

HP 9000 rp8420-32 server

Maximum flexibility and performance density at midrange prices



HP 9000 servers cover the full breadth of commercial and high-performance computing solutions. Whatever type of servers your solution requires, from entry-level two-processor systems up to the high-end 128-way Superdome, HP 9000 servers running HP-UX 11i v1 can help bring your technology infrastructure and business challenges into sync. HP's industry-leading support, system software, and single-system administration allow any scalable HP server to be managed simply.

Build your adaptive enterprise with a server that offers performance, affordability, and scalability, all in a rack-dense form factor. Based on the PA-8800 processor and the HP Super-Scalable Processor Chipset sx1000 running the critically acclaimed HP-UX 11i v1 UNIX® operating environment, the 32-way HP 9000 rp8420-32 server delivers high-end performance, flexibility, and simplified management in the industry's most dense form factor.

Choosing the right IT infrastructure for your enterprise is paramount. Complicating this choice is a constantly changing business and technology environment coupled with tightening budgets and increasing IT demands. As the business environment changes, so must your

infrastructure—towards scalable solutions that are powerful, flexible, and easy to use at a value that lets you focus resources on what's most important: growing your business.

The HP 9000 rp8420-32 server is that solution. With breakthrough performance improvements over the previous generation of PA-RISC processors, leading rack density of up to 32 processors per server and 2 servers per rack, flexible HP-UX 11i v1 hard and virtual partitioning, outstanding scalability, and tremendous value, the HP 9000 rp8420-32 server makes high-availability, mission-critical 64-bit computing an affordable reality for your enterprise.

The PA-8800-based HP 9000 rp8420-32 server offers leading rack density, flexibility, and scalability to meet your consolidation and high-end computing challenges—now, and in the future.

Industry-leading agility and flexibility

Built to blur the line between midrange and high-end computing without the cost you associate with top-of-the-line performance, the 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.

HP has designed the HP 9000 rp8420-32 server to get the most out of the powerful PA-8800 processor by integrating the processor with our own Super-Scalable Processor Chipset sx1000. This chipset offers decreased memory latency and increased memory bandwidth, enabling the server to achieve even greater performance. What's more, the same chipset is specifically designed for use with both the PA-8800 processor and the Intel® Itanium® 2 processor, enabling seamless in-box upgrades to the HP Integrity rx8620 server.

In conjunction with the HP sx1000 Chipset and improved PCI-X I/O capabilities, the HP 9000 rp8420-32 server brings you the raw power you need to handle virtually any workload. Moreover, as an ideal platform on which to consolidate multiple smaller servers, the HP 9000 rp8420-32 server can be the key to lowering your TCO and decreasing IT complexity. The server's flexibility in application and server consolidation is enhanced through the HP-UX 11i Virtual Server Environment—which includes virtual partition (vPar), hard partition, (nPar), and HP Workload Manager (WLM) capabilities—so you can maintain your service levels by allocating resources automatically and making the best use of system resources. When business challenges demand even more performance, in-box upgrades to the HP Integrity rx8620 server are simple and affordable.

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, 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 systems, HP-UX 11i v1 is the proven, mission-critical-ready operating environment that provides a solid foundation adapting to unlimited growth and delivering lasting value.

Evolve your infrastructure confidently with a partner that stands accountable

When you're ready to take advantage of the robust HP-UX 11i v1 operating environment running on the high-performing HP 9000 rp8420-32 server, 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 make the most of their potential for your business. We offer assessment services to precisely define porting requirements and chart a course to deployment, implementation services to install and configure equipment rapidly, and education services to provide your staff with the expertise to achieve top system performance.

Throughout the deployment and transition process, HP accepts full accountability for delivering on the service commitments that our partners and we have made. 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 systems are installed. We are looking ahead to further your long-term success by working with leading independent software vendors (ISVs) in both the technical and commercial markets to tailor their applications to the PA-8800 RISC architecture, enabling you to exploit the full potential of your HP 9000 systems.

Key features and benefits

	Features	Benefits
Increase business agility	<ul style="list-style-type: none">• Leading midrange performance based on PA-8800 processors and the HP sx1000 Chipset• HP-UX 11i Virtual Server Environment with HP Workload Manager, the industry's only automatic goal-based workload management for UNIX, and on HP-UX 11i partitioning continuum (vPars, nPars, HP Process Resource Manager)	<ul style="list-style-type: none">• Blazing fast application performance to meet your demanding business needs• Allocates resources automatically and improves system usage while maintaining service levels
Improve accountability	<ul style="list-style-type: none">• Solid UNIX leadership in high availability, security, and quality: HP Serviceguard, rated as the #1 disaster recovery/disaster-tolerant solution among UNIX vendors; the most secure commercial UNIX; #1 UNIX best quality• Industry-leading high-availability features and solutions• Broad portfolio of ISV applications available• Industry-leading services and support to build your highly available infrastructure	<ul style="list-style-type: none">• Unprecedented reliability to protect your business from unforgiving interruptions• Wide range of application choices to meet critical business and IT requirements• Reduced time to solution deployment; proactive and reactive support services help maintain availability and reliability of IT environments
Extend return on your IT investment	<ul style="list-style-type: none">• In-chassis upgradable to future generations of PA-RISC and Intel Itanium processors• Superb rack density—up to two 32-way servers per rack!• Consistent management tools• Built-in HP-UX 11i v1 binary, source, and data compatibilities and Linux® and Windows® interoperability	<ul style="list-style-type: none">• Assured future performance without costly box swaps• Reduced costs and increased operating efficiency• Common and simplified management to reduce costs• Investment protection and lasting value for future growth

Get the best possible TCO with reduced complexity and lower operating costs

HP 9000 servers provide the key to getting you the best possible return on your IT investment. They can help you reduce your total cost of ownership (TCO) 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 space conservation opportunities for your business. And, with HP roadmaps that include planned future in-chassis processor upgrades, these servers offer unprecedented investment protection and are uniquely positioned to adapt quickly to the evolving 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 multiple operating systems and server platforms of the broad HP server portfolio. And, by utilizing partitioning capabilities and on-demand offerings, you can dynamically realign and virtualize your resource utilization with your business needs and budget.

When you're ready to take advantage of the performance improvements that PA-8800-based computing offers, HP has a full range of services available. HP Services delivers end-to-end solutions that customers can count on—with better time to problem resolution for servers, storage, management software, and services.

We'll help customers quickly and confidently introduce HP 9000 systems into any existing IT environment—and boost the servers' potential for every business—through our assessment, implementation, and education services. HP support offerings, from simple reactive support to comprehensive mission-critical support, help reduce the risks associated with downtime.

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Technical specifications

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Performance/Scalability/Flexibility	<ul style="list-style-type: none"> • 2 to 32 PA-8800 processors (900 MHz or 1 GHz with 1.5 MB L1 cache/32 MB combined L2 cache) • 1 to 4 cell boards (each cell: 2-8 processors and 2 to 32 GB memory) • 2 to 128 GB memory capacity • 16 PCI-X internal hot-plug I/O card slots • 4 internal disk bays and 2 internal removable media bays (DVD or DAT) • Optional Server Expansion Unit (SEU) <ul style="list-style-type: none"> – 16 additional PCI-X hot-plug I/O card slots – 4 additional disk drive slots – 2 additional removable media slots (DVD or DAT) • Up to 2 hard partitions (nPars); up to 4 hardware partitions with optional SEU • Support for up to 16 virtual partitions (vPars); up to 32 virtual partitions with optional SEU • 32 GB/s crossbar bandwidth and 17 GB/s aggregate I/O slot bandwidth (34 GB/s using SEU) • Rack and standalone server solutions • Hot-swap, redundant power supplies • Redundant (2N+1) input power • Hot-swap, redundant cooling fans
Operating system	HP-UX 11i v1 (choice of Foundation, Enterprise, Mission-Critical, and Technical Computing operating environments)
Availability	<ul style="list-style-type: none"> • Dynamic CPU and memory allocation/de-allocation • Memory chip-sparing technology • Hot-plug cell boards • Error checking and correction (ECC) on all CPU, cache, memory, and I/O paths • Online addition and replacement of PCI-X I/O cards • Redundant power inputs for dual grid connections • Core I/O management processor failover • N+1 hot-swappable fans and power supplies • Hot-spare Instant Capacity on Demand CPU functionality • Electrically isolated hardware partitions (nPars) • Extensive HP-UX 11i security features: IPSec, IPFilter, LDAP-UX, AAA Server, Secure Shell
Optional high-availability and business-continuity solutions	<ul style="list-style-type: none"> • HP Serviceguard • HP Serviceguard Extension for RAC • HP Serviceguard Extensino for SAP • HA Monitors for Event Monitoring Service • High Availability toolkits • HP Mirrordisk/UX • HP Extended Campus Cluster • Mission-critical services and support
Connectivity	<ul style="list-style-type: none"> • Core I/O: 10/100/1000Base-T LAN, Ultra3 SCSI, management LAN, 3 serial ports • Add-in cards: ATM, Token Ring, FDDI, 1000Base-SX, 1000Base-T, 10/100Base-T, Ultra2, Ultra3, FW, Fibre Channel, Terminal MUX, HP Speedcard software, X.25, Hyperfabric, combo cards

Technical specifications (continued)

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Manageability	<p>Deploy:</p> <ul style="list-style-type: none"> • HP Partition Manager • HP Ignite-UX for installation and deployment of the operating system • HP Software Distributor-UX for software and patch management <p>Monitor:</p> <ul style="list-style-type: none"> • Built-in management processor for comprehensive remote server management • HP Servicecontrol Manager for centralized HP-UX server management <p>Optimize:</p> <ul style="list-style-type: none"> • HP-UX 11i Virtual Server Environment (VSE), including HP-UX 11i virtual partitions and hard partitions • HP Process Resource Manager (PRM) for HP-UX resource management • HP-UX Workload Manager (WLM) for HP-UX workload management based upon service-level objectives • HP OpenView Glanceplus Pak <p>Enterprise:</p> <ul style="list-style-type: none"> • HP OpenView suite for infrastructure, service, and business process management • HP Systems Insight Manager to manage faults, assets, security, and configurations across HP-supported environments 	
Physical and environmental specifications		
Physical dimensions	Height	Racked chassis: 29.75 in. (756 mm); 17U EIA Standalone chassis: 32.8 in. (833 mm)
	Width	Server expansion unit: 15.75 in. (400 mm); 9U EIA 19 in. (482 mm)
	Depth	30 in. (762 mm)
Net weight	Maximum configuration	Chassis: 378 lb. (171.4 kg) Server expansion unit: 180 lb. (81.65 kg)
Temperature	Operating	+41° to +95° F (+5° to +35° C); 86° F (30° C) @ 10,000 ft. (3000 m)
	Non-operating	-40° to +158° F (-40° to +70° C)
	Maximum rate of temperature change	36° F (20° C) per hr
Humidity	Operating	15% to 80% RH non-condensing
Altitude	Maximum operating	10,000 ft. (3000 m)
	Maximum non-operating	15,000 ft. (4500 m)
Power requirements	Typical power dissipation	3560 VA (max. configuration) 17.8 A @ 200 V Server expansion unit: 662 VA (max. configuration)
Regulatory	Safety	UL listed, CUL certified, TÜV GS Mark, compliant with EN 60950
	Electromagnetic interference	Complies with FCC rules and regulations, Part 15 as a Class A Digital Device; Manufacturer's Declaration to EN55022 Level A, VCCI
	Power line LF emissions	Registered, Class I, Korea RLL Europe: EN 61000-3-2; Europe: EN 61000-3-3

Protect your investment—stay with PA-RISC and the next-generation, high-performance PA-8900 processor or choose the flexibility and performance of Itanium®-based computing

Flexible choices for the future

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 v1 operating environment on HP's future PA-8900 processor.

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 fitted 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, application support, and services. That means that as your business 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 HP Integrity server 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.

Flexible financial options

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.

Companies interested in lowering their total costs may take advantage of Pay per use. When you acquire your HP servers on a Pay per use basis, you pay according to your level of usage—you'll never pay more than you would with a traditional lease, and you'll likely pay less. Available on a wide range of HP servers, Pay per use increases your agility, improves your level of service, and lowers your total cost of computing.

For more information

For more information about the HP 9000 rp8420-32 server, contact any of our worldwide sales offices or visit our Web sites at:

www.hp.com/go/hp9000

www.hp.com/go/rp8420

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