Rack-Mount Kit	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
HP StorageWorks USB Rack-Mount Tape Drive Enclosures 1U Rack-Mount Kit	External	USB 2.0 Port	N/A
HP StorageWorks Tape Libraries, External MSL2024 (Ultrium 448, Ultrium 920 and 960-based) MSL4048 (Ultrium 448, Ultrium 920 and 960-based) MSL6000 (Ultrium 960 and 460-based) MSL6000 (SDLT 600-based)	External	Please consult the EBS connectivity matrix at http://www.hp.com/go/ebs for detailed connectivity information.	N/A

Power Specifications

Part Number	348114-001
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	910	910	1300	1300	1300	1300
Nominal Input Current (A rms)	11.9	10.2	7.7	7.3	6.9	6.6
Max Rated Input Wattage Rating (Watts)	1163	1148	1566	1566	1548	1548
Max. Rated VA (Volt-Amp)	1186	1172	1598	1598	1579	1579
Efficiency (%)	80	81	83	83	84	84
Power Factor	0.98	0.98	0.98	0.98	0.98	0.98
Leakage Current (mA)	.43	.50	.90	.96	1.00	1.04
Maximum Inrush Current (A peak)	100	100	100	100	100	100
Maximum Inrush Current duration	10	10	10	10	10	10

- 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: DL580 G3
    - Click on: "Power Calculator" link. (You may need to scroll down to see it)
    - There are certain Dual-core, lowline, max configurations that are not supported. All highline configurations are supported. Consult the Power Calculator to determine if your lowline configuration is supported.

Standard Rack Model Power Cords / Jumper Cords	Description
	Nema 5-15P to IEC320-C19 IEC320-C14 to IEC320-C19 Jumper Cord

Optional Power Cords and Jumper Cords	Description	Option Kit Part Number
	Nema 5-15P to IEC320-C19	235603-001
	Nema 6-20P to IEC320-C19	235604-001
	IEC320-C19, 20A, 250V	340653-001
	IEC320-C19 to IEC320-C14 Jumper (10A, IEC, 6 ft/2.0m)	313227-B21
	IEC320-C19 to IEC320-C14 Jumper (10A, IEC, 12ft/3.7m)	313228-B21
	IEC320-C19 to IEC320-C20 Jumper (16A, IEC, 8ft/2.5m)	295633-B22

Technical Specifications

System Unit Rack	Chassis Footprint (HxWxD)	6.94 x 19 x 26.5 in (17.6 x 48.3 x 67.3 cm)	
	Weight No hard drives installed, one power supply	80 lb (36.3 kg)	
	Input Requirements	Rated Input Voltage	100 to 120 VAC/200 to 240 VAC
		Rated Input Frequency	50 to 60 Hz
		Input Power	1148W @ 115 VAC/1566W @ 220 VAC
		Rated Input Current	12A (100 to 127 VAC), 8.0A (200 to 240 VAC)
	Max BTU Rating	5457 BTU	
	Power Supply Output Power (per power supply)	Rated Steady-State Power	910W/1300W (lowline/highline)
		Maximum Peak Power	910W/1300W (lowline/highline)
	Temperature Range	Operating	50° to 95° F (10° to 35° C)
		Non-operating	-20° to 140° F (-29° to 60° C)
		Shipping	-22° to 122° F (-30° to 50° C)
	Relative Humidity (non-condensing)	Operating	10% to 70%
		Non-operating	5% to 95%
	Maximum Wet Bulb Temperature	101.7° F (38.7° C)	

Acoustic Noise

NOTE: Listed are the declared A-weighted sound power levels LWAd and the declared average bystander position sound pressure levels LpAm when operating in a 23° C ambient environment. Noise emissions were measured in accordance with ECMA 74 and declared in accordance with ECMA 109.

Idle (Fixed Disk Drives Spinning)

L WAd (BELS)	7.8
L pAm (dBA)	60

NOTE: These values apply to 4U rack configuration. The configuration tested included 4 processors, 4 15,000 rpm hard drives, (also 8 SFF SAS hard drives), 2 power supplies, and 6 system fans.

Technical Specifications

24X Max (or higher) IDE CD-ROM Drive Slim Line	Disk	Applicable Disk	CD-DA, CD-ROM (Mode 1 and 2)
			CD-XA, CD-I (Mode 2, Form 1 and 2)
			Photo CD (Single and Multi-session)
			Mixed Mode (Audio and Data combined)
		Capacity	540 MB (Mode 1, 12 cm)
			650 MB (Mode 2, 12 cm)
		Diameter	4.7 x 3.15 in (12 x 8 cm)
		Rotational Speed	4200 rpm maximum
		Center Hole	0.6 in (15 mm) diameter
		Thickness	0.05 in (1.2 mm)
		Track Pitch	1.6 μm
	Block Size	Mode 1	2,048
		Mode 2	2,340, 2,336, 1,024 bytes
		CD-DA	2,352 bytes
		CD-XA	2,328 bytes
	Interface	IDE (ATAPI)	
	Access Times (typical)	Random	100 ms
		Full-Stroke	2000 ms
	Audio Output Level	Line-Out	0.7 VRMS at 47 kOhms
		Headphone	0.6 VRMS at 32 kOhms (maximum volume)
	Data Transfer Rate	Sustained	150 KB/s (sustained 1X)
		Burst	2100 to 3600 KB/s
	Cache Buffer	128 KB	
	Start-up Time (typical)	< 7seconds	
	Stop Time	< 4seconds	
	Laser Parameters	Type	Semiconductor Laser GaA1As
		Wave Length	780 ± 25 nm
		Divergence Angle	53.5° ± 1.5°
		Output Power	0.14 mW
	Operating Conditions	Temperature	41° to 113° F (5° to 45° C)
		Humidity	10% to 80%
	Dimensions	(HxWxD, maximum)	1.69 x 5.75 x 8.19 in (4.29 x 15 x 20.8 cm)
		Weight	2.66 lb (1.2 kg)

Slimline 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

Technical Specifications

		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 (4.7 in), 80 mm (3.1 in)(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 (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 (12.7 x 128 x 129.4 mm)		
Option Kit Contents	DVD-ROM drive with installation guide, warranty card, registration card			

Technical Specifications

Integrated Lights-Out Standard (integrated on system board)	Architecture	32-bit PCI-based health and remote management ASIC (Application Specific Integrated Circuit)
	Processor	32-bit RISC processor core running at 66 MHz
	Upgradability	Option firmware upgradable via flash ROM.
	Video Support	Utilizes the host server's embedded video chip. Supports VGA/SVGA, 640 x 480 (256 to 16.7M colors), 800 x 600 (256 to 16.7M colors), 1024 x 768 (256 to 65K colors), 1280 x 1024 (256 colors)
	Interfaces	One Ethernet network connection (10/100 Mb/s)
	Memory	2-MB Flash ROM
		8-MB SDRAM
	Operating System Support	Microsoft Windows NT 4.0 Server
		Windows NT 4.0 Enterprise Edition
		Windows 2000 Server
		Windows 2000 Advanced Server
		Red Hat 7.x
		SuSE 7.0
		Novell NetWare 5.x, 6.x
	Client Browser Support	Microsoft Internet Explorer 5.5 or later.
	iLO Standard Features	Virtual Text Remote Console
		Virtual Power Button Control
		Dedicated LAN Connectivity
		Secure access using web browser
		Secure access using Secure Shell (SSH) client
		Serial connectivity
		Automatic IP Configuration via DHCP/DNS/WINS
		Industry Standard 128-bit Secure Sockets Layer (SSL) Security
		IML and iLO Event Logging
		Support for up to 12 user accounts with customizable access privileges
	iLO Advanced Features (optional)	Virtual Graphical Remote Console
		Virtual Floppy drive
		Virtual CD-ROM drive
		Directory Integration
		Terminal Services Integration

Technical Specifications

Smart Array 6i Controller (Ultra320), Integrated (SCSI models only)	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)
	Electrical Protocol	Low Voltage Differential (LVD)
	SCSI Protocols Supported	Ultra320, Ultra3, Ultra2
	SCSI Peak Data Transfer Rate	320 MB/s per channel
	Channels	2
	SCSI Ports (external/internal)	2 Internal Only
	Logical Drives	Supports up to 32 RAID volumes
	Cache	64 MB Read Cache
	Battery-Backed Write Cache	Yes, with installation of Battery-Backed Write Cache Enabler, up to 128MB
	RAID Support	0, 1, 1+0, 5
	Online Configuration	Yes
	Online Capacity Expansion	Yes
	Logical Drive Capacity Extension	Yes
	Online Stripe Size Migration	Yes
	Online RAID Level Migration	Yes
	Online Spare Support	Yes
	Automatic Data Recovery	Yes
	Drive Roaming	Yes
	Redundant Controllers	No

Technical Specifications

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

Embedded NC7782 PCI-X Server Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	64-bit/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-TX (Half and Full-Duplex)	2000 Mb/s
	Connector	RJ-45	
	Cable Support	10Base-T	Categories 3, 4, or 5 UTP; up to 328 ft (100 m)
		100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
		1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)