



HP ProLiant servers

Family guide



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Achieve a more efficient IT environment with ProLiant. The complete data center solutions enabled with ProLiant need fewer resources and use less energy—allowing you to run with confidence.

HP ProLiant servers: Introduction

Shift your IT from technology that merely supports the business to technology that powers the business. The HP Adaptive Infrastructure portfolio creates the foundation for delivering better business outcomes by enabling you to reduce operational costs, accelerate speed of IT change, and deliver higher quality of service to the business.

Fundamental to establishing an adaptive infrastructure are your underlying platform choices. What kind of server best suits your needs? Which options will allow you to achieve the level of availability and performance required? How many users will be supported? What operating system will you be using? Whether it's a departmental server, an enterprise data center or anything in between, HP is committed to meeting your exact needs. In fact, every third server sold worldwide is an HP server.*

With the right infrastructure, your information technology should be able to meet any business demand. A powerful, flexible infrastructure enables your business to run smoothly and securely, helps you drive efficiency, increase productivity, and serves your current IT requirements while easily absorbing new emerging technologies.

The top-selling HP ProLiant servers demonstrate our ongoing commitment to provide a complete server infrastructure that supports both your business objectives and your business growth. ProLiant servers are available with an extensive selection of management tools, virtualization software, storage and networking products as well as services and

support—strengthened by our close collaboration with world-class independent software vendors (ISVs) and systems integrators (SIs), therefore allowing you to run with the utmost confidence.

The ProLiant systems family includes:

- **HP ProLiant Modular Line (ML):** Flexible, expandable tower and rack/tower options are available for growing businesses in one-and two-socket, entry and enterprise-class feature sets.
- **HP ProLiant Density Line (DL):** Powerful servers in one, two, four, eight and multi-node designs are optimized for rack-mounted server environment.
- You can also consider the **HP ProLiant BladeServers (BL):** Compact and powerful, designed for the performance, management, density, and total cost of ownership (TCO) savings requirements of tomorrow's data centers delivered today.

Choose the levels of performance, availability, expandability, and manageability from the world's most comprehensive industry-standard server and options portfolio, offering you the right technology for your computing needs.

In addition to the ProLiant server family, HP also offers the HP Integrity systems family—the most trusted brand for mission-critical environments requiring the highest RAS levels. A multi-OS ecosystem running HP-UX 11i, OpenVMS, Microsoft® Windows® Server 2003, Linux® and NonStop, the Integrity platform provides a unique combination of mission-critical availability, virtualization, and scalability.

*Source: IDC Worldwide Quarterly Server Tracker 2008 Q4, February 2009

Additionally, you could also choose from the Integrity systems family that includes:

- **HP Integrity NonStop servers:** Enabling the highest levels of availability for 24x7 business solutions
- **HP Integrity servers:** Spanning from entry-class to Superdomes, with unique multi-OS capabilities and leading virtualization
- **HP Integrity server blades:** Bringing Integrity mission-critical capabilities to an HP BladeSystem c-Class form factor

Are you looking for ways to simplify a growing, multi-server environment? HP BladeSystem is a modular infrastructure consolidated up front to save you more time, energy, and money—regardless of what you put inside. In one box, a BladeSystem supports ProLiant and Integrity server blades, HP StorageWorks storage blades and a variety of virtual machine, client, and workstation solutions. With the essential IT elements built in—compute, network, storage, management, and power and cooling—BladeSystem delivers reliable, cost-effective services to your business.

To gain the full value from your investments, you also need expert services across the IT lifecycle, intelligent software, advanced storage devices, and system-enhancing options. HP covers this broad spectrum of needs.

- **Services:** How important is it that your service partners provide a single point of ownership and accountability? Do they meet your service needs across your enterprise? From training and basic product support to proactive services for business-critical IT environments and selective outsourcing, our services help you realize the full potential of your technology to meet your business requirements.

- **Remote Support:** Are you spending more time solving problems than you are focusing on your business? HP Insight Remote Support delivers secure remote support for HP servers and storage 24x7. With remote monitoring, automated notification, and accurate resolution, you can gain better control of your infrastructure, do more with less, and help your business stay up and running.
- **Management software:** Do you need to get more out of every hour, watt, and dollar you invest in your HP infrastructure—both physical and virtual? HP Insight software provides the most efficient, in-depth way to understand, manage, and optimize your technology infrastructure—in real-time and over-time.
- **Operating systems:** Do you need broad support for Windows, Linux, and UNIX® x86 operating systems? Our extensive OS testing, qualification, and certification give you the choice and flexibility to deploy a broad range of Windows, Linux, and UNIX x86 operating systems with confidence.
- **Storage:** Do you need help optimizing your storage resources, managing multi-vendor environments, and evolving to open architectures? Our network and direct-attached storage devices help you keep large amounts of information protected and readily accessible to people when needed.
- **Options:** Do you have everything you need to complete your infrastructure? Our server options—including memory, drives, processors, racks, operating system software, and power and cooling features strengthen the foundation of your data center with high caliber products that are easy to maintain and tailored for ProLiant, Integrity and StorageWorks, giving you confidence in your whole infrastructure.

HP ProLiant servers—100 series

Affordable, entry-level rack and tower servers ideal for small to medium businesses, workgroups, remote sites, and high-performance computing environments

Entry-level



HP ProLiant ML110 G5
Perfect first server for growing business



HP ProLiant ML115 G5
Perfect first server for growing business

Number of processors	1	1
Maximum number of cores	4	4
Processors supported	<p>Quad-Core Intel® Xeon® processors: X3370: 3.00 GHz, 1333 MHz, 95W X3360: 2.83 GHz, 1333 MHz, 95W X3330: 2.66 GHz, 1333 MHz, 95W X3220: 2.40 GHz, 1066 MHz, 95W X3210: 2.13 GHz, 1066 MHz, 95W</p> <p>Dual-Core Core2 Duo processor: E7400: 2.80 GHz, 1066 MHz, 65W</p> <p>Dual-Core Intel Xeon processors: E3120: 3.16 GHz, 1333 MHz, 65W E3110: 3.00 GHz, 1333 MHz, 65W</p> <p>Dual-Core Intel Pentium® processor: E5200: 2.50 GHz, 800 MHz, 65W E2160: 1.80 GHz, 800 MHz, 65W</p> <p>Single-Core Intel Celeron® processors: 440: 2.00 GHz, 800 MHz, 35W 420: 1.60 GHz, 800 MHz, 35W</p>	<p>Quad-Core AMD Opteron™ processors: 1354: 2.20 GHz, 800 MHz, 75W 1352: 2.10 GHz, 800 MHz, 75W</p> <p>Dual-Core AMD Opteron processors: 1222: 3.00 GHz, 1000 MHz, 95W 1218: 2.60 GHz, 1000 MHz, 95W</p> <p>Dual-Core AMD Athlon processor: 4450B: 2.30 GHz, 2000 MHz, 45W</p> <p>Single-Core AMD Athlon processor: 1640B: 2.7 GHz, 2000 MHz, 45W</p>
Cache	<p>12 MB L2: Xeon X3370, X3360 8 MB L2: Xeon X3210, X3220 6 MB L2: Xeon X3330, E3120, E3110 3 MB L2: Core2 E7400 2 MB L2: Pentium E5200 1 MB L2: Pentium E2160 512 KB L2: Celeron 440, Celeron 420</p>	<p>2 MB L2: Opteron Series 1 MB L2: Athlon 4450B 512 KB L2: Athlon 1640B</p>
Maximum memory	8 GB	8 GB
Drives supported	<p>Up to 4: Non-hot plug LFF SAS 15K 450/300/146/72 GB Non-hot plug LFF SAS 10K 400 GB Non-hot plug LFF SATA 7.2K 750/500/250/160 GB</p>	<p>Up to 4: Non-hot plug LFF SAS 15K 450/300/146/72 GB Non-hot plug LFF SAS 10K 400 GB Non-hot plug LFF SATA 7.2K 750/500/250/160 GB</p>
Maximum internal storage	1.8 TB SAS; 3.0 TB SATA	1.8 TB SAS; 3.0 TB SATA
Form factor	Tower with rack-mount option kit	Tower with rack-mount option kit
Warranty (parts/labor/onsite)	1-year/1-year/1-year; 3-year/1-year/1-year (Asia Pacific region, except Japan)	1-year/1-year/1-year; 3-year/1-year/1-year (Asia Pacific region, except Japan)

HP related offerings

Services	<p>Minimum Enhanced</p>	<p>3-year, 9x5, next-business-day response 3-year, 13x5 same-day, 4-hour response</p>	<p>3-year, 9x5, next-business-day response 3-year, 13x5 same-day, 4-hour response</p>
Storage		<p>DAT 160 internal USB tape drive Smart Array E200 Controller</p>	<p>DAT 160 internal USB tape drive Smart Array E200 Controller</p>
Options		2 GB Unbuffered PC2-6400 ECC Memory	2 GB Unbuffered PC2-6400 ECC Memory
Software		<p>Management: Lights-Out 100c Operating systems: Windows, Linux, NetWare</p>	<p>Management: Lights-Out 100c Operating systems: Windows, Linux</p>

HP ProLiant servers—100 series

Affordable, entry-level rack and tower servers ideal for small to medium businesses, workgroups, remote sites, and high-performance computing environments

Entry-level

Updated

New



HP ProLiant DL120 G5
Cost-optimized server for single applications



HP ProLiant DL160 G6
Designed for general purpose and compute intensive environments

Number of processors	1	1-2
Maximum number of cores	4	8
Processors supported	<p>Quad-Core Intel Xeon processors:</p> <p>X3350: 2.66 GHz, 1333 MHz, 95W</p> <p>X3210: 2.13 GHz, 1066 MHz, 95W</p> <p>E7400: 2.80 GHz, 1066 MHz, 65W</p> <p>E5200: 2.50 GHz, 800 MHz, 65W</p> <p>Dual-Core Intel Xeon processors:</p> <p>E3110: 3.00 GHz, 1333 MHz, 65W</p> <p>Dual-Core Intel Core2 Duo processor:</p> <p>E4600: 2.40 GHz, 800 MHz, 65W</p> <p>Dual-Core Intel Pentium processor:</p> <p>E2160: 1.80 GHz, 800 MHz, 65W</p> <p>Single-Core Intel Celeron processors:</p> <p>440: 2.00 GHz, 800 MHz, 35W</p> <p>420: 1.60 GHz, 800 MHz, 35W</p>	<p>E5504: 2.00 GHz, 80W</p> <p>E5520: 2.26 GHz, 80W</p> <p>L5520: 2.26 GHz, 60W</p> <p>E5540: 2.53 GHz, 80W</p> <p>X5550: 2.67 GHz, 95W</p> <p>X5570: 2.93 GHz, 95W</p> <p>E5530: 2.40 GHz, 1066 MHz, 80W</p> <p>X5560: 2.80 GHz, 1333 MHz, 95W</p>
Cache	<p>8 MB L2: Xeon 3200 Series</p> <p>6 MB L2: Xeon E3110</p> <p>4 MB L2: Xeon 3000 Series</p> <p>3 MB L2: Xeon E7400</p> <p>2 MB L2: Xeon E5200, Core2</p> <p>1 MB L2: Pentium</p> <p>512 KB L2: Celeron</p>	<p>8 MB (1 x 8 MB) shared L3 cache (all processors but those listed below)</p> <p>4 MB (1 x 4 MB) shared L3 cache (E5504)</p>
Maximum memory	8 GB	<p>144 GB RDIMM</p> <p>24 GB UDIMM</p>
Drives supported	<p>Up to 2:</p> <p>Non-hot plug LFF SAS 15K 450/300/146/72 GB</p> <p>Non-hot plug LFF SATA 7.2K 750/500/250/160 GB</p>	<p>Up to 4:</p> <p>Hot plug LFF SAS 15K 450/300/146/72/36 GB</p> <p>Hot plug LFF SAS 7.2K 1 TB/750 GB</p> <p>Non-hot plug LFF SATA 7.2K 750/500/250/160 GB</p> <p>Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB</p> <p>OR</p> <p>Up to 8:</p> <p>Hot plug SFF SAS 10K 300/146/72/36 GB</p> <p>Hot plug SFF SAS 15K 72/36 GB</p> <p>Hot plug SFF SATA 5.4K 250/120 GB</p>
Maximum internal storage	1.5 TB	4.0 TB
Form factor	1U rack	1U rack
Warranty (parts/labor/onsite)	1-year/1-year/1-year	3 year parts
HP related offerings		
Services	<p>Minimum 3-year, 9x5, next-business-day response</p> <p>Enhanced 3-year, 13x5, same-business-day, 4-hour response</p>	<p>3-year, 13x5, same-business-day, 4-hour response</p> <p>3-year, 24x7 same-day, 4-hour response</p>
Storage	<p>50/60/70 Modular Smart Array</p> <p>DAT 160 USB tape drive</p> <p>Smart Array E200 Controller</p>	<p>50/60/70 Modular Smart Array</p> <p>LTO-2 Ultrium 448 SAS tape drive</p> <p>Smart Array P212 Controller</p>
Options	1 GB Unbuffered PC2-6400 Memory	<p>Hot plug HDD backplane for third and fourth drive support</p> <p>High Performance 1200W Power Supply*</p>
Software	<p>Management: Lights-Out 100i Advanced</p> <p>Operating systems: Windows, Linux</p>	<p>Management: ProLiant Onboard Administrator (powered by Lights-Out 100i Advanced)</p> <p>Operating systems: Windows, Linux, Solaris</p>

* Must also order power supply backplane

HP ProLiant servers—100 series

Affordable, entry-level rack and tower servers ideal for small to medium businesses, workgroups, remote sites, and high-performance computing environments

Entry-level



HP ProLiant DL165 G5
Server for compute-intensive environments



HP ProLiant DL165 G5p
Ideal server for scale out, general purpose, and clustered environments

Number of processors	1–2	1–2
Maximum number of cores	8	8
Processors supported	Quad-Core AMD Opteron processors: 2389: 2.9 GHz, 75W 2393SE: 3.1GHz, 105W 2384: 2.70 GHz, 75W 2380: 2.50 GHz, 75W 2376: 2.30 GHz, 75W 2360 SE: 2.50 GHz, 105W 2356: 2.30 GHz, 75W 2354: 2.20 GHz, 75W 2352: 2.10 GHz, 75W 2346 HE: 1.80 GHz, 55W 2344 HE: 1.70 GHz, 55W 2374 HE: 2.2 GHz, 55W	Quad-Core AMD Opteron processors: 2374 HE: 2.2 GHz, 55W 2376 HE: 2.2 GHz, 55W 2376: 2.30 GHz, 75W 2380: 2.50 GHz, 75W 2384: 2.70 GHz, 75W 2389: 2.9 GHz, 75W 2393SE: 3.1 GHz, 105W
Cache	512 KB L2 per core, 2 MB shared L3 (234x–236x) or 6 MB shared L3 Cache (237x–239x)	512 KB L2 per core, 2 MB shared L3 (234x–236x) or 6 MB shared L3 Cache (237x–239x)
Maximum memory	64 GB	128 GB
Drives supported	Up to 4: Non-hot plug LFF SATA 7.2K 750/500/250/160 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB Hot plug LFF SAS 15K 450/300/146/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB	Up to 4: Non-hot plug LFF SATA 7.2K 750/500/250/160 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB Hot plug LFF SAS 15K 450/300/146/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB
Maximum internal storage	4.0 TB	4.0 TB
Form factor	1U rack	1U rack
Warranty (parts/labor/onsite)	1-year/1-year/1-year	1-year/1-year/1-year

HP related offerings

Services	Minimum Enhanced	3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7 same-day, 4-hour response	3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7 same-day, 4-hour response
Storage		50/60/70 Modular Smart Array LTO-2 Ultrium 448 SAS tape drive Smart Array P212 Controller	50/60/70 Modular Smart Array LTO-2 Ultrium 448 SAS tape drive Smart Array P212 Controller
Options		Hot plug HDD backplane for third and fourth drive support High Performance 1200W Power Supply*	Hot plug HDD backplane for third and fourth drive support High Performance 1200W Power Supply (Note: must also order power supply backplane)
Software		Management: ProLiant Onboard Administrator (powered by Lights-Out 100i Advanced) Operating systems: Windows, Linux, Solaris	Management: HP ProLiant Onboard Administrator (powered by HP Lights-Out 100i Advanced) Operating systems: Windows, Linux, Solaris

* Must also order power supply backplane

HP ProLiant servers—100 series

Affordable, entry-level rack and tower servers ideal for small to medium businesses, workgroups, remote sites, and high-performance computing environments

Entry-level

New



HP ProLiant DL165 G6

Designed for general purpose and compute intensive environments

HP ProLiant ML150 G6

Expandable and affordable for growing businesses

Number of processors	1–2	1–2
Maximum number of cores	12	8
Processors supported	2427: 2.2 GHz, 75W 2431: 2.4 GHz, 75W 2435: 2.6 GHz, 75W	Quad-Core Intel Xeon processors: E5540: 2.53 GHz, 1066 MHz, 80W E5530: 2.40 GHz, 1066 MHz, 80W E5520: 2.26 GHz, 1066 MHz, 80W E5506: 2.13 GHz, 800 MHz, 80W E5504: 2.00 GHz, 800 MHz, 80W Dual-Core Intel Xeon processors: E5502: 1.86 GHz, 800 MHz, 80W
Cache	6 MB shared L3 Cache	8 MB (1 x 8 MB) L3 cache: (E5540, E5530, E5520) 4 MB (1 x 4 MB) L3 cache: (E5506, E5504, E5502)
Maximum memory	64 GB	48 GB RDIMM 24 GB UDIMM
Drives supported	Up to 4 hot plug drives: Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB Hot plug LFF SAS 15K 450/300/146/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Up to 4 non-hot plug drives: Non-hot plug LFF SATA 7.2K 750/500/250/160 GB	Up to 8 hot plug drives: Hot plug LFF SAS 15K 450/300/146/72 GB Hot plug LFF SAS 10K 400 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB Up to 4 non-hot plug drives: Non-hot plug LFF SAS 15K 450/300/146 GB Non-hot plug LFF SAS 10K 400 GB Non-hot plug LFF SATA 7.2K 750/500/250/160 GB
Maximum internal storage	4.0 TB	8.0 TB
Form factor	1U rack	Tower or 5U rack
Warranty (parts/labor/onsite)	3 year parts	1-year/1-year/1-year; 3-year/1-year/1-year (Brazil, Asia-Pacific, excluding Japan)

HP related offerings

Services	Minimum Enhanced	3-year, 9x5, next-business-day response 3-year, 13x5 same-day, 4-hour response	3-year, 9x5, next-business-day response 3-year, 13x5 same-day, 4-hour response
Storage		50/60/70 Modular Smart Array LTO-2 Ultrium 448 SAS tape drive Smart Array P212 controller	DAT 160 internal USB tape drive Smart Array P410 Controller
Options		Hot plug HDD backplane for third and fourth drive support New Smart Array Controllers	750W Hot Plug Redundant Power Supply kit Lights-Out 100 Advanced Pack TPM 1.2 Module Support
Software		Management: HP ProLiant Onboard Administrator (powered by HP Lights-Out 100i Advanced) Operating systems: Windows, Linux, Solaris	Management: HP ProLiant Onboard Administrator (powered by HP Lights-Out 100i Advanced) Operating systems: Windows, Linux, Citrix XenServer Automated Support: Insight Remote Support

HP ProLiant servers—100 series

Affordable, entry-level rack and tower servers ideal for small to medium businesses, workgroups, remote sites, and high-performance computing environments

Entry-level

New



HP ProLiant DL180 G6

Flexible and reliable value server for growing businesses needing expandability

HP ProLiant DL185 G5

High-capacity server ideal for compute-intensive and scale-out applications

Number of processors	1–2	1–2
Maximum number of cores	8	8
Processors supported	Quad Core Xeon E5540: 2.53 GHz, 1066 MHz, 80W E5520: 2.26 GHz, 1066 MHz, 80W L5520: 2.26 GHz, 1066 MHz, 60W E5504: 2.00 GHz, 800 MHz, 80W	Quad-Core AMD Opteron processors: 2384: 2.70 GHz, 75W 2380: 2.50 GHz, 75W 2376: 2.30 GHz, 75W 2356: 2.30 GHz, 75W 2354: 2.20 GHz, 75W 2352: 2.10 GHz, 75W 2346HE: 1.80 GHz, 55W 2344HE: 1.70 GHz, 55W Dual-Core AMD Opteron: 2222: 3.00 GHz, 95W 2218: 2.60 GHz, 95W 2212: 2.00 GHz, 95W
Cache	8 MB (1 x 8 MB) L3 cache: (all but processors listed below) 4 MB (1 x 4 MB) L3 cache: (E5504)	512 KB L2 per core, 2 MB shared L3 (234x–236x) or 6 MB shared L3 Cache (237x–238x)
Maximum memory	96 GB RDIMM 24 GB UDIMM	32 GB
Drives supported	Up to 14: Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB Hot plug LFF SAS 15K 450/300/146/72 GB Hot plug LFF SAS 7.2K 1 TB/750 GB OR Up to 25: Hot plug SFF SAS 10K 300/146/72/36 GB Hot plug SFF SAS 15K 72/36 GB Hot plug SFF SATA 5.4K 250/120 GB	Up to 14: Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB Hot plug LFF SAS 15K 450/300/146/72 GB Hot plug LFF SAS 7.2K 1 TB/750 GB
Maximum internal storage	14 TB SATA, 7.5 TB SAS	14 TB SATA, 6.3 TB SAS
Form factor	2U rack	2U rack
Warranty (parts/labor/onsite)	3-year parts	1-year/1-year/1-year

HP related offerings

Services	Minimum Enhanced	3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7 same-day, 4-hour response	3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7 same-day, 4-hour response
Storage		50/60/70 Modular Smart Array LTO-3 Ultrium 920 SAS tape drive Smart Array P410 Controller	50/60/70 Modular Smart Array LTO-3 Ultrium 920 SAS tape drive Smart Array P410 controller
Options		Hot Plug Redundant Power Supply Kit 8 GB Dual-Rank PC3-8500R Memory	8 GB Registered PC2-5300 Low Power Kit Hot Plug Redundant Power Supply Kit 750W
Software		Management: ProLiant Onboard Administrator (powered by Lights-Out 100i Advanced) Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support	Management: ProLiant Onboard Administrator (powered by Lights-Out 100i Advanced) Operating systems: Windows, Linux, Solaris

HP ProLiant servers—300 series

Midrange rack and tower servers with increased expansion to support virtualization, e-mail, and database applications

Midrange



HP ProLiant ML310 G5p
Engineered to meet the needs of corporate small sites



HP ProLiant DL320 G5p
Entry compute power with enterprise management for remote or space-constrained installations



HP ProLiant DL320 G6
Entry compute power with enterprise management for remote or space-constrained installations

New

	HP ProLiant ML310 G5p	HP ProLiant DL320 G5p	HP ProLiant DL320 G6
Number of processors	1	1	1
Maximum number of cores	4	4	4
Processors supported	<p>Quad-Core Intel Xeon processors: X3370: 3.0 GHz, 1333 MHz, 95W X3360: 2.83 GHz, 1333 MHz, 95W X3330: 2.66 GHz, 1333 MHz, 95W X3220: 2.40 GHz, 1066 MHz, 95W</p> <p>Quad-Core Intel Core2 Quad processor: Q9400: 2.66 GHz, 1333 MHz, 95W</p> <p>Dual-Core Intel Xeon processors: E3120: 3.16 GHz, 1333 MHz, 65W X3075: 2.66 GHz, 1333 MHz, 65W X3065: 2.33 GHz, 1333 MHz, 65W</p> <p>Dual-Core Intel Core2 Duo processor: E8400: 3.00 GHz, 1333 MHz, 65W E6400: 2.13 GHz, 1066 MHz, 65W</p> <p>Dual-Core Intel Pentium processor: E2160: 1.80 GHz, 800 MHz, 65W</p> <p>Single-Core Intel Celeron processor: 440: 2.00 GHz, 800 MHz, 35W 420: 1.60 GHz, 800 MHz, 35W</p>	<p>Quad-Core Intel Xeon processors: X3360: 2.83 GHz, 1333 MHz, 95W X3350: 2.66 GHz, 1333 MHz, 95W X3320: 2.50 GHz, 1333 MHz, 95W X3220: 2.40 GHz, 1066 MHz, 95W X3210: 2.13 GHz, 1066 MHz, 95W</p> <p>Dual-Core Intel Xeon processors: E3110: 3.00 GHz, 1333 MHz, 65W 3075: 2.66 GHz, 1333 MHz, 65W 3065: 2.33 GHz, 1333 MHz, 65W</p> <p>Dual-Core Intel Core2 Duo processor: E4600: 2.40 GHz, 800 MHz, 65W E4400: 2.00 GHz, 800 MHz, 65W</p> <p>Dual-Core Intel Pentium processor: E2160: 1.80 GHz, 800 MHz, 65W</p> <p>Single-Core Intel Celeron processors: 440: 2.00 GHz, 800 MHz, 35W 420: 1.60 GHz, 800 MHz, 35W</p>	<p>Quad-Core Intel Xeon processors: E5540: 2.53 GHz, 8 MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2 E5520: 2.26 GHz, 8 MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2 E5506: 2.13 GHz, 4 MB L3 Cache, 80W, DDR3-800 E5504: 2.00 GHz, 4 MB L3 Cache, 80W, DDR3-800 L5520: 2.26 GHz, 8 MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2 L5506: 2.13 GHz, 4 MB L3 Cache, 60W, DDR3-800</p> <p>Dual-Core Processors: E5502 (1.86 GHz, 4 MB L3 Cache, 80W, DDR3-800)</p>
Cache	<p>12 MB L2: Xeon X3370, X3360 8 MB L2: Xeon X3220 6 MB L2: X3330, E3120, Q9400, E8400 4 MB L2: Xeon 3000 Series 2 MB L2: E6400 1 MB L2: Pentium 512 KB L2: Celeron</p>	<p>12 MB L2: Xeon X3360, X3350 8 MB L2: Xeon 3200 Series 6 MB L2: Xeon X3320, E3110 4 MB L2: Xeon 3000 Series 2 MB L2: Core2 1 MB L2: Pentium 512 KB L2: Celeron</p>	4 MB (1x4 MB) L
Maximum memory	8 GB	8 GB	8 GB
Drives supported	<p>Up to 4: Hot plug LFF SAS 15K 450/300/146 GB Hot plug LFF SAS 10K 400 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB</p>	<p>Up to 4: Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB</p>	<p>Up to 4: Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB</p>
Maximum internal storage	4.0 TB	4.0 TB	4.0 TB
Form factor	Tower or 5U rack	1U rack	1U rack
Warranty (parts/labor/onsite)	1-year/1-year/1-year; 3-year/1-year/1-year (Asia Pacific region only)	3-year/1-year/1-year	3-year/3-year/3-year
HP related offerings			
Services	<p>Minimum Enhanced</p> <p>3-year, 9x5, next business-day response 3-year, 24x7, same-business-day, 4-hour response</p>	<p>3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7, same-business-day, 4-hour response</p>	<p>3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7, same-business-day, 4-hour response</p>
Storage	50/60/70 Modular Smart Array LTO-2 Ultrium 448 SAS internal tape drive Smart Array P212 Controller	50/60/70 Modular Smart Array LTO-2 Ultrium 448 SAS tape drive Smart Array P212 Controller	60/70 Modular Smart Array LTO-2 Ultrium 448 SAS Tape Drive Smart Array P212 Controller
Options	T1500 Uninterruptible Power System E200 Controller with BBWC and 128 MB upgrade	NC360T PCI Express Dual-port Gigabit Server Adapter Modular Power Distribution Unit	NC360T PCI Express Dual-port Gigabit Server Adapter Modular Power Distribution Unit
Software	<p>Management: Insight Control suite Operating systems: Windows, Linux Automated Support: Insight Remote Support</p>	<p>Management: Insight Control suite Operating systems: Windows, Linux Automated Support: Insight Remote Support</p>	<p>Management: Insight Control suite Operating Systems: Windows, Linux Automated Support: Insight Remote Support</p>

HP ProLiant servers—300 series

Midrange rack and tower servers with increased expansion to support virtualization, e-mail, and database applications

Midrange

New



HP ProLiant DL320s
Low-cost, high-capacity, storage enhanced with dual-core performance



HP ProLiant ML330 G6
Performance and manageability to scale your business

Number of processors	1	1–2
Maximum number of cores	2	8
Processors supported	Dual-Core Intel Xeon processors: E6400: 2.13 GHz, 1066 MHz, 65W	Quad-Core Intel® Xeon® processor E5500 DP family: E5540: 2.53 GHz, 8 MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2 E5530: 2.40 GHz, 8 MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2 E5520: 2.26 GHz, 8 MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2 E5506: 2.13 GHz, 4 MB L3 Cache, 80W, DDR3-800 E5504: 2.00 GHz, 4 MB L3 Cache, 80W, DDR3-800 Dual-Core Intel® Xeon® processor E5500 DP family: E5502: 1.86 GHz, 4 MB L3 Cache, 80W, DDR3-800 Quad-Core Intel® Xeon® processor W3500 UP family: W3540: 2.93 GHz, 8 MB L3 Cache, 130W, DDR3-1066, HT, Turbo 1/1/1/2 W3520: 2.66 GHz, 8 MB L3 Cache, 130W, DDR3-1066, HT, Turbo 1/1/1/2 Dual-Core Intel® Xeon® processor W3500 UP family: W3505: 2.53 GHz, 4 MB L3 Cache, 130W, DDR3-1066 W3503: 2.40 GHz, 4 MB L3 Cache, 130W, DDR3-1066
Cache	2 MB L2 cache: E6400	8 MB L3 cache (all processors supported but those listed below) 4 MB L3 cache: E5506, E5504, E5502, W3505, W3503
Maximum memory	8 GB	144 GB RDIMM 24 GB UDIMM
Drives supported	Up to 14: Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB	Up to 8: Non-Hot plug LFF SAS 15K: 450/300/146 GB 10K: 400 GB Non-Hot plug LFF SATA 7.2K 750/500/250/160 GB Hot plug LFF SAS 15K 450/400/300/146/72 GB 10K: 400 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB
Maximum internal storage	14 TB	8.0 TB
Form factor	2U rack	5U Tower
Warranty (parts/labor/onsite)	3-year/1-year/1-year	3-year/1-year/1-year

HP related offerings

Services	Minimum Enhanced	3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7, same-business-day, 4-hour response	3-year, 9x5, next-business-day response 3-year, 13x5 same-business-day, 4-hour response
Storage		50/60/70 Modular Smart Array LTO-3 Ultrium 920 SAS tape drive Smart Array P400 Controller	Modular Smart Array 20 HP Smart Array P410/512M Controller
Options		0x2x16 Server Console Switch with virtual media P400 Controller with BBWC and 256 MB upgrade	ML330 G6 Processor Option kit ML330 G6 750W Redundant Power supply Kit
Software		Management: Insight Control suite Operating systems: Windows, Linux Automated Support: Insight Remote Support	Management: Insight Control suite Operating systems: Windows, Linux Automated Support: Insight Remote Support

HP ProLiant servers—300 series

Midrange rack and tower servers with increased expansion to support virtualization, e-mail, and database applications

Midrange

New



HP ProLiant ML350 G6

Best price-performance solution, ideal for expanding businesses, dedicated work groups and growing business implementations



HP ProLiant DL360 G6

Reliable compute power, HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) and fault tolerance for space-constrained installations

Number of processors	1–2	1–2
Maximum number of cores	8	8
Processors supported	Quad Core Xeon processors: X5570: 2.93 GHz, 1333 MHz, 95W X5560: 2.80 GHz, 1333 MHz, 95W X5550: 2.66 GHz, 1333 MHz, 95W E5540: 2.53 GHz, 1066 MHz, 80W E5530: 2.40 GHz, 1066 MHz, 80W E5520: 2.26 GHz, 1066 MHz, 80W L5520: 2.26 GHz, 1066 MHz, 60W L5506: 2.13 GHz, 800 MHz, 60W E5506: 2.13 GHz, 800 MHz, 80W E5504: 2.00 GHz, 800 MHz, 80W Dual Core Xeon processor: E5502: 1.86 GHz, 800 MHz, 80W	Quad Core Xeon processors: X5570: 2.93 GHz, 1333 MHz, 95W, Turbo: 2/2/3/3 X5560: 2.80 GHz, 1333 MHz, 95W, Turbo: 2/2/3/3 X5550: 2.66 GHz, 1333 MHz, 95W, Turbo: 2/2/3/3 E5540: 2.53 GHz, 1066 MHz, 80W, Turbo: 1/1/2/2 E5530: 2.40 GHz, 1066 MHz, 80W, Turbo: 1/1/2/2 L5520: 2.26 GHz, 1066 MHz, 80W, Turbo: 1/1/2/2 E5520: 2.26 GHz, 1066 MHz, 60W, Turbo: 1/1/2/2 L5506: 2.13 GHz, 800 MHz, 60W, Turbo: N/A E5506: 2.13 GHz, 800 MHz, 80W, Turbo: N/A E5504: 2.00 GHz, 800 MHz, 80W, Turbo: N/A Dual Core Xeon processor: E5502: 1.86 GHz, 800 MHz, 80W, Turbo: N/A
Cache	8 MB (1 x 8 MB) L3 cache: (all processors but those listed below) 4 MB (1 x 4 MB) L3 cache: E5506, L5506, E5504, E5502	8 MB (1 x 8 MB) L3 cache: (all processors supported but those listed below) 4 MB (1 x 4 MB): E5506, L5506, E5504, E5502
Maximum memory	144 GB RDIMM 24 GB UDIMM	144 GB RDIMM 24 GB UDIMM
Drives supported	Up to 8: Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SAS 10K 400 GB Hot plug LFF SAS 15K 450/300/146/72 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB Up to 16: Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 72 GB Hot plug SFF SATA 5.4K 250/120 GB	Up to 8: Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 146/72/36 GB Hot plug SFF SATA 5.4K 250/120 GB
Maximum internal storage	8.0 TB	2.4 TB
Form factor	Tower or 5U rack	1U rack
Warranty (parts/labor/onsite)	3-year/3-year/3-year	3-year/3-year/3-year

HP related offerings

Services	Minimum Enhanced 3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7, same-business-day, 4-hour response	3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7, same-business-day, 4-hour response
Storage	50/60/70 Modular Smart Array LTO-3 Ultrium 920 SAS internal tape drive Smart Array P410i Controller (standard)	50/60/70/2000 Modular Smart Array DAT 160 USB tape drive Smart Array P410i Controller (standard)
Options	4 GB Quad-Rank PC3-8500R Memory NC373T PCI Express Multifunction Gigabit Server Adapter	TFT7600 Monitor 10000 G2 Series Rack
Software	Management: Insight Control suite Operating systems: Windows, Linux Automated Support: Insight Remote Support	Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support

HP ProLiant servers—300 series

Midrange rack and tower servers with increased expansion to support virtualization, e-mail, and database applications

Midrange

New



HP ProLiant DL365 G5

Reliable compute power, HP ProLiant Onboard Administrator (powered by the Integrated Light-Out 2 management processor) and fault tolerance for space-constrained installations



HP ProLiant DL370 G6

New 4U rack server optimized for virtualization and consolidation environments, well-suited for deployment in growing businesses, remote office sites, or data centers

Number of processors	1–2	1–2
Maximum number of cores	8	8
Processors supported	Quad-Core AMD Opteron processors: 2384: 2.7 GHz, 75W 2382: 2.6 GHz, 75W 2378: 2.4 GHz, 75W 2356: 2.3 GHz, 75W 2354: 2.2 GHz, 75W 2352: 2.1 GHz, 75W 2346HE: 1.8 GHz, 55W	Quad-Core Intel® Xeon® processors: W5580: 3.20 GHz, 1333 MHz, 130W X5570: 2.93 GHz, 1333 MHz, 95W X5560: 2.80 GHz, 1333 MHz, 95W X5550: 2.66 GHz, 1333 MHz, 95W E5540: 2.53 GHz, 1066 MHz, 80W E5530: 2.40 GHz, 1066 MHz, 80W L5520: 2.26 GHz, 1066 MHz, 60W E5520: 2.26 GHz, 1066 MHz, 80W E5506: 2.13 GHz, 800 MHz, 80W E5504: 2.00 GHz, 800 MHz, 80W Dual-Core Intel® Xeon® processor: E5502: 1.86 GHz, 800 MHz, 80W
Cache	512 KB L2 cache and 2 MB L3 cache	8 MB (1 x 8 MB) L3 cache: (all processors but those listed below) 4 MB (1 x 4 MB) L3 cache: (E5506, E5504, E5502)
Maximum memory	32 GB	144 GB RDIMM 24 GB UDIMM
Drives supported	Up to 6: Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 146/72/36 GB Hot plug SFF SATA 5.4K 250/120 GB	Up to 14: Hot plug LFF SAS 7.2 K 1 TB/750 GB Hot plug LFF SAS 10K 400 GB Hot plug LFF SAS 15 K 450/300/146/72 GB Hot plug LFF SATA 7.2K 1 TB/750/500 GB Up to 24: Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 72 GB Hot plug SFF SATA 5.4 K 250/120 GB
Maximum internal storage	1.8 TB	7.20 TB SAS, 14 TB SATA
Form factor	1U rack	4U rack
Warranty (parts/labor/onsite)	3-year/3-year/3-year	3-year/3-year/3-year

HP related offerings

Services	Minimum Enhanced	3-year, 24x7, same-business-day, 4-hour response 3-year Support Plus 24	3-year, 24x7, same-business-day, 4-hour response 3-year Support Plus 24
Storage		50/60/70/2000 Modular Smart Array DAT 160 USB tape drive Smart Array P410 Controller	50/60/70/2000 Modular Smart Array LTO-4 Ultrium 1760 SAS internal tape drive Smart Array P410i Controller (standard)
Options		NC373T PCI Express Multifunction Gigabit Server Adapter R3000 Uninterruptible Power System	T1500 Uninterruptible Power System NC382T PCI Express Dual-port Multifunction Gigabit Server Adapter
Software		Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support	Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support

HP ProLiant servers—300 series

Midrange rack and tower servers with increased expansion to support virtualization, e-mail, and database applications

Midrange

New



HP ProLiant ML370 G6

Redesigned 4U tower expandable server optimized for virtualization and consolidation environments, well-suited for deployment in growing businesses, remote office sites, or data centers



HP ProLiant DL380 G6

Affordable server with robust features for growing businesses and remote sites

Number of processors	1–2	1–2
Maximum number of cores	8	8
Processors supported	<p>Quad-Core Intel® Xeon® processors:</p> <p>W5580: 3.20 GHz, 1333 MHz, 130W X5570: 2.93 GHz, 1333 MHz, 95W X5560: 2.80 GHz, 1333 MHz, 95W X5550: 2.66 GHz, 1333 MHz, 95W E5540: 2.53 GHz, 1066 MHz, 80W E5530: 2.40 GHz, 1066 MHz, 80W L5520: 2.26 GHz, 1066 MHz, 60W E5520: 2.26 GHz, 1066 MHz, 80W E5506: 2.13 GHz, 800 MHz, 80W E5504: 2.00 GHz, 800 MHz, 80W</p> <p>Dual-Core Intel® Xeon® processor: E5502: 1.86 GHz, 800 MHz, 80W</p>	<p>Quad Core Xeon processors:</p> <p>X5570: 2.93 GHz, 1333 MHz, 95W, Turbo: 2/2/3/3 X5560: 2.80 GHz, 1333 MHz, 95W, Turbo: 2/2/3/3 X5550: 2.66 GHz, 1333 MHz, 95W, Turbo: 2/2/3/3 E5540: 2.53 GHz, 1066 MHz, 80W, Turbo: 1/1/2/2 E5530: 2.40 GHz, 1066 MHz, 80W, Turbo: 1/1/2/2 L5520: 2.26 GHz, 1066 MHz, 60W, Turbo: 1/1/2/2 E5520: 2.26 GHz, 1066 MHz, 80W, Turbo: 1/1/2/2 L5506: 2.13 GHz, 800 MHz, 60W, Turbo: N/A E5506: 2.13 GHz, 800 MHz, 80W, Turbo: N/A E5504: 2.00 GHz, 800 MHz, 80W, Turbo: N/A</p> <p>Dual Core Xeon processor: E5502: 1.86 GHz, 800 MHz, 80W, Turbo: N/A</p>
Cache	8 MB (1 x 8 MB) L3 cache: (all processors but those listed below) 4 MB (1 x 4 MB) L3 cache: (E5506, E5504, E5502)	8 MB (1 x 8 MB) L3 cache: (all processors but those listed below) 4 MB (1 x 4 MB) L3 cache: E5506, L5506, E5504, E5502
Maximum memory	144 GB RDIMM 24 GB UDIMM	144 GB RDIMM 24 GB UDIMM
Drives supported	<p>Up to 14:</p> <p>Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SAS 10K 400 GB Hot plug LFF SAS 15K 450/300/146/72 GB Hot plug LFF SATA 7.2K 1 TB/750/500 GB</p> <p>Up to 24:</p> <p>Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 72 GB Hot plug SFF SATA 5.4K 250/120 GB</p>	<p>Up to 8 (16 with optional second SAS drive cage*):</p> <p>Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 146/72/36 GB Hot plug SFF SATA 5.4K 250/120 GB</p> <p>Up to 6:</p> <p>Hot plug LFF SAS 10K 400 GB Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB</p>
Maximum internal storage	7.20 TB SAS, 14 TB SATA	2.4 TB (4.8 TB with optional second SAS drive cage*) 6 TB (with LFF optional drive cage)
Form factor	Tower	2U rack
Warranty (parts/labor/onsite)	3-year/3-year/3-year	3-year/3-year/3-year

HP related offerings

Services	<p>Minimum Enhanced: 3-year, 24x7, same-business-day, 4-hour response 3-year Support Plus 24</p>	<p>3-year, 24x7, same-business-day, 4-hour response 3-year, 24x7 call-to-repair</p>
Storage	50/60/70/2000 Modular Smart Array LTO-4 Ultrium 1760 SAS internal tape drive Smart Array P410i Controller (standard)	50/60/70/2000 Modular Smart Array RDX Backup System Smart Array P410i Controller (standard)
Options	T1500 Uninterruptible Power System NC382T PCI Express Dual-port Multifunction Gigabit Server Adapter	NC364T PCI Express Quad-port Gigabit Server Adapter 2x1x16 IP Console Switch with Virtual Media PCI Express
Software	<p>Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support</p>	<p>Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support</p>

* Second drive cage requires a storage controller

HP ProLiant servers—300 series

Midrange rack and tower servers with increased expansion to support virtualization, e-mail, and database applications

Midrange

Updated



HP ProLiant DL385 G5p

Designed with virtualization in mind, yet flexible to support any business need



HP ProLiant DL385 G6

Designed with virtualization in mind, yet flexible to support any business need

Number of processors	1–2	1–2
Maximum number of cores	8	12
Processors supported	Quad-Core AMD Opteron processors: 2389: 2.9 GHz, 75W 2387: 2.8 GHz, 75W 2381HE: 2.5 GHz, 55W 2376HE: 2.3 GHz, 55W 2372HE: 2.1 GHz, 55W 2384: 2.7 GHz, 75W 2382: 2.6 GHz, 75W 2378: 2.4 GHz, 75W	Six-Core AMD Opteron processors: 2435: 2.6 GHz, 75W 2431: 2.4 GHz, 75W 2427: 2.2 GHz, 75W 2425HE: 2.1 GHz, 55W
Cache	6 MB L3 cache	6 MB L3 cache
Maximum memory	128 GB	128 GB
Drives supported	Up to 8 (16 with optional second SAS drive cage*): Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 146/72/36 GB Hot plug SFF SATA 5.4K 250/120 GB Up to 6: Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 10K 400 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB	Up to 8 (16 with optional second SAS drive cage*): Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 146/72/36 GB Hot plug SFF SATA 5.4K 250/120 GB Up to 6: Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 10K 400 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB
Maximum internal storage	2.4 TB SFF (4.8 TB with optional second SAS drive cage*) 6 TB (with LFF optional drive cage)	2.4 TB SFF (4.8 TB with optional second SAS drive cage*) 6 TB (with LFF optional drive cage)
Form factor	2U rack	2U rack
Warranty (parts/labor/onsite)	3-year/3-year/3-year	3-year/3-year/3-year

HP related offerings

Services	Minimum Enhanced	3-year, 24x7, same-business-day, 4-hour response 3-year, 24x7 call-to-repair	3-year, 24x7, same-business-day, 4-hour response 3-year, 24x7 call-to-repair
Storage		50/60/70 Modular Smart Array LTO-3 Ultrium 920 SAS tape drive	50/60/70 Modular Smart Array LTO-3 Ultrium 920 SAS tape drive RDX Backup System
Options		8 GB Registered PC2-5300 Memory Dual Rank Memory TFT7600 Monitor	8 GB Registered PC2-5300 Memory Dual Rank Memory TFT7600 Monitor
Software		Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support	Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support

* Second drive cage requires a storage controller

HP ProLiant servers—500 series

High-end rack and tower servers that help consolidate business-critical application environments while reducing complexity and cost

High-end



HP ProLiant DL580 G5

Enterprise-strength, performance, and scalability in a rack-optimized package



HP ProLiant DL585 G6

Featuring AMD six-core processors for even more performance and scalability

Number of processors	1–4	1–4
Maximum number of cores	24	24
Processors supported	<p>Six-core Intel Xeon processors: X7460: 2.67 GHz, 16 MB L3 L7455: 2.13 GHz, 12 MB L3 E7450: 2.40 GHz, 12 MB L3</p> <p>Quad-core Intel Xeon processors: E7440: 2.40 GHz, 16 MB L3 E7430: 2.13 GHz, 12 MB L3 E7420: 2.13 GHz, 8 MB L3 X7350: 2.93 GHz, 2 x 4 MB L2 E7340: 2.40 GHz, 2 x 4 MB L2 E7330: 2.40 GHz, 2 x 3 MB L2 E7320: 2.13 GHz, 2 x 2 MB L2 E7310: 1.60 GHz, 2 x 2 MB L2 L7345: 1.86 GHz, 2 x 4 MB L2</p> <p>Dual-core Intel Xeon processors: E7220: 2.93 GHz, 2 x 4 MB L2</p>	<p>Six-Core AMD Opteron processors: 8435: 2.6 GHz, 75W ACP 8431: 2.4 GHz, 75W ACP</p>
Cache	Up to 16 MB L3	6 MB shared L3 cache
Maximum memory	256 GB with 32 x 8 GB DIMMs	256 GB using 32 x 8 GB DIMMs
Drives supported	Up to 16: Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 72/36 GB Hot plug SFF SATA 5.4K 120/250 GB	Up to 8: Hot plug SFF SAS 10K 300/146/72 GB Hot plug SFF SAS 15K 72/36 GB Hot plug SFF SATA 5.4K 120/250 GB
Maximum internal storage	4.8 TB	2.4 TB
Form factor	4U rack	4U rack
Warranty (parts/labor/onsite)	3-year/3-year/3-year	3-year/3-year/3-year

HP related offerings

Services	Minimum Enhanced	3-year, 24x7 call-to-repair Proactive Select	3-year, 24x7 call-to-repair Proactive Select
Storage		50/60/70/2000 Modular Smart Array LTO-4 Ultrium 1760 SAS internal tape drive Smart Array P410 Controller	50/60/70/2000 Modular Smart Array LTO-4 Ultrium 1760 SAS tape drive Smart Array P410 Controller
Options		NC522SFP Dual Port 10 Gigabit Server Adapter R5500 Uninterruptible Power System	TFT7600 Monitor 4x1x16 IP Console Switch with Virtual Media
Software		Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support	Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support

HP ProLiant servers—700 series

High-end rack and tower servers that help consolidate business-critical application environments while reducing complexity and cost

High-end



HP ProLiant DL785 G5

Delivering leading headroom and expandability for x86 virtualization and enterprise applications

Number of processors	4 or 8
Maximum number of cores	32
Processors supported	Quad-Core AMD Opteron Processors: 8393SE: 3.1 GHz, 105W 8389: 2.9 GHz, 75W 8387: 2.8 GHz, 75W 8381HE: 2.5 GHz, 55W 8384: 2.7 GHz, 75W 8380: 2.5 GHz, 75W 8378: 2.4 GHz, 75W 8360SE: 2.5 GHz, 105W 8358SE: 2.4 GHz, 105W 8376HE: 2.3 GHz, 55W 8356: 2.3 GHz, 75W 8354: 2.2 GHz, 75W
Cache	6 MB L3 cache: (all processors but those listed below) 2 MB L3 cache: 8354, 8356, 8358, 8360
Maximum memory	512 GB using 64 x 8 GB DIMMs
Drives supported	Up to 16 (8 standard + 8 optional): Hot plug SFF SAS 10K 300/146/72/36 GB Hot plug SFF SAS 15K 72/36 GB
Maximum internal storage	2.4 TB
Form factor	7U rack
Warranty (parts/labor/onsite)	3-year/3-year/3-year

HP related offerings

Services	Minimum Enhanced	3-year, Proactive 24 3-year, Critical Service
Storage		50/60/70/2000 Modular Smart Array LTO-4 Ultrium 1760 SAS tape drive P400 Embedded Controller
Options		TFT7600 Monitor 4x1x16 IP Console Switch with virtual media
Software		Management: Insight Control suite Operating systems: Windows, Linux, Solaris Automated Support: Insight Remote Support

HP ProLiant servers—1000 series

Multi-node series designed to improve efficiency and increase density without additional infrastructure expense. It provides multi-node flexibility with 4-in-1 efficiency

Multi-node



HP ProLiant DL170h G6
Multi-node flexibility with 4-in-1 efficiency



HP ProLiant DL4x170h G6
Multi-node flexibility with 4-in-1 efficiency

Number of processors	1–2	4–8
Maximum number of cores	8	32
Processors supported	E5504: 2.00 GHz, 80W L5506: 2.13 GHz, 60W E5520: 2.26 GHz, 80W L5520: 2.26 GHz, 60W E5540: 2.53 GHz, 80W X5550: 2.67 GHz, 95W X5560: 2.80 GHz, 95W X5570: 2.93 GHz, 95W	E5504: 2.00 GHz, 80W
Cache	8 MB (1 x 8 MB) shared L3 cache (all processors but those listed below) 4 MB (1 x 4 MB) shared L3 cache (L5506, E5504)	4 MB (1 x 4 MB) shared L3 cache
Maximum memory	128 GB RDIMM 24 GB UDIMM	24 GB UDIMM
Drives supported	Up to 8 LFF: Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB OR Up to 16: Hot plug SFF SAS 10K 300/146/72/36 GB Hot plug SFF SAS 15K 72/36 GB	Up to 8 LFF: Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB
Maximum internal storage	8.0 TB—LFF 4.8 TB—SFF	8.0 TB
Form factor	2U rack	2U rack
Warranty (parts/labor/onsite)	1-year/1-year/1-year	1-year/1-year/1-year

HP related offerings

Services	Minimum Enhanced	3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7 same-day, 4-hour response	3-year, 13x5, same-business-day, 4-hour response 3-year, 24x7 same-day, 4-hour response
Storage		50/60/70 Modular Smart Array Smart Array P212 Controller	50/60/70 Modular Smart Array Smart Array P212 Controller*
Options		Dedicated Management Port High Performance 1200W Power Supply**	Dedicated Management Port High Performance 1200W Power Supply
Software		Management: ProLiant Onboard Administrator (powered by Lights-Out 100i Advanced) Operating systems: Windows and Linux	Management: ProLiant Onboard Administrator (powered by Lights-Out 100i Advanced) Operating systems: Windows and Linux

* Must also order LFF SAS Cable Kit

** Must also order power supply backplane kit.

HP ProLiant servers—1000 series

Multi-node series designed to improve efficiency and increase density without additional infrastructure expense. It provides multi-node flexibility with 4-in-1 efficiency

Multi-node



HP ProLiant DL2x170h G6
Multi-node flexibility with 2-in-1 efficiency

Number of processors	2-4
Maximum number of cores	16
Processors supported	E5504: 2.00 GHz, 80W
Cache	4 MB (1 x 4 MB) shared L3 cache
Maximum memory	24 GB UDIMM
Drives supported	Up to 8 LFF: Hot plug LFF SAS 15K 450/300/146/72/36 GB Hot plug LFF SAS 7.2K 1 TB/750 GB Hot plug LFF SATA 7.2K 1 TB/750/500/250/160 GB
Maximum internal storage	8.0 TB
Form factor	2U rack
Warranty (parts/labor/onsite)	1-year/1-year/1-year

HP related offerings

Services	Minimum	3-year, 13x5, same-business-day, 4-hour response
	Enhanced	3-year, 24x7 same-day, 4-hour response
Storage		50/60/70 Modular Smart Array Smart Array P410 Controller*
Options		Dedicated Management Port High Performance 1200W Power Supply
Software		Management: ProLiant Onboard Administrator (powered by Lights-Out 100i Advanced) Operating systems: Windows and Linux

* Must also order LFF SAS Cable Kit

HP ProLiant servers

Supported options

	Entry-level									Midrange									High-end			Multi-node							
	ML110 G5	ML115 G5	DL120 G5	DL160 G6	DL165 G5	DL165 G5p	DL165 G6	ML150 G6	DL180 G6	DL185 G5	ML310 G5p	DL320 G5p	DL320 G6	DL320s	ML 330 G6	ML350 G6	DL360 G6	DL365 G5	DL370 G6	ML370 G6	DL380 G6	DL385 G5p	DL385 G6	DL580 G5	DL585 G6	DL785 G5	DL170h G6	DL4x170h G6	DL2x170h G6
HP hard drives																													
Large form factor SAS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Large form factor SATA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Small form factor SAS						•						•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Small form factor SATA												•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
HP memory																													
DDR3 Registered (RDIMMs)				•			•	•				•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
DDR3 Unbuffered (UDIMMs)				•			•	•				•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PC2-5300 registered					•	•			•									•			•	•							
PC2-5300 fully buffered							•																•						
PC2-5300 unbuffered												•																	
PC2-6400 registered						•			•									•				•	•			•	•		
PC2-6400 unbuffered	•	•	•				•			•	•																		
HP controllers																													
8-Port SAS HBA			•	•	•	•		•	•	•	•													•	•				
E200/E200i	•	•	•	•	•	•		•	•	•	•							•				•	•	•	•				
E500			•	•	•	•		•	•	•	•							•					•	•	•				
P212							•		•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P400/400i			•	•	•	•	•	•	•	•	•		•					•				•	•	•	•	•	•	•	•
P410							•		•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P410i						•								•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P411							•		•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P600							•		•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P800			•	•	•	•		•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
256 MB cache							•	•		•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
512 MB w/BBWC							•	•		•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Battery Kit							•	•		•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Smart Array Advanced Pack (SAAP)							•	•		•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BBWC			•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Processors																													
Intel Celeron	•		•								•	•																	
Intel Core2 Duo	•		•								•	•																	
Intel Pentium	•		•								•	•																	
Intel Xeon	•		•	•			•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AMD Opteron		•			•	•	•		•									•				•	•		•	•			

For additional details on supported options, please visit the server QuickSpecs at www.hp.com/go/quickspecs

• Supported for this product

* Standard UDIMMs must be replaced with RDIMMs

HP related offerings

Manage your ProLiant environment with HP Insight software to unlock your infrastructure's potential. The HP Insight Control suite (ICE) offers essential infrastructure management software, giving you total control of your server infrastructure—onsite or remote. Providing advanced infrastructure management, HP Insight Dynamics – VSE suite for ProLiant servers helps you continuously analyze and optimize your adaptive infrastructure.

Infrastructure management software, operating systems, and virtual environments

HP Insight software integrates with leading operating systems and virtualization platforms to help you get the most from your HP ProLiant servers.

		Entry-level										Midrange										High-end			Multi-node							
		ML110 G5	ML115 G5	DL120 G5	DL160 G6	DL165 G5	DL165 G5p	DL165 G6	ML150 G6	DL180 G6	DL185 G5	ML310 G5p	DL320 G5p	DL320 G6	DL320s	ML 330 G6	ML350 G6	DL360 G6	DL365 G5	DL370 G6	ML370 G6	DL380 G6	DL385 G5p	DL385 G6	DL580 G5	DL585 G6	DL785 G5	DL170h G6	DL4x170h G6	DL2x170h G6		
Business needs																																
Essential Infrastructure Management Software																																
Suites	Insight Control suite (ICE)																															
	Insight Control suite for Linux (ICE-LX)					•	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Deploy servers quickly	Insight Rapid Deployment software (RDP)			•	•	•	•	•							•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	Insight Server Migration software for ProLiant (SMP)														•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Manage health proactively	Systems Insight Manager (SIM)				•										•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	Insight Performance Manager module (PMP)	Available exclusively in Insight Control suite																														
	Insight Vulnerability and Patch Manager module (VPM)	Available exclusively in Insight Control suite																														
Control from anywhere	ProLiant Onboard Administrator, Integrated Lights-Out Advanced																															
	ProLiant Onboard Administrator, Lights-Out 100i Advanced	•*	•*	•*	•	•	•	•	•	•																				•	•	•
	Insight Remote Support				•																											
	Insight Virtual Machine Manager software for ProLiant (VMM)	Supported on all servers																														
Optimize power confidently	Insight Power Manager software (IPM)																															
Integrate	Integration with HP Software																															
	Integration with MS System Center products																															
	Integration with CA Unicenter																															
	Integration with IBM Tivoli																															

For the latest enterprise management integration support, visit www.hp.com/servers/integration.

- Supported for this product
- * Powered by Lights-Out 100

Infrastructure management software, operating systems, and virtual environments (continued)

	Entry-level										Midrange										High-end			Multi-node						
	ML110 G5	ML115 G5	DL120 G5	DL160 G6	DL165 G5	DL165 G5p	DL165 G6	ML150 G6	DL180 G6	DL185 G5	ML310 G5p	DL320 G5p	DL320 G6	DL320s	ML 330 G6	ML350 G6	DL360 G6	DL365 G5	DL370 G6	ML370 G6	DL380 G6	DL385 G5p	DL385 G6	DL580 G5	DL585 G6	DL785 G5	DL170h G6	DL4x170h G6	DL2x170h G6	
Business needs																														
Advanced Infrastructure Management Software																														
	Insight Dynamics – VSE Suite for ProLiant																													
	Insight Orchestration																													
	Insight Recovery																													
	Insight Capacity Advisor Consolidation software	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

For the latest enterprise management integration support, visit www.hp.com/servers/integration.

Operating systems and virtual environments

Purchase your entire operating environment from HP. HP resells and provides full-service and support for Microsoft Windows operating systems, Red Hat Linux subscriptions, Novell SUSE Linux subscriptions, Citrix XenServer, and VMware hypervisors. Learn more online at www.hp.com/go/ossupport

		Entry-level										Midrange										High-end			Multi-node						
		ML110 G5	ML115 G5	DL120 G5	DL160 G6	DL165 G5	DL165 G5p	DL165 G6	ML150 G6	DL180 G6	DL185 G5	ML310 G5p	DL320 G5p	DL320 G6	DL320s	ML 330 G6	ML350 G6	DL360 G6	DL365 G5	DL370 G6	ML370 G6	DL380 G6	DL385 G5p	DL385 G6	DL580 G5	DL585 G6	DL785 G5	DL170h G6	DL4x170h G6	DL2x170h G6	
Operating Environments																															
OS choices	Microsoft Windows HPC Server 2008				•	•	•	•		•	•		•					•	•			•	•	•	•	•		•	•	•	
	Microsoft Windows Server 2003	Supported on all servers																													
	Microsoft Windows Server 2008	Supported on all servers																													
	Windows Server 2008 Hyper-V				•	•	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	Novell SUSE Linux Enterprise Server (SLES)	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	Red Hat Enterprise Linux (RHEL)	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	Novell Open Enterprise Server	•	•	•	•	•	•		•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	NetWare	•										•				•	•	•		•	•	•			•						
	Solaris 10				•	•	•			•	•							•	•	•	•	•	•	•	•	•	•	•			
	VMware ESX 3.x*																•	•	•	•	•		•	•	•	•	•				
	VMware ESXi 3.5							•								•	•	•	•	•	•	•	•	•	•	•	•				
	VMware ESX 4.0																											•	•	•	
HP Integrated Citrix XenServer															•	•			•	•	•	•	•	•	•	•	•	•	•		

For the latest OS support information, visit www.hp.com/go/ossupport.

Please refer to each product's quick specs for the most up-to-date hardware and operating system support details/matrix.

• Supported for this product

* For detailed processor support, visit www.hp.com/go/vmware/servermatrix

HP related solutions

To gain the full value from your investments, you also need expert services across the IT lifecycle, advanced storage devices, and system-enhancing options.

HP options

Complete your data center with HP Server options—including memory, drives, processors, racks, operating system software, and power and cooling. Strengthen the foundation of your data center with high caliber products that are easy to maintain and tailored for ProLiant, Integrity and StorageWorks, giving you confidence in your whole infrastructure.

ML/DL networking	
NC112T PCI Express Gigabit Server Adapter	This low-cost Gigabit Ethernet NIC features excellent performance at a very modest price.
NC360T PCI Express Dual-port Gigabit Server Adapter	Here's a high-performance, dual-port adapter that supports a four-lane (x4) PCI Express bus as well as both standard and low-profile slots. The two Gigabit ports allow you to save valuable I/O slots for other uses.
NC364T PCI Express Quad-port Gigabit Server Adapter	This quad-port adapter provides the highest port density for standard and low-profile I/O slots on ProLiant servers. Compatible with x4, x8 and x16 PCI Express slots, the NC364T has a theoretical maximum transfer rate of 4,000 Mbps.
NC373T PCI Express Multifunction Gigabit Server Adapter	This high-performance adapter for twisted-pair environments supports TCP Offload on Windows and accelerated iSCSI, all on a single card. It supports both standard and low-profile slots.
NC382T PCI Express Dual-port Multifunction Gigabit Server Adapter	Here's a PCI Express card that provides two ports supporting TCP Offload on Windows and accelerated iSCSI, improving server efficiency, and providing access to storage devices over the IP protocol.
NC522SFP PCIe 10 Gigabit Server Adapter	This dual port, eight-lane PCI Express 10 Gigabit Ethernet network solution offers the highest bandwidth available in a ProLiant Ethernet adapter. The NC522SFP ships with two SFP+ cages, and is suitable for connecting to a Direct Attach Cable (DAC) or SR, LR, and LRM fibre modules that support fibre optic cabling.
Rack and rack accessories	
TFT7600 Rack Keyboard Monitor	Ease deployment of software updates by allowing connection of a USB drive directly at the console. This monitor is designed for rack-mount use and ideal for data centers, corporate computer rooms and even small and medium business installations where local access to servers is needed at the rack.
5000 Series Rack	The 5000 Series is an ideal rack solution for small and medium-size organizations with limited IT budgets.
10000 G2 Series Rack	This enterprise-class rack solution combines unparalleled structural integrity, cooling, and cable management. It can be used for all HP rack-mounted server and storage products.
MCS G2	New bi-directional cooling technology makes it possible to simultaneously cool two racks with a single MCS G2 unit. Cool up to 17.5 kW per rack when cooling two racks or up to 35 kW when cooling a single rack.
Consoles and console switches	
Server Console Switches	Integrate keyboard-video-mouse (KVM) and serial devices into a single management console for all of your servers, network devices, and infrastructure. These switches require no software to be installed on target servers, providing a true KVM solution for local system management of up to 256 servers.
IP Console Switches with Virtual Media	Provide local and remote system access and management to a variety of data center devices. These switches require no software to be installed on target servers. Administrators can access KVM functions remotely for day-to-day management. Virtual media support allows for a drive to be mapped on a workstation to target servers to perform application, OS and firmware upgrades and installations, reducing operational costs and improving efficiency.
Uninterruptible power supplies (UPS)	
T750 Uninterruptible Power Supply	This is an ideal tower UPS for small and medium businesses and desktop/workstation environments. It provides protection from power outages for equipment with power requirements of 500 watts and less.
T1500 Uninterruptible Power Supply	Here's a tower UPS that provides power protection for your computer equipment against damage due to fluctuating and inconsistent power with a true power rating of up to 1,500 VA and 900 watts.
R1500 Uninterruptible Power Supply	This rack power supply is ideal for space-constrained rack environments with up to 1,500 VA and 1,340 watts of power packed in just a 2U rack space.
R3000 Uninterruptible Power Supply	A high-power-density rack power supply in a 2U, rack-mount design offers up to 2,700 watts of true power.
R5500 Uninterruptible Power Supply	Offering the highest density rack power supply in a 3U, rack-mount design, the R5500 UPS provides up to 5,000 VA and 4,500 watts of true power.
Power distribution units (PDUs)	
Modular PDUs	Available in a variety of capacities and consisting of a core unit and extension strips that can be mounted anywhere in the rack, these PDUs are perfect for many applications. Core-only units are great for BladeSystems.
Monitored PDUs	Available in several sizes, these PDUs monitor power usage inside a rack and provide warnings locally when near capacity to prevent overloads.

HP related offerings

To gain the full value from your investments, you also need expert services across the IT lifecycle, advanced storage devices, and system-enhancing options.

HP storage

Network and direct-attached storage devices help you keep large amounts of information protected and readily accessible to people when needed.

Controllers	
Smart Array P800	Our highest performing 16-port Serial Attached SCSI PCI Express controller offers internal and external connections with expander support, combined with support for more than 100 hard drives to give you unparalleled deployment flexibility.
Smart Array P411	The HP Smart Array P411 controller is an external connect card that delivers mission-critical reliability in an easy-to-use RAID solution.
Smart Array P410	The HP Smart Array P410 delivers basic RAID functionality with an upgrade path to RAID 6, 6+0. It provides uncompromising reliability, scalability, and a rich set of features that can meet your specific storage needs.
Smart Array P212	The HP Smart Array P212 provides the use of basic RAID functionality and the option to upgrade with the 256 MB battery-backed write cache (BBWC) for RAID 5, 5+0. Additional upgrade path to RAID 6 (ADG), 6+0, and other enhancement features are also available through a software license key for the Smart Array Advanced Pack (SAAP).
Hard drives	
HP Midline and Entry SATA 3.5-inch and 2.5-inch hard disk drives	HP Midline and Entry SATA drives provide the best price advantage for non-mission-critical server or storage applications with low workloads of 40 percent or less. Available capacities include: 1 TB, 750 GB, 500 GB, 250 GB, and 160 GB 3G 7.2K RPM 3.5-inch drives, and 120 GB 1.5G 5.4K RPM 2.5-inch drives.
HP Midline and Enterprise SAS 3.5-inch and 2.5-inch hard disk drives	Enterprise SAS drives are ideal for critical, high-duty cycle applications. Available capacities include: 450 GB, 300 GB, 146 GB, 72 GB, 36 GB 15K RPM 3.5-inch drives, 146 GB, 72 GB and 36 GB 10K RPM 2.5-inch drives and 72 GB and 36 GB 15K RPM 2.5-inch drives. Midline SAS drives provide redundant paths to your drives for non-mission-critical server or storage applications with I/O workloads of 40 percent or less. Available capacities include 1 TB and 750 GB 7.2K 3.5-inch drives.
Host bus adapters (HBAs)	
SC44Ge SAS HBA	The HP SC44Ge has eight channels with two connectors (one internal/one external) and is the recommended SAS HBA for connecting HP SAS tape products to HP ProLiant servers.
SC11Xe SCSI HBA	The HP SC11Xe is an Ultra320 PCI Express SCSI HBA that is ideal for connecting HP SCSI tape products to HP ProLiant servers.
U320e SCSI HBA	The HP U320e is a dual-channel PCI Express SCSI HBA that is ideal for connecting HP MSL Tape Libraries to HP ProLiant servers.
Tape drives	
DAT 72 USB tape drive	Combining the reliability and cost-effectiveness of DAT with the universal plug-and-play capabilities of the USB 2.0 interface, this tape drive provides an ideal backup solution for small servers and workstations.
Ultrium 448 tape drive	This tape backup solution provides an excellent mix of features and value for entry-level and midrange server needs in small and medium-size businesses.
Storage array systems (SAS)	
Modular Smart Array 20	Here's a SATA disk drive storage enclosure that delivers industry-leading availability, storage density, and upgradeability to meet demanding and growing storage needs. The MSA20 provides an ideal mix of low cost and high capacity, for minimum I/O workloads such as reference data, archival, and disk-to-disk backup.
Modular Smart Array 50	The MSA50 is ideal for corporate infrastructure applications, including domain controllers, file/print, e-mail, small databases, application servers, web hosting, messaging, and Citrix terminal services. In SMB locations, the MSA50 is ideal for any environment that can benefit from high availability features such as hot plug fans, power supplies, and drives but requires a cost-sensitive solution.
Modular Smart Array 60	The MSA60 is ideal for the growing storage needs of small and midrange businesses. It supports up to 12 TB per enclosure or up to 96 TB (eight enclosures) capacity supporting 3.5-inch SAS, SATA or SAS Midline drives in a 2U form factor. Configuration and setup are easy with HP Array Configuration Utility (ACU). Enclosures can be cascaded in a 1+3 configuration, allowing a maximum of 48 drives in an 8U configuration behind each of the two external ports on the HP Smart Array P800 or the HP Smart Array E500 controller for a total of 96 drives in eight enclosures.
Modular Smart Array 70	The MSA70 is ideal for the growing storage needs of small and midrange businesses. It supports up to 3.6 TB per enclosure or up to 14.4 TB (four enclosures) capacity supporting 2.5-inch SAS or SATA drives in a 2U form factor. Configuration and setup are easy with HP Array Configuration Utility (ACU). Enclosures can be cascaded in a 1+1 configuration, allowing a maximum of 50 drives in a 4U configuration behind each of the two external ports on the HP Smart Array P800 or the HP Smart Array E500 controller for a total of 100 drives in four enclosures.
Shared storage	
Shared storage	When deploying a large number of servers or implementing a server consolidation project, it is the perfect time to look at storage consolidation. An HP SAN, using either HP EVA or XP disk arrays, can increase storage utilization significantly. The HP EVA is one of the easiest-to-manage arrays in the industry, and gives the midrange marketplace leading performance, capacity, and availability storage solutions. The XP disk arrays combine a completely redundant hardware platform with unique data replication capabilities that are integrated with clustering solutions for complete business continuity in mission-critical environments.

HP Care Pack services

To fully capitalize on the capabilities of your HP ProLiant servers, you need a service partner who thoroughly understands server technology and how it behaves in a multi-vendor environment. HP Services and HP Authorized Channel Partners have this unique insight into ProLiant servers, and we offer a range of HP Care Pack services designed to help you get the most from your ProLiant technology.

Benefits of HP Care Pack services support include:

- Improved server availability with single-source support
- Reduced complexity of services and support
- Accelerated ProLiant server implementation
- Predictable support costs and service levels with standardized HP Care Pack Services

3-year, 9x5, next-business-day, excluding holidays	Extend your hardware warranty coverage for quick and convenient hardware problem resolution.
3-year, 13x5, same-business-day, 4-hour response coverage	Extend your hardware warranty coverage with prompt same-day service for key servers and increase equipment availability and productivity.
3-year, 24x7, same-business-day, 4-hour response	Extend your hardware warranty coverage with prompt same-day service for key servers and increase availability and productivity with around-the-clock access to technical expertise and support.
3-year, 24x7, either 24-hour or 6-hour call-to-repair	Decrease hardware downtime with committed 24-hour or 6-hour call-to-repair for hardware problem resolution.
3-year, Support Plus 24	Increase performance and availability with integrated 24x7 hardware and software support for complex interoperability problem resolution.
Proactive Select	Access to HP best-in-class technical consultants. Purchase service credits and obtain expertise when needed.
3-year, Proactive 24	Leverage this Mission Critical Support portfolio for an integrated hardware and software support solution designed to help you improve the operational and management effectiveness of your IT environment.
3-year, Critical service	Look to this Mission Critical Support portfolio for a comprehensive support solution for businesses that cannot tolerate downtime without significant business impact. It combines proactive and reactive services to help you meet your availability, performance, and security objectives.

Note: Four-year and five-year HP Care Pack options are also available, offering cost-effective, longer-term support solutions

When Technology Works. Business Works.

Competitive, IT organizations need an environment that's right for today and ready to evolve as your business needs change. HP Technology Services meets this challenge with services designed to lower your IT costs, increase availability, reduce the complexity of multi-vendor services and accelerate system implementation.

- Fast problem diagnosis and remote system monitoring utilizing Insight Remote Support delivering optimized for operational simplicity and cost efficiency 24x7 automated, secure remote event monitoring, notification and dispatch for hardware and operating systems
- A key to business success is an agile IT infrastructure that adapts to changing needs while keeping the business running smoothly. Maintaining predictable service levels is one of the benefits of comprehensive support services by HP. We cover the entire IT solution lifecycle, to help you design, deploy, integrate and manage an agile IT infrastructure—including convenient pre-packaged HP Care Pack Services options and custom support solutions.

- Break down costly technology silos, with our consulting and integration services that enable you to optimize the performance of your server solution, improve energy efficiency, virtualize, and access, share and synchronize applications and data across your existing heterogeneous environment.
- Dream of having more time to focus more on your core competencies and less on day-to-day IT services? Our outsourcing services and global IT expertise can make this dream a reality.
- To speed product implementation, consider our factory-direct capabilities. Our plug-and-play solutions are integrated, tested, and shipped in a fully configured rack. Included are pre-delivery site reviews, factory installation and configuration, onsite installation and product orientation.
- In today's fast-paced business environment, your employees need to quickly assimilate new IT skills. HP can help you achieve this goal with a variety of training services, including instructor-led courses, customized onsite training and innovative remotely assisted courses.

Capitalize on your IT environment capabilities with a service partner who thoroughly understands server, storage, and network technology in a multi-vendor environment. Working in partnership with HP Authorized Channel Partners, HP has the expertise and skill you need. Whether your company is a medium-size organization or a large global corporation, HP Technology Services can help.

To learn more, visit www.hp.com/services/proliant

HP Financial Services: The smartest way to invest in IT

HP makes it easy on the balance sheet to put the power of the HP portfolio to work for you through HP Financial Services. We offer a complete array of leasing and financial lifecycle management services in more than 50 countries around the world. We can help you transition from existing equipment to the latest technology, acquire a new solution cost-effectively and manage that solution throughout its lifecycle. Our goal is to help you increase the return on your IT investment, reduce risk and get the most from your HP solution. For more information on our Financial Services, visit www.hp.com/go/hpfinancialservices

The right partner

If you have the right infrastructure, anything is possible. When evaluating how to grow your business and deciding what data center you need to respond to business change quickly and confidently, look to HP.

Cost per square foot or meter an issue? Need to shrink the footprint of the servers you deploy? We have a full server portfolio available. Power and cooling draining your budget? We deliver tools and solutions to help you regulate and monitor how power is used across the infrastructure. Want the broadest range of technology choice from best-in-class IT providers? Our partners deliver technology that works best with HP products.

We have the top-selling x86 servers, exceptional management capabilities and a robust portfolio of hardware and software partners to bring the right solution to you at the right time. Ultimately, HP is the right partner to help your business succeed.

To learn more

For more information on how ProLiant servers and infrastructure can help you lay the foundation of an adaptive enterprise, please contact your HP representative, authorized HP reseller, or visit www.hp.com/go/proliant

To view the latest version of this guide, visit <http://h71028.www7.hp.com/ERC/downloads/4AA0-6401ENW.pdf>

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- StorageWorks Arrays: www.hp.com/go/storageworksfamilyguide

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