

HP Integrity NonStop NS1000 Server

Data sheet



The HP Integrity NonStop NS1000 Server is the entry-level server in the Integrity NonStop product family. The Integrity NonStop NS1000 Server is powered by Intel® Itanium® 2 processors that deliver performance improvements over earlier HP NonStop S-series server models yet offer a more moderate performance level than the Integrity NonStop NS16000 or NS14000 Servers. This brings a new option in price/performance levels while maintaining high levels of availability and providing industry-standard 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.

HP Integrity NonStop 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 data integrity for the most demanding customers.

Integrity NonStop servers are leaders 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 NS1000 Server provides a single system view to applications and can efficiently and transparently make use of up to eight processors to guarantee response times in demanding applications, such as operational data stores (ODSs), location-based services, E911, securities trading, payment solutions, and integrated patient records.

The NS1000 server offers more moderate performance, scale, and I/O configurability than the NS16000 and NS14000 servers, 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 NS1000 Server

- Standards-based architecture utilizing the latest Itanium processor technology, the Itanium 2 processors at 1.3 GHz
- Integrated hardware and software enables application fault tolerance out of the box, delivering the highest built-in RAS levels in the industry
- The new HP NonStop Value Architecture (NSVA) offers NonStop system availability (at a five 9s level)
- 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

Key benefits of Integrity NonStop servers

- Support 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
- Provide a solid foundation to leverage and capitalize on change
- A flexible platform tailored for dynamic business environments
- Offer one-stop accountability and a complete portfolio for the best solution
- Integrate seamlessly with HP StorageWorks product offerings
- Flexible financing options and services enhanced for 100 percent application 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

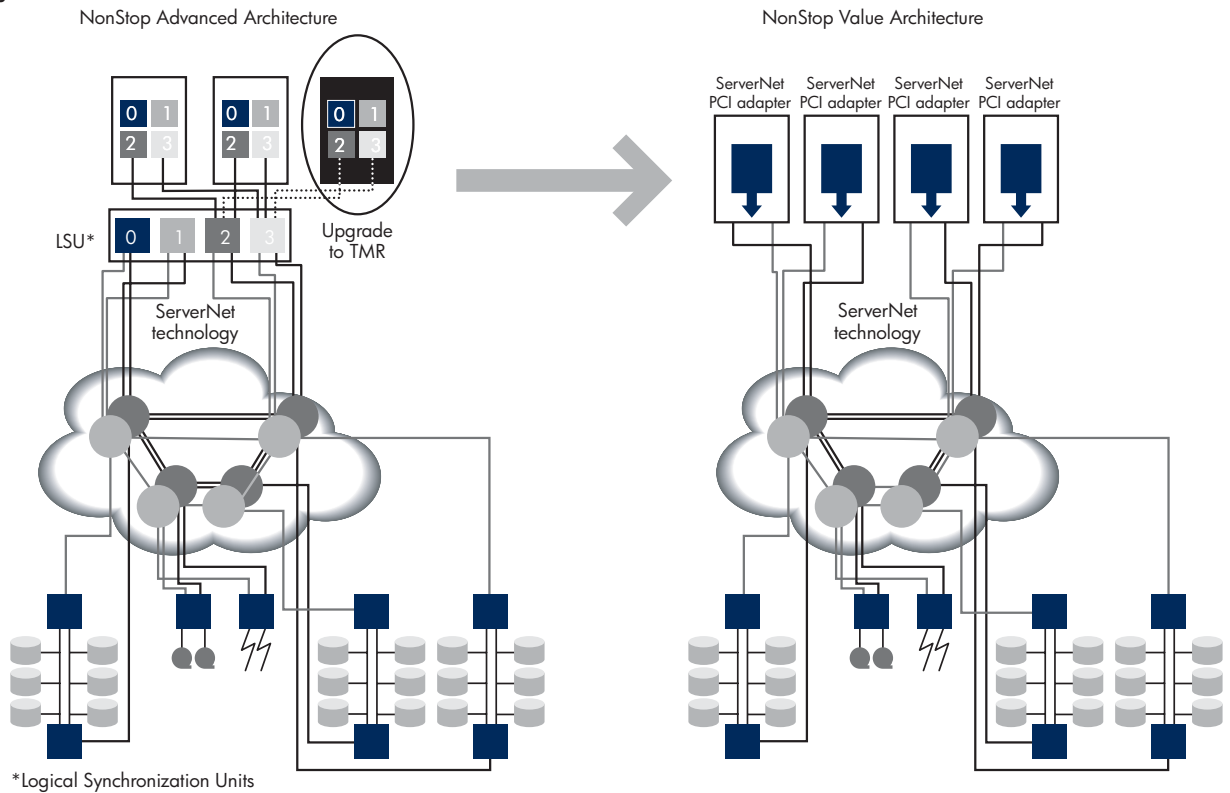
With the NS1000 server, HP introduces a new option in NonStop Value Architecture (NSVA) servers that provide high levels of application availability and industry-standard data integrity. This new server also exploits the traditional advantage of NonStop servers with fully integrated hardware and software, which provide application availability and fault tolerance right out of the box.

The NSVA offers fault tolerance and availability similar to existing NonStop S-series servers but with better price/performance. The NS1000 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 NS1000 server delivers scalability for customers with modest growth requirements. Like its predecessors, the NS16000 and NS14000 servers, this server supports the scaling of applications linearly without user interruption.

As business needs evolve and demand grows, the NS1000 server is designed to support complex application requirements. Systems can start out with as few as two Itanium processors, and grow to eight processors.



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 nodes, spreading risk geographically.

The figure provides an architectural view of the HP NonStop Advanced Architecture (NSAA) compared to the NonStop Value Architecture of NS1000 servers.

The NSVA of the NS1000 server does not use the NSAA hardware elements such as the Logical Synchronization Unit (LSU) and there is no Dual Modular Redundancy (DMR) or Triple Modular Redundancy (TMR) option. There is a single logical processor in the NSVA architecture, as opposed to two or three logical processors in the NSAA architecture. However, NSVA is still an N + 1 architecture, meaning that the other processors in the cluster can take

over when one processor fails. ServerNet fabric connectivity is provided by a PCI ServerNet adapter, as opposed to using the LSU or processor switch.

The NonStop software architecture remains the same in the NS1000 server as in other Integrity NonStop servers, providing full application-level fault tolerance. Therefore, the NSVA provides the same software fault tolerance as the other servers in the product family.

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 architecture with value-added innovation by using industry-standard servers and NonStop software fault tolerance.

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.

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 that include 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.

HP Integrity NonStop NS1000 Server

Technical specifications

Processors	2–8 processors per node Itanium 2, 1.3 GHz processors
Cache	3 MB L3
RAM	Minimum: 4 GB Maximum: 8 GB
Hot-swap ServerNet I/O	Minimum: 10 Maximum: 10
I/O adapters supported	Fibre Channel Gigabit Ethernet ServerNet Extender Adapter
Fibre Channel disk modules	14 disks per module
Disk drives supported	73 GB, 146 GB, and HP StorageWorks XP12000 and XP10000 Disk Array
Standard features	N + 1 power supplies N + 1 fans Dual power distribution units Dual power cords

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	78.7 x 39.69 x 24 in (199.9 x 100.8 x 60.96 cm)
Weight	1410 lb (634.5 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

Note: This table represents a single rack, 4-processor stack, without UPS. It includes ServerNet adapters, IOAME with two FCSAs, two G4SAs, two SE4As, and two FCDMs with 28 drives.

HP Integrity NonStop NS1000 Server

System configurations

Minimum configuration	Maximum system configuration
2 processors	8 processors per system using ServerNet technology
4 GB/processor	64 GB main memory
144 GB internal storage capacity	32 TB internal storage capacity plus external storage arrays

Ordering information

Integrity NonStop NS1000 Server Initial configuration bundles

Part number	Description
M1002M4	HP Integrity NonStop NS1000 Server 2-processor bundle: 4 GB memory
M1004M4	HP Integrity NonStop NS1000 Server 4-processor bundle: 4 GB memory
M1006M4	HP Integrity NonStop NS1000 Server 6-processor bundle: 4 GB memory
M1008M4	HP Integrity NonStop NS1000 Server 8-processor bundle: 4 GB memory
M1002MB	HP Integrity NonStop NS1000 Server 2-processor bundle: 8 GB memory
M1004MB	HP Integrity NonStop NS1000 Server 4-processor bundle: 8 GB memory
M1006MB	HP Integrity NonStop NS1000 Server 6-processor bundle: 8 GB memory
M1008MB	HP Integrity NonStop NS1000 Server 8-processor bundle: 8 GB memory

Integrity NonStop NS1000 upgrades

Part number	Description
M1000P2M4	HP Integrity NonStop NS1000 Server processor add-on bundle (two processors, 4 GB memory per processor, plus ServerNet fabric connectivity)
M1000P2MB	HP Integrity NonStop NS1000 Server processor add-on bundle (two processors, 8 GB memory per processor, plus ServerNet fabric connectivity)

HP Integrity NonStop NS1000 Server

For more information

For more information about the HP Integrity NonStop NS1000 Server, visit

www.hp.com/go/integritynonstop/1000.

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 mission-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.

© Copyright 2006 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Intel and Itanium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Microsoft and Windows are U.S. registered trademarks of Microsoft Corporation. UNIX is a registered trademark of The Open Group.

For more information, visit www.hp.com/go/integritynonstop/1000

4AA0-5387ENW Rev. 1, June 2006

