



For businesses that run nonstop

HP Integrity NonStop NS2200 Servers



HP Integrity NonStop servers provide outstanding service levels while being an integral component of the HP Converged Infrastructure and complex business application environments.

The HP Integrity NonStop NS2200 Servers are a family of NonStop entry-class servers. The Integrity NonStop NS2200 commercial server is an AC-powered server packaged in a standard commercial rack. The Integrity NonStop NS2200T Server comes in a commercial rack; in addition, it is DC-powered (-48 V). The NS2200ST server is packaged in an extra-sturdy seismic rack and is also DC-powered (-48 V). The HP Integrity NonStop NS2200 Servers, all powered by the Intel® Itanium® Processor 9300 series, are a recent addition to the Integrity NonStop product family. These entry-class servers deliver 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 the best choice 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 NS2200 Servers provide 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 NS2200 Servers

- Standards-based architecture using the latest Itanium® processor technology—the Intel Itanium Processor 9300 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
- Designed and built for the highest levels of availability, extending the tradition of offering systems with average system uptimes measured in years and no unscheduled downtime
- Complete application compatibility with all other NonStop servers

Key benefits

Integrity NonStop servers:

- Support real-time business interactions with outstanding service levels
- Are the leading integrated application environment, allowing for ease of resource addition
- Offer the lowest TCO for complex mission-critical applications
- 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

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 data integrity for the most demanding environments.

Cost-effective choice

The Integrity NonStop NS2200 Servers provide high levels of application availability and commercial data integrity. They also exploit the traditional advantage of NonStop servers with fully integrated hardware and software, which enable application availability and fault tolerance right out of the box.

The Integrity NonStop NS2200 Server family of products 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 NS2200 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.

Focused innovation

The Integrity NonStop NS2200 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 multi-core processing power of the Integrity NonStop NS2200 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 NS2200 Servers can be configured with two or four physical processors in a preassembled and integrated rack-mount configuration. Multiple servers can be connected together using Ethernet (LAN) or wide area network (WAN) technologies.

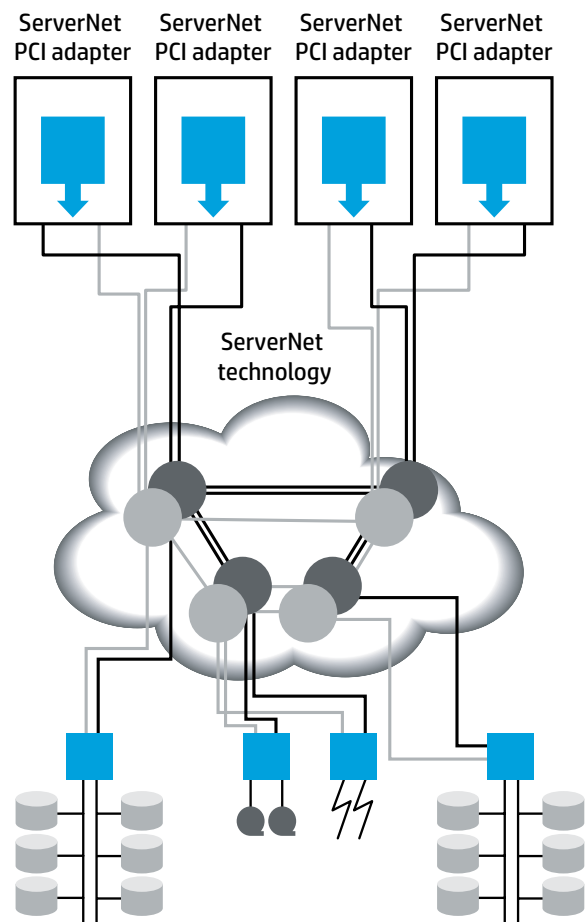
Disk storage and communications are managed by the highly innovative cluster I/O modules (also known as CLIMs). These powerful engines provide even greater performance for the Integrity NonStop NS2200 platform as they decrease the load on the host processor, increase overall performance, and shorten response times.

Manageability is integrated into Integrity NonStop servers, not added later. Advanced manageability features are delivered right out of the box, even for 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 NonStop multi-core platform.

HP Integrity NonStop NS2200 4-processor system



HP Integrity NonStop NS2200 Servers

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) ¹
Power supply	Typical power dissipation: 2,602 VA ² Input current: 13 A @ 200 VAC AC input power: 200–240 V, 50–60 Hz
Power supply (NS2200T, NS2200ST)	Nominal value: -48/-60 VDC Operating range: -40 to -72 VDC
Circuit breaker rating system (server cabinet) (NS2200T, NS2200ST)	No cabinet circuit breaker is included. Instead, there are up to two fuse panels per cabinet. Each Integrity NonStop NS2200T/NS2200ST 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 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 ed. 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

^{1,2} 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 NS2200 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 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 customized for 100 percent availability. For more information about these services, visit hp.com/go/hpfinancialservices.

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 Service 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 Service 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 helps 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.

For more information, visit hp.com/go/services.

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