

# HP Integrity NonStop NS14000 Server

Data sheet



The HP Integrity NonStop NS14000 Server is one of the top-of-the-line enterprise computing solutions that is designed to deliver unprecedented levels of application availability with absolute data integrity. Powered by next-generation Intel® Itanium® 2 processors, the Integrity NonStop NS14000 Server delivers performance improvements over earlier NonStop S-series server models yet offers a more moderate performance level than the Integrity NonStop NS16000 Server. This brings a new option in performance levels while maintaining the level of availability and data integrity.

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.

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

# 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 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.

The Integrity NonStop server provides a single application 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 NS14000 Server offers more moderate performance, scale, and I/O configurability than the Integrity NonStop NS16000 Server, while maintaining a commitment to the lowest total cost of ownership (TCO) for mission-critical applications. And Integrity NonStop servers can take advantage of future Intel Itanium 2 processors through in-box upgrades—further taking advantage of HP's commitment to investment protection and low cost of ownership.

## Key features of the Integrity NonStop NS14000 Server

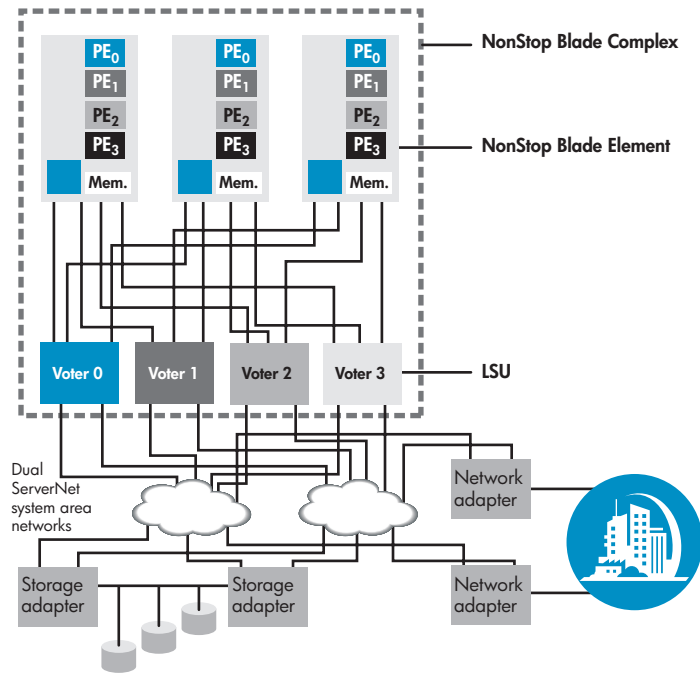
- Standards-based architecture utilizing the latest Itanium processor technology, the Itanium 2 processors at 1.5 GHz
- Integrated hardware and software enables application fault tolerance out of the box, delivering ultimate scalability and the highest built-in RAS levels in the industry

- The new HP NonStop Advanced Architecture offers unprecedented NonStop system availability using Triple Modular Redundancy (TMR) technology
- A flexible platform for heterogeneous environments with a choice of application architectures and management tools
- Ease of upgrade to future generations of Intel Itanium processors
- 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 highest 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

**Architectural view of the NonStop  
Advanced Architecture**



Note: PE in figure stands for processor element.

- Integrates seamlessly with HP StorageWorks product offerings
- Flexible financing options and services enhanced for 100 percent availability
- 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 NS14000 Server, HP introduces a new option in NonStop Advanced Architecture servers that provides the highest 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 introduction of TMR, triplex configurations. The Integrity NonStop NS14000 Server uses industry standards by incorporating Intel Itanium 2 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 NS14000 Server delivers moderate scalability for customers with modest growth requirements. Like its predecessor, the Integrity NonStop NS16000 Server, this server supports the scaling of applications linearly without user interruption.

As business needs evolve and demand grows, the Integrity NonStop NS14000 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.

## Focused innovation

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

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 all Integrity NonStop servers, 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 introduction of 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 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 the lowest TCO for complex, mission-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 Enterprise 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's why HP delivers services for your entire IT infrastructure, tailored to your specific needs. We're 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 mission-critical support than any other.

For more information, contact your HP sales representative or visit [www.hp.com/hps/support](http://www.hp.com/hps/support).

# HP Integrity NonStop NS14000 Server

## Technical specifications

<b>Processors</b>	2–8 processors per node Itanium 2, 1.5 GHz processors
<b>Cache</b>	4 MB L3
<b>RAM standard/maximum</b>	Minimum: 4 GB Maximum: 8 GB
<b>Hot-swap ServerNet I/O</b>	Minimum: 10 Maximum: 10
<b>I/O adapters supported</b>	Fiber Channel, Gigabit Ethernet, ServerNet Extender Adapter
<b>Fibre Channel disk modules</b>	14 disks per module
<b>Disk drives supported</b>	73 GB, 146 GB, and HP StorageWorks XP12000 Disk Array
<b>Standard features</b>	N + 1 power supplies N + 1 fans Dual power distribution units Dual power cords

# HP Integrity NonStop NS14000 Server

## Environmental specifications

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

\*This table represents a single rack, 4-processor stack, without UPS. It includes an LSU with four voters, IOAME with two FCSAs, two G4SAs, and two FCDMs with 28 drives.

## System configurations

<b>Minimum configuration</b>	<b>Maximum single-node system configuration</b>	<b>Maximum configuration</b>
2 processors	8 processors	255 nodes
4 GB/processor	64 GB main memory	16 TB main memory
144 GB internal storage capacity	32 TB internal storage capacity	8,160 TB internal storage capacity

# HP Integrity NonStop NS14000 Server

## Ordering information for HP Integrity NonStop NS-series servers

Part number	Description
<b>Enclosure options</b>	
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.
<b>Memory options</b>	
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.
<b>Processor options</b>	
M8031-152	Processor board containing two 1.5 GHz, Itanium 2 processors with 4 MB cache. Board can be used in M8001-16 Integrity NonStop server processor enclosure.
M8031-154	Processor board containing four 1.5 GHz, Itanium 2 processors with 4 MB cache. Board can be used in M8001-16 Integrity NonStop server processor enclosure.
<b>Logical synchronization components</b>	
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.
<b>Integrity NonStop NS14000 I/O Core</b>	
M8360-6	The Integrity NonStop NS14000 I/O Core contains the basic components to form the initial I/O core for a 2- or 4-processor (DMR or TMR) system (excluding cables and PICs). The contents include 1 I/O Adapter Module Enclosure, 2 Multiport Ethernet ServerNet Adapters, 2 Fibre Channel ServerNet Adapters, and 2 ServerNet Extender Adapters.  Note: This leaves two slots that are customer configurable.

# HP Integrity NonStop NS14000 Server

## For more information

For more information about HP Integrity NonStop NS-series servers, visit [www.hp.com/go/integritynonstop](http://www.hp.com/go/integritynonstop).

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For more information, visit [www.hp.com/go/integritynonstop](http://www.hp.com/go/integritynonstop)

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