HP 9000 rp3410-2 and rp3440-4 servers

Leading UNIX® functionality in entry-level servers with aggressive price/performance

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 all the functionality and reliability of UNIX at the price and density of a PC server platform. Employing HP's dual-core processor and the HP Scalable Processor Chipset zx1, the HP 9000 rp3400 series servers pack high performance and capability within 2U rack space—with the option of up to four PA-8800 800 MHz or 1 GHz processors.

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, an easy in-box upgrade is available from the HP 9000 rp3410-2 to the HP 9000 rp3440-4 server.

The PA-8800–based HP 9000 rp3410-2 and rp3440-4 entry-level servers offer plenty of performance where you need it, in a compact, self-contained, affordable unit.

Industry-leading agility and flexibility

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 ideal for workloads requiring high availability and superior bandwidth. All this functionality comes in a sleek 2U chassis, delivering attractive performance density with substantial investment protection.

HP has designed the HP 9000 rp3400 series to get the most out of the powerful PA-8800 processor by integrating the processor with our own HP zx1 Chipset. This chipset offers decreased memory latency and increased memory bandwidth, enabling the servers to achieve even greater performance. The HP 9000 rp3440-4 server comes with two or four 800 MHz or 1.0 GHz PA-8800 processors, up to 24 GB of memory, and four PCI-X slots. The HP 9000 rp3410-2 server is available with your choice of one or two PA-8800 800 MHz processors, up to 6 GB of memory, and 2 PCI-X slots—and is in-box upgradable to the HP 9000 rp3440-4 server for maximum investment protection. What's more, the same HP zx1 Chipset contained in the HP 9000 rp3400 series servers is specifically designed for use with both the PA-8800 processor and the Intel® Itanium® 2 processor, making it both easy and effective to perform an in-box upgrade from the HP 9000 rp3400 series servers to the HP Integrity rx2600 server.

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 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 operating environment that provides a solid foundation adapting to unlimited growth and delivering lasting value.

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 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 when combined with the critically acclaimed HP-UX 11i v1 operating environment.

The HP 9000 rp3400 series servers are easy to deploy, enabling faster time to revenue. And HP offers systems and network management tools for HP-UX 11i v1 that can help you reduce operating costs as well. For instance, HP Systems Insight Manager enables a single point of administration to increase your productivity, and HP Secure Web Console—for Web-based management—provides a wide range of single-system and multi-system management features. And, to help you achieve high uptime, the HP 9000 rp3410-2 and rp3440-4 servers have high availability built in, including HP's Extended Fault Management System for the ultimate in error detection and avoidance.

Even with all their capability, these servers are remarkably cost-effective, boasting attractive price points that provide unprecedented value. They're economical to operate, too, thanks to a small 2U (3.4-inch) size that saves datacenter space and lets you pack up to 20 servers (and 80 processors) into a standard rack.

Key features and benefits

	Features	Benefits
Increase business agility	• Latest generation of PA-RISC PA-8800 processors • HP zx1 Chipset • Performance clustering capabilities with manageability features • High-availability clustering integration with workload management to increase system resource utilization while maintaining service levels • HP-UX 11i Virtual Server Environment with HP Workload Manager, the industry's only automatic goal-based workload management for UNIX	• Double the performance and performance/density of the rp2400 series servers • Higher performance than competitive RISC platforms • Blazing fast application performance and unmatched memory scalability • Easy in-chassis upgrade to the HP Integrity rx2600 server • Enables massively scalable systems from low end up to supercomputers • Allocates resources automatically, simplifies management, and improves system usage while maintaining service levels
Improve accountability	• HP-UX–based applications binary compatible with Itanium-based platforms • HP's factory integration and installation services provide consolidated manufacturing, streamlined product assembly and testing, and state-of-the-art integration of your server • Comprehensive transition services, including planning, porting and migration, implementation, support, and education • Complete high availability and business continuity solutions to bulletproof systems and data centers, keeping them up and running when you need them most • Comprehensive high availability services • 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	• Easy transition from PA-RISC HP 9000 platforms to next-generation Intel Itanium processor technology • Fast, out-of-the-box deployment and superior product quality • HP can help guide your deployment of HP 9000 systems quickly, easily, and painlessly • Supports data integrity • Increases application availability • Decreases planned maintenance time • Offers choice of services to meet whatever levels of availability are required for mission-critical environments • Provides the highest levels of availability, security, and stability required to maintain your business continuity
Extend return on your IT investment	• Architecture of the future working for you today • Easy upgrade path to future Intel Itanium processors • In-box upgrade from HP 9000 rp3410-2 to rp3440-4 server • Flexible financing programs • Single point of administration • HP-UX 11i v1 has built-in binary, source, and data compatibilities; Linux® and Windows® interoperability; and integrated manageability.	• Provides the performance you need for decades to come • Eases migration to next-generation technologies with TCO improvements • Improve RoIT with ability to scale headroom and processor performance • Makes initial ownership and modular growth easy and affordable • Easier configuration and fault and workload management increase productivity and reduce costs • Offers investment protection and lasting value for future growth

Evolve your infrastructure confidently with a partner that stands accountable

When you're ready to take advantage of the robust HP-UX 11i operating environment running on high-density, high-performing HP 9000 rp3400 series 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 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.

The breakthrough flexibility of the HP 9000 rp3410-2 and rp3440-4 servers allows them to scale as your needs evolve, for a "future-proof" IT infrastructure

Technical specifications

	HP 9000 rp3400 series servers
Performance/Scalability/Flexibility	• 1 or 2 PA-8800 processors—800 MHz with 1.5 MB L1 cache/32 MB L2 cache (rp3410-2); 2 or 4 PA-8800 processors—800 MHz and 1.0 GHz with 1.5 MB L1 cache/32 MB L2 cache (rp3440-4) • 6 GB memory capacity (rp3410-2); 24 GB memory capacity (rp3440-4) • 2 PCI-X hot-plug I/O card slots (rp3410-2); 4 PCI-X hot-plug I/O card slots (rp3440-4) • 2 GB/s aggregate I/O slot bandwidth (rp3410-2); 4 GB/s aggregate I/O slot bandwidth (rp3440-4) • Rack and standalone server solutions • 3 internal hot-plug disk bays and 1 internal removable media bay (DVD or DAT) • Hot-swap, redundant power supplies • Redundant (2N+1) input power • Hot-swap, redundant cooling fans
Operating system	HP-UX 11i v1
Availability	• Dynamic CPU and memory allocation/de-allocation • Memory chip-sparing technology • Error checking and correction (ECC) on all CPU, cache, memory, and I/O paths • Online addition and replacement of PCI I/O cards • Redundant power inputs for dual grid connections • Management processor failover (core I/O) • N+1 hot-swappable fans and power supplies
Optional high-availability and business-continuity solutions	• HP Serviceguard for HP-UX • HP Serviceguard Extension for RAC • HP Serviceguard Extension for SAP • HA Monitors for Event Monitoring Service • HP Serviceguard Manager • High Availability toolkits • HP Mirrordisk/UX • HP Extended Campus Cluster • HP Extended Campus Cluster for RAC • HP Metrocluster • HP Continentalclusters • HP Continentalclusters for RAC • Comprehensive mission-critical services and support
Connectivity	• 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, Fibre Channel, terminal MUX, Hyperfabric, combo card
Manageability	Central point of management—HP Systems Insight Manager provides a single point of administration and integrates the following tools for configuration, fault and workload management: • Configuration management – HP Ignite-UX for installation and deployment of the operating system – HP Software Distributor-UX for software and patch management – HP System Administration Manager for HP-UX system administration – WBEM for consistent management • Fault management – HP Event Monitoring Service for fault management – Management Processor for comprehensive remote server management of HP-UX • Workload management – HP-UX Kernel Configuration for easy, dynamic kernel parameter changes – HP Process Resource Manager for HP-UX resource management (optional) – HP-UX Workload Manager for workload management based upon prioritized service-level objectives (optional)

Technical specifications *(continued)*

	HP 9000 rp3400 series servers	
Investment protection and flexibility	• Chassis designed for future generations of PA-RISC • In-box upgradability to Intel Itanium processors via a simple CPU swap	
Support and services	• Analysis, design, and implementation of infrastructure, IT processes, and IT organization • Educational services • Smart Set integration services • Implementation services • Proactive and reactive support services • Outsourcing and business recovery services • Financial services	
Rack-optimized design	• Rackmount solution offering allows server to fit into 2U (8.6 cm height) space in all HP racks (Rack System/E and 10000 series rack) • AB241A: HP rack kit for HP 9000 rp3400 series servers • AB242A: HP pedestal kit for HP 9000 rp3400 series servers For a complete list of racks and rack accessories, refer to **http://h30140.www3.hp.com/**	
Physical and environmental specifications		
Physical dimensions (rack)	Height Width Depth	3.4 in. (86 mm); 2U EIA 19 in. (482 mm) 26.8 in. (680 mm)
Physical dimensions (standalone)	Height Width Depth	19.5 in. (495 mm) 11.7 in. (297 mm) 26.5 in. (672 mm)
Net weight	Maximum configuration	56 lb. (25 kg)
Temperature	Operating Non-operating Maximum rate of temperature change	+41° to +95° F (+5° to +35° C) –40° to +158° F (–40° to +70° C) 18° F (10° C) per hr with tape media, 36° F (20° C) per hr without tape media
Humidity	Operating	15% to 80% relative
Altitude	Maximum operating Maximum non-operating	10,000 ft. (3000 m) 15,000 ft. (4500 m)
Power requirements	Input current Line frequency Maximum power input	100–127 V ~8.0 A 200–240 V ~3.9 A 50–60 Hz 714 W
Power supply	Maximum output	650 W

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. Leasing your HP 9000 server is not only cost-effective, it also gives you an easy transition path to the next-generation PA-RISC processors or an Itanium-based solution when you are ready. And we can remove your existing equipment and pay you for technology that has remaining market value.

For more information

For more information about the HP 9000 rp3410-2 and rp3440-4 servers, contact any of our worldwide sales offices or visit our Web sites at:
www.hp.com/go/hp9000
www.hp.com/go/rp3410
www.hp.com/go/rp3440

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