

HP Integrity Superdome

Data sheet



HP servers offer innovation based on standards, laying the foundation for the Adaptive Enterprise, where business and IT are synchronized to capitalize on change. Powered by the industry-standard Intel® Itanium® 2 processor, HP Integrity servers deliver superior choice, focused innovation, and world-class experience. Integrity servers provide you with the leading performance, exceptional scalability, unparalleled flexibility, and mission-critical reliability your business demands.

The HP Integrity Superdome is a top-of-the-line enterprise computing solution that is built to deliver breakthrough performance as well as unprecedented levels of high availability. Powered by next-generation Intel® Itanium® 2 processors, the HP Integrity Superdome delivers significant performance improvements over earlier, record-breaking Superdome models. The Integrity Superdome also offers scalability to 128 processors in a single server—and you can scale out, in a cost-effective clustered environment, to thousands of processors. The Integrity Superdome provides as much as 1 TB of memory capacity to run such demanding applications as enterprise resource

planning; database hosting; telecom billing, human resources, and financial applications; data warehousing; and high-performance computing.

As the high-end server with leading multiple-operating-system capability, the HP Integrity Superdome offers significant consolidation opportunities, attractive investment protection, and a low total cost of ownership (TCO). Plus, Integrity Superdome owners can easily take advantage of future Intel Itanium 2 processors via in-box upgrades—eliminating the risks, costs, and disruptions associated with box swaps.

Key features: HP Integrity Superdome

- Choice of operating systems (HP-UX 11i, Linux®, Microsoft® Windows®, and, in the future, OpenVMS)
- HP Virtual Server Environment for multi-OS computing
- Intel Itanium 2 processors at 1.6 and 1.5 GHz
- HP mx2 Dual-Processor Module, consisting of two Intel Itanium 2 processors
- Processor-optimizing HP Super-Scalable Processor Chipset sx1000 and high-end cell-based technology
- In-chassis upgrades from PA-RISC processors and to future generations of Intel Itanium processors
- Enhanced high-availability features via selected redundant cell board components
- Consistent management tools

Key benefits: HP Integrity Superdome

- Enables flexibility in application deployment
- Improved utilization, continuous service levels—and you pay only for what you use
- High performance
- Doubles performance density and nearly doubles the workload capacity
- Scalability to 128 processors (mx2 Dual-Processor Module only)
- Superb investment protection without costly box swaps, providing greater return on your IT investment
- Continuous operation
- Make it easy to integrate the Integrity Superdome into your existing environment—and work across operating systems even within a single server

HP servers—innovation based on standards

Taking HP Integrity Superdome to the next level

The power of the HP Integrity Superdome is now greater than ever with the introduction of next-generation Intel Itanium 2 processors. Combined with innovative technologies that harvest greater processing power, the Integrity Superdome's industry-leading flexibility, performance, and investment protection have been extended even further. Now, a system can be configured for optimized performance whether the application running on it is cache-dependent or clock speed-dependent. The result: up to a 25% performance improvement over previous models.

Developed by HP, the mx2 Dual-Processor Module brings you double the number of Intel Itanium 2 processors in the HP Integrity Superdome. HP Integrity servers—which already lead the industry across a wide number of benchmarks—can now bring you nearly twice their previous workload capacity, creating even greater opportunities to achieve consolidation, increased performance, and greater scalability. The Integrity Superdome offers three configuration options, with 16, 32, or 64 sockets. With the mx2 Dual-Processor Module, that means the HP Integrity Superdome can offer as many as 128 processors in a single chassis.

Intel Itanium 2 processors can be mixed with HP mx2 Dual-Processor Modules in the same HP Integrity Superdome—in up to 16 different hard partitions—offering even more scalability and flexibility. Since the mx2 Dual-Processor Module can be installed in the same server, additional applications and additional users can be added without even changing the footprint of the existing Integrity Superdome. And, with future in-chassis upgrades to future Intel Itanium processors, the HP Integrity Superdome is a highly flexible and scalable solution.

Innovative HP chipset delivers more power

The extensive experience HP gained as co-developer, with Intel, of the Intel Itanium architecture led to the innovation of the HP Super-Scalable Processor Chipset sx1000. The HP sx1000 Chipset unleashes the full power of Intel Itanium 2 processors by lowering memory latencies and increasing memory and I/O throughput. The result is unmatched system performance gains to handle the most demanding business workloads.

HP Integrity Superdome servers offer outstanding choice and robust capabilities

In addition to the raw computing power of the HP Integrity Superdome, HP offers a full range of operating systems, including HP-UX 11i, Linux, and Microsoft Windows Server 2003 (and, in the future, OpenVMS). This means you can easily deploy and redeploy a very broad range of applications that are best suited for your business on the operating system of your choice. You can even run multiple operating systems simultaneously in the same server.

The HP Integrity Superdome also provides a superior solution in a single operating system environment. For a highly scalable 64-processor Windows-only server, it provides a growth path for scaling up to accommodate the largest enterprise Windows-based databases. It is a function-rich, highly scalable, 128-way HP-UX 11i server as well. (With the mx2 Dual-Processor Module, Windows scales to 128 processors via two partitions of 64 processors each.) The HP Integrity Superdome is also outstanding if you want to run an enterprise-class Linux-only server.

In addition, the Integrity Superdome is built to deliver the highest availability to support your most critical applications. This is achieved through features such as redundant and hot-swappable fans and power supplies, error checking and correcting (ECC) on CPU and memory paths, cluster in a box as well as the Serviceguard clustering solution, the online addition and replacement of PCI-X I/O cards, and dynamic processor and memory de-allocation.¹

The same standards-based technologies and reusable components that make HP Integrity servers more cost-effective to build also make them easier to deploy, maintain, and manage. With comprehensive, leading management tools to provide superior resource utilization and to reduce complexity, the HP Integrity Superdome frees up IT resources and staff to perform other mission-critical tasks—eliminating costly downtime and system troubleshooting.

HP offers the Virtual Server Environment (VSE), an integrated server virtualization offering for HP Integrity servers that provides a flexible computing environment maximizing usage of your server resources. VSE encompasses a number of fully integrated, complementary components that enhance the functionality and flexibility of your server environment, including workload management, partitions, availability software, and utility pricing. VSE enables you to double your resource utilization, maintain continuous service levels, and pay only for what you use.

¹ HP-UX 11i only

HP StorageWorks solutions—put information to work

HP StorageWorks helps businesses put information to work. Our industry-leading portfolio of network storage solutions makes it easier for businesses to keep the right information at their fingertips, quickly adapt to change and exploit new opportunities, and increase information availability while radically cutting costs.

For more information on StorageWorks, contact your HP sales representative or visit:

www.hp.com/storage

HP Services—get the most out of your HP Integrity server

HP Services professionals take a collaborative approach to help you reduce IT complexity and better control the impact of change on your business. HP has the expertise to design, build, integrate, manage, and evolve IT environments to more closely align business and IT. Our global portfolio of flexible services helps you to create an Adaptive Enterprise that provides greater flexibility and business value, reduces risk, controls costs, and promotes more predictability and improved service levels—while maximizing the value of your IT investments.

HP's end-to-end service solutions offer consistent quality and service levels across multiple platforms, including UNIX®, OpenVMS, Windows, and Linux. Our hardware and software support offerings—from reactive to comprehensive mission-critical—reduce the risks associated with downtime.

For more information on these services, contact your HP sales representative or visit:

www.hp.com/hps/premium

HP Financial Services—put the power of the HP portfolio to work for you

In addition to having the industry's strongest portfolio of products, services, people, tools, methodologies, and world-class partnerships, HP makes it easy on the balance sheet to put the power of the HP portfolio to work for you through HP Financial Services.

Pay per use, a metered utility pricing solution, is available for the Integrity Superdome running HP-UX or Windows operating systems—giving you the advantage of paying for the capacity as you use it.

For more information on these services, contact your HP sales representative or visit:

www.hp.com/go/hpfinancialservices

Technical specifications

Configuration options	16/32 processors	32/64 processors	64/128 processors
Intel Itanium 2 processors			
No. of Intel Itanium 2 1.6 GHz processors with 9 MB of L3 cache	2–16 CPUs	2–32 CPUs	6–64 CPUs
1.5 GHz processors with 6 MB of L3 cache	2–16 CPUs	2–32 CPUs	6–64 CPUs
No. of 4-CPU cell boards ¹	1–4	1–8	3–16
Maximum no. of CPUs/partition:			
HP-UX 11i v2	16	32	64
Windows	16	32	64
Linux	16	16	16
HP mx2 Dual-Processor Modules			
No. of processors	4–32	4–64	12–128 (scalable to 128 processors with HP-UX 11i or Windows ²)
No. of 8-CPU cell boards	1–4	1–8	3–16
Maximum no. of CPUs/partition:			
HP-UX 11i v2	32	64	128
Windows	32	64	64
The following specs are common to both the Intel Itanium 2 processor and the mx2 Dual-Processor Module			
Minimum/Maximum memory	2 GB/256 GB	2 GB/512 GB	6 GB/1 TB
No. of hard partitions	4	8	16
Total hot-swap PCI-X I/O slots	48 slots (32 slots @ 533 MB/s, 16 slots @ 1066 MB/s)	48/96 slots (64 slots @ 533 MB/s, 32 slots @ 1066 MB/s)	96/192 slots (128 slots @ 533 MB/s, 64 slots @ 1066 MB/s)
Hot-swap, redundant power supplies (N+1 included)	4	6	12
Fans			
I/O fans	5	5	10
Hot-swap, redundant blowers or fans (N+1 included)	4	4	8
Bandwidth			
Crossbar (peak)	16 GB/s	32 GB/s	64 GB/s
Cell controller to I/O subsystem (peak) per I/O chassis	2.0 GB/s	2.0 GB/s	2.0 GB/s
I/O (peak)	8 GB/s	16 GB/s	32 GB/s
Memory (peak)	64 GB/s	128 GB/s	256 GB/s
Operating systems	HP-UX 11i v2 with HP Virtual Server Environment (choice of Mission-Critical, Enterprise, or Foundation Operating Environment) Microsoft Windows Server 2003, Datacenter Edition for 64-bit Itanium-based systems Red Hat Enterprise Linux AS3 ³ OpenVMS (1H 2006) SUSE LINUX Enterprise Server 9 ³	HP-UX 11i v2 with HP Virtual Server Environment (choice of Mission-Critical, Enterprise, or Foundation Operating Environment) Microsoft Windows Server 2003, Datacenter Edition for 64-bit Itanium-based systems Red Hat Enterprise Linux AS3 ³ OpenVMS (1H 2006) SUSE LINUX Enterprise Server 9 ³	HP-UX 11i v2 with HP Virtual Server Environment (choice of Mission-Critical, Enterprise, or Foundation Operating Environment) Microsoft Windows Server 2003, Datacenter Edition for 64-bit Itanium-based systems Red Hat Enterprise Linux AS3 ³ OpenVMS (1H 2006) SUSE LINUX Enterprise Server 9 ³
HP Instant capacity (HP-UX 11i only)	CPUs and memory (cell level)	CPUs and memory (cell level)	CPUs and memory (cell level)
Cell local memory for faster memory access and faster application performance	Yes	Yes	Yes
Virtual Server Environment	Workload management, partitions, availability software, and utility pricing (optional)	Workload management, partitions, availability software, and utility pricing (optional)	Workload management, partitions, availability software, and utility pricing (optional)

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

² Windows requires 2 partitions of 64 processors each because Windows currently does not support a single 128-processor partition.

³ Linux is supported on single Intel Itanium 2 processors. There are no current plans to support Linux on the HP mx2 Dual-Processor Module.

Technical specifications (continued)

Management	HP Systems Insight Manager provides a single point of administration across all operating systems supported on HP Integrity servers. In addition, the following tools are available to manage the servers under their specific operating systems:
HP-UX 11i	Software deployment <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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
Windows	<ul style="list-style-type: none">• HP Integrity Essentials Foundation Pack (includes Systems Insight Manager and Smart Setup CD for Windows installation)• Management Processor enables comprehensive remote server management
Linux	<ul style="list-style-type: none">• HP Enablement Kit for Linux eases installation in Linux environments• System Management Home Page for HP Integrity servers with Linux for single-system management• Insight Management Agents for HP Integrity servers with Linux• Management Processor enables comprehensive remote server management• Global Workload Manager for resource optimization
Support and services	<ul style="list-style-type: none">• Analysis, design, and implementation of infrastructure, IT processes, and IT organization• Education services• Smart Set integration services• Implementation services• Proactive and reactive support services• Outsourcing and business recovery services• Financial services

Environmental specifications

Altitude	Operating: 10,000 ft. (3000 m) maximum Non-operating: 15,000 ft. (4500 m) maximum		
Temperature	Operating: 68 to 86°F (20 to 30°C) Non-operating: -40 to +158°F (-40 to +70°C) Maximum rate of temperature change: 36°F (20°C) per hour		
Humidity	Operating: 15% to 80% relative non-condensing maximum Non-operating: 90% maximum at 149°F (65°C)		
Dimensions	16/32 processors Height: 77.2 in. (1,960 mm) Width: 30 in. (762 mm) Depth: 48 in. (1,220 mm)	32/64 processors Height: 77.2 in. (1,960 mm) Width: 30 in. (762 mm) Depth: 48 in. (1,220 mm)	64/128 processors Height: 77.2 in. (1,960 mm) Width: 60 in. (1,524 mm) Depth: 48 in. (1,220 mm)
Weight	1,102 lb. (500 kg)	1,318 lb. (598 kg)	2,636 lb. (1,196 kg)
Power supply	Typical power dissipation: 3800 VA (maximum configuration) Input current: 10.2 A @ 200 VAC AC input power: 200–240 V, 50–60 Hz		
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 EN 55022 Level A, VCCI registered, Class I, Korea RLL		
Power line LF emissions	EN 61000-3-2 (Europe); EN 61000-3-3 (Europe)		

Options

- HP Serviceguard for HP-UX 11i and Linux clusters
- HP Serviceguard Extension for RAC for HP-UX 11i
- HP Serviceguard Extension for SAP for HP-UX 11i
- HA Monitors for Event Monitoring Service for HP-UX 11i
- High-availability toolkits for HP-UX 11i and Linux
- HP Mirrordisk/UX for HP-UX 11i
- HP Extended Campus Cluster for HP-UX 11i
- Microsoft Cluster Service for Windows Server 2003, Enterprise and Datacenter Editions
- Mission-critical services and support

For more information

For more information about the HP Integrity Superdome, contact any of our worldwide sales offices or visit our Web sites at: www.hp.com/go/integrity or www.hp.com/go/superdome

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