The HP 9000 server family

World-class computing with the newest and highest-ever-performance HP PA-8800 processors and the HP-UX 11i v1 operating environment

hp invent

The PA-8800–powered HP 9000 family adds even greater strength to HP's portfolio of industry-leading servers for building your adaptive enterprise.

HP 9000 rp3410-2/ rp3440-4 server

HP 9000 4440-8 server

HP 9000 7420-16 server

HP 9000 8420-32 server

HP 9000 Superdome

"HP has consistently provided reliable, scalable hardware, allowing us to optimize the performance of our mission critical applications. With the new PA-8800 line of servers, HP will provide a valuable platform for our needs today and a stepping stone to Integrity with inbox upgrades. HP enables companies like ours to handle planned and unexpected growth through increased flexibility. Teamwork is the defining link in all our experiences with HP."

Scott Womer, Manager, Systems Engineering
Atmos Energy Corporation

The HP 9000 server family

The PA-8800–powered HP 9000 family adds even greater strength to HP's portfolio of industry-leading servers for building your adaptive enterprise—a portfolio that includes

- HP 9000 servers, based on the new, high-performance PA-8800 processor and offering more than twice the performance density of previous-generation HP 9000 servers
- HP Integrity servers, based on Intel® Itanium® processors
- HP ProLiant servers, based on Intel IA-32 processors
- HP AlphaServer systems, based on EV7 Alpha processors
- HP NonStop servers

Whatever type of servers your solution requires—from entry-level, single-processor systems up to the high-end, 128-processor Superdome—HP 9000 servers based on the PA-8800 processor provide the flexibility, performance, price/performance, and simplicity you need. HP 9000 servers bring you these world-class features in the form of standardized, modular technologies that enable a more adaptive enterprise using the proven, mission-critical-ready HP-UX 11i v1 UNIX® operating environment.

Highly scalable and in-box upgradable to HP's Integrity server line featuring the Intel Itanium processor, the HP 9000 servers make ideal building blocks for an IT infrastructure that can grow easily right along with your business.

Industry-leading agility and flexibility

At the heart of the HP 9000 server family is the PA-8800 processor, offering 20–40% better performance per CPU than the previous PA-8700 processor. In addition, the PA-8800 dual-core technology doubles the density of today's HP 9000 servers, bringing you both greater performance and double the processor density in the same form factor. For many existing HP 9000 customers, taking advantage of the tremendous performance advantages offered by the PA-8800 processor can be a simple matter of an in-box upgrade.

HP has designed the HP 9000 server family to get the most out of the powerful PA-8800 processor by integrating the processor with our own HP Scalable Processor Chipset zx1 and Super-Scalable Processor Chipset sx1000. The HP zx1 Chipset (for entry-level servers) and HP sx1000 Chipset (for midrange and high-end servers) offer decreased memory latency and increased memory bandwidth, enabling PA-8800–based HP 9000 servers to achieve even greater performance. What's more, these chipsets are specifically designed for use with both the PA-8800 processor and the Intel Itanium processor, making it easy to perform an in-box upgrade from the HP 9000 series to the Itanium-based HP Integrity family of servers.

With the combination of this leading processor technology and the HP-UX 11i v1 operating environment creating a robust and secure foundation for your adaptive enterprise, you are ready to deploy a broad portfolio of available software solutions easily and quickly. In addition, with innovative server virtualization capabilities—including partitioning and leadership workload management and high availability—HP-UX 11i v1 improves system usage while maintaining service levels.

Investment protection and a lower total cost of ownership
HP 9000 servers provide you an excellent return on IT investment (RoIT). HP 9000 servers reduce total cost of ownership through aggressive acquisition prices and low operating costs. The dual-core PA-8800 processor makes it possible to pack more processing power into a smaller system chassis, which presents unique server consolidation and scale-out opportunities for your business. And, with HP roadmaps that include planned future in-chassis processor upgrades to next processor generations, HP 9000 servers offer unprecedented investment protection and are uniquely positioned to meet the changing needs of your adaptive enterprise.

Solutions running on HP 9000 servers enable you to further reduce complexity and increase efficiency through intelligent management capabilities across the entire HP server portfolio. And, by utilizing the HP 9000 servers' partitioning capabilities and instant capacity, you can dynamically tailor your resources to your business needs and budget.

Because the HP 9000 server family supports the award-winning HP-UX 11i operating system, you have a high level of investment protection for your existing HP-UX 11i–based infrastructure—and the assurance of a smooth implementation with limited or no impact on your operating environment.

Take advantage of our special financing offers to further enhance your return on IT. We can help you lease your new solution cost-effectively. And we can remove your existing equipment and pay you for technology that has remaining market value.

By providing you with unparalleled experience in support and solution implementation, no one is better positioned than HP to help you make the most of your RoIT.

Standardized, simplified, easily integrated, modular technologies
Improving the value of change by establishing a standard approach for running business and IT through industry-standard architectures, modular components, and consistent implementation are key components of HP's vision of the adaptive enterprise. By designing and deploying products based on industry-standard technologies, HP provides customers with solutions that are easy to integrate into existing IT environments—and that provide the kind of longevity critical to improving your overall return on investment. The breadth and depth of HP's product portfolio also helps reduce complexity by allowing customers to standardize on a single vendor for all of their computing requirements.

Modularity goes hand in hand with simplicity and standardization. By supporting the industry's leading UNIX operating environment, HP 9000 servers integrate seamlessly with your existing IT infrastructure and make it easy to upgrade from servers based on PA-8600, PA-8700, or 8700+ processors. Software modularity is achieved through HP's powerful tools to manage heterogeneous environments and networks, such as HP OpenView for infrastructure management and HP OpenCall for IP services.

Driven by HP-UX 11i v1, the industry's leading UNIX operating environment

The capabilities of HP's PA-8800–based family of servers are further bolstered by HP-UX 11i v1. The robust and critically acclaimed HP-UX 11i enterprise UNIX operating environment is the most secure commercial UNIX foundation for your adaptive enterprise. With the innovative server virtualization capabilities that are part of the HP Virtual Server Environment for HP-UX 11i, including partitioning, along with leadership workload management and high availability, HP-UX 11i v1 makes the best use of system resources while maintaining service levels.

Now you can better manage costs, increase productivity, and improve agility with a high-quality UNIX operating system that meets the challenges and realities of your world. For HP 9000 servers, HP-UX 11i v1 is the proven, mission-critical operating environment that provides a solid foundation adapting to unlimited growth and delivering lasting value.

"HP 9000 servers play a critical role in our business by serving as the infrastructure for our mission critical healthcare applications. As such, we are delighted with the commitment HP has shown to the HP 9000 product line with the introduction of new PA-8800 processors. This new technology provides us with a path for greater performance, scalability and flexibility and enables Atlantic Health to move to a new line of servers."

AJ Cosimano, Director, Tier 2 Support
Atlantic Health System

Highly scalable

- Scalable to exceed your most demanding business needs—supports up to 128 processors

Allocates resources automatically

- The only automatic goal-based workload management available in a UNIX operating environment
- HP-UX Workload Manager is the intelligent policy engine of the HP Virtual Server Environment
- Broadest and most automatic server virtualization to maximize server utilization

Solid leadership in high availability, security, and performance

- Rated #1 in disaster recovery/disaster-tolerant solutions among UNIX vendors based on HP Serviceguard, the premier high-availability clustering product; leader in high-availability services
- 44% of all HP-UX servers are running HP Serviceguard high-availability solutions
- Most secure commercial UNIX operating environment
- Best UNIX performance and price/performance across industry-standard benchmarks

Proven stability—critically acclaimed

- #1 quality award (Reasoning, Inc.)—best UNIX quality
- Rated #1 UNIX by industry analysts IDC and Gartner
- Robustness built into the entire development process

Increases productivity by reducing complexity

- Only four steps needed to upgrade with pre-tested and pre-integrated operating environments from PA-8700 to PA-8800
- HP Virtual Server Environment Quick Start Solution—provides a consolidated, virtualized, and integrated BEA WebLogic Server or Oracle Database environment

Proven secure upgrade for investment protection and lasting value

- Binary, source, and data compatibilities between HP-UX 11i v1 and HP-UX 11.0 on HP 9000 servers
- Source and data compatibilities between HP-UX 11i v1 on HP 9000 servers and HP-UX 11i v2 on HP Integrity servers
- Managed by the industry's first cross-platform management solution, HP Systems Insight Manager—managing faults, assets, security, and configurations across HP-UX, Windows®, and Linux® servers as well as other HP-supported environments
- Interoperable with Linux and Windows

HP has a full range of services to help make your deployment as seamless and painless as possible. We'll help you quickly and confidently introduce HP 9000 servers into your existing IT environment and fully support their potential for your business.

HP 9000 servers with HP StorageWorks solutions

Delivering more for the adaptive enterprise

Together with HP 9000 servers, HP StorageWorks—the worldwide leader in storage—delivers more for the adaptive enterprise:

- **More stability**—Server and storage high availability is maintained with solutions such as HP-UX 11i v1 cluster certifications and multi-path software connection.
- **More efficiency**—Customers can count on better time to problem resolution with unified servers, storage, management software, and services. HP provides planning, installation, migration, and management services. HP OpenView software, including HP OpenView Storage Area Manager (SAM), allows customers to manage their IT infrastructure with a unified and integrated enterprise-wide management solution for reduced TCO.
- **More adaptability**—HP is the leading vendor in delivering complete datacenter solutions such as the HP Utility Data Center (UDC) and in deploying virtualization technology with products such as the HP StorageWorks Enterprise Virtual Array (EVA) to enable the adaptive enterprise.
- **More RoIT**—HP StorageWorks solutions used with HP 9000 servers provide better business value through unified management, datacenter consolidation, investment protection, high availability, a full portfolio of services, and total solution deployment.

HP Services

Getting the most out of your HP 9000 installation

When you're ready to take advantage of the robust HP-UX 11i v1 operating environment running on high-density, high-performing HP 9000 servers, HP has a full range of services to help make your deployment as seamless and painless as possible. We'll help you quickly and confidently introduce HP 9000 servers into your existing IT environment and fully support their potential for your business. We offer assessment services to precisely define your requirements and chart a course to deployment; implementation services to install and configure your equipment rapidly; and education services to provide your staff with the expertise required to achieve superior system performance. And our commitment to your satisfaction doesn't stop with the transition process itself. Our support offerings—from simple reactive support to comprehensive mission-critical support—help you reduce the risks associated with downtime once your HP 9000 servers are installed.

To further improve availability and performance, HP offers a Foundation, Proactive, or Critical Service solution bundle when you purchase an HP Superdome server. These bundles, built around the key phases of the entire server lifecycle, provide an application- and production-ready HP Superdome server for your IT infrastructure. Based on your requirements for availability, response time, and hours of coverage, you choose the level of service that best meets your needs from HP's comprehensive set of services.

Further enhancing your RoIT through financing

Take advantage of HP Financial Services' flexible financing options to enhance the return on your IT investment still more. HP Financial Services can help you acquire your PA-8800 processor–based HP 9000 server cost-effectively and manage it over time.

When you take advantage of our financing options, you get the solution you need without a large capital outlay. You get all the financial, tax, and accounting benefits of leasing—without the risks associated with ownership. And you spread your costs out over time, so you pay for your solution as you reap its business benefits.

The new HP 9000 server family brings you a winning combination of high-function features and high performance based on the PA-8800 processor, resulting in the flexibility and power to synchronize your IT capabilities with business processes and challenges.

At HP Financial Services, we help you manage your HP technology "from acquire to retire." We can build technology refresh options into your lease that allow you to continually upgrade your PA-8800 processor–based system, so you can be sure you have the right computing power at all times. And at the end of your term or even at mid-term, you can migrate smoothly to the next-generation PA-RISC–based or Itanium-based solution. Leasing enables continual refresh, so you are never saddled with equipment that no longer meets your needs.

Flexible choices for the future

Stay with PA-RISC and the next-generation high-performance PA-8900 processor or choose the flexibility and performance of Itanium-based computing

The ability to scale to meet new challenges is key to enabling a more adaptive enterprise. That means having a clear roadmap for the future of your IT infrastructure. HP's commitment to standardized, simple, and modular technologies is embodied in our HP 9000 server series. The release of PA-8800–based systems underscores HP's commitment to delivering strong PA-RISC–based solutions as it expands the HP Integrity server solution ecosystem. You can choose PA-RISC–based systems today—realizing enhanced PA-8800 performance now—and assure yourself of a smooth transition to future technology later on. Through simple in-box upgrades, you will also have the option to stay with the power and reliability of RISC-based computing by running the very same HP-UX 11i operating system on HP's future generations of PA-RISC processors. HP's roadmap for PA-RISC computing extends years into the future, so your investment will be protected for a long time to come.

When the time is right, your HP 9000 servers will be an ideal stepping stone to Itanium-based HP Integrity servers, featuring the industry's leading processor performance and the flexibility to choose among the market's leading operating systems.

When you're ready to move to Itanium-based computing, the same chassis and chipset that are the foundation of the HP 9000 server family can be upgraded with Intel Itanium processors, taking you to the next level of computing performance. HP Integrity servers offer new degrees of flexibility in operating system choice (including HP-UX, Windows, Linux, and OpenVMS), application support, and services. That means that as your performance needs grow, you can continue to enjoy the world-class investment protection of your HP 9000 server as you move to the industry-leading performance of the Integrity platform—at an affordable, incremental cost.

Whether your future business needs demand HP 9000 or HP Integrity servers, you benefit from increased overall server performance at reduced costs.

"Gevity is currently looking to consolidate a number of its HP 9000 and legacy servers onto PA-8800–based HP 9000 servers. The introduction by HP of the new dual core processors will enhance performance and provide greater scalability. This will enable us to consolidate a greater number of servers onto each system. In addition, this will provide Gevity with more agility in how we configure our servers while simplifying the management and maximizing the return on our IT investment."
Mark Zimmerman, Vice President, Information Technology
Gevity

HP 9000 Superdome

A great system just got better

Based on the latest PA-8800 PA-RISC chip and the performance-enhancing HP Super-Scalable Processor Chipset sx1000, the HP 9000 Superdome supports up to 128 powerful PA-8800 processors within the same size chassis that previously supported a maximum of 64 processors. This server's performance density is a breakthrough in performance per square foot. Taken together with the 20 to 40% per-CPU performance improvement of the PA-8800 processor over PA-8700+, the new HP 9000 Superdome offers well more than double the raw computing power in the same chassis. And, with a terabyte of memory, the HP 9000 Superdome brings mainframe-class performance to high-end, compute-intensive applications. From the most complex scientific modeling to ERP and back-end databases, the HP 9000 Superdome is built to handle your biggest applications at their heaviest loads, scaling easily to meet new challenges.

In addition to providing superior performance for complex applications, the HP 9000 Superdome helps you improve your total cost of ownership (TCO) by allowing you to consolidate a greater number of smaller servers and utilize more raw power to address computing challenges. This kind of consolidation reduces complexity and eliminates the costs associated with managing multiple servers. Simplicity and reliability are further enhanced through hard and virtual partitioning, providing strong application separation and easy management.

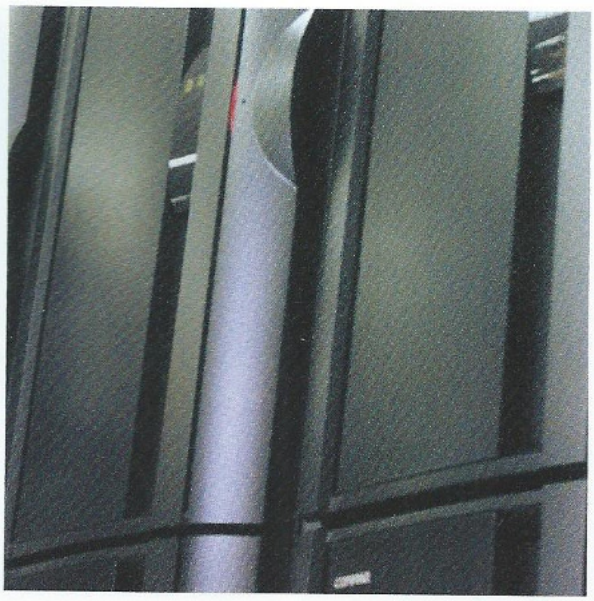
The HP 9000 Superdome delivers leading performance density, unmatched investment protection, and the ideal platform for reducing complexity through enhanced server consolidation—a level of value well beyond what was previously offered.

HP 9000 rp8420-32 servers

Industry-leading midrange servers offering high-end, mission-critical performance and capabilities

Designed to meet high-end performance requirements at midrange pricing, the highly scalable HP 9000 rp8420-32 server offers unsurpassed performance density in the UNIX marketplace. HP's dual-core technology has allowed us to double the density—to a maximum of 32 processors—of what was already the highest-density UNIX server on the market. Superior performance and high availability make the HP 9000 rp8420-32 server ideal for virtually any mission-critical workload—from databases to ERP applications, such as enterprise-wide SAP installations.

The HP 9000 rp8420-32 server offers an excellent opportunity to meet your business's high-end computing requirements at a lower TCO. Because of its physical density and both hard and virtual partitioning capabilities, the HP 9000 rp8420-32 server is ideal for server consolidation. Multiple OS instances on the HP 9000 rp8420-32 server can provide the same failover protection as multiple physical servers while reducing the complexity, administration costs, maintenance, and power consumption associated with multiple servers. For existing HP 9000 rp8400 customers, the new HP 9000 rp8420-32 server offers a low-cost upgrade to their IT infrastructure that not only offers significant capability improvements, but also is an ideal stepping stone for an in-box upgrade to the Itanium-based HP Integrity rx8620 server.



HP 9000 rp7420-16 servers

Increase business agility with leading midrange performance

The HP 9000 rp7420-16 server provides a new level of midrange scalability and performance, with available configurations of up to 16 PA-8800 processors (as compared to the previous generation's maximum of eight PA-8700+ processors). Made possible by HP's dual-core technology, the HP 9000 rp7420-16 server offers leading density of up to four 16-way servers per rack—and more than double the compute power per chassis. For existing HP 9000 rp7410 server customers, this new level of performance can be achieved through in-box upgrades to the new PA-8800 processor, bringing significant improvements to IT capabilities at a comparatively small cost.

The HP 9000 rp7420-16 server's HP sx1000 Chipset and improved PCI-X I/O capabilities bring you the raw power you need to handle workloads ranging from application-serving to supporting mission-critical databases. Both hard and virtual partitioning capabilities enhance the HP 9000 rp7420-16 server's flexibility for application and server consolidation. Moreover, as an ideal platform on which to consolidate multiple smaller servers, the HP 9000 rp7420-16 server can be the key to both lowering TCO and decreasing IT complexity.

HP 9000 rp4440-8 server

The application server your business and budget can depend on

The HP 9000 rp4440-8 server brings entry-level pricing to an 8-way–capable server. The HP 9000 rp4440-8 server delivers the performance and availability required for critical business applications such as ERP, CRM, and e-commerce while conserving IT funds and datacenter space. With up to 8 PA-8800 processors and 64 GB of memory, this server has the performance scalability to deliver excellent response times as well as handle growing or unpredictable IT demands. The HP 9000 rp4440-8 server has all of the high-availability features you expect in an enterprise application server, and its new chassis is designed for easy installation, upgrading, and service. The dense form factor (4U rack height) and affordable price of the HP 9000 rp4440-8 server will help you make the most of both valuable datacenter space and IT funds.

The HP 9000 rp4440-8 server is a rock-solid application server with increased performance headroom. It is a highly flexible solution that makes an affordable 8-way server a reality for both new and existing customers—and offers the option to upgrade simply and affordably to the HP Integrity rx4640 server when even more performance is needed.

HP 9000 rp3410-2 and rp3440-4 servers

Entry-level servers with aggressive price/performance

With the performance afforded by one, two, or four PA-8800 RISC processors running at 800 MHz or 1 GHz; memory of up to 24 GB; and a maximum storage capacity of 438 GB, the HP 9000 rp3400 server series can take any business application and get the job done quickly. In addition, up to four 64-bit 133 MHz PCI-X I/O slots—plus support for the robust HP-UX 11i v1 operating system—make the HP 9000 rp3400 series servers ideal for workloads requiring high availability and superior bandwidth. All this functionality comes in a sleek 2U chassis, delivering the RISC server market's most attractive performance density.

The HP 9000 rp3410-2 and rp3440-4 servers are perfect for distributed sites and branch office locations, for the application and Web services tiers of enterprise data centers, and for small and medium-sized businesses. For additional scalability and investment protection, easy in-box upgrades are available from the HP 9000 rp3410-2 to the rp3440-4 server—as well as from either HP 9000 rp3400 series server to the HP Integrity rx2600 server and Itanium-based computing.

For more information

For more information about the HP 9000 family servers, contact any of our worldwide sales offices or visit our Web site at:

www.hp.com/go/hp9000

HP 9000 server family at-a-glance

Note: Products shown are not to scale






	HP 9000 rp3410-2 server	HP 9000 rp3440-4 server	HP 9000 rp4440-8 server	HP 9000 rp7420-16 server	HP 9000 rp8420-32 server	HP 9000 Superdome (32-/64-/128-processor configurations)
Number of processors	1 or 2	2 or 4	2 to 8	2 to 16	2 to 32	4 to 32/4 to 64/12 to 128 (scalable to 128 processors via 2 partitions of 64 processors each; single 128-processor partition will be available with future HP-UX release)
CPUs supported	800 MHz with 1.5 MB L1 cache/32 MB L2 cache	800 MHz or 1.0 GHz with 1.5 MB L1 cache/ 32 MB L2 cache	800 MHz or 1.0 GHz with 1.5 MB L1 cache/ 32 MB L2 cache	900 MHz or 1.0 GHz with 1.5 MB L1 cache/ 32 MB L2 cache	900 MHz or 1 GHz with 1.5 MB L1 cache/ 32 MB L2 cache	1 GHz with 1.5 MB L1 cache/32 MB L2 cache
Internal storage bays	3 HDD, 1 peripheral	3 HDD, 1 peripheral	2 HDD, 1 open bay (for slimline DVD only)	4 HDD, 1 peripheral	4 HDD, 2 peripheral	N/A; uses external storage only
Operating systems supported	HP-UX 11i v1	HP-UX 11i v1	HP-UX 11i v1	HP-UX 11i v1	HP-UX 11i v1	HP-UX 11i v1
I/O slots	2 PCI-X hot-plug I/O card slots	4 PCI-X hot-plug I/O card slots	6 PCI-X hot-plug I/O card slots	15 PCI-X hot-plug I/O card slots	16 PCI-X internal hot-plug I/O card slots; 32 PCI-X hot-plug I/O card slots with SEU	48 PCI-X slots/Up to 96 PCI-X slots/Up to 192 PCI-X slots
nPartitions	N/A	N/A	N/A	Up to 2	Up to 2; up to 4 with SEU	Up to 4/Up to 8/ Up to 16
Maximum memory	6 GB	24 GB	64 GB	64 GB	128 GB	256 GB/512 GB/ 1 TB (via two partitions—512 GB max/partition)
Scalable Processor Chipset	HP zx1 Chipset	HP zx1 Chipset	HP zx1 Chipset	HP sx1000 Chipset	HP sx1000 Chipset	HP sx1000 Chipset
EIA unit height	2U EIA	2U EIA	4U EIA	10U EIA	Racked chassis: 17U EIA Server expansion unit: 9U EIA	N/A
Physical dimensions (H x W x D)	Racked chassis: 3.4 x 19 x 26.8 in. (86 x 482 x 680 mm) Standalone chassis: 19.5 x 11.7 x 26.5 in. (495 x 297 x 672 mm)	Racked chassis: 3.4 x 19 x 26.8 in. (86 x 482 x 680 mm) Standalone chassis: 19.5 x 11.7 x 26.5 in. (495 x 297 x 672 mm)	Racked chassis: 6.8 x 19 x 27.2 in. (173 x 482 x 690 mm) Standalone chassis: 20.9 x 10.2 x 27.4 in. (530 x 260 x 695 mm)	Racked chassis: 17.5 x 19 x 30 in. (445 x 482 x 762 mm) Standalone chassis: 20.75 x 19 x 30 in. (527 x 482 x 762 mm)	Racked chassis: 29.75 x 19 x 30 in. (756 x 482 x 762 mm) Standalone chassis: 32.8 x 19 x 30 in. (833 x 482 x 762 mm) Server expansion unit: 15.75 in. x 19 x 30 in. (400 x 482 x 762 mm)	32- and 64-way: 77.2 x 30 x 48 in. (1960 x 762 x 1220 mm) 128-way: 77.2 x 60 x 48 in. (1960 x 1524 x 1220 mm)
Weight	56 lb. (25 kg)	56 lb. (25 kg)	100 lb. (45.4 kg)	220 lb. (99.8 kg)	Chassis: 378 lb. (171.4 kg) Server expansion unit: 180 lb. (81.65 kg)	32-way: 1,102 lb. (500 kg) 64-way: 1,318 lb. (598 kg) 128-way: 2,636 lb. (1,196 kg)

*SEU = Server Expansion Unit

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To learn more, visit www.hp.com.

5982-3520EN, Printed in The Netherlands 02/2004