

HP Integrity Superdome X

Transform your mission-critical environment



Rethink the server. Think compute.

HP Integrity Superdome X brings you:

- Breakthrough scalability and efficiency to redefine your compute economics
- A superior x86 availability experience to accelerate service delivery
- Groundbreaking performance to boost your business outcomes

Redefine mission-critical compute with HP Integrity Superdome X

Are your mission-critical applications running on a costly mainframe or UNIX®-based proprietary system? Are you concerned about x86 reliability and availability? Are you using standard x86 infrastructure to power your critical workloads but need extra scalability, performance or uptime? If you answered “yes” to any of these questions, the HP Integrity Superdome X server is for you.

Superdome X delivers a new level of x86 availability, scalability, and performance to power your critical workloads. It blends x86 efficiencies with proven mission-critical innovation to achieve a superior x86 uptime experience. Count on Superdome X to deliver groundbreaking performance, breakthrough scalability up to 16 sockets and up to 12 TB of memory to meet your in-memory database needs. Through our hard partitioning technology, HP nPars, Superdome X delivers up to 20X greater reliability than platforms relying on software virtualization alone.

Whether you want to improve the uptime of your x86 applications, drive down costs, standardize, simplify or consolidate, Superdome X offers new possibilities to transform your mission-critical environment in ways you could not imagine before.

Deploy critical workloads on x86 with confidence

HP Integrity Superdome X sets new high standards for x86 efficiency, availability, scalability, and performance, making it the ideal platform for your critical enterprise x86 workloads.

- More efficiency—to reduce complexity and cost
- Higher levels of availability—to deliver continuous services
- Greater scalability and performance—to respond rapidly to business demands

Partner with HP for the right compute, for the right workload, at the right economics—every time.

Key features and benefits

Deploy your mission-critical workloads to an industry-standard x86 platform

The HP BladeSystem Superdome Enclosure is the building block for Superdome X. Each compute enclosure supports 15 fans, 12 power supplies, associated power cords, and four HP Crossbar Fabric Modules (XFM). Configurations of one-to-eight mission-critical, scalable x86 blades can be populated in an enclosure with support for hard partitions (HP nPars) containing one, two, four, or eight blades. Multiple nPars of different sizes are supported within a single enclosure.

With breakthrough innovations such as the fault-tolerant Crossbar Fabric and Error Analysis Engine coupled with hard partitioning capabilities, Superdome X sets the standard for mission-critical x86 computing.

Features

Superdome X offers scalability that surpasses the market, flexibility through HP nPars, and mission-critical reliability, availability, and serviceability (RAS). Key features include:

- Support for up to 16 sockets of Intel® Xeon® processor E7 v2 family
- 384 DIMM slots with up to 12 TB of DDR3 memory, providing a large memory footprint for demanding applications
- Support for HP nPartitions (nPars), electrically isolated hard partitions/configurations of one, two, four, or eight blades and multiple nPars within a single Superdome Enclosure
- 16 FlexLOM slots (2 per blade)
- 24 mezzanine PCIe Gen3 slots (3 per blade)
- Built-in DVD-ROM, accessible from partitions
- Error Analysis Engine

Benefits

Superdome X revolutionizes x86 computing by enabling you to:

Redefine compute economics with breakthrough scalability and efficiency

- Address your largest in-memory and traditional database needs with a large scale-up 16-socket, 12 TB memory solution on x86¹
- Increase cost efficiencies with a 32 percent lower TCO than IBM Power 8²
- Simplify your environment with 3X the scalability, 2X sockets and more than 3X the cores versus current HP 8-socket x86 offering³

Accelerate service delivery with a superior availability experience

- Deploy your critical workloads with confidence as Superdome X is designed from the ground up to achieve high levels of RAS, and is built on proven mission-critical innovation
- Improve the uptime of your critical x86 applications with up to 20X greater reliability from HP nPars, when compared with platforms that rely on software virtualization alone⁴
- Lower your downtime up to 60 percent compared to other x86 platforms with a comprehensive set of RAS features⁵
- Benefit from up to 95 percent reduction in memory outages over standard x86 with HP "Firmware First" architecture and memory RAS improvements over Intel® base code⁶
- Experience proven diagnostics, self-healing capabilities, and superior fault management with the built-in Error Analysis Engine, unique on x86 environments

Boost business outcomes with groundbreaking performance

- Power your most demanding workloads with 4X faster transactions than leading x86 platforms⁷
- Scale confidently without compromising performance with a 1.9X scalability factor, from two up to 16 sockets⁸
- Start small and grow your environment as needed with a scalable, efficient bladed form factor, from one up to eight blades
- Lower costs by consolidating on a single server with up to 9X performance versus current HP 8-socket x86 offering⁹

¹ See [QuickSpecs](#)

² Based on HP results using publicly available competitive data, November 2014

³ Based on internal customer benchmark results, July 2014

^{4,5} HP Labs. Based on HA and field data modeling, August 2013

⁶ Based on internal HP Labs simulation, May 2014

⁷ Based on HP internal benchmarks results and published SPECjbb 2013 benchmark results as of November 17, 2014. The stated results are published on spec.org as of November 17, 2014. SPEC and the benchmark name SPECjbb are registered trademarks of the Standard Performance Evaluation Corporation (SPEC)

⁸ Internal benchmark: Superdome X 15-cores/socket scaling with SPECjbb 2013—Multi-JVM, HP, August 2014. SPEC and the benchmark name SPECjbb are registered trademarks of the Standard Performance Evaluation Corporation (SPEC)

⁹ HP internal comparison to HP ProLiant DL980 G7 Server

HP Integrity Superdome X



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| Compute | Support for up to 16 sockets via 1-to-8 two-socket server blades, each with 2X FlexLOMs slots, 3X mezzanine slots, and 48 DIMM slots |
| Processors | Intel Xeon Processor E7-2890 v2 (15c/2.8 GHz/37.5M/155 W)/Intel Xeon Processor E7-2880 v2 (15c/2.5 GHz/37.5M/130 W)/Intel Xeon Processor E7-8891 v2 (10c/3.2 GHz/37.5M/155 W)/Intel Xeon Processor E7-4830 v2 (10c/2.2 GHz/20M/105 W) |
| Maximum processors/cores per system | 16 processors/240 cores (E7-2890 or E7-2880)/16 processors/160 cores (E7-8891 or E7-4830) |
| Partitioning | Support for HP nPartitions (nPars), electrically isolated hard partitions. Configurations of 1, 2, 4, or 8 blades and multiple HP nPartitions (nPars) within a single Superdome Enclosure. |
| Memory | Up to 384 DIMM slots, 48 DIMM slots per server blade/maximum memory: 12 TB (384 x 32 GB DIMMs), minimum memory: 256 GB (16 x 16 GB DIMMs)/32 GB PC3-14900 DDR3 ECC registered Load Reduced DIMMs/16 GB PC3-12800 DDR3 ECC registered DIMMs/Error checking and correcting (ECC) on memory and caches/double-chip spare |
| Certified operating environments | Red Hat® Enterprise Linux (RHEL); SUSE Linux® Enterprise Server (SLES); Microsoft® Windows Server® 2012 R2 Standard (including Microsoft SQL Server 2014) Note: See the OS Support Matrix for details on certified operating environments. |
| FlexLOM slots | 2 dual-port 10GbE NIC FlexLOM daughter cards per blade (up to 8 blades) |
| Mezzanine I/O slots | 1 PCIe 8x Gen3 mezzanine (Type A) slot per blade (up to 8 blades) 2 PCIe 16x Gen3 mezzanine (Type B) slots per blade (up to 8 blades) |
| I/O Interconnect Bays | Up to 8 I/O Interconnect Bays may contain 10GbE switch modules, 10GbE pass-thru modules, or 16 Gb Fibre Channel interconnect modules |
| High availability—standard server features | 2N (N+N) redundant power supplies/N+1 fans (or greater depending on the load)/Online, replaceable, and redundant OA, utilities, clock, and service processor subsystems/Fault Tolerant Crossbar Fabric built on dynamic multi-pathing and end-to-end retry technology/Enhanced MCA recovery (Automated Processor Recovery) with Intel Cache Fail-Safe Technology/ECC on caches, Memory ECC, and double-chip spare/ECC, re-tries, and Link Width Reduction on data paths/Automatic de-configuration of memory and processors/I/O Advanced Error Recovery, and I/O isolation off Crossbar Fabric/Redundant network paths/Redundant Fibre Channel paths |
| SUV I/O | Interfaces VGA and 2 USB ports for local human interface/1 RS-232 serial port and 10/100BASE-T LAN for Integrity Integrated Lights-Out (iLO 4) management |
| Power and cooling | Each compute enclosure supports 15 fans, 12 power supplies, associated power cords, and four HP Crossbar Fabric Modules (XFMs) |
| Removable media | Built-in DVD-ROM, accessible from partitions |
| Form factor | 18U enclosure/42U HP 600 mm wide rack |
| Warranty | HP branded hardware and options qualified for the Superdome X are covered by global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. HP branded hardware and options diagnostic support and repair is available for three years from date of purchase, or the length of the server they are attached to, whichever is greater. Additional support may be covered under the warranty or available through additional support packages. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. |

HP Factory Express

HP Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping to speed deployment. hp.com/go/factoryexpress

Customer technical training

Customize your IT lifecycle management, from acquisition of new IT, management of existing assets, and removal of unneeded equipment. hp.com/go/hpfinancialservices

Gain the skills you need with ExpertOne training and certification from HP. With HP training, you can accelerate your technology transition, improve operational performance, and get excellent return on your HP investment. Our training is available when and where you need it through flexible delivery options and a global training capability. hp.com/learn

HP Services

Let HP help guide you to the New Style of IT. HP Technology Services delivers confidence, reduces risk and helps you realize agility and stability. Our consulting services provide advice and guidance to safely move your workloads to newer technologies. Our implementation and installation services enable faster, reliable startup of your new Superdome X servers, and our support portfolio allows you to get connected and get back to business.

We recommend HP Proactive Care Advanced for Superdome X servers to provide assigned resources to help improve performance and return on your IT investment. HP Datacenter Care enables you to operate and evolve your IT environment with less cost and more agility. This includes our Flexible Capacity service to acquire IT without impacting capital budget. Our support technology lets you tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, from any location, any time. hp.com/services

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