Speed up. Scale up. Strengthen.

HP Integrity server blades

Accelerate mission-critical IT

We all live and work in a new era of extreme business speed with heightened customer, partner, and employee expectations. To better compete and grow, businesses demand more innovation, speed, and flexibility from their data centers. This puts the pressure squarely on IT to deliver applications and new services quickly, while also paving the way for future innovation. Unfortunately, aging infrastructure and facilities are limiting business agility and draining IT budgets. Inflexible, monolithic, hard-wired, and under-utilized systems are too complex, costly to maintain, and too slow to respond to today's business demands—a phenomena known as IT sprawl. That is why infrastructure convergence has evolved as the optimal approach to overcome IT sprawl while also establishing the ideal foundation for both traditional and cloud solutions. This is especially important for mission-critical environments where proliferation of technology has created a world where everything is mobile, connected, interactive, immediate, and fluid—requiring IT to react to the speed of business and stay up and running like never before.

Simply put, you need a proven mission-critical infrastructure that you can trust to keep your vital business applications up and running. HP Mission-Critical Converged Infrastructure protects your business, keeps it up and running with a simpler, integrated, and automated environment, for today and for the future.

HP Mission-Critical Converged Infrastructure

The newest HP Integrity systems combine years of trusted HP Integrity resiliency with new innovations and HP BladeSystem efficiencies. As the foundation for HP Mission-Critical Converged Infrastructure, Integrity systems offer:

- A common modular architecture from x86 to Superdome 2 to simplify and unify IT
- Always-on resiliency—a secure and reliable infrastructure from CPU to solution
- Dynamic optimization—integrated management and virtualization to scale resources desirably
- Investment protection and stability—sustained innovation, decades of support life, and compelling value

Get new levels of flexibility and performance for mission-critical enterprise applications

The HP Integrity BL860c i4 Server Blade, HP Integrity BL870c i4 Server Blade, and HP Integrity BL890c i4 Server Blade are flexible and versatile two-, four-, and eight-socket systems that are ideal for your mission-critical enterprise applications. With support for hard partitioning (HP nPars), HP-UX Virtual Partitions (HP-UX vPars), and HP Integrity Virtual Machines, these Integrity server blades give you mission-critical levels of virtualization availability and flexibility. Additionally, embedded HP Virtual Connect FlexFabric offers increased network scalability and configuration flexibility while reducing infrastructure costs by converging LAN and SAN traffic on the same connection. With wire-once connectivity, IT administrators can manage all subsequent "rewiring" virtually, significantly reducing cabling. These HP Integrity server blades feature the unique HP Blade Link technology, which combines multiple blades to create two-, four-, and eight-socket systems—providing greater scalability and flexibility.

What's more, you can mix and match HP Integrity, HP ProLiant, and HP Storage blades within the same enclosure, to grow flexibly as your business demands change. These Integrity server blades offer up to 3x the performance of the previous generation, double the core count, and support a robust virtualization infrastructure.[1] It's time to speed up, scale up, and strengthen your server infrastructure with the new line of Integrity server blades.

Key features and benefits

Speed up your mission-critical applications: The Intel® Itanium® Processor 9500 Series with up to 2.53 GHz clock speed make the new Integrity server blades the fastest Integrity server blades available today. You can now accelerate your server performance with:

- One to eight, 4-core and 8-core, Intel Itanium Processor 9500 Series that provide up to 64 cores of computing power for the most demanding mission-critical workload requirements
- Four embedded FlexFabric 10 Gb converged network adapter ports that deliver extensive bandwidth for network-intensive applications
- High-performance HP Smart Array Controller for hardware RAID 0 and 1 with read-only, 512 MB cache that accelerates time to rebuild

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[1] **Source:** HP internal tests, HP internal labs, August 2012.
Note: Based on HP internal benchmark, conducted by HP internal labs, calculating the efficiency of the operating system and underlying server hardware. The study compares HP Integrity BL860c i4 Server Blade and HP Integrity BL860c i2 Server Blade. The new server delivered a result of 3.29x the performance of the previous generation, rounded to 3x.

Scale up to increase performance: With the Integrity server blades, you can now experience true mission-critical converged infrastructure flexibility along with the modular and scalable design of the Integrity server blades. The Integrity server blades offer:

- HP Blade Link technology that enables linear scalability from 2- to 4- to 8-socket server blades to meet your changing business demands

- Up to 16 embedded HP Virtual Connect FlexFabric connections for connectivity to both network and storage, which reduces the need for additional I/O mezzanine cards

- Up to 96 dual in-line memory module slots providing up to 1.5 TB of DDR3 low-voltage memory with double-chip spare, enabling a large memory footprint for demanding applications

- Up to eight disks, with a choice of hot-plug small form factor (SFF) serial-attached SCSI (SAS) hard disk drives, or solid state disks (SSD)

- Option of adding up to 12 mezzanine cards to provide support for Fibre Channel over Ethernet, SAS RAID, Fibre Channel, and others

Strengthen with improved reliability and increased manageability: The new Integrity server blades offer massive flexibility and availability with electrically isolated hard partitions (nPars). These Integrity server blades come with industry-leading workload management features, such as HP-UX vPars, HP Global Workload Management (gWLM), and resource management capabilities such as mission-critical virtualized UNIX® (HP-UX 11i v3), infrastructure orchestration, and HP Integrity Integrated Lights-Out 3 (iLO 3). You can save time, conserve valuable IT resources, accelerate complex IT projects, and simplify routine operations with:

- HP-UX 11i v3 that delivers the industry's most resilient UNIX platform ensuring your mission-critical applications are always on and secure without compromise

- Up to four electrically isolated HP nPars for each Integrity server blade to boost system availability

- HP-UX vPars that dynamically adjust and share resources, and require very little overhead

- HP Integrity Virtual Machines, included with the Matrix OE, that offer the benefits of increased resource utilization and flexibility (shared processor and I/O devices), and rapid deployment

- HP-UX Containers that enable workload consolidation on a single operating system

- HP iLO 3 remote management that saves time and conserves valuable IT resources by simplifying remote management

- HP Insight Control power manager that enhances power utilization; advanced power capping that helps reclaim trapped power and cooling capacity; and OS power regulator that helps conserve power without any impact on performance

Technical specifications

	HP Integrity BL860c i4 Server Blade Move toward a mission-critical converged infrastructure with a versatile and expandable 2-socket server blade	HP Integrity BL870c i4 Server Blade Accelerate mission-critical IT effectiveness with a versatile and expandable 4-socket server blade	HP Integrity BL890c i4 Server Blade Scale up to meet the high demands of mission-critical computing with an 8-socket server blade
Ideal for	Application-tier and transaction workloads, database, Java, and technical computing applications	The database tier of multi-tiered enterprise applications, such as SAP and Oracle enterprise applications	Larger mission-critical workloads such as enterprise resource planning, customer relationship management, business intelligence, and large shared-memory applications
Processor	Intel Itanium Processor 9500 Series 2.53 GHz (8-core) 32 MB cache 2.13 GHz (8-core) 24 MB cache 2.40 GHz (4-core) 32 MB cache 1.73 GHz (4-core) 20 MB cache	Intel Itanium Processor 9500 Series 2.53 GHz (8-core) 32 MB cache 2.13 GHz (8-core) 24 MB cache 2.40 GHz (4-core) 32 MB cache 1.73 GHz (4-core) 20 MB cache	Intel Itanium Processor 9500 Series 2.53 GHz (8-core) 32 MB cache 2.13 GHz (8-core) 24 MB cache 2.40 GHz (4-core) 32 MB cache 1.73 GHz (4-core) 20 MB cache
Processors/cores per system	2/16	4/32	8/64
Partitioning	HP-UX vPars HP Integrity Virtual Machines HP-UX Containers	1-2 hard partitions (nPars) HP-UX vPars HP Integrity Virtual Machines HP-UX Containers	1-4 hard partitions (nPars) HP-UX vPars HP Integrity Virtual Machines HP-UX Containers
Memory	Minimum: 8 GB (2x4 GB) Maximum: 384 GB (24x16 GB)	Minimum: 16 GB (4x4 GB) Maximum: 768 GB (48x16 GB)	Minimum: 32 GB (8x4 GB) Maximum: 1.5 TB (96x16 GB)
Removable media I/O slots	HP external CD/DVD R/RW USB drive 3 mezzanine slots: 2 type II and 1 type I, PCIe x8 Gen2	HP external CD/DVD R/RW USB drive 6 mezzanine slots: 4 type II and 2 type I, PCIe x8 Gen2	HP external CD/DVD R/RW USB drive 12 mezzanine slots: 8 type II and 4 type I, PCIe x8 Gen2
Network Controller	4 FlexFabric ports (10GbE) for LAN and SAN connectivity	8 FlexFabric ports (10GbE) for LAN and SAN connectivity	16 FlexFabric ports (10GbE) for LAN and SAN connectivity
Hard drive capacity	146 GB, 300 GB, 450 GB, 600 GB, and 900 GB SFF SAS drives available 200 GB and 400 GB SFF SAS SSD SLC drives available	146 GB, 300 GB, 450 GB, 600 GB, and 900 GB SFF SAS drives available 200 GB and 400 GB SFF SAS SSD SLC drives available	146 GB, 300 GB, 450 GB, 600 GB, and 900 GB SFF SAS drives available 200 GB and 400 GB SFF SAS SSD SLC drives available
Internal hard drive bays	2 hot plug SAS SFF 2.5-inch drives	4 hot plug SAS SFF 2.5-inch drives	8 hot plug SAS SFF 2.5-inch drives
Maximum internal storage	1.8 TB	3.6 TB	7.2 TB
Form factor	Full-height; single-wide HP BladeSystem c-Class form factor 8 server blades in c7000 and 4 server blades in c3000	Full-height; double-wide HP BladeSystem c-Class form factor 4 server blades in c7000 and 2 server blades in c3000	Full-height; quad-wide HP BladeSystem c-Class form factor 2 server blades in c7000 and 1 server blade in c3000
Operating systems supported	HP-UX 11i v3	HP-UX 11i v3	HP-UX 11i v3

HP Services

HP Technology Services consultants and support experts can solve your most complex infrastructure problems. We help keep your business running, no matter what. You can boost availability, avoid downtime, and trust our expertise to optimize your HP solution.

Recommended services (Optimized Care)

3-Year Critical Service: This service offers high-performance reactive services and proactive components designed to minimize planned and unplanned downtime. The key features of this service include an assigned support team with an account support manager (ASM), remote support account advocate, and mission-critical hardware specialist; and an access to the HP Global Mission Critical Solution Center to help resolve complex issues faster. Reactive support components of this service include 24x7 hardware and software coverage, 6-hour call-to-repair commitment, enhanced parts inventory, and accelerated escalation management.

HP Factory Express: HP Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment. Visit **hp.com/go/factoryexpress**.

Related services (Standard Care)

3-Year HP Proactive 24: This service offers improved stability, availability, and operational effectiveness through integrated hardware and software support services that combine industry-leading reactive technical assistance with proactive account services delivered by an ASM, giving you IT management support with a team of service specialists.

HP Startup Integrity Blade Infrastructure Service: This service provides efficient and effective HP Integrity Blade infrastructure setup for your server infrastructure including all hardware and networking components.

For more information about HP services and support, visit **hp.com/services**.

Customer technical training

We offer a wide variety of training on HP technologies including servers, operating systems, storage, and networking. Our classes are available in many delivery modalities—from traditional instructor-led courses at one of our 90 training centers worldwide to online and onsite training. Visit **hp.com/learn**.

HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help you acquire, manage, and ultimately retire your HP solutions. Visit **hp.com/go/hpfinancialservices**.

For more information

The new line-up of HP Integrity server blades offers increased levels of virtualization availability, flexibility, and network scalability, while reducing infrastructure costs. To know more, visit **hp.com/go/integrityblades**.

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