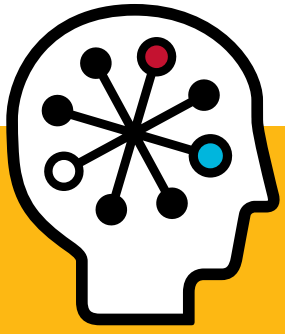
HP Integrity NonStop NB50000c-cg BladeSystem

Data sheet



Prevent service interruptions that impede business continuity—by operating core network services with high levels of reliability, scalability, and data integrity.

Sustain innovation and service quality. There is no better way to reduce customer churn in the face of strong competition. But to be able to do this, business-critical data centers must meet extreme requirements.

- Deliver rock solid services and best-in-class availability
- Deploy hardware platforms, software, custom applications, and capabilities—quickly and efficiently
- Access solutions at competitive prices and enable continuous improvement of total cost of ownership (TCO) over time
- Avoid project delays due to the need to build additional data center space
- Know that service is prompt, dependable, and can provide systems that are highly flexible and expandable

This is a tall order. Nevertheless, HP Integrity NonStop NB50000c-cg BladeSystem (NB50000c-cg) is responsive to these challenges. The new carrier-grade NonStop platform is specifically designed to deliver the capabilities you need to compete in the dynamic telecommunications space.

Support for the Telco protocols

For Intelligent Network (IN) applications, the optional HP OpenCall Intelligent Network Server software provides several interfaces between the Integrity NonStop NB50000c-cg platform and Telco networks.

- Signaling System 7 (SS7) over Channelized T1/E1 low-speed links
- SS7 over Unchannelized T1/E1 HSLs (also called Clear Channel)
- SS7 over ATM (SAAL) on T1/E1 high-speed links (HSLs)
- M3UA/SS7 over IP (SIGTRAN)

Compliance for MTP, SCCP, TCAP, and ISUP protocol layers is per ITU-T White Book and the ANSI Issue 3 standards. Support for China and Japan TTC SS7 standards is also provided.

Integrity NonStop carrier-grade platform scales out up to 4080 logical processors over ServerNet for the first time

NB50000c-cg leverages the modular efficiencies of industry-leading HP BladeSystem technology in the most trusted, highly available environment of the Integrity NonStop platform—with the ability to expand these systems to as many as 4080 logical processors through hardware-based clustering. It also allows you to manage these CPUs as a single system with a very small operations staff.

The new NonStop Multi-core Architecture (NSMA) and the NonStop Operating System J-series release leverage multi-core processing capabilities—allowing you to both scale up and scale out—to achieve a significant boost in performance. NB50000c-cg scale up provides twice as much processing power per logical processor at a lower per-transaction cost as compared to NS16000CG.

Powered by the dual core Itanium technology from Intel®, NB50000c-cg provides double the performance in half the footprint, with all the NonStop capabilities. This means, you still get the fault-tolerant hardware and software for the best-in-class availability, scalability, and data integrity. Then again, the new standards-based, carrier-grade NonStop I/O infrastructure also improves response time and throughput.

With improvements in TCO, the NonStop NB50000c-cg is a good choice even when you consider 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-cg with minimal effort.

Key differentiators

Our OpenCall solutions enable you to offer your subscribers an exceptionally rich and personalized user experience. The optional HP OpenCall Home Location Register (OC HLR) software delivers mobile network mobility management on a general-purpose computing-based platform. This centralized repository provides transient and static subscriber information for ANSI, GSM, and GPRS subscribers within a single network while supporting inter-working between technologies. Deployed in over 30 of the world's most successful wireless networks, this business-critical technology currently supports over 200 million licensed subscribers in more than 35 countries spanning five continents.

The optional HP OpenCall Intelligent Network Server (OC INS) provides a proven, robust IN services platform that supports legacy wireline, legacy wireless, and next-generation IP Multimedia Subsystem-based networks (IMS). Also, it allows you to build your services on top of this INS base.

New Storage, IP, and Telco Cluster I/O Modules

With the Integrity NonStop NB50000c-cg, HP introduces a novel carrier-grade I/O infrastructure offering enhanced capabilities that complement new blade and multi-core processor technologies. These new carrier-grade storage and communications I/O controllers and adapters are built on standards-based components and are tightly integrated with the rest of the system through ServerNet. Called Cluster I/O Modules (CLIMs), there are three functional types available:

- **Carrier-grade Storage CLIM:** Enables attachment of Serial Attached SCSI (SAS) disks and SAS connected DAT160 tapes
- **Carrier-grade IP CLIM:** Supports up to five gigabit-per-second copper Ethernet ports or three copper and two fiber ports—plus TCP/IP v6 and v4, IP Security (IPSec), and the Stream Control Transmission Protocol (SCTP) for the telecommunication industry
- **Carrier-grade Telco CLIM:** Supports up to five gigabit-per-second copper Ethernet ports—plus the M3UA protocol for connection to the Signal System 7 (SS7 over IP) communication standard used by telecommunication switching systems to control call setup and management

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 a fault
- Improved middleware and NonStop operating system to enhance multiple failure fault tolerance, enhance online manageability, and enable upgrades with ease

Double your performance in half the footprint

- Performance boost by leveraging multi-core processor architecture from Intel and advancements in NonStop software and hardware
- Advanced caching technology (Write Cache Enabled) to improve response time, while maintaining transactional integrity

Reduce IT and per-transaction costs in a trusted NonStop fault-tolerant environment

- A simplified infrastructure and lower TCO for complex business-critical applications
- Improved response time and throughput with new standards-based IP communications and NonStop I/O infrastructure with latest storage technology
- Only one extra server (N+1) requirement for redundancy, which improve TCO
- Integrated with HP Smart Cooling technology to reduce data center cooling costs
- Investment protection for previous generations of NonStop applications

Allow carriers to support ever-increasing usage from growing subscriber numbers with continuous availability and minimal expansion effort

- Scalable applications that span multi-standard, multi-generation networks, and overcome many of the complexities by providing subsystems and capabilities that offload much of the application development work
- Fast and extremely scalable memory-based database environment (MBE) option offers optimum performance and fault tolerance.

Increase manageability and save administrator time and resources

- Seamless integration of NonStop Cluster Essentials with HP Systems Insight Manager (SIM) Blade Plug-in to improve management of systems within heterogeneous clusters
- Built-in Integrated Lights-Out (iLO) technology remotely manages all servers and Onboard Administrator simplifies common maintenance in real time
- Infrastructure independence and uniform service offerings featuring interoperability with mixed-switch-vendor networks

Technical specifications

Processors	2–16 logical processors per node Intel® Itanium® 9100 series dual-core 1.66 GHz processors
Cache	18 MB L3
RAM per logical processor	Minimum: 8 GB
	Maximum: 48 GB
CG S-series I/O enclosure	Minimum: 0
	Maximum: 4
S-series I/O adapters: CCSA2	Minimum: 0 per node
	Maximum: 16 per node
CG IP CLIMs	Minimum: 2 (provides quantity 10 of 10/100/1000 Mbs Ethernet ports)
	Maximum: 48
CG Storage CLIMs	Minimum: 2
	Maximum: 24
CG Telco CLIMs	Minimum: 2
	Maximum: 48
SAS disk modules	12 disks per enclosure
Disk drives supported	SAS disks: 146 GB @ 15K RPM dual port, 3.5 inch
Tape drives supported	SAS connected dual-unit DAT160 (can read and write DAT72 tapes)
Standard features	Redundant power inputs
	Redundant cooling
Weight	
Cabinet maximum payload	907.2 kg (1,200 lb)
Cabinet weight (empty)	226.8 kg (500 lb)
Shipping pallet and package	38.6 kg (85 lb)
Height (cabinet)	182.9 cm (72 in)
Width (cabinet)	68.6 cm (27 in)
Depth (cabinet)	1 m (39.4 in)
Floor space requirements	
Front (appearance side)	91.4 cm (36 in) minimum; 130 cm (51.2 in) recommended
Rear (service side)	91.4 cm (36 in) minimum; 130 cm (51.2 in) recommended
Aisles	182.9 cm (72 in) minimum; 260 cm (102.4 in) recommended
Height (palletized)	200.64 cm (79 in)
Width (palletized)	92.7 cm (36.5 in)
Depth (palletized)	126.35 cm (49.75 in)
Temperature	
Operating range	5°C to 40°C (41°F to 104°F)
Operating (short-term)	–5°C to 50°C (23°F to 122°F)
Non-operating (6 mo.)	–40°C to 70°C (–40°F to 158°F)
Relative humidity	
Operating	5% to 85%, non-condensing
Non-operating	5% to 93%, non-condensing
Power consumption for a starter configuration*:	Nominal: 2949 W Maximum: 5350 W
Altitude	
Maximum operating	0 to 4,000 m (0 to 13, 123 ft)
Temperature derating factor	1°C per 305 m above 1,800 m (1.8°F per 1,000 ft above 5,900 ft) derating factor
Acoustic noise	83.6 dB
System cabling	Designed to accommodate top-down cabling using either cable grid work or cable trays installed on tops of cabinets. Design will also accommodate underfloor cabling system if cabinets are installed on a conventional computer room raised floor.
DC input voltage	
Nominal value:	–48/–60 VDC
Operating range	–40 to –72 VDC
Circuit breaker rating (system)	Dual-input breaker panel with max input rating of 240 A Dual-input fuse panel with max input rating of 80 A

* Starter configuration includes two NonStop blade servers (8 GB Memory each), two IP CLIMs, two Storage CLIMs, two SAS CG Enclosures, six SAS disks, one fuse panel, one breaker panel, and one Mtnt LAN switch in one single rack.

Protect subscriber data—the most valuable component of the platform

- In the event of hardware failure, leveraging improvements in Intel chip-level data integrity that prevents data corruption end-to-end

Provide next-generation services to your subscribers and avoid service interruptions

- An ideal platform for Service-Oriented Architecture (SOA)
- Implementation of IMS-ready network, while maintaining the same level of service by co-locating its optional HP OpenCall Home Subscriber Server (HSS) on the same platform as its HLR
- Distributed active-active mated pair to provide full operational availability—even during migrations

Access services that are time-tested and reliable

- Unmatched expertise through HP Services
- Trouble-free migrations by dedicated, experienced specialists with the capability to migrate entire subscriber databases

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 Services

HP Solution Lifecycle process helps achieve rapid productivity and maximum availability by examining specific needs in Plan, Design, Integrate, Install, and Managing phases of implementation. We offer three different Service Solutions.

HP Critical Service Solution

- Startup and Deployment Services—Build the solution to your exact specifications, install, and make the solution application-ready.
  - Assessment and Design Services—Translate your business and technical needs into a solution containing the necessary hardware and software
  - Deployment Management—HP project coordination
  - Education Services—Training relevant to needs and existing expertise.
- HP Critical Service—Comprehensive support designed to minimize the business impact of downtime for mission-critical applications

HP Proactive Service Solution

- Startup and Deployment Services
- HP Proactive 24 Service—Integrated reactive hardware and software support including proactive services improving stability and availability across your environment

HP Foundation Service Solution

- Startup and Deployment Services
- HP Support Plus 24 Service—Integrated reactive hardware and software support services designed specifically for the NonStop BladeSystem.

For more information:
http://www.hp.com/services/nonstop

Technology for better business outcomes

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

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