

# HP 9000 rp7420-16 Server

Data sheet



From entry-class 2-processor systems up to the high-end, 128-way HP 9000 Superdome, the HP 9000 server family delivers world-class, high-performance computing to the Adaptive Enterprise. Powered by the new PA-8900 processor with increased performance—and running the HP-UX 11i operating environment—HP 9000 servers add greater strength to HP's industry-leading server portfolio by integrating seamlessly into your existing IT infrastructure and providing the type of longevity that's crucial to protecting your investment.

The PA-8900-based HP 9000 rp7420-16 Server offers leading price/performance, unmatched rack density, tremendous flexibility, outstanding scalability, and lasting value to meet all your business challenges—now, and in the future. With up to four 16-way servers per rack—made possible by HP's dual-core technology, along with flexible HP-UX 11i hard and virtual partitioning, the

HP 9000 rp7420-16 Server makes high-availability 64-bit computing an affordable reality for your enterprise. Existing HP 9000 rp7410/PA-8700 or rp7420-16/PA-8800 server customers can enjoy this new level of performance through in-box upgrades to the new PA-8900 processor, bringing significant improvements to IT capabilities at a comparatively small cost.

## Key features:

### HP 9000 rp7420-16 Server

- Powerful PA-8900 processors and the HP Super-Scalable Chipset sx1000
- Solid UNIX® leadership in high availability, security, and quality
- Industry-leading high-availability features and solutions
- In-chassis upgrades to Intel® Itanium® processors

## Key benefits:

### HP 9000 rp7420-16 Server

- Superb application performance to meet your demanding business needs
- Robust and trusted operating system for your critical business and IT requirements
- Outstanding reliability to protect your business from unforgiving interruptions
- Reliable future performance without costly box swaps

## Taking HP 9000 rp7420-16 Servers to the next level

HP has designed the HP 9000 rp7420-16 Server to get the most out of the powerful PA-8900 processor by integrating the processor with our own HP 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-8900 processor and the Intel® Itanium® 2 processor, enabling seamless in-box upgrades to the HP Integrity rx8620-32 Server.

In conjunction with HP's innovative chipset and improved PCI-X I/O capabilities, the HP 9000 rp7420-16 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 rp7420-16 Server can be the key to lowering your total cost of ownership (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 (vPars), hard partition (nPars), 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 rx7620-16 Server are simple and affordable.

## HP-UX 11i, the industry's leading UNIX operating environment

The capabilities of HP's PA-8900-based family of servers are further bolstered by HP-UX 11i, the secure, robust and critically acclaimed enterprise UNIX operating environment. With leadership workload management, high availability, and innovative server-virtualization capabilities—such as partitioning—that are part of the HP Virtual Server Environment, HP-UX 11i makes the best use of system resources while it maintains service levels.

For HP 9000 systems, HP-UX 11i is a high-quality, proven, mission-critical operating environment that increases productivity, improves agility, and helps build a foundation for growth and lasting value.

## Reduced complexity and lower operating costs = lower TCO

HP 9000 servers provide the key to getting you the best possible return on your IT investment. They can help you reduce your TCO through aggressive acquisition prices and low operating costs. The rack-optimized HP 9000 rp7420-16 Server makes it possible to pack significant 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

The PA-8900-based HP 9000 rp7420-16 server offers leading rack density, flexibility, and scalability—and makes highly available, mission-critical 64-bit computing an affordable reality.

adapt quickly to the evolving needs of your Adaptive Enterprise, in which IT and business are synchronized to capitalize on change.

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 HP Utility Pricing offerings, you can dynamically realign and virtualize your resource utilization with your business needs and budget.

## HP 9000 servers offer 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. The HP 9000 rp7420-16 Server underscores HP's commitment to delivering strong PA-RISC-based solutions as it expands the HP Integrity server solution ecosystem. You can choose a PA-8900-based HP 9000 rp7420-16 system today—and assure yourself of a smooth transition to future technologies later on.

The PA-8900 processor completes HP's long PA-RISC processor roadmap, reinforcing the company's strategy to protect and enhance your investments in HP solutions. When you're ready to move to Itanium-based computing, the HP 9000 rp7420-16 system's chassis and chipset can be fitted with Intel Itanium processors, taking you to the next level of computing performance. Itanium-based 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.

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

## HP StorageWorks solutions: putting information to work

HP StorageWorks helps businesses put information to work. Our industry-leading portfolio of network storage solutions makes it easier for you to keep the right information at your fingertips, quickly adapt to change and exploit new opportunities, and increase information availability while radically cutting costs. For more information on StorageWorks, please contact your HP sales representative or visit:

[www.hp.com/storage](http://www.hp.com/storage)

## 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 the high-performing HP 9000 rp7420-16 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-8900 RISC architecture, enabling you to exploit the full potential of your HP 9000 systems. For more information on these services, please contact your HP sales representative or visit:

[www.hp.com/hps/support](http://www.hp.com/hps/support)

## Technical specifications

Processor	HP PA-8900 1.1 GHz	HP PA-8900 1.0 GHz	HP PA-8800 1.0 GHz	HP PA-8800 900 MHz
Processors per system	16	16	16	16
Module type	Dual-Processor	Dual-Processor	Dual-Processor	Dual-Processor
Clock speed	1.1 GHz	1.0 GHz	1.0 GHz	900 MHz
Front-side bus	400 MHz	400 MHz	400 MHz	400 MHz
L1 cache	1.5 MB per CPU	1.5 MB per CPU	1.5 MB per CPU	1.5 MB per CPU
L2 cache	64 MB	64 MB	32 MB	32 MB
RAM minimum/maximum	2 GB/128 GB			
RAM type	PC133 ECC registered SDI125 SDRAM			
Memory protection	Error checking and correcting (ECC) on memory and caches; memory chip spare			
Hard drive capacity	36 GB, 73 GB, 146 GB, and 300 GB drives available			
Internal hard drive bays	4 hot-plug Ultra160 SCSI			
Maximum internal storage	1.2 TB			
Removable media	1 (either DVD+RW or DAT)			
Expansion slots	PCI-X slots available (15 x 133 MHz)			
Network adapter	10/100/1000Base-T Ethernet			
Storage adapter	Ultra160 SCSI			
Interfaces	3 RS-232 serial ports (remote, local, UPS) and 10BT management LAN			
Form factor	Rack-optimized with 10U height; standalone (rack-less) form factor kit available			
Operating systems supported	<ul style="list-style-type: none"> <li>• HP-UX 11i v1 (offers your choice of Foundation, Enterprise, Mission-Critical, and Technical Computing operating environments)</li> <li>• HP-UX 11i v2 (offers your choice of Foundation, Enterprise, Mission-Critical, and Technical Computing operating environments)</li> </ul>			
High availability	<ul style="list-style-type: none"> <li>• Dynamic CPU and memory allocation/de-allocation</li> <li>• Memory chip-sparing technology</li> <li>• Hot-plug cell boards</li> <li>• Hot-plug fans</li> <li>• Error checking and correcting (ECC) on all CPU, cache, memory, and I/O paths</li> <li>• Online addition and replacement of PCI I/O cards</li> <li>• Redundant power inputs for dual-grid connections</li> <li>• Management Processor failover (core I/O)</li> <li>• N+1 hot-swappable fans and power supplies</li> <li>• Hot-spare Instant Capacity CPU functionality</li> <li>• Hardware partitions (nPars)</li> </ul>			
High-availability and business-continuity solutions (optional)	<ul style="list-style-type: none"> <li>• HP Serviceguard</li> <li>• HP Serviceguard Extension for RAC</li> <li>• HP Serviceguard Extension for SAP</li> <li>• HP Serviceguard Manager</li> <li>• HP Event Monitoring Service</li> <li>• HA Monitors</li> <li>• High Availability Toolkits</li> <li>• HP Mirrordisk/UX</li> <li>• HP Extended Campus Cluster (including RAC)</li> <li>• HP Metrocluster with Continuous Access XP</li> <li>• HP Metrocluster with EMC SRDF</li> <li>• HP Continentalclusters (including RAC)</li> </ul>			

## Technical specifications (continued)

**Management** HP Systems Insight Manager provides a single point of administration across all operating systems supported on HP 9000 and HP Integrity servers. The following tools are available to manage the servers under the HP-UX11i operating system:

### Software deployment

- HP Ignite-UX for installation and deployment of the HP-UX 11i Operating System
- HP Software Distributor-UX for software and patch management
- Update-UX automates updates to HP-UX 11i Operating Environments
- Software Package Builder packages software into SD-UX packages

### Configuration management

- HP System Administration Manager for HP-UX 11i system administration
- Partition Manager to manage nPartitions
- HP-UX 11i webmin-based Admin allows easy plug-in of open source management tools
- HP-UX 11i Bastille provides security hardening and lockdown
- Security Patch Check efficiently improves system security
- Serviceguard Manager monitors and manages Serviceguard clusters
- Management Processor enables comprehensive remote server management
- WBEM for consistent management

### Workload management

- HP Process Resource Manager manages allocation of resources (optional)
- Secure Resource Partitions for secure application stacking
- HP-UX 11i Workload Manager automatically manages resources based upon SLOs (optional)
- Global Workload Manager to manage large environments

## Environmental specifications

<b>Altitude</b>	Operating: 10,000 ft. (3000 m) maximum Non-operating: 15,000 ft. (4500 m) maximum
<b>Temperature</b>	Operating: 41 to 95°F (5 to 35°C); for altitudes >5,000 ft., derate max. temp. by 1.8°F (1°C)/1000 ft. (300 m) Non-operating: -40 to +158°F (-40 to +70°C) Maximum rate of temperature change: 36°F (20°C) per hour
<b>Humidity</b>	Operating: 15% to 80% relative non-condensing; maximum wet bulb = 79°F (26°C)
<b>Dimensions</b>	
<b>Rack form factor</b>	Height: 17.5 in. (445 mm)/10U EIA Width: 19.0 in. (483 mm) Depth: 30.0 in. (762 mm)
<b>Standalone frame</b>	Height: 19.6 in. (499 mm) Width: 19.0 in. (483 mm) Depth: 30.0 in. (762 mm)
<b>Weight</b>	Maximum configuration: 220 lb. (99.8 kg)
<b>Power requirements</b>	Typical power dissipation: 2030 VA (maximum configuration) Input current: 10.2 A @ 200 VAC AC input power: 200–240 V, 50–60 Hz
<b>BTU rating</b>	Typical: 6,930 BTU/hour
<b>Voltage tolerance range</b>	180 to 264 VAC (operating range of 200–240 VAC +/- 10%)
<b>Frequency tolerance range</b>	48.5 to 61.8 Hz (operating range of 50–60 Hz +/- 3%)
<b>Regulatory</b>	Regulatory model number: RSVLA-0101

## Flexible financing options

Take advantage of our special financing offers to further enhance your return on IT. Leasing your HP 9000 server is cost-effective and offers you an easy transition path to new PA-RISC processors or to an Itanium-based solution with HP Integrity servers, making it the smartest way to invest in IT.

HP Financial Services offers a full range of IT transition, acquisition, management, and disposition services—helping you to remove existing equipment and paying 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 on these services, please contact your HP sales representative or visit:

[www.hp.com/go/hpfinancialservices](http://www.hp.com/go/hpfinancialservices)

## To learn more

For more information about the HP 9000 rp7420-16 Server, please contact any of our worldwide sales offices or visit:

[www.hp.com/go/rp7420](http://www.hp.com/go/rp7420)

[www.hp.com/go/hp9000](http://www.hp.com/go/hp9000)

## For more information

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire, manage, and ultimately retire your HP solutions. For more information on these services, contact your HP sales representative or find us on the Web at:

[www.hp.com/go/hpfinancialservices](http://www.hp.com/go/hpfinancialservices)

HP Customer Support provides a broad spectrum of services to commercial and enterprise customers, including performance and availability services such as proactive mission-critical services and support management services for deployment of the entire IT infrastructure, including HP and multivendor environments. For more information on these services, contact your HP sales representative or visit:

[www.hp.com/hps/support](http://www.hp.com/hps/support)

© 2004, 2005 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Intel and Itanium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. UNIX is a registered trademark of The Open Group.

Financing available through Hewlett-Packard Financial Services Company or one of its affiliates is subject to credit approval and execution of standard HP Financial Services documentation. Other restrictions may apply. HP Financial Services reserves the right to change or cancel this program at any time without notice.

To learn more, visit [www.hp.com](http://www.hp.com)

5982-3562EN Rev. 2, 04/25/2005

