

HP Integrity NonStop NS14200 Server

Data sheet



HP Integrity NonStop NS-series servers offer the highest levels of service of any platform, while extending the framework of the HP Adaptive Infrastructure and complex business applications.

The HP Integrity NonStop NS14200 Server is one of the top-of-the-line enterprise computing solutions that is designed to deliver unprecedented levels of application availability with fail-safe data integrity. Powered by next-generation Intel® Itanium® processor 9100 series processors, the Integrity NonStop NS14200 Server delivers performance improvements over earlier NonStop server models yet offers a more moderate performance level than the Integrity NonStop NS16200 Server. This brings a new option in performance levels while

maintaining the level of availability and data integrity. The NS14200 is part of the new generation of NonStop servers that are based upon the Intel Itanium family.

Applications running on the previous generations of the NonStop server platform transfer without change onto Integrity NonStop servers, transparently gaining increased throughput and raised levels of availability out of the box. Integrity NonStop servers offer scalability that is truly global, with the capability to grow with linear scalability from two to 2,040 processors.

The Integrity NonStop server is a leader in scalability. The integrated hardware, operating system, and database stack not only provide for the ultimate in scalability but also contribute to a server platform with the highest built-in reliability, availability, and serviceability (RAS) levels in the industry.

Powered by the industry-standard Intel Itanium processor, Integrity NonStop servers provide levels of throughput, out-of-the-box availability and manageability, ultimate scalability, and fail-safe data integrity for the most demanding customers.

The Integrity NonStop server supports applications that can efficiently and transparently make use of as many as 255 nodes of up to 8 processors each to guarantee response times in the most demanding applications, such as operational data stores (ODSs), location-based services, E911, securities trading, payment solutions, and integrated patient records.

The Integrity NonStop NS14200 Server offers more moderate performance, scale, and I/O configurability than the Integrity NonStop NS16200 Server, while maintaining a commitment to lower the total cost of ownership (TCO) for mission-critical applications. The NS14200 server is available as a complete new server, as an add-on to existing NS14000 and NS14200 servers, and as an upgrade (partial or complete) to an existing NS14000.

Key features of the Integrity NonStop NS14200 Server

- Standards-based architecture utilizing the latest Itanium processor technology, the Intel Itanium processor 9100 series processors at 1.4 GHz
- Integrated hardware and software enables application fault tolerance out of the box, delivering ultimate scalability and the highest built-in RAS levels in the industry
- The HP NonStop Advanced Architecture offers unprecedented NonStop system availability using optional Triple Modular Redundancy (TMR) technology
- A flexible platform for heterogeneous environments with a choice of application architectures and management tools
- Designed and built to last, extending the tradition of offering systems with average system uptimes

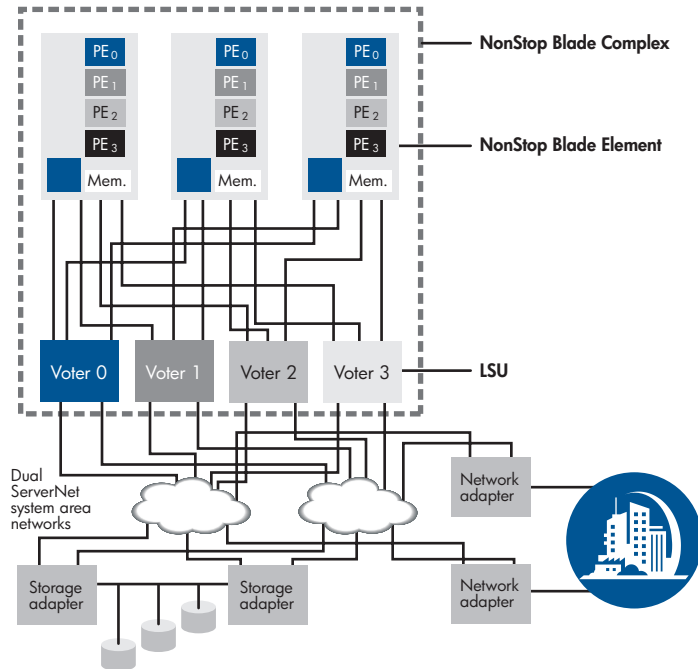
- measured in years, with no unscheduled downtime
- Complete application compatibility with previous generations of the NonStop server platform
- Support for clustering with HP NonStop S-series servers

Key benefits of Integrity NonStop servers

- Supports real-time business interactions with the high levels of service
- Leading integrated virtual application environment, allowing for ease of resource enhancement
- Lowest TCO for complex mission-critical applications
- Provides a solid foundation to leverage and capitalize on change
- A flexible platform tailored for dynamic business environments
- Offers one-stop accountability and a complete portfolio for the best solution
- Integrates seamlessly with HP StorageWorks product offerings
- Flexible financing options and services
- Unmatched expertise through HP Services
- A complete range of support offerings from e-support through mission-critical support, plus education services
- A trusted platform for world-class partnerships to meet your complete solution requirements
- Protection of investment in previous generations of NonStop server-based applications

Additional choice

With the Integrity NonStop NS14200 Server, HP introduces a new option in NonStop Advanced



Note: PE in figure stands for processor element.

Architecture servers that provides unmatched level of application availability and industry-leading data integrity. This new server also exploits the traditional advantage of NonStop servers with fully integrated hardware and software, which provides application availability and fault tolerance right out of the box.

The NonStop Advanced Architecture takes fault tolerance and availability to new levels, with the TMR, triplex configurations. The Integrity NonStop NS14200 Server uses industry standards by incorporating Intel Itanium processor 9100 series processor technology into the NonStop architecture.

Customers not only have the advantage of the world's most available system, now with even greater levels of resilience, they also have an innovative microprocessor technology that can target multiple levels of the demands of complex business applications with improved price/performance.

The new Integrity NonStop NS14200 Server delivers moderate scalability for customers with modest growth requirements. Like other servers in the Integrity NonStop family, this server supports the scaling of applications linearly without user interruption.

As business needs evolve and demand grows, the Integrity NonStop NS14200 Server is designed to support complex application requirements. Systems

can start out with as few as two Itanium processors, and grow to as many as 2,040, as business landscapes change. In addition to being available as a complete new server, the NS14200 was also designed to facilitate add-ons to and upgrades from existing NS14000 and NS14200 servers. That is, NS14000 and NS14200 processor assemblies can co-exist within the same server (some limitations may apply).

Focused innovation

The newest Integrity NonStop server provides an additional option for meeting your real-time business needs, delivering real-time business interaction with one of the highest levels of service within the industry.

Because of the necessity to react to changing business demands, HP delivers a leading integrated virtual application environment. Data can be pooled and shared across an enterprise to enhance information utilization. The HP NonStop operating system, Mission Critical Operating Environment, offers even greater flexibility by providing the ability to transparently distribute applications across two to 255 nodes, spreading risk geographically.

With the NS14200 server, you can manage your system based on your specific needs, distributing critical applications across the street (HP Metroclusters

for NonStop servers) or across the globe (HP Continentalclusters for NonStop servers).

Manageability is designed into Integrity NonStop servers, not added later. Advanced manageability features are delivered right out of the box, even for the most demanding workloads. You can manage large applications with a single system image. Availability features are built-in and automatically configured. No complex reconfiguring is required.

Ultimately, with Integrity NonStop servers, HP is delivering an advanced architecture with value-added innovation. The TMR synchronizes performance of three Itanium processors for outstanding availability, while the Duplex Modular Redundancy (DMR) option provides an availability profile similar to HP NonStop S-series systems.

World-class experience

With the introduction of the next generation of Integrity NonStop servers, HP continues to deliver world-class servers using a collaborative approach to design and build an agile infrastructure. HP offers much more than high-availability servers, delivering on the promise of the agile enterprise by designing complete real-time solutions—solutions used to power HP Real Time Financial Services and Real Time Supply Chain in the manufacturing sector. HP offers these solutions at the right price, with a low TCO for complex, business-critical applications and not in multiple performance options.

When you add up the scorecard, Integrity NonStop servers are a trusted platform that, when coupled with world-class HP partnerships, will meet your complete solution requirements. HP partners with best-of-breed ISVs for business-critical solutions in many vertical

industries, and delivers a complete portfolio of enterprise solutions from leading HP partners, extending our joint capability, and ultimately enhancing customer value.

HP Services—getting the most out of your HP Integrity NonStop server

HP Services offers a collaborative approach to help you reduce IT complexity. HP Services works with customers to design, deploy, integrate, and manage an agile IT infrastructure that can respond to change and more closely align IT with business goals.

Drawing from a broad portfolio of global services, HP Services can help you build an Adaptive Infrastructure that provides greater business value with reduced risk, enabling you to realize higher, more predictable service levels, and lower TCO while enhancing the value of your IT investments.

HP understands that every IT organization has a blend of products from a variety of vendors. That is why HP delivers services for your entire IT infrastructure, tailored to your specific needs. We are trained to support products from more than 1,300 vendors, including industry-standard platforms, networks, and operating systems, including the NonStop operating system, UNIX®, Microsoft® Windows®, Linux®, and HP OpenVMS systems. More companies trust HP Services with their business-critical support than any other.

For more information, contact your HP sales representative or visit www.hp.com/hps/support

HP Integrity NonStop NS14200 Server



Processors	2–8 processors per node Intel Itanium processor 9100 series processors, 1.4 GHz
Cache	12 MB L3 (per chip)
RAM standard/maximum	Minimum: 4 GB Maximum: 8 GB
ServerNet I/O embedded adapters	4
ServerNet I/O expansion boards	2
I/O adapters supported	Fibre Channel (4 port FCSA functionality), Ethernet (G4SA functionality)
Fibre Channel disk modules	14 disks per module
Disk drives supported	146 GB and 300 GB 15K RPM Fibre Channel internal hard disk drives HP Disk Array family (e.g. XP24000, XP20000, XP12000, XP10000)
Standard features	N + 1 power supplies N + 1 fans Dual power distribution units Dual power cords

HP Integrity NonStop NS14200 Server

Environmental specifications

Altitude	Operating: 10,000 ft (3,000 m) maximum Nonoperating: 40,000 ft (12,000 m) maximum
Temperature	Operating: 40° to 100°F (5° to 35°C) Nonoperating: -40° to 150°F (-40° to 66°C) Maximum rate of temperature change: 36°F (20°C) per hour
Humidity	Operating: 10% to 85% relative noncondensing maximum Nonoperating: 95% maximum at 150°F (66°C)
Dimensions	79 x 24 x 45 in (2,007 x 610 x 1,143 mm)
Weight	1,060 lb (477 kg)*
Power supply	Typical power dissipation: 2,200 VA Input current: 14 A @ 200 VAC AC input power: 200–240 V, 50–60 Hz
Electromagnetic interference	Complies with FCC rules and regulations, Part 15, as a Class A Digital Device; manufacturer's declaration to EN 55022 Level A
Power line LF emissions	EN 61000-3-2 (Europe); EN 61000-3-3 (Europe)
Regulatory	Certifications are for individual modules
Safety	CUL certified; compliant with EN 60950

*This table represents a single rack, 4-processor stack, without UPS. It includes an LSU with four voters, two VIOs, and two FCDMs with 28 drives.

System configurations

Minimum configuration	Maximum single-node system configuration	Maximum configuration
2 processors	8 processors	255 nodes
4 GB memory	64 GB memory	16 TB main memory
876 GB internal storage capacity	32 TB internal storage capacity	8,160 TB internal storage capacity

HP Integrity NonStop NS14200 Server

Ordering information for HP Integrity NonStop NS-series servers

Part number	Description
Enclosure options	
M8001-16	HP Integrity NonStop Server 4-Processor Enclosure, which supports up to 8 GB of memory. This unit contains DIMM carrier for 16 DIMMs, fans for cooling, power supplies and distribution, I/O interfaces, memory reintegration logic, and front-panel control.
Memory options	
M8010-4	4 GB memory quad for use in a duplex or triplex processor configuration. Each processor chassis is configured with 4 GB of memory, using 1 GB memory DIMMS. For use in M8001-16 Integrity NonStop server 4-processor chassis version.
M8010-8	8 GB memory quad for use in a duplex or triplex processor configuration. Each processor chassis is configured with 8 GB of memory, using 2 GB memory DIMMS. For use in M8001-16, Integrity NonStop server 4-processor chassis version.
Processor options	
M8041-142	Processor board containing one 1.4 GHz Intel® Itanium® processor 9100 series processors with 12 MB cache in a dual core package.
M8041-144	Processor board containing two 1.4 GHz Intel® Itanium® processor 9100 series processors with 12 MB cache each in a dual core package.
Logical synchronization components	
M8100	Integrity NonStop LSU enclosure. Contains up to eight logical synchronization units (or voters), along with AC distribution via a mid-plane. There are eight slots, one for each LSU pair, corresponding to one logical processor, either DMR or TMR.
M8101	The LSU voter logic and optics are a mated pair, providing lockstepping logic for either DMR or TMR logical processors for the Integrity NonStop server.
Integrity NonStop VIO HW Base Bundle	
M8360-4	The VIO hardware base bundle includes two VIO modules for a total of eight embedded Fibre Channel ports and eight embedded Ethernet ports.

For more information

For more information about HP Integrity NonStop NS-series servers, visit www.hp.com/go/integritynonstop

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire and manage your HP solutions. For more information on these services, contact your HP sales representative or visit www.hp.com/go/hpfinancialservices

HP Technology Services provides a broad spectrum of services to commercial and enterprise customers. In addition to HP hardware and software support packages, HP Technology Services also offers performance and availability services, proactive business-critical services, and services ranging from deployment to support management 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

HP Services

HP's service solutions, built on the Solution Lifecycle (SLC) process, offer consistent quality and service levels for the Integrity NonStop servers. The SLC process helps achieve rapid productivity and maximum availability by examining specific needs at each of five distinct phases (Plan, Design, Integrate, Install and Manage) and then designing solutions around those needs. We offer three different service solutions designed to meet customer needs:

HP Critical Service Solution

- Startup and Deployment Services—build the solution to your exact specifications, complete the installation, and make the solution application-ready
 - Assessment and Design Services—define requirements and translate your business and technical needs into a solution that melds the necessary hardware and software
 - Deployment Management Services—upfront project coordination from HP
 - Education Services—training curriculums relevant to needs and existing expertise based upon a needs analysis
- HP Critical Service—comprehensive, on-going support designed to help minimize the business impact of downtime for mission-critical applications

HP Proactive Service Solution

- Startup and Deployment Services
- HP Proactive 24 Service—integrated hardware and software support, including proactive and reactive services to improve stability and availability across your IT environment

HP Foundation Service Solution

- Startup and Deployment Services
- HP Support Plus 24 Service—integrated hardware & software support services designed specifically for your technology

For more information, visit www.hp.com/services/nonstop

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Technology for better business outcomes

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