



HP Integrity BL870c Server Blade

Data sheet



Imagine the benefits of combining the robust value of HP Integrity systems with the flexibility, cost-efficiency, and modular design of the HP BladeSystem. HP Integrity systems are always available, always virtualized, and always scalable, while the HP BladeSystem provides an efficient infrastructure with power and cooling benefits, reduced data center footprint, streamlined management, and more flexibility.

Bringing together these advantages, the HP Integrity BL870c server blade delivers the trusted mission-critical capabilities of HP Integrity, ideal for scalable mission-critical applications and workloads requiring large amounts of memory and greater processing power.

Powered by the latest Intel® Itanium® processor 9100 series and enhanced by the HP zx2 chipset, the Integrity BL870c offers up to 8 processor

cores supported by up to 192 GB memory (24 DIMM slots) in a four socket design. What's more, you can mix and match the Integrity BL870c with ProLiant server blades and StorageWorks storage blades in the same enclosure.

In addition to the HP-UX 11i and OpenVMS operating environments, Integrity BL870c also supports Red Hat Enterprise Linux, Novell SUSE Linux Enterprise Server, Microsoft® Windows® Server 2008 for Itanium-based systems and Windows® Server 2003 Enterprise and Datacenter Editions, giving you the flexibility to deploy the right solution for your business needs. Moreover, it is an excellent platform for the database tier of multi-tiered enterprise applications such as SAP and Oracle Enterprise Applications.

The HP Integrity BL870c server blade delivers a solid platform to run mission-critical applications in a bladed infrastructure, providing superior virtualization, high availability, scalability, simplified management, and energy efficiency.

Key features and benefits

Superior reliability and high availability

The Integrity BL870c offers extensive high-availability features to enhance your data integrity, improve application availability, and reduce planned maintenance time.

- The Cache Safe Technology of the processors delivers mainframe class availability by virtually removing cache errors.
- The Dynamic Processor Resiliency—only available on HP Integrity servers—de-allocates (online) those CPUs that exhibit an unacceptable number of correctable errors.
- Double chip spare offers a 3x improvement in isolating memory errors over chip-kill implementations.

Ease of management

System management within the HP BladeSystem simplifies and cuts the time for common maintenance tasks. You can:

- Remotely manage your servers with the built-in, Integrity Lights-Out 2 (iLO 2) Advanced Pack.
- Save time with simple and reliable hardware infrastructure provisioning, monitoring, and control provided by the HP Systems Insight Manager (SIM).
- Rely on the single-console view of all infrastructure resources—servers, storage, and networking.

Intelligent virtualization

You can take control of your virtualized environment and respond to business demands by assigning resources on-the-fly to where they are needed most.

The HP Integrity Virtual Server Environment (VSE) allows you to improve your server utilization in real time. Combining intelligent control of your virtualized environment with partitioning, HP VSE can help you create a pool of virtual servers within an Integrity BL870c, which can grow or shrink based on your business needs.

- HP Integrity Virtual Machines—a soft partitioning and virtualization technology—provides operating system isolation, shared CPU (with sub-CPU granularity), shared I/O, and automatic and dynamic resource allocation.
- Global Workload Manager (gWLM)—an intelligent policy engine—allows you to centrally define resource-sharing policies that you can use across multiple HP servers, thus increasing system utilization.

Shared infrastructure

With the integrated and modular infrastructure of the HP BladeSystem, the Integrity BL870c is designed to work with and complement other servers.

- I/O mezzanine cards as well as hard drives are interchangeable across both Integrity and ProLiant servers.
- Integrity and ProLiant servers can also share the interconnect modules, including the innovative HP Virtual Connect technology, which helps cut network cables by 94 percent and offers the unique ability to wire everything once and then add, replace, or recover servers in minutes instead of hours and days.

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Processor	1.6 GHz/24 MB Dual-Core Intel Itanium (9150N)	1.6 GHz/18 MB Dual-Core Intel Itanium (9140N)	1.42 GHz/12 MB Dual-Core Intel Itanium (9120N)
Processors/Cores per system	4/8	4/8	4/8
Module type	Dual-core processor	Dual-core processor	Dual-core processor
Clock speed	1.6 GHz	1.6 GHz	1.42 GHz
Front-side bus	533 MHz	533 MHz	533 MHz
L1 cache	32 KB	32 KB	32 KB
L2 cache—instruction	1 MB per core	1 MB per core	1 MB per core
L2 cache—data	256 KB per core	256 KB per core	256 KB per core
L3 cache	24 MB (12 MB per core)	18 MB (9 MB per core)	12 MB (6 MB per core)
RAM minimum/maximum	4 GB/192 GB		
RAM type	PC2-4200 ECC chip spare DDR2		
Memory protection	Error checking and correcting (ECC) on memory and caches; double chip spare		
Hard drive capacity	36 GB, 72 GB, and 146 GB Small Form Factor Serial Attached SCSI (SAS) drives available		
Internal hard drive bays	4 hot-plug Serial Attached SCSI (SAS) small form factor (SFF) 2.5 inch drives		
Maximum internal storage	584 GB		
Removable media	External USB MultiBay II		
I/O slots	3 HP BladeSystem c-Class mezzanines		
Network adapter	Two dual-port Gigabit Ethernet (four total) embedded; additional GbE NIC available through mezzanine I/O		
Storage controller	Dual-channel SAS, internal only		
Internal RAID	HW RAID 1 with two identical internal HDDs		
Interfaces	VGA and 2 USB ports for local human interface; 1 RS-232 serial port and 10/100Base-T LAN for Integrated Lights-Out (iLO 2) management		
Form factor	Full-height; double-wide HP BladeSystem c-Class form factor		
Hot-plug fans	Up to 10 hot-plug, n+1 high availability (or greater, depending on the load) supplied with c-Class enclosure		
Operating systems supported	HP-UX 11i v3 (choice of Base OE, Virtual Server OE, High Availability OE, Data Center OE) and HP-UX 11i v2 Microsoft Windows Server 2008, Microsoft Windows Server 2003 Red Hat Enterprise Linux 4 and 5 and Novell SUSE Linux Enterprise Server 10 OpenVMS v8.3—1H1 (choice of Mission-Critical, Enterprise, or Foundation Operating Environment)		www.hp.com/go/hpux11i www.hp.com/go/integrity/windows www.hp.com/go/integritylinux www.hp.com/go/openvms
High availability—standard server features	N+1 up to N+N redundant power supplies (N < 3) supplied through HP BladeSystem c-Class enclosure N+1 fans (or greater depending on the load)—supplied through HP BladeSystem c-Class enclosure Support for HP zx2 Chipset Error checking and correcting (ECC) on memory and caches Memory double chip spare Automatic deconfiguration of memory and processors Service processor to monitor system status Redundant network paths Multiple Fibre Channel and InfiniBand paths		
HP Virtual Server Environment (VSE)	HP Virtual Machine Workload management, partitions, and availability software www.hp.com/go/vse		

Environmental specifications

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Altitude	Operating: 10,000 ft. (3,000 m) maximum	Non-operating: 15,000 ft. (4,600 m) maximum
Temperature	Operating: 50°F to 95°F (10°C to 35°C)	Non-operating: -22°F to +140°F (-30°C to +60°C)
Humidity	Operating: 20% to 80%	Non-operating: 5% to 95%
Dimensions	Height: 14.42" (36.63 cm); Depth: 20.05" (50.93 cm); Width: 4.10" (10.41 cm)	
Weight	Maximum configuration (38 lb.)	
Power requirements	Maximum 960 W Typical load 834 W with a CPU load factor of .7 (maximum CPU, memory, I/O, and internal drives), 938 W with a .9 CPU utilization	
BTU rating	Maximum 3,274 BTU/hour Typical .7 CPU utilization (with maximum memory, I/O, and internal drives) 2,842 BTU/hour	
Voltage tolerance range	Power supplied through the HP BladeSystem c-Class enclosure Single-phase model: 200 to 240 VAC Three-phase NA/JPN model: 200 to 208 VAC line to line; 3-phase Delta Three-phase international model: 346 VAC to 415 VAC line to line; 3-phase WYE	
Frequency tolerance range	50 to 60 Hz	
Regulatory model number	RSVLA-BC21	

HP Financial Services

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www.hp.com/go/hpfinancialservices

For more information

For more information about the HP Integrity systems family, visit:

www.hp.com/go/integrityserverfamilyguide

For more information about the HP Integrity BL870c server blade, contact any of our worldwide sales offices or visit our websites at:

www.hp.com/go/integrity
www.hp.com/go/bladestystem
www.hp.com/go/bl870c

For additional information, please visit:

HP Storage—www.hp.com/go/storageworks
HP Serviceguard—www.hp.com/go/serviceguard
HP Systems Insight Manager (SIM)—
www.hp.com/go/hpsim

To connect with other blade customers, partners, and experts, visit the HP Blade Connect online community:

www.hp.com/go/bladeconnect

HP Services

HP Services provides the people and processes that help you take full advantage of the server's capabilities needed to deliver the high levels of availability and performance required by your business.

The HP Services portfolio offers:

Consulting and Integration—a portfolio of infrastructure, industry, business application, and availability services

Support

- **Assessment and design services**—to translate business and technical needs into a solution that melds the necessary hardware and software support
- **Deployment services**—for risk-reducing installation, startup, implementation, and integration
 - **HP Factory Express**—customized factory configurations and onsite deployment
- **Availability services**—to reduce downtime and meet service-level commitments in mission-critical environments
 - **HP Support Plus 24 Service**—integrated hardware and software support services designed specifically for your technology
 - **HP Proactive 24 Service**—integrated hardware and software support, including proactive and reactive services to improve stability and availability across your environment
 - **HP Critical Service**—comprehensive support solution designed to help reduce the business impact of downtime for mission-critical applications

Education—classroom courses with self-paced curriculum and online instructor-led courses delivered off the shelf or customized to deliver an effective learning experience.

Customers rely on HP to design, deploy, operate, and support the IT systems that run their businesses. HP Services has an extensive track record of helping customers improve their ability to support their changing business needs.

For more information, please visit: www.hp.com/services/support

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To learn more, visit www.hp.com/go/bl870c

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