HP Integrity NonStop NB50000c BladeSystem

Data sheet

The HP Integrity NonStop NB50000c BladeSystem delivers a high-performance platform with the efficiencies of a standards-based bladed form factor to drive down costs, while supporting more robust applications for business growth.

Enterprises today face a continuous struggle to reduce infrastructure complexities, conserve valuable floor space, meet ever-changing business needs, while keeping their businesses up and running uninterrupted 24/7—with no downtime. Add to these requirements the concern of accelerating costs—from power consumption to cooling to datacenter space. Businesses are seeking a flexible, high-performance server platform that can provide a single solution to these challenges.

The new HP Integrity NonStop NB50000c BladeSystem can meet these needs. Combining the economies of standards-based, modular computing with the trusted

24/7 fault-tolerant availability and data integrity of the NonStop architecture, the new HP Integrity NonStop NB50000c BladeSystem doubles performance in half the footprint for lower per-transaction cost. It delivers up to twice as much processing power per unit of floor space within the same power envelope. Increased manageability also saves on administration resources. As a result, the NB50000c BladeSystem has a much lower total cost of ownership (TCO). With excellent price/performance, the NB50000c BladeSystem makes an ideal choice for businesses with massive transaction volumes such as finance, healthcare, and telecommunications.

The NB50000c BladeSystem uses the HP BladeSystem c-Class enclosure and the HP Integrity server blade, powered by dual-core Intel® Itanium® processors, as the processing engine. New NonStop Multi-core Architecture (NSMA) and NonStop Operating System release J06 leverage powerful multi-core processing to achieve a

Integrity NonStop BladeSystem Multi-core Architecture
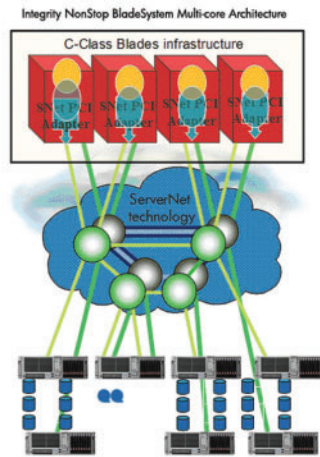
significant boost in performance. New standards-based NonStop I/O infrastructure also improves response time and throughput.

Multi-core processing allows for both scale up and scale out. The NB50000c BladeSystem scale up provides twice as much processing power per logical processor at a lower per-transaction cost. As is typical with other NonStop systems, the NonStop NB50000c scales out through built-in clustering of logical processors—up to 4,080 logical processors (8,160 cores).

Improved TCO makes the NonStop NB50000c a good choice for migration of existing business-critical applications. Applications running on the previous generation of the NonStop platform can migrate from existing rack-mount servers to the NB50000c with minimal effort. Migrating from earlier generation rack-mount systems will require replacing rack-mount processor components with a BladeSystem chassis and components and installing the new NonStop J-series operating system and NonStop J-series release software. In addition, the NonStop NB50000c supports existing modular I/O subsystem (IOAME, FCDM, FCSA, G4SA)—thereby protecting existing customer investments.

Key features and benefits

• Enable fault tolerance and 24/7 availability using continuously available software

  – Patented NonStop process-pair technology to provide instant software take-over in the event of software or hardware fault

  – Improved middleware and NonStop operating system enhances multiple failure fault tolerance, increases online manageability, and eases upgrades

• Provide industry-leading data integrity

  – Leverages Intel's improvements in chip-level data integrity and also prevents data corruption end-to-end

• Build an ideal platform for Service-Oriented Architecture (SOA)

  – J-series OS supports multi-core processors greatly improving the computing capacity of the platform and extending the acknowledged linear scalability of NonStop systems to a new level

  – The new NonStop Operating System J-series release supports standards-based middleware and core Web services. This provides a strong foundation for deploying SOA services on NonStop Blades to interoperate, both as a provider and as a consumer, with other SOA services

  – J-series OS supports SIM and other Distributed Management Task Force (DMTF) manageability standards making it possible for the NonStop BladeSystem to be managed under a unified management structure

• Double the performance and improve response time using multi-core and storage subsystem technology

  – Boosts performance by leveraging new multi-core processor architecture

  – Advanced caching technology (Write Cache Enabled) improves response time while maintaining transactional integrity

HP Services

HP's service solutions, built on the Solution Lifecycle (SLC) process, offer consistent quality and service levels for the Integrity NonStop servers. The SLC process helps achieve rapid productivity and maximum availability by examining specific needs at each of five distinct phases (Plan, Design, Integrate, Install and Manage) and then designing solutions around those needs. We offer three different service solutions designed to meet customer needs:

HP Critical Service Solution
• Startup and Deployment Services—build the solution to your exact specifications, complete the installation, and make the solution application-ready

  – Assessment and Design Services—define requirements and translate your business and technical needs into a solution that melds the necessary hardware and software

  – Deployment Management Services—upfront project coordination from HP

  – Education Services—training curriculums relevant to needs and existing expertise based upon a needs analysis

• HP Critical Service—comprehensive, on-going support designed to help minimize the business impact of downtime for business-critical applications

HP Proactive Service Solution
• Startup and Deployment Services

• HP Proactive 24 Service—integrated hardware and software support, including proactive and reactive services to improve stability and availability across your IT environment

HP Foundation Service Solution
• Startup and Deployment Services

• HP Support Plus 24 Service—integrated hardware & software support services designed specifically for your technology

For more information, visit **www.hp.com/services/nonstop**

HP Integrity NonStop NB50000c BladeSystem

Processors	2–16 logical processors per node Intel® Itanium® 9100 series dual-core 1.66GHz processors
Cache	18 MB L3
RAM per logical processor	Minimum: 8 GB Maximum: 48 GB
IOAME	Minimum: 0 Maximum: 6
Hot-swap ServerNet I/O adapters based on IOAME	Minimum: 10 per node Maximum: 60 per node
IP CLIMs	Minimum: 1 (provides 5 gigabit/sec Ethernet ports) Maximum: 22 (Note: Minumum=0 if only IOAME-based system)
Storage CLIMs	Minimum: 1 Maximum: 22 (Note: Minimum=0 if only IOAME-based system)
I/O adapters supported	Serial Attached SCSI (SAS), Fibre Channel, Gigabit Ethernet
Fibre Channel disk modules connected to IOAME via FCSA	14 disks per module
SAS disk modules	25 disks per module
Disk drives supported	FC disks: 144 GB, 300 GB HP StorageWorks XP24000 XP20000 XP12000 XP10000 Disk Arrays SAS disks: 72 GB, 146 GB
Standard features	Redundant power supplies Redundant fans Dual power distribution units Dual power cords

- Greatly reduce per-transaction cost
  - Delivers lower per-transaction cost by means of faster processing and standard modular components
  - Enhances response time and throughput with new standards-based IP communications and NonStop I/O infrastructure with latest storage technology
- Scale up and scale out for flexible growth
  - Scales up, to provide nearly double the processing power per logical processor at a lower per-transaction cost
  - Provides highest linear scaling system in business critical computing—up to 4,080 logical processors per total system for massive scale out
- Significantly reduce footprint and save datacenter facilities costs
  - Up to twice as much processing power per unit floor space within the same power envelope
  - Room to expand processing power in the future without increasing floor space
  - Only one extra server (N+1) is required for redundancy
  - Works with HP Smart Cooling technology
- Increase manageability and save administrator time and resources

- HP Systems Insight Manager (SIM) Blade Plug-in monitors and manages entire bladed infrastructure through a single console
- Seamless integration of NonStop Cluster Essentials with HP SIM improves management of systems within heterogeneous clusters
- Built-in Integrated Lights-Out technology remotely manages all servers
- Onboard Administrator simplifies common maintenance in real time

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, contact your HP sales representative or visit **www.hp.com/go/hpfinancialservices**

For more information

To learn more about HP Integrity NonStop servers contact your local sales representative or authorized HP reseller, or visit **www.hp.com/go/nonstopblade**

HP Integrity NonStop NB50000c BladeSystem

Environmental specifications

Altitude	Operating: 10,000 ft (3,000 m) maximum Non-operating: 30,000 ft (9,144 m) maximum
Temperature	Operating: 50°F to 100°F (10°C to 35°C) Non-operating: −40°F to 150°F (−40°C to 66°C) Maximum rate of temperature change: 36°F (20°C) per hour
Humidity	Operating: 20% to 80% relative non-condensing maximum Non-operating: 95% maximum at 150°F (66°C)
Dimensions **(H x D x W)**	78.7 x 46.65 x 24 in (1.99.9 x 118.5 x 60.96 cm)
Weight	752.5 lb (342.5 kg)
Power supply	Typical power dissipation: 6,239 VA Input current: 28 A @ 208 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	Compliant with UL 60950-1/CSA C22.2 NO. 60950-1-03 and EN 60950

Note: This table represents a single 42U rack, 4 logical processors in a single C-Class chassis, without UPS. It includes 2 Storage CLIMs, 2 SAS drive enclosures, 50 SAS drives, 2 IP CLIMs, one rack mount console and monitor, one maintenance LAN switch.

System configurations

Minimum configuration	Maximum single-node system configuration	Maximum configuration
2 processors	16 processors	255 nodes
8 GB/processor	768 GB main memory	191 TB main memory

Technology for better business outcomes

To learn more, visit www.hp.com/go/nonstopblade