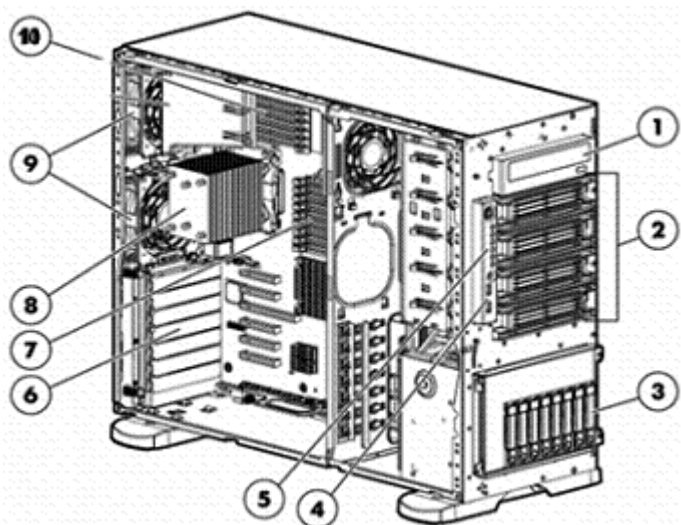


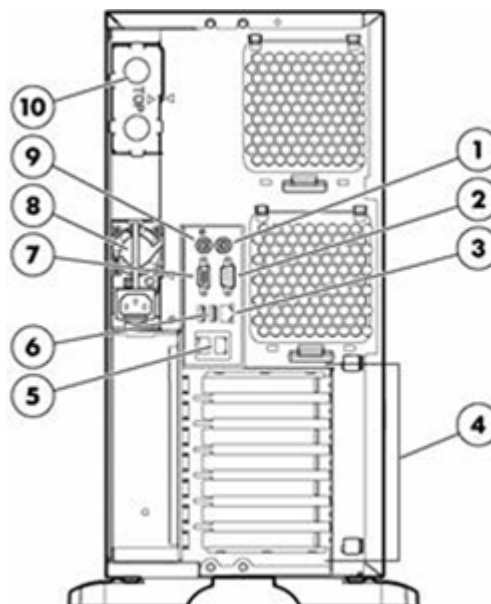
Overview

Adaptable, reliable mainstay for your business. The HP ProLiant ML350 G6 is the best price performance DP Tower server that delivers excellence with performance, expandability and availability. It's a new generation server with more memory capacity and more HDD expandability. It combines the latest Intel Xeon 5600 and 5500 processors with QPI technology, best-in-class availability features, and unsurpassed flexibility in a system ideal for growing businesses and especially well suited to meet the needs of remote branch offices.



Front View:

1. SATA DVD ROM or DVD RW Optical drive
2. Four removable media bays
3. Eight SFF (2.5") (shown) or six LFF (3.5") SAS or SATA Hot Plug drive bays
4. USB connectors
5. LEDs: System power, Health, Power cap, NIC 1&2, UID
6. 6 Expansion slots
7. Nine DIMM slots (Processor 2): DDR3 Registered (RDIMM) or Unbuffered (UDIMM) memory
8. Processor heatsink
9. System Fan
10. Nine DIMM slots (Processor 1): DDR3 Registered (RDIMM) or Unbuffered (UDIMM) memory



Rear View:

1. PS/2 Mouse port
2. Serial port
3. Dedicated remote management port
4. Expansion slots
5. Two Network ports
6. Two USB ports
7. Video ports
8. Power supply bay 1
9. PS/2 Keyboard port
10. Power supply bay 2

What's New

- Supports the latest Intel Xeon processors X5600/E5600 family with up to 2.93GHz at 6 cores turbo mode and the new E5500 series

Standard Features

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

Processor

One of the following depending on Model

Six-Core Processors

Intel® Xeon® Processor X5670 (2.93 GHz, 12MB L3 Cache, 95W,DDR3-1333, HT, Turbo 1/1/2/2/3/3)

Intel® Xeon® Processor X5660 (2.80 GHz, 12MB L3 Cache, 95W,DDR3-1333, HT, Turbo 1/1/2/2/3/3)

Quad-Core Processors

Quad-Core Intel® Xeon® Processor X5570 (2.93 GHz, 8MB cache, QPI 6.4GT/s)

Quad-Core Intel® Xeon® Processor X5560 (2.80 GHz, 8MB cache, QPI 6.4GT/s)

Quad-Core Intel® Xeon® Processor X5550 (2.66 GHz, 8MB cache, QPI 6.4GT/s)

Quad-Core Intel® Xeon® Processor E5540 (2.53 GHz, 8MB cache, QPI 5.86GT/s)

Quad-Core Intel® Xeon® Processor E5530 (2.40 GHz, 8MB cache, QPI 5.86GT/s)

Quad-Core Intel® Xeon® Processor E5520 (2.26 GHz, 8MB cache, QPI 5.86GT/s)

Quad-Core Intel® Xeon® Processor L5520 (2.26 GHz, 8MB cache, QPI 5.86GT/s)

Quad-Core Intel® Xeon® Processor E5506 (2.13 GHz, 4MB cache, QPI 4.8GT/s)

Quad-Core Intel® Xeon® Processor L5506 (2.13 GHz, 4MB cache, QPI 4.8GT/s)

Quad-Core Intel® Xeon® Processor E5504 (2.00 GHz, 4MB cache, QPI 4.8GT/s)

Intel® Xeon® Processor E5640 (2.66 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo (1/1/2/2))

Intel® Xeon® Processor E5630 (2.53 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo

Intel® Xeon® Processor E5620 (2.40 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo

Intel® Xeon® Processor L5630 (2.13 GHz, 12MB L3 Cache, 40W, DDR3-1066, HT, Turbo 1/1/2/2)

Intel® Xeon® Processor E5507 (2.26 GHz, 4MB L3 Cache, 80W, DDR3-800)

Dual-Core Processors

Dual-Core Intel® Xeon® Processor E5502 (1.86 GHz, 4MB cache, QPI 4.8GT/s)

Intel® Xeon® Processor E5503 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)

NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology.

NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.

NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

NOTE: For the Intel 5600 and 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

NOTE: Customers transitioning from Nehalem Processors to Westmere Processors must include a third fan along with the two fans present on the server



Standard Features

Cache Memory
One of the following depending on Model

8MB (1 x 8MB) Level 3 cache
NOTE: For processors X5570/X5560/X5550/E5540/E5530/E5520/L5520.
4MB (1 x 4MB) Level 3 cache
NOTE: For processors E5507/E5506/E5504/E5503/E5502/L5506.
12MB (12 x 12MB) Level 3 cache
NOTE: For 5600 series.

Chipset

Intel® 5520 Chipset
NOTE: For more information regarding Intel® chipsets, please see the following URL:
<http://www.intel.com/products/server/chipsets/>.

Upgradeability

Upgradeable to two processors
NOTE: total 4, 8 or 12 cores

Memory Protection

Advanced ECC
Mirroring mode
Lock-step mode
Online Spare (Requires X5600 or E5600 processor family)

Memory
One of the following depending on model

Type	DDR3 Registered (RDIMM) or Unbuffered (UDIMM)
Standard (Performance Models)	12 GB (6 x 2 GB) RDIMM
Standard (Base Models)	6 GB (3 x 2 GB) RDIMM
Standard (Entry Models)	4 GB (2 x 2 GB) RDIMM
Maximum (RDIMM)	192 GB (12 x 16 GB)
Maximum (UDIMM)	48 GB (12 x 4 GB)
Maximum (RDIMM)	144 GB (18 x 8 GB) for Registered Memory configurations

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.
NOTE: The 16 GB memory module is a quad ranked 800MHz DDR3 memory.

Network Controller

Embedded NC326i PCI Express Dual Port Gigabit Server Adapter



Standard Features

Expansion Slots

Expansion Slot #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
6	PCI Express Gen2	x4	x8	5	Standard Height/Length	
5	PCI Express Gen2	x4	x8	8	Standard Height/Length	
4	PCI Express Gen2	x8	x16	11	Standard Height/Length	
3	PCI Express Gen2	x8	x8	14	Standard Height/Length	
2	PCI Express Gen2	x4	x8	17	Standard Height/Length	
1	PCI Express Gen2	x4	x8	20	Standard Height/Length	

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

NOTE: Indicates the number of physical electrical lanes running to the connector.

NOTE: Six total expansion slots. One PCI-Express x16 Gen2 (x8 speed); One PCI-Express x8 Gen2 (x8 speed); Four PCI-Express x8 Gen2 (x4 speed). Optional PCI-X Expander provides additional two 64-bit/100-MHz PCI-X slots by using a single PCI Express slot.

Storage Controller One of the following depending on model

Entry Models	Embedded HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)
Base Models	Embedded HP Smart Array P410i/256MB Controller (RAID 0/1/1+0/5/5+0) Embedded HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0)
Performance Models	Embedded HP Smart Array P410i/1GB FBWC Controller
Available upgrades: 256MB, 512MB with BBWC, Battery kit upgrade (for BBWC), and Smart Array Advanced Pack (SAAP)	

Internal Storage Devices

Diskette Drive	None included standard (not supported)
Optical Drives	HP Half-Height SATA DVD-ROM Optical Drive
Hard Drives	None standard

Maximum Internal Storage One of the following depending on model

Hot Plug LFF SAS	16TB	8 x 2TB
Hot Plug LFF SATA	16TB	8 x 2TB
Hot Plug SFF SAS	8TB	16 x 500GB
Hot Plug SFF SATA	8TB	16 x 500GB



Standard Features

Interfaces	Serial	1
	Pointing Device (Mouse)	1
	Graphics	1
	Keyboard	1
	Network RJ-45	3 (1 dedicated for iLO)
	USB 2.0 Ports	6 (2 front, 2 rear, 2 internal)
		NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html .

Industry Standard Compliance	ACPI V2.0 Compliant
	PCI-Express Gen2
	PXE Support
	WOL Support
	PCI-X 1.0a Compliant
	Novell Certified
	Microsoft® Logo certifications
	USB 2.0 Support
SMBIOS 2.6.1	

Server Power Cords

ProLiant ML servers in a rack-mount configuration no longer ship standard with NEMA power cords that allow connection to 110V US wall outlets in a home or office. These servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant ML rack-mount server using a 110V receptacle (NEMA-15), the NEMA power cord must be ordered separately. The 12' cord (AF556A) or 6' cord (187335-001) can be purchased online at HP.COM. In a tower configuration, the servers ship standard with a 6' country specific NEMA power cord. If customers require a local power cord, they can check the power cord matrix for the appropriate country specific sku. Please see the following power cord matrix:
<http://www.hp.com/go/powercordmatrix>.



Standard Features

Common Slot Power Supplies

HP has a new design for ProLiant power- the new Common Slot Power Supply bay. This design provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with Common Slot, High Efficiency and Right-Size Power Supplies. The new HP Common Slot power supplies are designed for the highest power efficiency without degrading performance of the ProLiant server. Power Supplies have efficiency ratings up to 92%. There are three Right Size power options available depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, please use the HP Power Advisor at www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant.

It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs.

The HP ProLiant Common Slot Power supplies meet multiple Energy Efficiency Initiatives: Climate Savers Computing Initiative GOLD and ECOS Consulting 80PLUS GOLD for the 460w and 750w Power Supplies and Climate Savers Computing Initiative Silver, ECOS Consulting 80PLUS Silver for 1200w Power Supply. HP has also been working with the EPA on developing an ENERGY STAR[®] Computer Server specification and plans on offering models that meet the requirements when they are published. Please visit the ENERGY STAR website at www.energystar.gov for updates on the specification development process and approved platforms.

The HP Power Advisor is located at www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

System Fans

3 system fans ship standard

NOTE: Does not include power supply or processor heat sink fans. Processor heat sink fans packed in processor kit.

N+1 fan redundancy standard

Required Cabling

For required cabling information, refer to the HP ProLiant ML350 G6 cabling matrix at: <http://www.hp.com/servers/proliantML350>.

NOTE: Please see the "Storage" section of this QuickSpecs for important information on controllers and cables required to support SAS or SATA hard drives as well as storage management software available for SATA hard drives.

Operating Systems and Virtualization Software Support for ProLiant Servers

[Microsoft Windows Server](#)

[Red Hat Enterprise Linux \(RHEL\)](#)

[SUSE Linux Enterprise Server \(SLES\)](#)

[NetWare](#)

NOTE: NetWare support on Intel Xeon 5500 family only.

[VMware](#)

[HP Citrix Essentials for XenServer](#)

[Oracle Enterprise Linux \(OEL\)](#)

NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page www.hp.com/support/ML350G6.



Standard Features

Graphics

Integrated ATI RN50, 64MB video standard

- 16 bit color: maximum resolution of 1600 x 1200
- 32 bit color: maximum resolution of 1280 x 1024

NOTE: Maximum resolution available via iLO remote console is 1280 x 1024.

Form Factor

Tower or Rack (5U)

NOTE: Rack models (with a Tower to Rack conversion kit) support:

- Square or round hole racks 24"- 36" deep, including HP Rack System /E and HP Systems
- Telco racks with 3rd part option kit from Rack Solutions
<http://www.racksolutions.com/hp>

HP Insight Management Control Software

HP Insight Foundation

Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters.

HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems: <http://www.hp.com/go/foundation>

The foundation pack includes:

- HP SmartStart
- HP Management
- HP ProLiant Firmware Maintenance

HP Integrated Lights-Out (iLO)

HP Integrated Lights-Out (iLO) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP iLO functions without additional software and can be accessed from any location via a web browser. HP iLO works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and Insight Dynamics for ProLiant, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service. For more information, visit: www.hp.com/go/iLO



Standard Features

Intelligent Manageability	HP Systems Insight Manager SmartStart Redundant ROM System Firmware Update ROMPaq ProLiant RBSU (ROM-Based Setup Utility) Automatic Server Recovery-2 (ASR-2) Dynamic Sector Repairing (with Smart Array Controller) Drive Parameter Tracking (with Smart Array Controller) Pre-Failure Warranty (covers processors, memory, and SAS hard drives)
----------------------------------	--

Security	Power-on password Setup password Serial interface control Disk configuration lock Power switch security
-----------------	---

Warranty	<p>This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. 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. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.</p> <p>NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html</p>
-----------------	--



Optional Features

HP Insight Management Software HP Insight Control

HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console.

Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP Insight Control for Linux, and HP Insight Control. See www.hp.com/go/insightcontrol

HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: <http://www.hp.com/services/insight>.

HP Insight Dynamics

HP Insight Dynamics for ProLiant, a product option, is advanced infrastructure management software that enables IT staff to instantly adjust their environments to meet dynamic business demands by provisioning, optimizing and protecting complex infrastructure in minutes. It's a powerful toolkit, integrated-by-design, that accelerates complex technology projects and simplifies daily operations, transforming data center economics. With Insight Dynamics IT professionals can plan capacity and power continuously, balance workloads across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.

NOTE: For more information, visit: <http://www.hp.com/go/insightdynamics>



Optional Features

High Performance Clusters	HP Cluster Platforms	HP Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and Novell SLES, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. http://www.hp.com/go/clusters .
	HPC Interconnects	High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. http://www.hp.com/techservers/clusters/ucp/index.html
	HP Cluster Management Utility	HP Cluster Management Utility (CMU) is an HP-licensed and HP-supported suite of tools that are used to manage large-scale Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. http://www.hp.com/go/cmu
	HP HPC Linux Value Pack	HP HPC Linux Value Pack (Value Pack) is an HP-licensed and HP-supported specially priced software bundle for the development and deployment of applications on HPC Cluster Platforms. Value Pack includes the Platform LSF workload scheduler, the HP-MPI parallelization library, the HP Unified Parallel C compiler and the HP Shmem library, as well as the execution environments for the libraries and compiler. HP HPC Linux Value Pack

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server under the HP Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand Interconnects: <http://www.hp.com/techservers/clusters/ucp/index.html>

InfiniBand

PCI-Express Generation 2 adapters

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 MSAxxxx, 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>.



Optional Features

HP Enterprise Configurator

The HP eConfigure 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. For additional information please visit:

<http://www.hp.com/products/configurator>



Service and Support

Service and Support

HP Care Pack Services: Packaged server and storage services for increased uptime, productivity and ROI

When you buy HP server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HP Care Pack Services for servers and storage.

Protect your business beyond warranty

When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HP Care Pack Services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

HP Care Pack Services: Upgrading or extending standard server and storage warranties cost effectively

HP Care Pack Services offer a standard reactive hardware and software support services suite sold separately, or combined with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of integrated proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition with HP Proactive Select, you can acquire the specific proactive constancy and technical services. HP Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HP server and storage lifecycle support services offers a full spectrum of customer care-from technology support to complex migrations to complete managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HP Financial solutions extend innovative financing and cost-effective asset management programs-from purchase to equipment retirement.

Learn more: www.hp.com/services/servers and www.hp.com/services/storage

NOTE: Care Pack Services availability may vary by product and country.

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.

Customers purchasing from a commercial reseller can find HP Care Pack Services at <http://www.hp.com/go/lookuptool>



Service and Support

Recommended HP Care Pack Services for optimal satisfaction with your HP product

Recommended Services **3-Year HP Hardware Support Onsite Call-to-Repair (CTR) Service, 6- or 24-hour**
Provides your IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 or 24 hours of the initial service request to the HP Global Solution Center.

HP is committed to repairing your hardware within a maximum of six or twenty four hours. The benefits include:

- Improved system uptime
- Predictable repair times
- More effective IT resource planning
- Consistent level of hardware support across your multi-technology systems

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6636ENN>

3-Year HP Hardware Support Onsite Service, 4-hour response, 24x7

Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

This service provides a trained HP service specialist to perform an installation that meets HP quality standards, for:

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE>

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

- Expedited installation, with all service prerequisites met before the installation is performed
- Installation in accordance with manufacturer's specifications, enhancing the supportability of your HP-installed hardware and software
- Service delivery at a mutually scheduled time
- Allows your IT resources to stay focused on their core tasks and priorities
- Availability of an HP service specialist to answer questions during the onsite delivery of this service

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>



Service and Support

Optional HP Care Pack Services that will enhance your HP product experience

Optional Services

3-Year HP Support Plus 24

As an alternative to our recommended support level, for customers who need access to responsive 24x7 hardware and software support plus software updates on HP and selected third party products:

For a higher return on your server and storage technology, our 3-year combined reactive support service delivers integrated onsite hardware/software support services available 24x7x365, including access to HP technical resources, 4-hour response onsite hardware support and software updates.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EEE>

3-Year HP Proactive 24

As an alternative to our recommended support level, for customers who want enhanced operational effectiveness and proactive problem identification:

Provides improved stability, availability and operational effectiveness with an integrated hardware and software support service that combines industry-leading reactive technical assistance with proactive account services, giving your IT manage support from a team of service specialists.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA0-1614ENUC>

HP Proactive Select Service

Customer needs on demand access to consulting, technical proactive services and education courses

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN>

eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal

The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: <http://www.hp.com/support>

HP Insight Remote Support software delivers secure remote support for your HP Servers and Storage, 24



Service and Support

X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

Customer Technical Training

In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, HP offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities.

HP Services Awards

HP Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.

Additional Services Information

To learn more on HP ProLiant servers, HP BladeSystem servers and HP StorageWorks storage products, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: www.hp.com/services/proliant or www.hp.com/services/bladesystem or <http://www.hp.com/hps/storage>



Pre-configured Models

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

NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.

NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.

NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

NOTE: Not all models are available in all regions. Check with your local country HP offices for availability.

Entry Tower Models: Quad-Core

HP ProLiant ML350 G6 E5504 1P 4GB-R P410i/ZM 460W RPS Tower Server 487932-xx1	Processor	(1) Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)
	Cache Memory	4MB (1 x 4MB) Level 3 cache
	Memory	4GB (2 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Embedded NC326i PCI Express Dual Port Gigabit Server Adapter
	Storage Controller	Embedded HP Smart Array P410i/Zero Memory Controller
	Hard Drive	None ship standard
	Internal Storage	6.0 TB LFF (3.5-inch) SAS 6.0 TB LFF (3.5-inch) SATA
	Optical Drive	HP Half-Height SATA DVD-ROM Optical Drive
	Power Supply	(1) 460 Watt Hot-Plug (Redundancy enabled) power supply
	Fans	2 fans ship standard
	Form Factor	Tower (5U)
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Base Tower Models: Quad-Core

HP ProLiant ML350 G6 E5520 1P 6GB-R P410i/256 750W RPS Tower Server 487930-xx1	Processor	(1) Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
	Cache Memory	8MB (1 x 8MB) L3 cache
	Memory	6GB (3 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Embedded NC326i PCI Express Dual Port Gigabit Server Adapter
HP ProLiant ML350 G6 E5520 1P 6GB-R P410i/256 750W RPS Rack Server 487931-xx1	Storage Controller	Embedded HP Smart Array P410i/256MB Controller
	Hard Drive	None ship standard
	Internal Storage	2.4 TB SFF(2.5-inch) SAS 2.0 TB SFF(2.5-inch) SATA
	Optical Drive	HP Half-Height SATA DVD-ROM Optical Drive
	Power Supply	(1) 750 Watt Hot-Plug (Redundancy enabled) power supply
	Fans	2 fans ship standard
	Form Factor	Tower or Rack (5U)
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response



Pre-configured Models

HP ProLiant ML350 G6 E5620 1P 6GB-R P410i/256 460W RPS Tower Server 594869-xx1	Processor	(1) Intel® Xeon® Processor E5620 (2.40 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo (1/1/2/2))
	Cache Memory	12MB (1 x 12MB) L3 cache
	Memory	6GB (3 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Embedded NC326i PCI Express Dual Port Gigabit Server Adapter
	Storage Controller	Embedded HP Smart Array P410i/256MB Controller
	Hard Drive	None ship standard
	Internal Storage	(8) SFF SAS/SATA HDD Bays; upgradeable to (16)
	Optical Drive	SATA DVD ROM
	Power Supply	(1) 460 Watt Hot-Plug (Redundancy enabled) power supply
	Fans	3 fans ship standard
	Form Factor	Tower (5U)
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Performance Models

HP ProLiant ML350 G6 E5530 2P 12GB-R P410i/512 BBWC 750W RPS Tower Server 487928-xx1	Processor(s)	(2) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
	Cache Memory	8MB (1 x 8MB) L3 cache
	Memory	12GB (6 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Embedded NC326i PCI Express Dual Port Gigabit Server Adapter
	Storage Controller	Embedded HP Smart Array P410i/512MB with BBWC
	Hard Drive	None ship standard
	Internal Storage	2.4 TB SFF(2.5-inch) SAS 2.0 TB SFF(2.5-inch) SATA
	Optical Drive	HP Half-Height SATA DVD-ROM Optical Drive
	Power Supply	(2) 750 Watt Hot-Plug Redundant power supplies
	Fans	4 fans ship standard
	Form Factor	Tower (5U)
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response



Pre-configured Models

<p>HP ProLiant ML350 G6 E5530 2P 12GB-R P410i/512 BBWC 750W RPS Rack Server 576778-xx1</p>	<p>Processor(s) Cache Memory Memory Network Controller Storage Controller Hard Drive Internal Storage Optical Drive Power Supply Fans Insight Control Form Factor Warranty</p>	<p>(2) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) 8MB (1 x 8MB) L3 cache 12GB (6 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs Embedded NC326i PCI Express Dual Port Gigabit Server Adapter Embedded HP Smart Array P410i/512MB with BBWC None ship standard 2.4 TB SFF(2.5-inch) SAS 2.0 TB SFF(2.5-inch) SATA HP Half-Height SATA DVD-ROM Optical Drive (2) 750 Watt Hot-Plug Redundant power supplies 4 full Redundant fans HP Insight Control Environment No Media single server license, including 1 year of 24x7 Technical Support and Updates Rack (5U) Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response</p>
--	---	--

<p>HP ProLiant ML350 G6 X5650 2P 12GB-R P410i/1GB FBWC 750W RPS Tower Server 594874-xx1</p>	<p>Processor(s) Cache Memory Memory Network Controller Storage Controller Hard Drive Internal Storage Optical Drive Power Supply Fans Form Factor Warranty</p>	<p>(2) Intel® Xeon® Processor X5650 (2.66 GHz, 12MB L3 Cache, 95W,DDR3-1333, HT, Turbo 1/1/2/2/3/3) 12MB (1 x 12MB) L3 cache 12GB (6 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs Embedded NC326i PCI Express Dual Port Gigabit Server Adapter Embedded HP Smart Array P410i/1G FBWC Controller None ship standard (8) SFF SAS/SATA HDD Bays; upgradeable to (16) SATA DVD ROM (2) 750 Watt Hot-Plug Redundant power supplies 4 full Redundant fans Tower (5U) Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response</p>
---	--	---



Pre-configured Models

Country Code Key

xx=00
xx=01
xx=03
xx=04
xx=05
xx=20
xx=29
xx=37
xx=42
xx=AA

Tower Code Key

US
Australia
UK
Germany
France
Brazil
Japan
ADP
Europe
PRC

Rack Code Key

US
N/A
N/A
N/A
N/A
N/A
Japan
ADP
Europe
PRC



Configuration Information - Factory Integrated Models

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 information on configurable product offerings and requirements.

NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.

NOTE: FIO indicates that this option is only available as a factory installable option.

Step 1: Base Configuration (choose one of the following configurable models)

HP Models	ML350G6 Tower Models	
	HP ML350T06 SAS SFF CTO Chassis	483447-B21
	Includes: Embedded NC326i PCI Express Dual Port Gigabit Server Adapter Embedded Smart Array P410i Controller Eight Hot-Plug (SFF) SAS/SATA Drive Bays Six Expansion slots: One Express x16 Gen2 (x8 speed); One PCI-Express x8 Gen2(x8 speed); Four PCI-Express x8 Gen2 (x4 speed) Six USB ports Tower Form Factor Keyboard 2-button Mouse	
	HP ML350T06 SAS LFF CTO Chassis	483448-B21
	Includes: Embedded NC326i PCI Express Dual Port Gigabit Server Adapter Embedded Smart Array P410i Controller Six Hot-Plug (LFF) SAS/SATA Drive Bays Six Expansion slots: One Express x16 Gen2 (x8 speed); One PCI-Express x8 Gen2(x8 speed); Four PCI-Express x8 Gen2 (x4 speed) Six USB ports Tower Form Factor Keyboard 2-button Mouse	
	ML350G6 Rack Models	
	HP ML350R06 SAS SFF CTO Chassis	483443-B21
	Includes: Embedded NC326i PCI Express Dual Port Gigabit Server Adapter Embedded Smart Array P410i Controller Eight Hot-Plug (SFF) SAS/SATA Drive Bays Six Expansion slots: One Express x16 Gen2 (x8 speed); One PCI-Express x8 Gen2(x8 speed); Four PCI-Express x8 Gen2 (x4 speed) Six USB ports Rack (5U) Form Factor	
	HP ML350R06 SAS LFF CTO Chassis	483444-B21
	Includes: Embedded NC326i PCI Express Dual Port Gigabit Server Adapter Embedded Smart Array P410i Controller Six Hot-Plug (LFF) SAS/SATA Drive Bays Six Expansion slots: One Express x16 Gen2 (x8 speed); One PCI-Express x8 Gen2(x8 speed); Four PCI-Express x8 Gen2 (x4 speed) Six USB ports	



Configuration Information - Factory Integrated Models

Rack (5U) Form Factor

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

HP Processors

Six-Core Processors

Intel® Xeon® Processor X5670 (2.93 GHz, 12MB L3 Cache, 95W, DDR3-1333, HT, Turbo 1/1/2/2/3/3) ML350G6 FIO Kit 601236-L21

Intel® Xeon® Processor X5660 (2.80 GHz, 12MB L3 Cache, 95W, DDR3-1333, HT, Turbo 1/1/2/2/3/3) ML350G6 FIO Kit 601238-L21

Intel® Xeon® Processor X5650 (2.66 GHz, 12MB L3 Cache, 95W, DDR3-1333, HT, Turbo 1/1/2/2/3/3) ML350G6 FIO Kit 601240-L21

Quad-Core Processors

Intel® Xeon® Processor E5640 (2.66 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo (1/1/2/2)) ML350G6 FIO Kit 601242-L21

Intel® Xeon® Processor E5630 (2.53 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo (1/1/2/2)) ML350G6 FIO Kit 601244-L21

Intel® Xeon® Processor E5620 (2.40 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo (1/1/2/2)) ML350G6 FIO Kit 601246-L21

Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) ML350G6 FIO Kit 495904-L21

Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) ML350G6 FIO Kit 495906-L21

Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) ML350G6 FIO Kit 495908-L21

Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) ML350G6 FIO Kit 495910-L21

Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) ML350G6 FIO Kit 495912-L21

Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) ML350G6 FIO Kit 495914-L21

Intel® Xeon® Processor E5507 (2.26 GHz, 4MB L3 Cache, 80W, DDR3-800) ML350G6 FIO Kit 601248-L21

Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800) ML350G6 FIO Kit 495916-L21

Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800) ML350G6 FIO Kit 495918-L21

Intel® Xeon® Processor L5630 (2.13 GHz, 12MB L3 Cache, 40W, DDR3-1066, HT, Turbo 1/1/2/2) ML350G6 FIO Kit 601252-L21

Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2) ML350G6 FIO Kit 505513-L21

Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60W, DDR3-800) ML350G6 FIO Kit 495902-L21

Dual-Core Processors

Intel® Xeon® Processor E5503 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800) ML350G6 FIO Kit 601250-L21



Configuration Information - Factory Integrated Models

	Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800) ML350G6 FIO Kit	495920-L21	
HP Memory	Registered DIMMs (RDIMMs)		
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21	
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21	
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21	
	HP 8GB (1x8GB) Dual Rank x4 PC3-8500 (DDR3-1067) Registered CAS-7 Memory Kit	516423-B21	
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21	
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1067) Registered CAS-7 Memory Kit	500666-B21	
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1067) Registered CAS-7 Low Power Memory Kit	500660-B21	
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21	
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21	
	NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors		
		Unbuffered with ECC DIMMs (UDIMMs)	
		HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
		HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21	
NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator .			
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: http://h18004.www1.hp.com/products/servers/platforms/energyefficient/			
HP Power Supplies	NOTE: Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: " www.hp.com/go/proliant-energy-efficient " or www.hp.com/go/hppoweradvisor . Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power.		
	HP 460W HE Hot Plug AC Power Supply Kit	503296-B21	
	HP 750W Common Slot High Efficiency Power Supply Kit	512327-B21	
	HP 1200W 12V Hot Plug AC Power Supply	500172-B21	



Configuration Information - Factory Integrated Models

NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.

Step 3: Choose Additional Factory Integratable Options

HP Storage Controllers	HP P212/256 MB Smart Array Controller FIO Kit	491191-B21
	NOTE: SAS Controller supporting RAID 0/1/1+0/5. HP P411/256MB BBWC Smart Array Controller FIO Kit	491193-B21
	NOTE: SAS Controller supporting RAID 0/1/1+0/5.	
	Upgrade Options	
	HP 256 MB P-series cache module FIO	534108-B21
	NOTE: Available for P410i only.	
HP Performance Packs	Performance Packs are necessary to configure a HP ProLiant ML350 G6 to a High Performance Model which includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The Performance Pack includes a 2nd processor, 512MB cache with BBWC for P410i (650 mAh P-Series Battery), redundant fan, and (1) 750W CS HE Power supply kit. NOTE: Must also select 447326-B21 (SATA DVD ROM) to achieve parity to ML350 G6 High Performance Models.	
	HP ML350G6 E5530 HPM FIO Kit	530547-B21
HP Insight Software	HP Insight Control, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates	582765-B21
	HP Insight Control for Linux, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates	TC203A

Step 4: Choose Additional Options for Factory Integration

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



Core Options

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Unique Options	HP ML350 G6 Redundant Fan/Baffle Kit	515081-B21
	HP ML350 G6 2 Slot PCI-X Riser Kit	488413-B21
	NOTE: The HP PCI-X Expander kit converts a single PCI Express slot (Slot 1) into two full height, full length 64-bit 100MHz PCI-X slots. The PCI-X Expander Kit can only be plug in Slot 1.	
	HP ML350G6 Tower to Rack Conversion Kit	534534-B21
	NOTE: See "Redundant Options" section below for Hot Plug Redundant Power supplies.	

HP Processors

Quad-Core Processors

HP ML350 G6 Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W) Processor Kit	495904-B21
HP ML350 G6 Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W) Processor Kit	495906-B21
HP ML350 G6 Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W) Processor Kit	495908-B21
HP ML350 G6 Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W) Processor Kit	495910-B21
HP ML350 G6 Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W) Processor Kit	495912-B21
HP ML350 G6 Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W) Processor Kit	495914-B21
HP ML350 G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) Processor Kit	495916-B21
HP ML350 G6 Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W) Processor Kit	495918-B21
HP ML350 G6 Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W) Processor Kit	505513-B21
HP ML350 G6 Intel® Xeon® L5506 (2.13GHz/4-core/4MB/60W) Processor Kit	495902-B21
HP ML350 G6 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) Processor Kit	601242-B21
HP ML350 G6 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) Processor Kit	601244-B21
HP ML350 G6 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) Processor Kit	601246-B21
HP ML350 G6 Intel® Xeon® E5507 (2.26 GHz/4-core/4MB/80W) Processor Kit	601248-B21
HP ML350 G6 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) Processor Kit	601252-B21

Dual-Core Processors

HP ML350 G6 Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W) Processor Kit	495920-B21
HP ML350 G6 Intel® Xeon® E5503 (2.0GHz/2-core/4MB/80W) Processor Kit	601250-B21

Six-Core Processors

HP ML350 G6 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) Processor Kit	601236-B21
HP ML350 G6 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) Processor Kit	601238-B21
HP ML350 G6 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) Processor Kit	601240-B21



Core Options

HP Memory	Registered RDIMMs	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	516423-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21
	NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors	
	Unregistered with ECC UDIMMs	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21	
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21	
NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator .		
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient .		

HP Drive Cage Options	HP ML350/370 G6 8 Small Form Factor (SFF) 2nd Drive Cage Kit	507803-B21
	NOTE: The Second drive cage installation replaces 2 internal optical bays. It is required to purchase a SAS RAID controller or SAS Expander Card to support over 8 HDD	
	HP ML350/ML/DL370G6 2 Large Form Factor Drive Kit	487936-B21
	NOTE: The Second drive cage installation replaces 2 internal optical bays.	



Core Options

HP Optical Drives	HP Half-Height SATA DVD-ROM Optical Drive	447326-B21
	HP Half-Height SATA DVD-RW Optical Drive	447328-B21

NOTE: Please note that some of the earlier BTO models may not support adding SATA Optical Drives. To ensure compatibility of the SATA Optical Drives, please add additional optical drives only on models with Quad-Core 5400 Series.

HP Hard Drives	SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives	
	HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-B21
	HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581284-B21
	HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21
	HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21
	HP 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507125-B21
	HP 72GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512545-B21
	SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives	
	HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516828-B21
	HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516816-B21
	HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516814-B21
	SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
	HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507616-B21
	HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507614-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide)	
	SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
	HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507610-B21
	SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
	HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21
	HP 160GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	530888-B21
	SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives	
	HP 250GB 3G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive	460355-B21
	HP 120GB 1.5G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive	458924-B21
SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives		
HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	507632-B21	



Core Options

HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	454146-B21
HP 750GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458930-B21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458928-B21
HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458926-B21

SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives

HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive	571230-B21
HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive	458945-B21

NOTE: SATA hard drives have a 1-year warranty. Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html
(Worldwide)

SATA Hot Plug 3.5" Midline (MDL) Solid State Drives

HP 120GB 3G SATA LFF (3.5-inch) Midline 1yr Warranty Solid State Drive	570763-B21
HP 60GB 3G SATA LFF (3.5-inch) Midline 1yr Warranty Solid State Drive	570761-B21

SATA Hot Plug Midline (MDL) Solid State Drives

HP 120GB 3G SATA SFF (2.5-inch) Midline 1yr Warranty Solid State Drive	572073-B21
HP 60GB 3G SATA SFF (2.5-inch) Midline 1yr Warranty Solid State Drive	572071-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_div.html
(Worldwide)

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

HP Networking

Gigabit Ethernet adapters

HP NC112T PCI Express Gigabit Server Adapter	503746-B21
HP NC360T PCI-E Dual Port Gigabit Server Adapter	412648-B21
HP NC364T PCI-E Quad Port Gigabit Server Adapter	435508-B21

NOTE: Does not support Windows 2000.

NOTE: There is a maximum of five NC364T PCI Express Quad Port Gigabit Server Adapter NICs allowed in this server.

HP NC365T 4-port Ethernet Server Adapter	593722-B21
HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter	394793-B21
HP NC373T PCI-E Multifunction Gigabit Server Adapter	394791-B21
HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21

10 Gigabit Ethernet adapters

HP NC522SFP Dual Port 10GbE Server Adapter	468332-B21
--	------------

NOTE: A minimum of two gigabytes (2 GB) of server memory is required per each NC522SFP adapter.



Core Options

NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.

HP NC550SFP Dual Port 10GbE Server Adapter

581201-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs

HP I/O Expansion Options

HP ML350 G6 2 Slot PCI-X Riser Kit

488413-B21

HP Power Supplies

CAUTION: Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at "www.hp.com/go/proliant-energy-efficient" In ProLiant Servers that have more than one power slot (bay), only same size power supplies are recommended. If non-matched power supplies are inserted you will get errors and operation will fail.

HP 460W HE Hot Plug AC Power Supply Kit

503296-B21

HP 750W Common Slot High Efficiency Power Supply Kit

512327-B21

HP 1200W 12V Hot Plug AC Power Supply

500172-B21

NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.

HP Cooling Options

HP ML350 G6 Redundant Fan/Baffle Kit

515081-B21



Additional Options

HP Insight Software

HP Insight Control for Linux

HP Insight Control for Linux including 1yr 24x7 Support Electronic License TC213AAE

HP Insight Control for Linux including 1yr 24x7 Support Single Server License TC209A

HP Insight Control for Linux Media Kit TC208A

NOTE: Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately.

NOTE: Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: <http://www.hp.com/go/ic-linux> (click on Download button).

NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.

NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html

HP Insight Control

HP Insight Software Media Kit 436222-B21

NOTE: Insight Software DVD media without licenses. Contains Insight Manager and Essentials software products and components licensed by Insight Control Environment suite. Uses an integrated installer to perform quick and accurate software installation and updates.

HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License 452148-B22

HP Insight Control including 1yr 24x7 Support ProLiant ML/DL-bundle Electronic License TC278AAE

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.

NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.

NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: <http://www.hp.com/go/insightupdates>.

NOTE: For additional License Kits, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html

HP Integrated Lights-Out (iLO) Advanced

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License 512485-B21

NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software



Additional Options

Technical Support Service

NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html

HP Graphics Options	HP 350/370G6 Graphic Card Cable Kit	537721-B21
---------------------	-------------------------------------	------------

HP Security - TPM	HP Trusted Platform Module Option	488069-B21
-------------------	-----------------------------------	------------

NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to:

www.hp.com/go/TPM.

NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.

NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

HP Storage Controllers

SAS Controllers

HP Smart Array P212 Controller

HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
---	------------

HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462834-B21
--	------------

HP Smart Array P410 Controller

HP Smart Array P410/256 2-ports Int PCIe x8 SAS Controller	462862-B21
--	------------

HP Smart Array P410/512 BBWC 2-ports Int PCIe x8 SAS Controller	462864-B21
---	------------

HP Smart Array P410/512 FBWC 2-ports Int PCIe x8 SAS Controller	578230-B21
---	------------

HP Smart Array P410/1G FBWC 2-ports Int PCIe x8 SAS Controller	572532-B21
--	------------

NOTE: HP NHP Internal SAS/SATA 4 Port Cable Kit (487734-B21) is required when adding Smart Array P410 Controller on Non-Hot Plug SATA/SAS server models.

HP Smart Array P411 Controller

HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller	462830-B21
--	------------

HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller	462832-B21
---	------------

HP Smart Array P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller	578229-B21
---	------------

HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller	572531-B21
--	------------

Smart Array P812 Controller

HP Smart Array P812/1G FBWC 2-ports Int/2-ports Ext PCIe x8 SAS Controller	487204-B21
--	------------

Optional Upgrades

HP 256MB P-series Cache Upgrade	462968-B21
---------------------------------	------------



Additional Options

NOTE: Supported on HP Smart Array P212 & HP Smart Array P410/ZM Controller only.

HP 512MB P-Series Battery Backed Write Cache Upgrade 462967-B21

NOTE: Supported on HP Smart Array P410 Controller, and HP Smart Array P411 Controller only.

HP 650 mAh P-Series Battery 462969-B21

NOTE: Supported on HP Smart Array P212 Controller, HP Smart Array P410 Controller, and HP Smart Array P411 Controller only.

HP 15 Position 24in SFP Battery Cable Assembly 496029-B21

NOTE: Supported on HP Smart Array P212 Controller, HP Smart Array P410 Controller, and HP Smart Array P411 Controller only.

HP 512MB Flash Backed Write Cache 534916-B21

NOTE: Supported on the Smart Array P410i Controller only.

HP 1GB Flash Backed Cache 534562-B21

NOTE: Supported on the Smart Array P410i Controller only.

HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License 516471-B21

NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html
(Smart Array P800 Controller)

http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html
(Smart Array P212 Controller)

http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html
(Smart Array P410 Controller)

http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html
(Smart Array P411 Controller)

http://h18000.www1.hp.com/products/quickspecs/13558_div/13558_div.html
(Smart Array P812 Controller)

http://h18000.www1.hp.com/products/quickspecs/13200_div/13200_div.html
(Smart Array Advanced Pack)

SAS HBA

HP SC08Ge 2-ports Ext PCIe x8 SAS Host Bus Adapter 488765-B21

HP Modular Smart Array SC08e 2-ports Ext PCIe x8 SAS Host Bus Adapter 614988-B21

NOTE: Please see the QuickSpecs for additional information:

http://h18004.www1.hp.com/products/quickspecs/13082_div/13082_div.html

SCSI HBA

HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter 412911-B21

NOTE: Supports external drive attach.

NOTE: Please see the following QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html



Additional Options

HP Tape Backup

NOTE: For the complete range of StorageWorks tape drives, autoloaders, libraries and media see: <http://www.hp.com/go/tape>. For hardware and software compatibility of HP StorageWorks tape backup products see: <http://www.hp.com/go/connect>.

HP StorageWorks DAT 160 SAS Internal Tape Drive Q1587A

HP StorageWorks DAT 160 USB Internal Tape Drive Q1580A

HP StorageWorks DAT 320 USB Internal Tape Drive AJ825A

HP StorageWorks DAT 320 SAS Internal Tape Drive AJ830A

NOTE: Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.

HP StorageWorks Ultrium 448 SAS Internal Drive DW085A

HP StorageWorks LTO-4 Ultrium 1760 SAS Internal WW Tape Drive EH919A

NOTE: Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.

HP StorageWorks LTO-4 Ultrium 1840 SAS External WW Drive EH861A

NOTE: Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.

HP StorageWorks LTO-5 Ultrium 3000 SAS Internal Tape Drive EH957A

HP StorageWorks LTO-5 Ultrium 3000 SAS External Tape Drive EH958A

NOTE: Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.

HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader AK377A

NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.

HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Tape Library AK380A

HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Tape Library AK378A

HP Disk Backup

NOTE: For the complete range of StorageWorks D2D Backup Systems see: <http://www.hp.com/go/d2d>. For the complete range of StorageWorks RDX drives and media see: <http://www.hp.com/go/rdx>. For hardware and software compatibility of HP StorageWorks disk backup products see: <http://www.hp.com/go/connect>.

HP StorageWorks D2D Backup Systems with Backup Data Deduplication

HP StorageWorks D2D4004i Backup System EH938A

NOTE: 3.0TB (expandable to 7.5TB) of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.

HP StorageWorks RDX Removable Disk Backup Systems USB

HP StorageWorks RDX320 Internal Removable Disk Backup System AJ767A

NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 320GB of disk capacity per data cartridge.

HP StorageWorks RDX500 Internal Removable Disk Backup System AJ934A



Additional Options

NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 500GB of disk capacity per data cartridge.

HP StorageWorks RDX160 Internal Removable Disk Backup System AJ765A

HP StorageWorks Options

NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see:

<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

StorageWorks Fibre Channel HBA

Brocade Fibre Channel HBAs

HP StorageWorks 81B PCIe 8Gb Fibre Channel Single Port Host Bus Adapter AP769A

HP StorageWorks 82B PCIe 8Gb Fibre Channel Dual Port Host Bus Adapter AP770A

HP StorageWorks 41B PCIe 4Gb Fibre Channel Single Port Host Bus Adapter AP767A

HP StorageWorks 42B PCIe 4Gb Fibre Channel Dual Port Host Bus Adapter AP768A

Emulex Fibre Channel HBAs

HP StorageWorks 81E 8Gb Single Port PCI-e Fibre Channel Host Bus Adapter AJ762A

HP StorageWorks 82E 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter AJ763A

HP StorageWorks FC2142SR 4Gb PCIe Host Bus Adapter A8002A

HP StorageWorks FC2242SR 4Gb PCIe DC Host Bus Adapter A8003A

QLogic Fibre Channel HBAs

HP StorageWorks 81Q PCI-e Fibre Channel Host Bus Adapter AK344A

HP StorageWorks 82Q 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter AJ764A

HP StorageWorks FC1142SR 4Gb PCIe Host Bus Adapter AE311A

HP StorageWorks FC1242SR 4Gb PCIe DC Host Bus Adapter AE312A

StorageWorks Converged Network Adapter

HP StorageWorks CN1000E Dual Port Converged Network Adapter AW520A

HP Disk Storage Systems

MSA SAN Storage Arrays

HP StorageWorks MSA60 Array 418408-B21

NOTE: Please see the QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at:

http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html
(Worldwide)

HP StorageWorks MSA70 Array 418800-B21

NOTE: Please see the QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at:

http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html
(Worldwide)

HP StorageWorks 2012sa Dual Controller Modular Smart Array AJ753A

HP StorageWorks 2012sa Single Controller Modular Smart Array AJ752A



Additional Options

NOTE: Please see the QuickSpecs for additional options and configuration information at:

http://h18000.www1.hp.com/products/quickspecs/13045_div/13045_div.html
(Worldwide)

Disk Enclosures

HP StorageWorks D2600 Disk Enclosure AJ940A

HP StorageWorks D2700 Disk Enclosure AJ941A

NOTE: Please see the QuickSpecs for additional options and configuration information at:

http://h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.html
(Worldwide)

HP Uninterruptible Power Systems

HP Tower UPS

HP T1500 G3 UPS Models

HP T1500 G3 International (INTL) Uninterruptible Power System AF451A

HP T1500 G3 North America (NA) Uninterruptible Power System AF450A

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/13160_div/13160_div.html
(Worldwide)

HP Rack-mountable UPS

HP R1500 G2 UPS

HP R1.5 VA 1U NA Uninterruptible Power System AF419A

HP R1.5 VA 1U INT Uninterruptible Power System AF418A

HP R1.5 VA 1U JP/TW Uninterruptible Power System AF421A

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html
(Worldwide)

NOTE: For additional information on HP Uninterruptible Power Systems please go to:
www.hp.com/servers/rackups.

NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.

HP Rack Series

Rack 10000 G2 series

HP 10642 G2 Pallet Universal Rack AF001A

HP 10642 G2 Shock Universal Rack AF002A

HP Rack Options

Keyboards and Monitors

HP TFT7600 G2 KVM Console Rackmount Keyboard BE Monitor AZ881A

HP TFT7600 G2 KVM Console Rackmount Keyboard DK Monitor AZ876A

HP TFT7600 G2 KVM Console Rackmount Keyboard FR Monitor AZ873A

HP TFT7600 G2 KVM Console Rackmount Keyboard DE Monitor AZ872A



Additional Options

HP TFT7600 G2 KVM Console Rackmount Keyboard Intl Monitor	AZ884A
HP TFT7600 G2 KVM Console Rackmount Keyboard IT Monitor	AZ874A
HP TFT7600 G2 KVM Console Rackmount Keyboard JP Monitor	AZ882A
HP TFT7600 G2 KVM Console Rackmount Keyboard NO Monitor	AZ877A
HP TFT7600 G2 KVM Console Rackmount Keyboard PT Monitor	AZ880A
HP TFT7600 G2 KVM Console Rackmount Keyboard RU Monitor	AZ883A
HP TFT7600 G2 KVM Console Rackmount Keyboard SE/FI Monitor	AZ878A
HP TFT7600 G2 KVM Console Rackmount Keyboard ES Monitor	AZ875A
HP TFT7600 G2 KVM Console Rackmount Keyboard CH Monitor	AZ879A
HP TFT7600 G2 KVM Console Rackmount Keyboard UK Monitor	AZ871A
HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor	AZ870A
HP TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor	AZ885A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/13731_div/13731_div.html
(Worldwide)

HP TFT7600 Rackmount Keyboard 17in US Monitor	AG052A
HP 1U IT Rackmount Keyboard with USB	AG076A
HP 1U US Rackmount Keyboard with USB	AG072A
HP 1U BE Rackmount Keyboard with USB	AG083A
HP 1U DK Rackmount Keyboard with USB	AG078A
HP 1U FR Rackmount Keyboard with USB	AG075A
HP 1U DE Rackmount Keyboard with USB	AG074A
HP 1U INT Rackmount Keyboard with USB	AG086A
HP 1U NO Rackmount Keyboard with USB	AG079A
HP 1U PT Rackmount Keyboard with USB	AG082A
HP 1U RU Rackmount Keyboard with USB	AG085A
HP 1U ES Rackmount Keyboard with USB	AG077A
HP 1U SE/FI Rackmount Keyboard with USB	AG080A
HP 1U Rackmount Keyboard with USB	AG081A
HP 1U UK Rackmount Keyboard with USB	AG073A
HP 1U JP Rackmount Keyboard with USB	AG084A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/12465_div/12465_div.html
(Worldwide)

HP TAA TFT7600 Rackmount Keyboard 17in US Monitor	AG067A
HP TFT7600 Rackmount Keyboard 17in BE Monitor	AG063A
HP TFT7600 Rackmount Keyboard 17in DK Monitor	AG058A
HP TFT7600 Rackmount Keyboard 17in IT Monitor	AG056A
HP TFT7600 Rackmount Keyboard 17in CH Monitor	AG061A
HP TFT7600 Rackmount Keyboard 17in FR Monitor	AG055A
HP TFT7600 Rackmount Keyboard 17in DE Monitor	AG054A



Additional Options

HP TFT7600 Rackmount Keyboard 17in JP Monitor	AG064A
HP TFT7600 Rackmount Keyboard 17in NO Monitor	AG059A
HP TFT7600 Rackmount Keyboard 17in RU Monitor	AG065A
HP TFT7600 Rackmount Keyboard 17in ES Monitor	AG057A
HP TFT7600 Rackmount Keyboard 17in UK Monitor	AG053A
HP TFT7600 Rackmount Keyboard 17in SE/FI Monitor	AG060A
HP TFT7600 Rackmount Keyboard 17in Intl Monitor	AG066A
HP TFT7600 Rackmount Keyboard 17in PT Monitor	AG062A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/12417_div/12417_div.html
(Worldwide)

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

HP Server Console Switches

HP Server Console 0x2x8 Port Analog Switch	AF616A
HP Server Console 0x2x16 Port Analog Switch	AF617A

Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/11834_div/11834_div.html
(Worldwide)

HP Server Console Switch G2 with Virtual Media & CAC

HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/13475_div/13475_div.html
(Worldwide)

HP IP Console Switch G2 with Virtual Media & CAC

HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/13474_div/13474_div.html
(Worldwide)

Rack Kits

HP ML350G6 Tower to Rack Conversion Kit	534534-B21
---	------------



Additional Options

HP USB and SD Options	HP 1.44MB USB External Floppy Drive	DC141B
	HP 2GB USB Flash Media Drive Key Kit	608447-B21
	NOTE: HP qualified blank USB key for use with HP ProLiant servers that support the VMware virtualization environment and other HP value-add software like SmartStart. HP recommends this industry standard USB flash device for use with VMware ESXi. USB device must be installed in the internal slot of the ProLiant server for use with VMware ESXi. Refer to HP VMware Getting Started Guide for installation instructions.	
	HP 4GB Secure Digital Flash Media Kit	580387-B21
	NOTE: Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at http://www.hp.com/go/proliantvirtualization .	
	HP USB 2-Button Optical Scroll Mouse	DC172B
	HP USB Standard Keyboard US	DT528A#ABA

HP Care Pack Services	Hardware Services On-site Service	
	HP 3 year 4 hour 13x5 ProLiant ML350 Hardware Support	U4512E
	HP 3 year 4 hour 24x7 ProLiant ML350 Hardware Support	U4513E
	HP 3 year 6 hour 24x7 Call to Repair ProLiant ML350 Hardware Support	U4514E
	Installation & Start-up Services	
	HP Install ProLiant ML350 Service	U4522E
	HP Startup ProLiant ML350 Service	U4523E
	Support Plus	
	HP 3 year Support Plus Microsoft ProLiant ML350 Service	U4524E
	Support Plus 24	
	HP 3 year Support Plus 24 Microsoft ProLiant ML350 Service	U4525E
HP 3 year Support Plus 24 SuSE ProLiant ML350 Service	U6308E	



Memory

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

DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:

www.hp.com/go/ddr3memory-configurator

Some DIMM installation guidelines are summarized below:

- For servers with eighteen (18) memory slots:
 - There are three (3) channels per processor; six (6) channels per server
 - There are three (3) DIMM slots for each memory channel; eighteen (18) total slots
 - Memory channel 1 consists of the three (3) DIMMs that are closest to the processor
 - Memory channel 3 consists of the three (3) DIMMs that are furthest from the processor
- DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- If any Quad rank DIMMs are installed, all channels are limited to only 2 DIMMs per channel
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3,6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors
- If mixing DIMM voltage is a requirement, please note that the DIMMs will run at 1.5V since all 1.35V are capable of supporting 1.5V operations

DIMM slot/capacity/populated speed table										
DIMM Type ->	Registered DIMMS (RDIMMs)							Unbuffered with ECC DIMMs (UDIMMs)		
DIMM Rank ->	Single Rank (1R)	Dual Rank (2R)				Quad Rank (4R)		Single Rank (1R)	Dual Rank (2R)	
DIMM Capacity ->	4GB	2GB	4GB	8GB	8GB	4GB	16GB	1GB	2GB	4GB
DIMM Native Speed (MHz) ->	1333	1333	1333	1067	1333	1067	1067	1333	1333	1333
Voltage	LV/Reg	Reg	Reg	Reg	LV/Reg	Reg	Reg	Reg	Reg	Reg
SLOTS THAT CAN BE POPULATED										
18 slot servers	18	18	18	18	18	12	12	12	12	12
MAXIMUM CAPACITY (GB)										
18 slot servers	72	36	72	144	144	48	192	12	24	48



Memory

POPULATED DIMM SPEED (MHz)										
1 DIMM Per Channel	1333	1333	1333	1067	1333	1067	1067	1333	1333	1333
2 DIMM Per Channel	1333*	1333*	1333*	1067	1333*	800	800	1333	1333	1333*
3 DIMM Per Channel	800	800	800	800	800	n/a	n/a	n/a	n/a	n/a

* - supported with ROM update via ROM Based Setup Utility (RBSU). UDIMM support is only on 12-slot servers.

NOTES:

- PC3-10600 DIMMs have a maximum speed of 1333MHz. PC3-8500 DIMMs have a maximum speed of 1066MHz
- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities
- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, the maximum speed will be 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, the maximum speed will be 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, you run at 1066MHz
- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- Maximum memory speed will also depend on the processor installed
- References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

DIMM slot and configuration diagrams

Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

18 DIMM SLOTS (9 per CPU node)					
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G	1	G	Chnl 1
	2	D	2	D	
	3	A	3	A	
Chnl 2	4	H	4	H	Chnl 2
	5	E	5	E	
	6	B	6	B	
Chnl 3	7	I	7	I	Chnl 3
	8	F	8	F	
	9	C	9	C	

Standard memory configuration (1 CPU model)

- 6GB, consisting of three (3) 2GB dual-rank PC3-10600 RDIMMs (Base Model)



Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; empty	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; empty	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; empty	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory plus optional memory (1 CPU model)

- 54GB, consisting of three (3) 2GB RDIMMs plus six (6) 8GB RDIMMs (Base Model)
 - 3x 2GB dual-rank PC3-10600 RDIMMs
 - 6x 8GB dual-rank PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory replaced with optional memory (1 CPU model)

RDIMM maximum configuration (1 CPU model)

- 96GB, consisting of six (6) 16GB quad-rank PC3-8500 RDIMMs



Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 16GB DIMM	2	D; empty	
	3	A; 16GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 16GB DIMM	5	E; empty	
	6	B; 16GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 16GB DIMM	8	F; empty	
	9	C; 16GB DIMM	9	C; empty	

UDIMM maximum configuration (1 CPU model)

- 24GB, consisting of six (6) 4GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 4GB DIMM	2	D; empty	
	3	A; 4GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 4GB DIMM	5	E; empty	
	6	B; 4GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 4GB DIMM	8	F; empty	
	9	C; 4GB DIMM	9	C; empty	

Standard memory replaced with optional memory (2 CPU model)

RDIMM maximum configuration (2 CPU model)

- 192GB, consisting of twelve (12) 16GB quad-rank PC3-8500 RDIMMs



Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 16GB DIMM	2	D; 16GB DIMM	
	3	A; 16GB DIMM	3	A; 16GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 16GB DIMM	5	E; 16GB DIMM	
	6	B; 16GB DIMM	6	B; 16GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 16GB DIMM	8	F; 16GB DIMM	
	9	C; 16GB DIMM	9	C; 16GB DIMM	

UDIMM maximum configuration (2 CPU model)

- 48GB, consisting of twelve (12) 4GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 4GB DIMM	2	D; 4GB DIMM	
	3	A; 4GB DIMM	3	A; 4GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 4GB DIMM	5	E; 4GB DIMM	
	6	B; 4GB DIMM	6	B; 4GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 4GB DIMM	8	F; 4GB DIMM	
	9	C; 4GB DIMM	9	C; 4GB DIMM	

NOTE: Capacity references are rounded to the common Gigabyte values.

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB



Memory

Following are memory options available from HP:

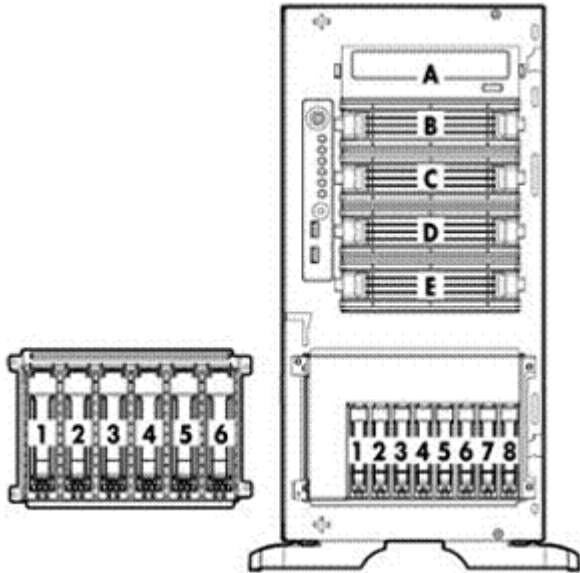
Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1067) Registered CAS-7 Low Power Memory Kit	500660-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-8500 (DDR3-1067) Registered CAS-7 Memory Kit	516423-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1067) Registered CAS-7 Memory Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.

NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: <http://h18004.www1.hp.com/products/servers/platforms/energyefficient/>



Storage



1 - 6 6 x 3.5" (LFF) Hot-Plug SAS/SATA hard drive bays

Or

1 - 8 8 x 2.5" (SFF) Hot-Plug SAS/SATA hard drive bays

B,C,D,E Available half height media bays

A-E Removable Optical Drive

D+E 8 x 2.5" (SFF) Hot-Plug SAS/SATA hard drive bays
or
2 x 3.5" (LFF) Hot-Plug SAS/SATA hard drive bays

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
HP Half-Height SATA DVD-ROM Optical Drive	Up to 1	A-E	Integrated SATA Controller
HP Half-Height SATA DVD RW Optical Drive	Up to 1	A-E	Integrated SATA Controller

Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
600GB 6G SAS 10K DP	Up to 16 SFF	1-8 and D+E	HP Smart Array P800/512 BBWC Controller
450GB 6G SAS 10K DP			HP Smart Array P212/Zero Memory Controller
300GB 6G SAS 10K DP			HP Smart Array P212/ 256 MB Controller
146GB 6G SAS 15K DP			HP Smart Array P410/256 MB Controller
146GB 6G SAS 10K DP			HP Smart Array P410/512 MB BBWC Controller
72GB 6G SAS 15K DP			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
	HP Smart Array P411/512 MB FBWC Controller		
	HP Smart Array P411/1G FBWC Controller		



Storage

HP Smart Array P812/1G Flash Backed Cache Controller

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
600GB 6G SAS 15K DP	Up to 8 LFF	1-6 and D+E	HP Smart Array P800/512 BBWC Controller
450GB 6G SAS 15K DP			HP Smart Array P212/Zero Memory Controller
300GB 6G SAS 15K DP			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
	HP Smart Array P411/1G FBWC Controller		
	HP Smart Array P812/1G Flash Backed Cache Controller		

SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
2TB 6G SAS 2.7K DP	Up to 6 LFF	1-6 and D+E	HP Smart Array P800/512 BBWC Controller
1TB 6G SAS 2.7K DP			HP Smart Array P212/Zero Memory Controller
1TB 3G SAS 7.2K DP			HP Smart Array P212/ 256 MB Controller
750GB 3G SAS 7.2K DP			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
	HP Smart Array P411/1G FBWC Controller		
	HP Smart Array P812/1G Flash Backed Cache Controller		

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 6G SAS 7.2K DP	Up to 16 SFF	1-8 and D+E	HP Smart Array P800/512 BBWC Controller
			HP Smart Array P212/Zero Memory Controller
			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
	HP Smart Array P411/1G FBWC Controller		



Storage

HP Smart Array P812/1G Flash Backed Cache Controller

SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 5.4K	Up to 16	1-8 and D+E	HP Smart Array P800/512 BBWC Controller
120GB 1.5G SATA 5.4K			HP Smart Array P212/Zero Memory Controller
			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller

NOTE: HP Systems Insight Manager should not be used to view the status of SATA hard drives and SATA RAID configurations.

SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 7.2K	Up to 8	1-6 and D+E	HP Smart Array P800/512 BBWC Controller
160GB 3G SATA 7.2K			HP Smart Array P212/Zero Memory Controller
			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 3G SATA 7.2K	Up to 16	1-8 and D+E	HP Smart Array P800/512 BBWC Controller
160GB 3G SATA 7.2K			HP Smart Array P212/Zero Memory Controller
			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller



Storage

HP Smart Array P411/1G FBWC Controller
 HP Smart Array P812/1G Flash Backed Cache Controller

SATA Hot Plug 3.5" Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
2TB 3G SATA 7.2K	Up to 8	1-6 and D+E	HP Smart Array P800/512 BBWC Controller
1TB 3G SATA 7.2K			HP Smart Array P212/Zero Memory Controller
750GB 3G SATA 7.2K			HP Smart Array P212/ 256 MB Controller
500GB 3G SATA 7.2K			HP Smart Array P410/256 MB Controller
250GB 3G SATA 7.2K			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller

SATA Hot Plug Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD	Up to 16	1-8 and D+E	HP Smart Array P212/Zero Memory Controller
120GB 3.0G SATA SSD			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller

SATA Hot Plug 3.5" Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD	Up to 8	1-6 and D+E	HP Smart Array P212/Zero Memory Controller
120GB 3.0G SATA SSD			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller



Storage

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
60 Modular Smart Array	Up to 4	External	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller
	Up to 8	External	HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller HP Smart Array P800 Controller
70 Modular Smart Array	Up to 2	External	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller
	Up to 4	External	HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller HP Smart Array P800 Controller
HP 2000sa Modular Smart Array Controller	Up to 4	External	HP SC08Ge Host Bus Adapter
D2700 Disk Enclosure	Up to 2	External	HP Smart Array P411/256 MB Controller
	Up to 4		HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller

Tape and Disk-Based Backup

NOTE: For the complete range of StorageWorks tape drives, autoloaders, libraries and media, including the internal fitting models, see: <http://www.hp.com/go/tape>. For the complete range of StorageWorks D2D Backup Systems see: <http://www.hp.com/go/d2d>. For the complete range of StorageWorks RDX drives and media see: <http://www.hp.com/go/rdx>. For hardware and software compatibility of HP StorageWorks disk and tape backup products see: <http://www.hp.com/go/connect>.

	Position Supported	Controller	Controller/HBA Option Kit Part Number
HP StorageWorks SCSI Tape Drives	Internal or External	HP SC11Xe Host Bus Adapter HP U320e SCSI Dual Channel Controller	412911-B21 AH627A
LTO-1 Ultrium 232		NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	
LTO-2 Ultrium 448			
LTO-3 Ultrium 920			
LTO-3 Ultrium 960			
LTO4 Ultrium 1760			
LTO-4 Ultrium 1840			
DAT 40			
DAT 72			
DAT 160			



Storage

HP StorageWorks SCSI Rack Mount Kits 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Host Bus Adapter	412911-B21
HP StorageWorks USB Tape Drives DAT 40 DAT 72 DAT 160 DAT 320	Internal or External	USB 2.0 Port	N/A
HP StorageWorks USB Rack Mount Kits 1U USB Rack-Mount Kit	External	USB 2.0 Port	
HP StorageWorks SAS Tape Drives DAT 160 DAT 320 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-4 Ultrium 1760 LTO-4 Ultrium 1840 LTO-5 Ultrium 3000 LTO-5 Ultrium 3280	Internal or External	HP SC44Ge SAS Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	416096-B21
HP StorageWorks SAS Rack Mount Kits 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC44Ge SAS Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	416096-B21
HP StorageWorks SCSI Tape Autoloaders DAT 72x10 Autoloader 1/8 G2 Autoloader	External	HP SC11Xe Host Bus Adapter HP U320e SCSI Dual Channel Controller	412911-B21 AH627A
HP StorageWorks SCSI Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	HP U320e SCSI Dual Channel Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	AH627A
HP StorageWorks SAS Tape Autoloaders and Libraries	External	HP SC44Ge SAS Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	416096-B21



Storage

1/8 G2 Autoloader
MSL2024
MSL4048
MSL8096

HP StorageWorks Fibre Channel Tape Libraries

MSL2024
MSL4048
MSL8096
MSL6000

External

Please consult the EBS connectivity matrix at:
<http://www.hp.com/go/ebs> for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpec.

HP StorageWorks USB RDX Removable Disk Backup System

RDX160
RDX320
RDX500
RDX750

Internal or
External

USB 2.0 port

N/A

HP StorageWorks D2D Backup Systems, iSCSI

D2D2500i
D2D4000i

External

Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.

HP StorageWorks D2D Backup Systems, Fibre Channel

D2D4000fc

External

Direct server attach is not supported, requires connection via SAN fabric. See: <http://www.hp.com/go/connect>



Power Specifications

HP 460W CS HE Power Supply Kit							
Part Number	503296-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	460	460	460	460	460	460	460
Nominal Input Current (A rms)	5.5	4.5	2.6	2.5	2.4	2.3	2.2
Maximum Rated Input Wattage Rating (Watts)	526	520	505	505	503	503	503
Maximum Rated VA (Volt-Amp)	548	542	527	527	524	524	524
Efficiency (%)	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	1794	1773	1725	1725	1715	1715	1715

HP 750W CS HE Power Supply Kit							
Part Number	512327-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.9	7.4	4.3	4.1	3.9	3.7	3.6
Maximum Rated Input Wattage Rating (Watts)	857	847	824	825	820	820	820
Maximum Rated VA (Volt-Amp)	894	884	859	859	854	854	854
Efficiency (%)	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	2925	2892	2812	2812	2797	2797	2797



Power Specifications

HP 1200W CS HE Power Supply Kit							
Part Number	500172-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	6.1	5.9
Maximum Rated Input Wattage Rating	930	1034	1348	1348	1348	1348	1348
Maximum Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%)	86	87	89	89	89	89	89
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

NOTE: To review typical system power ratings use the HP Power Advisor which is available online located at url: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor.

NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.



Technical Specifications

System Unit	Tower Dimensions (H x W x D) (with feet/bezel)	18.5 x 8.59 x 23.46 in (47 x 21.8 x 59.6 cm)	
	Rack Dimensions (H x W x D) (with feet/bezel)	8.54 x 17.5 x 21.9 in. (21.7 x 44.5 x 55.7cm)	
	Tower Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	70 lb (31.8 kg)
		Minimum (one hard drive, power supply, and processor installed)	54 lb (24.5 kg)
	Rack Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	66 lb (29.9 kg)
		Minimum (one hard drive, power supply, and processor installed)	48 lb (21.8 kg)
	Input Requirements (per power supply)	Rated Line Voltage	100 to 240 VAC
		Rated Input Current	7.1 Amps (at 120VAC) to 3.5 Amps (at 240 VAC)
		Rated Input Frequency	50 to 60 Hz
		Rated Input Power	852 W
	BTU Rating	Maximum	460W - 1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC) 750W - 2892 BTU / hr (at 120 VAC), 2797 (at 240 VAC) 1200W - 3530 BTU / hr (at 120 VAC), 4600 (at 240 VAC)
	Power Specifications	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient	
		<ul style="list-style-type: none"> - Click on the system of interest. Example: ML350 G6 - Follow the instructions of the next screens. 	
	Power Supply Output (per power supply)	Rated Steady-State Power	460(750) W (at 100 VAC), 460(750) W (at 200 VAC)
		Maximum Peak Power	460(750) W (at 100 VAC), 460(750) W (at 200 VAC)
		NOTE: See Power Supply Specifications tables for complete details on 460W PSU and optional 750W and 1200W Power Supply Options.	
	System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an



Technical Specifications

		altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.
Relative Humidity (non-condensing)	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	
	Idle	
	L WAd	4.7 B (1P Non-Redundant) 4.6 B (2P Redundant)
	L pAm	32.48dB (1P Non-Redundant) 31.18dB (2P Redundant)
	Operating	
	L WAd	4.8 B (1P Non-Redundant) 4.7 B (2P Redundant)
L pAm	32.39dB (1P Non-Redundant) 31.62dB (2P Redundant)	
Emissions Classification (EMC)	FCC Rating	Class B
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.



Technical Specifications

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Smart Array P410i Controller	Dimensions (not including bracket)	Low Profile PCIe Form Factor 7.5 in x 9.5 in x 2.25 in (19.05 cm x 24.13 cm x 5.72 cm)
	Disk Drive and Enclosure Interface - transfer rate	6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA)
	SAS Connectors	2 internal (Mini-SAS) x4 wide port connectors
	Cache Memory Speed	DDR2-800MHz with 40 or 72-bit wide bus provides up to 6.4 GB/s maximum bandwidth.
	Server Interface	X4 5.0G PCIe 2.0 provides 2.0 GB/s maximum bandwidth
	SAS Speed	x8 6G SAS provides 4.8GB/s maximum bandwidth
	Cache Memory	40-bit 256MB ECC protected cache (72-bit 512MB BBWC module upgrades available); transportable with battery-backed upgrade
	Logical Drives Supported	Up to 64 logical drives
	Maximum Logical Drive Capacity	Greater than 2TB
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 6, 6+0 (Advanced Data Guarding)
		NOTE: The minimum of 256 MB cache, battery kit, and Smart Array Advanced Pack License Key upgrade is required to enable RAID 6, 6+0
		RAID 5, 5+0 (Distributed Data Guarding)
		NOTE: The 256 MB is required to enable RAID 5, 5+0 support of the Smart Array P410i
	RAID 1+0 (Striping & Mirroring)	
	RAID 0 (Striping)	
Upgradeable Firmware	Upgradeable Firmware with Recovery ROM feature	



Technical Specifications

Embedded NC326i PCI Express Dual Port Gigabit 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	PCI Express, four lanes (x4)		
	Controller	BCM5715		
	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)		2000Mb/s		
Connector	RJ-45			
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)		
	10/100/1000Base-TX	Category 5 UTP; up to 328 ft (100 m)		

Environment-friendly Products and Approach **End-of-life Management and Recycling** Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

© Copyright 2010 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

Microsoft and Windows NT are US registered trademarks of Microsoft Corporation. Intel is a US registered trademark of Intel Corporation.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

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

