



For businesses that run nonstop

HP Integrity NonStop NS2100 Server



HP Integrity NonStop servers provide outstanding service levels while being a key technology element of the HP Mission-Critical Converged Infrastructure

The HP Integrity NonStop NS2100 Server is the most recent NonStop entry-class server from HP that runs on the J-series NonStop OS. The Integrity NonStop NS2100 commercial server is an AC-powered server packaged in a commercial rack, powered by the Intel® Itanium® Processor 9300 series, and is a recent addition to the Integrity NonStop product family. This new entry-class server delivers high levels of availability and data integrity in a cost-effective manner by making use of industry-standard components.

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.

The Integrity NonStop NS2100 Server provides users with a single system view of applications and can efficiently and transparently make use of up to four processors to promote fast response times in a variety of demanding applications, such as complex payment systems, billing environments, securities trading, and electronic patient records solutions.

Key features of the HP Integrity NonStop NS2100 Server

- Standards-based architecture using the latest Itanium® processor technology—the Intel Itanium Processor 9300 series
- Standards-based, open computing—HP NonStop infrastructure supports all relevant open standards for ease of application development and portability
- A flexible platform for heterogeneous environments with a choice of application architectures and management tools
- Uniquely designed for the absolute highest levels of availability¹ and reliability to enable continuous business
- Delivers the lowest TCO² in its class with a fully-integrated stack of hardware, operating system, database, and software
- Complete application compatibility with all other NonStop servers

Key benefits

Integrity NonStop servers:

- Support real-time business interactions with outstanding service levels
- Are one of the leading integrated application environments, allowing for ease of resource addition
- Offer the lowest TCO for complex mission-critical applications³
- Provide a solid foundation to leverage and capitalize on change
- Are a flexible platform tailored for dynamic business environments
- Offer one-stop accountability and a complete portfolio for a superior solution
- Integrate seamlessly with HP Storage product offerings
- Provide flexible financing options and services enhanced for continuous application availability
- Provide unmatched expertise through HP Services
- Include a complete range of support offerings from e-support through mission-critical support, plus education services
- Are a trusted platform for world-class partnerships to meet your complete solution requirements
- Protect investment in previous generations of NonStop server-based applications

¹ "Worldwide and U.S. High-Availability Server 2011–2015 Forecast and Analysis," IDC, July 2011

^{2,3} Source: "NonStop offers the lowest TCO in its class for complex mission-critical applications," Richard Buckle, Pyalla Technologies, LLC, May 2012.

Powered by the industry-standard Intel Itanium processor, 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.

Cost-effective choice

The Integrity NonStop NS2100 Server provides high levels of application availability and commercial data integrity. It also exploits the traditional advantage of NonStop servers with fully integrated hardware and software, which enable application availability and fault tolerance.

The Integrity NonStop NS2100 Server is based on industry-standard Intel Itanium Processor 9300 series technology, so you have the advantage of one of the world's most available systems—now even more resilient—and benefit from an innovative microprocessor technology that can target multiple demand levels of complex business applications with improved price/performance.

As your business needs evolve and demand grows, the Integrity NonStop NS2100 Server 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.

Focused innovation

The Integrity NonStop NS2100 Server provides 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 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 Integrity NonStop NS2100 platform.

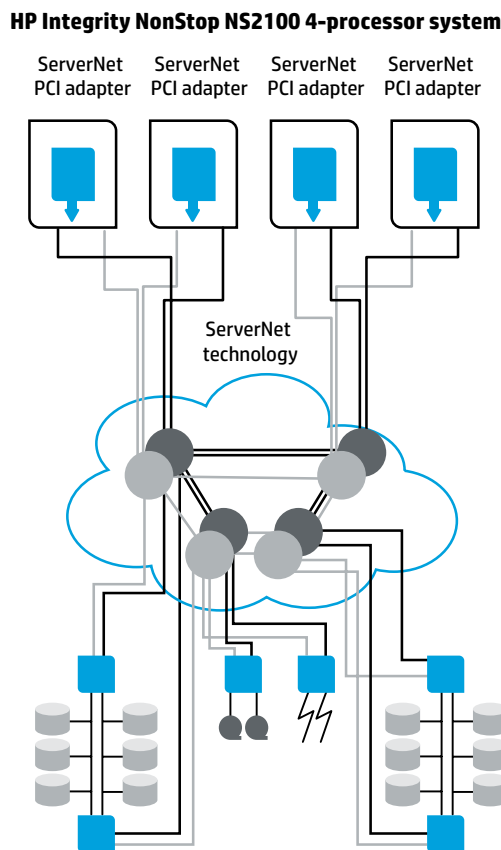
This platform provides you with all the benefits of the NonStop software suite, including software fault tolerance and fault isolation, dynamic workload balancing, linear scalability, application virtualization, and cluster programming transparency. The Integrity NonStop NS2100 Server can be configured 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 wide area network (WAN) technologies.

Disk storage and communications are managed by the highly innovative cluster I/O modules (also known as CLIMs). These powerful engines provide even greater performance for the Integrity NonStop NS2100 platform as they decrease the load on the host processor, increase overall performance, and shorten response times.

Manageability is integrated into Integrity NonStop servers, not added later. Advanced manageability is integrated into Integrity NonStop servers, not added later, to help you manage your most demanding workloads. You can manage large applications with a single system image. Availability features are built in and automatically configured, so there is no need for complex reconfiguring.

With Integrity NonStop servers, you benefit from an architecture that has value-added innovation and uses industry-standard servers and NonStop software fault tolerance.

Figure 1. HP Integrity NonStop NS2100 platform



HP Integrity NonStop NS2100 Server

Technical specifications

Processors	2 or 4 processors per system Intel Itanium Processor 9300 series at 1.33 GHz
Cache	16 MB L3
RAM	Minimum: 8 GB Maximum: 32 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	Operating: 10,000 ft. (3,000 m) maximum Non-operating: 40,000 ft. (12,000 m) maximum
Temperature	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	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 lb (539 kg) ⁴
Power supply	Typical power dissipation: 2,602 VA ⁵ Input current: 13 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 Conducted Emissions Class A: CFR 47 (US); Radiated Emissions Class A: EN 55022:2006 033520, 033491, and 033186 and CFR 47 (US)
Power line LF 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 8 GB main memory per processor
Maximum system configuration	4 processors per system using ServerNet technology 128 GB main memory per system

^{4,5} This table represents a single-rack, 4-processor system (hardware base bundle) without UPS in a 42U cabinet.

World-class experience

With the Integrity NonStop NS2100 Server family, HP continues to deliver world-class systems 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.

When you add up the scorecard, 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.

HP NonStop—The platform for continuous business

In a world that never stops, can you afford to be unavailable? No! Not when your customer wants to do business. You must be there, continuously... because your customers won't wait. HP NonStop is uniquely designed for enterprises that never stop. An integrated solution stack with continuous availability and low TCO. The agility and simplicity to quickly respond to ever-changing IT demands. Why HP NonStop for continuous business? Your customers will never have to wait. Ever.

HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire and manage your HP solutions. We offer flexible financing options and services. For more information about these services, visit hp.com/go/hpfinancialservices.

For more information

Compete effectively in mission-critical emerging markets and smaller enterprises with HP Integrity NonStop servers; visit hp.com/go/nonstop.

HP Services for HP NonStop

HP Services increase the return on your HP Integrity NonStop investments with implementation, management, and support services from the professionals who know it best. HP strategic and technical expertise helps streamline startup, lower downtime, increase performance, simplify management, and cut ownership costs. Depending on the customers' requirements, HP offers three levels for HP NonStop support:

- **Optimized—for mission-critical environments**
3-year HP Critical Services to monitor your environment around-the-clock, 365 days a year, and reduce incidents. If outages do occur, they are addressed immediately with access to HP dedicated critical support escalation resources. HP Critical Services offers immediate access for critical calls, two-hour response time for non-critical call, 24x7 technical support, six hours Call to Repair (CTR), onsite response, account manager, and response center advocate. Support planning and analysis services, system health check, and availability checkup are also recommended at this support level.
- **Standard—for mission-sensitive environments**
3-year HP Proactive 24 Service to help manage your IT environment for improved performance, stability, and availability. At this support level, incidents are addressed 24x7 with a maximum four-hour response, 365 days a year. HP Proactive 24 Service offers immediate access for critical calls, 24x7 technical support, two, four, or six hours call to repair (CTR) onsite response, account manager, and response center advocate. Support planning and analysis and system health checks are also recommended at this support level.
- **Basic—for price sensitive environments**
3-year HP Support Plus 24 provides around-the-clock hardware and software support on-site, including third party—plus cost-saving software updates, 365 days a year, and monitors ongoing operations through state-of-the-art remote tools. There is no assigned HP account manager or team. HP Deployment and Start-up Services are included with all support levels to provide installation and configuration including design services, availability checkup, site environmental services, hardware and software installation/initialization, and custom integration, educational services, and transition to operation.

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