

## HP Integrity BL870c i2 server blade

Flexible mission-critical server blades, combined with the efficiency of HP BladeSystem

Data sheet

### HP Integrity server blades, the first mission-critical Converged Infrastructure on the industry's #1 blade platform

Data center sprawl is taking business processes to the breaking point. It's the result of the way IT infrastructures have been built for 40 years: Enterprises have purchased and deployed systems to support specific applications and workloads, those systems have been connected together in a piecemeal manner, and it has taken different teams, tools, and processes to manage them. These inflexible, monolithic, hard-wired, under-utilized systems and complex processes require excessive manpower to operate and do not scale well. This has increased complexity, which in turn inhibits flexibility, innovation, and uptime.



Tomorrow's IT will be built on a Converged Infrastructure, which tackles these problems—as well as consolidation, modernization, shared services, and business continuity initiatives—by simplifying, consolidating, and automating everything from the start. A Converged Infrastructure consists of:

- A common, modular infrastructure based on a blade design, which is a smarter way to support all of your vital applications
- A common network fabric, providing a simple, flexible way to connect systems to any network on-the-fly
- Comprehensive cross-domain control, automating operations to increase productivity and enhance utilization
- Comprehensive power and cooling management, to control energy usage and increase efficiency in real time under any workload

### Introducing the HP mission-critical Converged Infrastructure

HP has combined innovation, partnerships, and expertise to deliver the industry's first mission-critical Converged Infrastructure: new HP Integrity systems, leveraging the industry's #1 blade platform<sup>1</sup> and running HP-UX 11i v3. A unified blade architecture, from x86 to HP Superdome, simplifies environments by consolidating and delivering mission-critical applications on a highly resilient, modular blade platform. Moreover, the architecture embodies FlexFabric, a virtual fabric that can address any workload through rapid scale up, scale out, and scale within. It delivers always-on resiliency with 100+ innovations to enable global business continuity, and managed by matrix operating environment to instantly adjust to dynamic business needs.

<sup>1</sup> Source: Q4/09 IDC Quarterly Server Tracker, February 2010



## Accelerate IT effectiveness with BL870c i2—flexible, mission-critical server with the efficiency of HP BladeSystem

The HP Integrity BL870c i2 server blade is a versatile and expandable 4-socket blade that is ideal for the database tier of multi-tiered enterprise applications such as SAP and Oracle enterprise applications. This server blade features the unique HP Blade Link technology, which combines multiple blades to create 2-, 4-, and 8-socket systems—providing greater scalability and flexibility. In addition, HP Virtual Connect Flex-10 offers increased network scalability and configuration flexibility with up to a 20x increase in networking bandwidth. With wire-once connectivity, IT administrators can manage all subsequent “rewiring” virtually, significantly reducing their cabling. Plus, Integrity server blades offer double the performance in half the footprint<sup>2</sup>, with built-in resiliency and less power consumption. You can mix and match HP Integrity, HP ProLiant, and HP StorageWorks storage blades within the same enclosure—offering flexibility to grow as your business demands change.

### Key features and benefits

#### Scale up, scale out, scale within

The HP Integrity BL870c i2 server blade offers enhanced features to increase scalability, improve memory, and provide better compute power without compromising performance. You can scale up, scale out, and scale within to meet any business demands with maximum flexibility. The BL870c i2 server blade offers:

- Up to four Intel® Itanium® Processor 9300 series, providing 16 cores of compute power
- 48 DIMM slots with up to 192 GB of DDR3 memory with double-chip spare, providing a large memory footprint for demanding applications
- Up to four hot-plug small form factor SAS hard disk drives
- Eight 10-GbE (Flex-10) NICs
- Increased I/O bandwidth by 2x, with support for next-generation PCIe 2.0
- Blade Link, enabling linear scalability with the industry’s first 2-, 4-, and 8-socket UNIX® server blades

#### Always-on resiliency

The built-in business continuity, resiliency, and availability features in the BL870c i2 server blade keep businesses running without interruption, with a two- to nine-times performance boost.

Key resiliency features include:

- Increased I/O bandwidth by 2x, with support for next-generation PCIe 2.0
- Double-chip spare, providing 17x higher memory reliability compared to single-chip spare

#### Industry-leading workload and resource-management solutions

The BL870c i2 server blade increases flexibility and simplifies complex infrastructures with HP Insight Dynamics – VSE for Integrity servers, bringing together the best of the HP infrastructure management portfolio. Your organization can save time and conserve valuable IT resources, accelerate complex IT projects, and simplify daily operations with the industry-leading workload and resource-management solutions that BL870c i2 server blade offers, including:

- HP Virtual Connect Flex-10 technology, which offers up to 32 FlexNIC connections before adding additional Ethernet adapters
- Mission-critical virtualized UNIX—HP-UX 11i v3: to enable availability, accelerate innovation, and simplify operations
- HP Integrity Virtual Machines, which provide the benefits of increased resource utilization and flexibility (shared processor and I/O devices), and rapid deployment
- HP Secure Resource Partitions (SRPs), which enable workload consolidation on a single operating system
- HP Integrity Integrated Lights-Out 3 (iLO 3) remote management, which saves time and conserves valuable IT resources
- Infrastructure Orchestration, which provisions and modifies complex infrastructures in minutes

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<sup>2</sup> Source: Based on HP internal comparisons versus comparably configured Integrity rack mount servers conducted February 2010.

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BL870c i2



BL870c i2 in c3000 Enclosure



BL870c i2 in c7000 Enclosure

Processor	Intel Itanium 9350 4c Proc Kit	Intel Itanium 9340 4c Proc Kit	Intel Itanium 9320 4c Proc Kit
Processors/Cores per system	4/16	4/16	4/16
Module type	Quad-core processor	Quad-core processor	Quad-core processor
Clock speed with Turbo	1.73 GHz up to 1.86 GHz	1.6 GHz up to 1.73 GHz	1.33 GHz up to 1.46 GHz
Quick path interconnect	19.2 GB per second	19.2 GB per second	19.2 GB per second
L1 cache	32 KB per core	32 KB per core	32 KB per core
L2 cache (instruction)	512 KB per core	512 KB per core	512 KB per core
L2 cache (data)	256 KB per core	256 KB per core	256 KB per core
L3 cache	24 MB	20 MB	16 MB
Memory minimum/maximum	Minimum: 16 GB (4 x 4 GB) Maximum: 192 GB (48 x 4 GB)		
Memory type	Registered PC3-10600 DDR3 1,333 MHz ECC DIMMs		
Memory protection	Error checking and correcting (ECC) on memory and caches; double-chip spare		
Hard drive capacity	72 GB, 146 GB, and 300 GB small form factor (SFF) 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	1.2 TB		
Removable media	HP External CD/DVD R/RW USB drive		
I/O slots	6 Mezzanine slots: 4 Type II and 2 Type I, PCIe x8 Gen2		
Network adapter	8 NIC ports through 4 NC532i Dual-Port Flex-10, 10-GbE Multifunction Server Adapters		
Storage controller	2 HP p410i 3Gb SAS Controllers		
Internal RAID	HBA mode		
Interfaces	VGA and 2 USB ports for local human interface; 1 RS-232 serial port and 10/100Base-T LAN for Integrity Integrated Lights-Out (iLO 3) 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) <a href="http://www.hp.com/go/hpux11i">www.hp.com/go/hpux11i</a>		
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 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 paths		
HP Insight Dynamics – VSE for Integrity	Provides industry-leading workload and resource-management solutions to accelerate complex IT projects and simplify daily operations. <a href="http://www.hp.com/go/insightdynamics/integrity">www.hp.com/go/insightdynamics/integrity</a>		

## Environmental specifications—HP Integrity BL870c i2 Server Blade

<b>Altitude</b>	Operating: 10,000 ft. (3,000 m) maximum	Non-operating: 15,000 ft. (4,600 m) maximum
<b>Temperature</b>	Operating: 10° to 35° C (50° to 95° F)	Non-operating: -40° to 60° C (-40° to 140° F)
<b>Relative humidity</b>	Operating: 15% to 80%	Storage: 10% to 90%
<b>Dimensions</b>	Height: 14.42 in. (36.63 cm) Depth: 20.05 in. (50.93 cm) Width: 4.13 in. (10.49 cm)	
<b>Weight</b>	Maximum 53 lb (24.04 kg)	
<b>Power requirements</b>	Maximum 1,700 W	
<b>BTU rating</b>	Maximum 5,800 BTU/hour Typical .7 CPU utilization (with maximum memory, I/O, and internal drives) 4,648 BTU/hour	
<b>Voltage tolerance range</b>	Power supplied through the HP BladeSystem c-Class enclosure Single-phase model: 200 to 240 VAC 3-phase NA/JPN model: 200 to 208 VAC line to line; 3-phase Delta 3-phase international model: 346 VAC to 415 VAC line to line; 3-phase WYE	
<b>Frequency tolerance range</b>	50 to 60 Hz	
<b>Regulatory model number</b>	RSVLA-BC11	

## HP Financial Services

### Financing the mission-critical Converged Infrastructure

HP Financial Services provides you with the financial and asset management services you require to migrate to a mission-critical Converged Infrastructure. These services are designed to enable the migration to the new line of HP Integrity servers, while reducing TCO and accelerating your ROI.

For more information on these services, please contact your HP sales representative or visit:

[www.hp.com/go/hpfinancialservices](http://www.hp.com/go/hpfinancialservices)

To learn how the HP Integrity BL870c i2 server blade can help your business move to a mission-critical Converged Infrastructure, please visit: [www.hp.com/go/integrityblades](http://www.hp.com/go/integrityblades)

## HP Services

### Recommended Services

**3- to 5-Year HP Support Plus 24 Service Care Pack:** For a higher return on your HP technology, this combined reactive support option delivers integrated onsite hardware/software support services available 24x7.

**HP Startup Integrity Blade Infrastructure Service:** HP specialists help you more effectively deploy your HP BladeSystem by providing an integrated hardware and software implementation—including enclosure, server and storage blades, software.

**Proactive Select:** Proactive Select is a flexible way to purchase HP best-in-class consultancy and services. You can buy Proactive Select service credits when you purchase your hardware, and then use the credits over the next 12 months, or 3–5 years.

### Related Services

**3- to 5-Year HP Critical Service (CS) Care Pack:** HP CS provides a complete support solution designed for businesses that run essential mission-critical applications.

**3- to 5-Year HP Proactive 24 Service (P24) Care Pack:** For improved stability, availability, and operational effectiveness, this integrated hardware and software support service combines industry-leading reactive technical assistance with proactive account services.

Contact your HP sales representative or HP-authorized Channel Partner, or visit: [www.hp.com/hps](http://www.hp.com/hps)

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