



BladeSymphony® 320  
Pushing Consolidation to the Edge



BladeSymphony 320

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# Hitachi's BladeSymphony® 320

Simple, reliable compute power for the enterprise, the branch, or the remote office.

Consolidation just doesn't get any simpler. Or more efficient. The Hitachi BladeSymphony 320 blade server delivers a combination of compute density and enterprise-class reliability that far exceeds the capabilities of rack-mount servers and other blade servers—with a level of simplicity that is absolutely unprecedented. It's the ideal platform for consolidating applications both at the edge and application tiers of the enterprise data centre.

## Redefines "Power Packed"

BladeSymphony 320 packs more power into a smaller space than any comparable solution: up to 10 two-socket, quad-core servers in a single 6U chassis—with 60% space savings compared to rack-mount server solutions. For large configurations the system can pack 70 two-socket, quad-core servers in a single standard 42U rack—that's up to 560 cores in a single rack.

And you can run your most demanding applications with confidence because BladeSymphony 320 has built-in reliability, availability, and serviceability (RAS) features that keep you up and running at high performance 24/7. From hot-swap components and multi-configurable power supplies to Hitachi's unique N+M cold stand-by feature for automated system failover.

## A Fully Integrated Chassis

Each BladeSymphony component fits beautifully into the highly compact 6U chassis.

When it comes to configuration, you are in complete control. A wide choice of optional capabilities and components is available, such as 1 Gbps and 10 Gbps Ethernet switching or a LAN pass-through module, Fibre Channel switch modules for connecting to a SAN, and dual redundant management modules. Since all components are built in, there's less cabling, less complexity, and less work required of administrators.

Whether or not you choose to deploy Hitachi's BladeSymphony Management Suite, you always have access to the

on-board remote IP KVM for blade administration and the comprehensive web console for system management.

You can also manage your costs with the sophisticated power-monitoring and capping features that the chassis offers.

For ultimate reliability, multiple redundant hot-swappable fans and power supplies are standard. For ultimate flexibility, any combination of BladeSymphony 320 blades can be mixed within the chassis.



## A Choice of Powerful Blades

Since the chassis can accommodate any mix and any number of server blades up to a total of ten, you can precisely configure the system to meet your needs, optimising your capital expenditure. If you need to increase compute power at a later stage, adding extra blades is practically effortless.

Hitachi's BladeSymphony 320 blades are built around powerful quad- and dual-core CPUs from the Intel® Xeon® Processor 5500 Series. Supporting up to 48 GB memory per



blade, with four on-board Gigabit Ethernet ports as standard, and an optional 2-port 4 Gbps Fibre Channel mezzanine card, BladeSymphony 320 blades provide an excellent platform for virtualization.

The standard A4 server blade has capacity for two hot-swappable Serial-Attached SCSI (SAS) disk drives. For SAN-only environments, the S4 blade strips out the disks and controllers, saving you money and power.



## Specifications

### BladeSymphony 320

Chassis	Size	6U (Rack Mountable)				
	Server Blade Modules	Up to 10 server blade modules				
	Dimensions (W x D x H)	440mm x 780mm x 262mm				
	Weight (Max.)	Approx. 98kg				
	Power Supplies	220V or 110V hot swappable, N+1 or fully redundant. Max 4 PSUs				
	I/O Modules	1 Gbps or 10 Gbps Ethernet Switch Module, 1 Gbps LAN Pass-through Module, Fibre Channel Switch Module				
	Management Modules	Up to two redundantly configurable				
Server Blade	Processor	Dual-Core Intel® Xeon® Processor E5502	Quad-Core Intel® Xeon® Processor E5520	Quad-Core Intel® Xeon® Processor E5540	Quad-Core Intel® Xeon® Processor X5570	Quad-Core Intel® Xeon® Processor L5520
	Processor Frequency	1.86 GHz	2.26 GHz	2.53 GHz	2.93 GHz	2.26 GHz
	Number of Processors (Cores)	Min. 1 (2 cores) / Max. 2 (4 cores)	Min. 1 (4 cores) / Max. 2 (8 cores)			
	Cache	4 MB	8 MB			
	Quick Path Interconnect Freq.	4.80 GT/s	5.86 GT/s	5.86 GT/s	6.40 GT/s	5.86 GT/s
	Main Memory	DDR3 Registered ECC DIMM 1 GB / 2 GB / 4 GB / 8 GB				
	Capacity	Max. 48 GB				
	Internal Hard Disk	A4 Server Blade: Up to 2 x 73 GB or 147 GB, 10 krpm, 2.5" SAS disks, hot-pluggable				
		S4 Server Blade: None				
	Internal Expansion Slot	Optional Fibre Channel Mezzanine Card				
Network Interface	Up to 4 x integrated Gigabit Ethernet (SERDES) ports					
Operating Systems	Microsoft® Windows Server® 2008 Standard/Enterprise Edition Microsoft® Windows Server® 2003 R2, Standard/Enterprise Edition (SP2) Microsoft® Windows Server® 2003 R2, Standard/Enterprise x64 Edition (SP2) Red Hat Enterprise Linux® 5.3					

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## Simply A Pleasure to Manage

BladeSymphony's optional management software suite provides centralized management and control of all server, network, and storage resources, including the ability to set-up and configure servers, monitor server resources, integrate with enterprise management software via SNMP, provide automatic failure notification, and manage server assets. So there are no hassles integrating diverse resources into your management system. And you can use it to manage multiple BladeSymphony chassis, so you can scale up without moving to a new management platform.

BladeSymphony Management Suite is responsible for providing BladeSymphony's high-availability N+M failover functionality. If a server blade should fail, the management software will automatically transfer all of its settings to one of the pool of cold-standby by blades which is then powered up, transparently replacing the failed blade, regardless of the application it was running, and without operator intervention.

So if you're looking for a simple, manageable, cost-efficient way to deploy compute power when and where you need it—or if you're just looking for some extra space in your data center—you've found it.

BladeSymphony<sup>®</sup> 320 from Hitachi. We're pushing consolidation right to the edge.

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## From Hitachi, the Ideal Partner for Growth

Hitachi is one of the world's largest, most diverse technology companies. When you purchase BladeSymphony servers, you benefit from Hitachi's rich heritage as a server market leader—a legacy of expertise in computers ranging from mainframes and supercomputers to PC servers. You also position your organization to take full advantage of the breadth and depth of Hitachi's multiple product lines, including industry-leading storage systems; award-winning consulting services; strategic alliances with third-party technology vendors worldwide; and Hitachi's unmatched reputation for responsive, comprehensive service and support.

Simply put, you can rest assured that your IT investment will be secure and that your organization will be well positioned to capitalize on new technologies as they emerge.

## BladeSymphony 320 at a Glance

### Simple to deploy and manage

- Less cabling, less complexity, less work for administrators
- Integrated management console for all your BladeSymphony assets

### An ideal consolidation platform

- Packs up to 560 cores into a standard 42U rack (up to 10 two-socket, Quad- or Dual-Core server modules per 6U chassis)
- Up to 60% space savings compared to rack-mount servers

### Ideal for virtualization

- Up to eight high-performance processor cores per server
- Huge 48 GB maximum memory per blade
- Large I/O bandwidth in a very small package

### High reliability for enterprise-class workloads

- Hot-swap components, redundant switch and management modules, N+M cold stand-by feature, N+1 and fully redundant power supplies, and hot-swappable fan modules

### Lower TCO

- Advanced power management features for lower energy costs
- Energy saving low-voltage processor blade available
- Integrated, interoperable, manageable SAN and network components for lower administration costs
- SAN-only blade option for cost optimisation
- Support for industry standards: Intel<sup>®</sup>, Windows<sup>®</sup>, Linux<sup>®</sup>

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