



hp superdome
UNIX® servers



building your
always-on
infrastructure with
hp servers

powerful, flexible Internet server solutions for an always-on infrastructure

The Internet data center is the critical enabler for the next generation of business. And as you design and implement your Internet solution, your first concern is finding technology products and services that are built right the first time. Your next concern is making sure that what works today will also address your future needs as new opportunities—and new challenges—present themselves.

Going forward, the right technology infrastructure is one that's always on whenever and however you need it. That's what HP can help you build—and it's unprecedented in the industry.

HP Superdome servers give you a tailored combination of technology and services. Built with key components such as HP's proven data center capabilities, e-services expertise, and utility computing strengths, your always-on infrastructure will deliver an exceptional customer experience that ensures ease, speed, and effectiveness.

your always-on infrastructure

Addressing the many difficult challenges you face in building and running an Internet business, HP provides:

- industry-leading HP Superdome UNIX servers
- utility building blocks—only from HP
- the industry's broadest offering of partitioning capabilities with HP's partitioning continuum
- Intel® Itanium™ architecture and multi-OS capabilities

always there

HP is also always there for you, beginning with your first contact. HP provides:

- closed-loop solution management
- up-front assessments
- pre-integration and testing
- needs-based training
- migration services

And we ensure your infrastructure continuously runs with:

- proactive services
- repair commitments

an exceptional customer experience

Successful data center implementations require much more than technology. That's why always-on is always there with you—every step of the way.

- **invent it:** ease of planning and design for a solution that is tailored to fit your business immediately
- **build it:** speed of integration and installation of a ready-to-run infrastructure
- **run it:** mission-critical services and technologies that enable continuous operations, flexible capacity, and efficient management to ensure ongoing operational excellence
- **evolve it:** future-proof roadmap, utility computing, and continuous care to meet your needs throughout the life of your business



hp superdome

three hp superdome configurations to match your needs

Large implementations often do not live up to expectations as a result of inadequate skills being applied to the design and implementation. With Superdome, HP assures you of an exceptional computing experience via industry-leading services from HP and select channel partners, available in three predefined configurations. With all configurations, financing solutions are also available to meet your budget requirements.

foundation configuration

Building the right foundation dramatically reduces problems and speeds time-to-production, so all Superdome solutions will include the foundation configuration as the base for optimal performance. The foundation configuration is intended for companies whose applications have lower-priority needs for availability, or who have the in-house expertise to run and manage their own IT environments.

- closed-loop project management using process-based methodologies and measures to ensure your success and satisfaction
- consulting services for a detailed architecture design to ensure it's right the first time
- skills assessment and superdome-specific education to provide IT staff with the skills needed
- comprehensive site/environmental preparation to help you understand and address the demands on your physical location
- hp factory integration and testing to ensure that the system is properly configured and arrives ready to run
- ongoing response center support, available 24 x 7, with a 4-hour response commitment

critical systems configuration

For a high level of system availability, HP's industry-recognized expertise provides mission-critical support as the basis for the critical systems

configuration. This configuration is the minimum service level for mission-critical environments. It increases the priority of reactive services and adds proactive support services with availability monitoring.

It includes the foundation configuration, plus:

- a support plan that details the account-specific requirements and the hp response commitment
- assigned account engineers
- superdome readiness analysis to help you meet your high-availability and performance requirements
- technical consulting topics to choose from
- high-speed remote diagnostics and critical data collection to track system performance and prevent problems before they occur
- 6-hour call-to-repair hardware commitment
- priority system recovery
- business recovery services (optional)

business continuity configuration

The business continuity configuration delivers a lot more than a list of services. It delivers a different way to approach availability planning. Business continuity is a collaboration between HP and the customer, creating a plan to proactively address all of the elements in the IT environment that affect business availability. It is designed and built with the goal of maximum availability, and its focus is on optimum business operation. Business continuity provides sophisticated, proactive services and the industry's best support service.

It includes the foundation and critical systems configurations, plus:

- a dedicated account team and customized proactive services plan
- top-priority response from trained specialists
- highly detailed change management processes
- monthly account reviews
- the industry's only 4-hour call-to-restoration hardware and software commitment
- a permanent software solution within 14 days

new operating environments for the Internet age

The HP-UX 11i operating environment provides the best platform for always-on Internet businesses.

- **today's most friendly high-end server for Microsoft® Windows NT® and Linux operating systems** with a Linux open-source development environment and support for WebGain Studio
- **the best end-to-end Internet-critical functionality**, single-system high availability, manageability, security, and UNIX/Windows® integration
- **ultimate performance and scalability** with instant capacity-on-demand, partitioning support, strong Java™ performance, and 64-way symmetric multiprocessing (SMP) scalability
- **the best investment protection and longevity** through binary compatibility with both PA-RISC and the Itanium processor family
- **choice of three hp-ux servicecontrol manageability suites** for cost-effective, centralized control and optimized capacity
- **choice of three complete operating environments** tailored for Internet, enterprise, or mission-critical computing needs

your always-on infrastructure empowers robust solutions for today's top applications

enterprise resource planning: the fundamental backbone for new areas of competitive advantage: supply chain, e-commerce, and product development

mission-critical computing: high-availability products and solutions to help you reach the availability levels you need to serve your customers

e-intelligence: drive maximum value from your data assets—both internal and external—utilizing cutting-edge analysis tools, business intelligence, and applications from HP

e-commerce: manage the cost of e-commerce sites by tailoring computing resources to meet changing needs, and ensure that your critical e-commerce site is available and has the capacity it needs

technical computing: technical computing applications cannot get enough raw power; the extremely high levels of performance and scalability offered by an always-on infrastructure meet these needs head-on

systems consolidation: reduce cost; increase flexibility, availability, and performance; and improve management of IT infrastructures with the reduced complexity and increased availability of always-on configurations

hp superdome at-a-glance

features	benefits
availability	
Online addition and replacement of PCI I/O cards, I/O cardcages,* and cells (CPU/memory*) 6 or 12 fans and 4, 6, or 12 power supplies; all hot-swap, N+1 included Error checking and correction on all CPU and memory paths Parity-protected I/O data paths Dual power source	Built-in high-availability features deliver superior levels of <ul style="list-style-type: none"> reliability supportability repairability single-system availability multi-system availability to help maximize uptime for mission-critical applications
nPartitions (up to 16) HP Virtual Partitions (up to 64)	Provide hard partitioning capability Supports server consolidation
Support for MC/Serviceguard and MC/Lockmanager in a Superdome cluster	Complete solutions for clustered high availability to eliminate single points of failure
capacity	
Single node: 16, 32, or 64 750MHz, 4-way superscalar PA-8700 CPUs with 2.25MB on-chip cache per CPU	Superior performance and scalability for enterprise and Internet applications
Leadership performance	World-record, industry-standard and application benchmarks
Partitioning capability (1 to 16 nPartitions) for resource allocation, multiple operating environments, or application scaling Up to 64 virtual partitions	Allows system manager to optimize the allocation of resources between competing workloads; runs multiple operating systems, including different platforms for test, development, and deployment; can scale resources to optimize application performance and protect hardware investment
Up to 256GB memory (512MB DIMMs) Peak memory bandwidth 64GB/s per 64-way cabinet	Increased memory subsystem performance for fast, reliable processing of high-performance applications
64-bit 33MHz (2x) or 66MHz (4x) industry-standard PCI Up to 16 265MB/s (33MHz PCI) or 530MB/s (66MHz PCI) I/O channels Up to 192 (with I/O expansion cabinet) hot-swap PCI I/O slots	Easily handles I/O-intensive applications and scales quickly to accommodate higher demands
Storage options including JBOD, Fibre Channel, or HP Surestore disk arrays; HP AutoRAID, HP Fibre-Channel-to-SCSI Multiplexer, and tape drives and libraries	Flexible, high-capacity storage that protects critical data
connectivity	
Core I/O including 10/100Base-T LAN	Easy, ready-to-go networking capabilities
Network connectivity: for Token Ring, 1000Base-SX, 1000Base-T, 10/100Base-TX, Terminal MUX, PKC, HIPPI, X.25, ATM, Hyperfabric, and FDDI	Complete end-to-end connectivity solutions for e-services
Storage connectivity: Ultra2 SCSI, F/W SCSI, Fibre Channel Nokia WAP server support	Broad range of high-speed storage connectivity options Connectivity for wireless applications
security	
Host-based intrusion detection	Ultimate security and protection from attacks
IPSec end-to-end virtual private network capability	Application-independent network-layer security
manageability	
Support Management Station	Centralized, remote access to firmware and scan diagnostic tools for use across all Superdome systems in the data center
Partition Manager (parmgr)	Intuitive GUI interface to easily manage and modify all partitions on a Superdome system
Extended Fault Management System	Console to display system status (local and remote), reset system; control power to turn on/off
Integrated HP WebQoS Peak	Stabilizes Web site performance under heavy loads to improve site reliability and transaction throughput
Integrated HP Servicecontrol Manager	Cost-effective, rapid central control of server resources for the highest degree of efficiency in system administration
HP-UX Workload Manager	First goal-based resource management in the UNIX industry. Automatically reconfigures CPU allocations based on customers' service level objectives (SLOs)
investment protection and flexibility	
Designed for future upgrades to multiple generations of PA-RISC and Itanium processor family	Superior investment protection and longevity
Built-in unlimited license for Internet HP-UX 11i operating environment; options to upgrade to Enterprise or Mission-Critical HP-UX	Choice of three operating environments with all the fundamental operating system components needed for Internet, enterprise, or mission-critical environments
Future support for Windows NT and Linux	Offers a choice of environments with easy transition to production on the robust HP-UX 11 platform
Choice of integrated Web server options: industry standard for faster, more scalable performance	Ease of deployment for emerging Web sites or optimized for high-traffic Web sites
E-speak open software platform for developing and deploying e-services	Enables dynamic discovery and interaction of applications and e-services over the Internet, including brokering capabilities
*Available with future HP-UX releases	

helping you build an always-on infrastructure for your Internet data center

configuration options	hp superdome 16-way	hp superdome 32-way	hp superdome 64-way
SMP configuration	1 to 16 CPU	1 to 32 CPU	8 to 64 CPU
4-CPU cell boards ¹	1-4	1-8	8-16
minimum/maximum memory (with 512MB DIMMs)	2GB/64GB	2GB/128GB	16GB/256GB
total hot-swap PCI I/O slots	48 slots (32 slots @ 33MHz, 16 slots @ 66MHz)	48/96 slots (64 slots @ 33MHz, 32 slots @ 66MHz)	96/192 slots (128 slots @ 33MHz, 64 slots @ 66MHz)
hot-swap, redundant power supplies (N+1 included)	4	6	12
I/O fans	6	6	12
hot-swap, redundant blowers or fans (N+1 included)	4	4	8
nPartitions	4	4/8	8/16
crossbar bandwidth (peak)	16GB/s	32GB/s	64GB/s
cell controller to I/O subsystem bandwidth (peak)	2.0GB/s	2.0GB/s	2.0GB/s
I/O bandwidth (peak)	8GB/s	16GB/s	32GB/s
memory bandwidth (peak)	16GB/s	32GB/s	64GB/s
operating system	HP-UX 11i	HP-UX 11i	HP-UX 11i
average power dissipation (watts)	3,756	5,740	11,480
physical dimensions:			
height	1960mm (77.2in)	1960mm (77.2in)	1960mm (77.2in)
width	762mm (30in)	762mm (30in)	1,524mm (60in)
depth	1220mm (48in)	1220mm (48in)	1220mm (48in)
weight	500kg (1,102lb)	598kg (1,318lb)	1,196kg (2,636lb)
operating temperature	20°C to 30°C	20°C to 30°C	20°C to 30°C
nonoperating temperature	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C
maximum rate of temperature change	20°C/hr	20°C/hr	20°C/hr
operating relative humidity	15% to 80% @ 30°C	15% to 80% @ 30°C	15% to 80% @ 30°C
nonoperating relative humidity	90% @ 65°C	90% @ 65°C	90% @ 65°C
operating altitude	0-3100m (10,000ft)	0-3100m (10,000ft)	0-3100m (10,000ft)
nonoperating altitude	0-4600m (15,000ft)	0-4600m (15,000ft)	0-4600m (15,000ft)

¹Online replacement and addition capability offered with a future HP-UX release.

for more information

Contact any of our worldwide sales offices or HP Channel Partners (in the U.S. call 1-800-637-7740) or visit our HP Superdome servers Web site at <http://www.hp.com/go/superdome>

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