HP Integrity NonStop NS2400 Server

For businesses that run nonstop

Key features

- Standards-based architecture using the latest processor technology—the Intel® Itanium® processor 9500 series

- Integrated hardware and software, enabling application fault tolerance out of the box

- A flexible platform for heterogeneous environments with a choice of application architectures and management tools

- A uniquely designed architecture for the absolute highest levels of availability[1] and reliability to enable continuous business

- A continuation of our long history of offering systems with average uptimes measured in years, and no unscheduled downtime

- The lowest TCO[2] in its class with a fully-integrated stack of hardware, operating system, database, and software

- Complete application compatibility with all other HP Integrity NonStop servers

When downtime is not an option

In a world that never stops, having a NonStop business environment is critical. With today's customers expecting instant access to information and services, downtime is simply not an option.
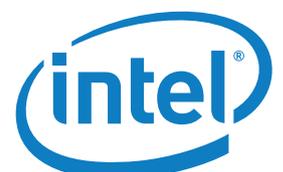
HP Integrity NonStop servers are widely recognized as one of the best choices for complex enterprise applications. Their integrated hardware, operating system, and database stack provide the ultimate in scalability and also contribute to a server platform with one of the highest built-in reliability, availability, and serviceability (RAS) levels in the industry.

HP Integrity NonStop NS2400 servers are a recent addition to the HP family of entry-class servers that run on the J-series HP NonStop operating system. They share the same unique HP NonStop platform attributes, such as low total cost of ownership (TCO), real-time database, integrated stack, end-to-end security, and massive scalability, while delivering the same high level of availability and data integrity as the high-end HP Integrity NonStop BladeSystem.

Powered by the Intel Itanium processor 9500 series, you gain the advantage of one of the world's most available systems, leveraging an innovative microprocessor technology that can target multiple demand levels of complex applications with improved price/performance.

[1] "Worldwide and U.S. High-Availability Server 2012–2016 Forecast and Analysis," Doc #236946, IDC, September 2012
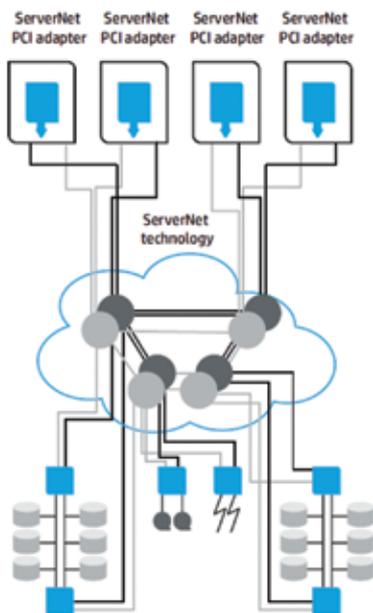
[2] "NonStop offers the lowest TCO in its class for complex mission-critical applications," Richard Buckle, Pyalla Technologies, LLC, May 2012.

The HP Integrity NonStop NS2400 Server provides users with a single-system view of applications. And it can efficiently and transparently make use of up to four processors to promote fast response times in a variety of demanding applications. These include complex payment systems, billing environments, securities trading, and electronic patient records solutions.

The HP Integrity NonStop NS2400 commercial server is an AC-powered server packaged in a standard commercial rack. The HP Integrity NonStop NS2400T server comes in a commercial rack and is DC-powered (-48 V). The HP Integrity NonStop NS2400ST server is packaged in an extra-sturdy seismic rack and is also DC-powered (-48 V).

Figure 1. HP Integrity NonStop NS2400 four-processor system

Next-generation technology at competitive price points

By making use of industry-standard components and exploiting the traditional advantage of HP Integrity NonStop servers with fully-integrated hardware and software, you can count on a cost-effective solution with the highest application availability and data integrity. In fact, HP Integrity NonStop 2400 servers are offered at a price point that is comparable to open source alternatives and to the prior generation of entry-class HP Integrity NonStop servers.

And, as your business needs evolve and user demand grows, HP Integrity NonStop NS2400 servers will support your complex application requirements. Systems can start out with as few as two physical processors and grow to four physical processors. Using the advanced Intel Itanium architecture, these systems deliver much more work per clock cycle than other processors, thus providing even greater performance.

Powered by the industry-standard Intel Itanium processor, HP Integrity NonStop servers are uniquely designed to deliver the absolute highest levels of availability and reliability, with ultimate scalability, and data integrity for the most demanding environments.

Innovation to meet changing business demands

HP Integrity NonStop NS2400 servers provide an additional option for meeting your real-time business needs, delivering real-time business interaction with outstanding levels of service. To help you respond to changing business demands, the HP Integrity NonStop mission-critical operating environment offers high flexibility by providing the ability to distribute applications across nodes transparently, spreading risk geographically.

Figure 1 provides an architectural view of the server processing power of the HP Integrity NonStop NS2400 platform.

This platform provides you with all the benefits of the HP Integrity NonStop Software Suite, including software fault tolerance and fault isolation, dynamic workload balancing, linear scalability, application virtualization, and cluster programming transparency. HP Integrity NonStop NS2400 servers can be configured with two or four physical processors in a pre-assembled and integrated rack-mount configuration. Multiple servers can be connected together using Ethernet (LAN) or WAN technologies.

Disk storage and communications are managed by the highly innovative Cluster I/O Modules (CLIMs). These powerful engines provide even greater performance for the HP Integrity NonStop NS2400 platform as they decrease the load on the host processor, increase overall performance, and shorten response times.

Advanced manageability is integrated into HP Integrity NonStop servers from the start, to help you manage your most demanding workloads. You can manage large applications with a single-system image. And, availability features are built-in and automatically configured, so there is no need for complex reconfiguring.

With HP Integrity NonStop servers, you benefit from an architecture with value-added innovation, HP Integrity NonStop software fault tolerance, and industry-standard components.

HP Integrity NonStop N2400 Server

Technical specifications

Processors	2 or 4 processors per system; 2-core enabled Intel Itanium processor 9500 series at 1.73 GHz
Cache	20 MB L3
RAM	Minimum: 16 GB; Maximum: 48 GB
VIO G4SAs	Minimum: 2 (1 per fabric) (provides 4 Ethernet ports per fabric); Maximum: 4 (2 per fabric)
IP CLIMs	Minimum: 0; Maximum: 2 (provides five 1GbE ports per IP CLIM)
Storage CLIMs	Minimum 2, maximum 4
I/O adapters supported	Serial Attached SCSI (SAS); Fibre Channel; Gigabit Ethernet
SAS disk enclosure	25 SFF (2.5") drives per enclosure
Storage drives	6G SAS SFF (2.5") HDD and SSD, HP Storage disk arrays (e.g., P9500)
Standard features	Redundant power supplies; redundant fans; dual power distribution units; dual power cords

Environmental specifications

Altitude limits	Operating: 10,000 ft. (3,000 m) maximum Non-operating: 40,000 ft. (12,000 m) maximum
Temperature limits	Operating: 50°F to 95°F (10°C to 35°C); maximum rate change: 18°F/hr (10°C/hr) Non-operating: -22°F to 140°F (-30°C to 60°C); maximum rate change: 36°F/hr (20°C/hr)
Humidity limits	Operating: 20% to 80%, non-condensing Storage: 10% to 85%
Dimensions (H x W x D)	79.00 x 51.19 x 23.54 in. (200.66 x 130.02 x 59.78 cm) (42U) 68.80 x 51.19 x 23.54 in. (174.71 x 130.02 x 59.78 cm) (36U)
Weight	1,188 lbs (539 kg)[3]
Power supply (NS2400)	Typical power dissipation: 2,602 VA[4] Input current: 13 A at 200 VAC AC input power: 200–240 V, 50–60 Hz
Power supply (NS2400T, NS2400ST)	Nominal value: -48/-60 VDC Operating range: -40 to -72 VDC
Circuit breaker rating system-server cabinet (NS2400T, NS2400ST)	No cabinet circuit breaker is included. Instead, there are up to two fuse panels per cabinet. Each HP Integrity NonStop NS2400T/NS2400ST server fuse panel requires a customer-provided 100 A maximum magnetic circuit breaker with slow trip curve.
Electromagnetic interference	Complies with FCC rules and regulations, Part 15, as a Class A Digital Device; manufacturer's declaration to EN 55022 Level A Conducted Emissions Class A: CFR 47 (US); Radiated Emissions Class A: EN 55022:2006 033520, 033491, and 033186 and CFR 47 (US)
Power line EF emissions	EN 61000-3-2 (Europe); EN 61000-3-3 (Europe) EN 61000-3-2:2006 (Europe); EN 61000-3-3:1995+A1:2001+A2:200 (Europe)
Regulatory	Certifications are for individual modules
Safety	Compliant with UL 60950-1/CSA C22.2 No. 60950-1-03, and EN 60950 Compliant with CAN/CSA-C22.2 No. 60950-1-07 2nd edition and IEC 60950-1:2005, MOD

System configurations

Minimum configuration	2 processors per system using ServerNet technology; 16 GB main memory per processor
Maximum configuration	4 processors per system using ServerNet technology; 192 GB main memory per system

[3, 4] This table represents a single-rack, four-processor system (hardware base bundle) without UPS in a 42U cabinet

HP NonStop—the platform for your continuous business

With the HP Integrity NonStop NS2400 server family, HP continues to deliver world-class systems using a collaborative approach to design and build an agile infrastructure. When you add up the scorecard, HP Integrity NonStop servers are a platform you can trust that will meet your complete solution requirements. HP partners with best-of-breed ISVs for mission-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 your value.

In a world that never stops, you must be there, continuously—because your customers won't wait. HP Integrity NonStop for continuous business.

Support when and how you need it

HP Technology Services help build an infrastructure that is reliable, highly available, and rooted in best practices. We offer a support experience that is proactive, personalized, and simplified—delivering support when and how you need it. HP recommends the following services for HP NonStop servers:

HP Critical Service—High-performance reactive and proactive support designed to minimize downtime. It offers an assigned support team which includes an Account Support Manager (ASM). This service offers access to the HP Global Mission Critical Solution Center, 24x7 hardware and software support, six-hour call-to-repair commitment, enhanced parts inventory, and accelerated escalation management.

HP Proactive 24—Provides proactive and reactive support delivered under the direction of an ASM. It offers 24x7 hardware support with four-hour on-site response, 24x7 software support with two-hour response and flexible call submittal.

HP Installation and Start-up Service—Provides efficient and effective deployment of HP hardware components.

For more information on support services for HP Integrity NonStop servers, hp.com/go/nonstop.

Learn more at
hp.com/go/nonstop

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

Unleash the potential of your HP NonStop system with in-depth training from HP Education Services. With HP NonStop training, you will accelerate your technology transition, improve operational performance, and get the best 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/nonstop**

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