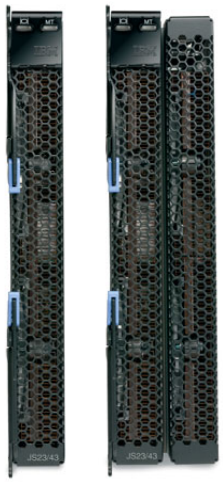
IBM BladeCenter JS23 and JS43 Express



BladeCenter JS23 and JS43 Express blade servers

Built on the promise of the IBM BladeCenter® family of products—easy-to-use, integrated platforms with a high degree of deployment flexibility, energy efficiency, scalability and manageability—the BladeCenter JS23 and JS43 Express are the premier blades for 64-bit applications. They represent one of the most flexible and cost-efficient solutions for UNIX®, i and Linux deployments available in the market. Further enhanced by its ability to be installed in the same chassis with other IBM BladeCenter blade servers, the JS23 and JS43 can deliver the rapid return on investment that clients and businesses demand. Delivering on the promise of a truly Dynamic Infrastructure, the BladeCenter JS23 and JS43 help in delivering superior business and IT services with agility and speed—all in a simple to manage highly efficient way.

Highlights

- ***Ideal for infrastructure consolidation, virtualization, and demanding applications that require scalable performance and high memory capacity***
- ***IBM POWER6™ processor technology and the ability to run AIX®, IBM i, and Linux® operating systems simultaneously***
- ***Elegantly simple scalability, allowing easy expansion and pay-as-you-grow flexibility for the utmost in investment protection and performance growth***
- ***A secure, resilient and dynamic infrastructure solution that helps drive cost down, reduces risk, improves energy efficiency and enhances flexibility***

POWER6™ BUILT ON Power™

The JS23 and JS43 Express blades have been pre-configured and tested by IBM and are based on proven technology. Utilizing a 4.2 GHz 64-bit POWER6 processor and available in a four-core or eight-core configuration including a new 32 MB Level 3 cache for each core pair, and simultaneous multi-threading, they are designed to deliver outstanding performance and capabilities at compelling prices. With faster and more reliable double data rate 2 (DDR2) memory options and support for eight to 16 memory DIMM slots along with Serial Attached SCSI (SAS) disk subsystem, the BladeCenter JS23 and JS43 Express blades are designed for increased uptime and enhanced performance. Exploiting the newest in high performance and energy-efficient solutions like Solid State Disk Technology, the JS23 and JS43 offer remarkable performance for I/O intensive applications. And, for those that require fast and frequent data access, the JS23 and JS43 offer the utmost in easy-to-manage,

BladeCenter S chassis

tough-to-break solutions. Along with built-in support for IBM PowerVM™ Editions for advanced virtualization features such as Live Partition Mobility and Active Memory™ Sharing, the JS23 and JS43 offer an ideal blade server solution for driving your most demanding performance and memory-intensive workloads such as virtualization, databases and high performance computing (HPC) applications. By consolidating and virtualizing on BladeCenter with the JS23 and JS43, you can increase the utilization of your hardware and decrease the number of physical assets you need to watch over. This translates into real dollar savings through better energy conservation and IT resource usage across the data center.

Meeting today's cost challenges while planning for tomorrow's growth can be difficult. When you demand more performance, these blade servers are ready to scale to four processors with the addition of a multi-processor expansion unit (MPE). Simply snap the MPE to the original blade and it becomes a four-processor eight core, ~60 mm blade server with the additional performance, memory and double the I/O expansion you need to deliver a flexible, resilient and highly scalable IT infrastructure. Best of all, this expansion capability won't break the bank and provides the opportunity to standardize on a single blade platform for all your needs.

If you are looking for the perfect alternative to replacing traditional rack servers, then look no further. With a range of available BladeCenter chassis supported and the performance and scalability you need for demanding workloads of any sort, the JS23 and JS43 blades deliver what you are looking for. When combined with the BladeCenter S chassis, the JS23 or JS43 become an ideal solution for deploying blades in an office and distributed enterprise environment. Unlike a stand-alone server that needs multiple power supplies and fans, individual systems management, numerous cables and a lot of space, IBM BladeCenter is compact and easy to use. The blades contain all the necessities to run an application—processors, memory, I/O and storage. Components that are duplicated in rack servers, like redundant power, hot-swap cooling, DVD and consolidated management are placed in the BladeCenter chassis and shared. The beauty of the BladeCenter architecture is that now everything needed for the solution can be housed and managed from a single point of control.

With IBM BladeCenter and i, customers can realize innovation with proven sixth-generation POWER® technology for enhanced performance, efficiency and reliability; cut costs and consolidate workloads with leadership virtualization as a built-in feature; go green with better energy management by using EnergyScale™ technology; and manage growth, complexity and risk with the flexibility of IBM BladeCenter technology. With i support, small and medium clients can consolidate their IBM System i® and Intel® processor-based servers into a single chassis, leveraging the management, space and power savings provided by IBM BladeCenter solutions. Large or small enterprises can now consolidate their IBM i applications into a centralized BladeCenter environment with a choice of BladeCenter chassis and blade configurations to fit their needs.

Simplify. Cut costs. Boost productivity. Go green. They're all priorities for IT, and they're all driving organizations to rethink their server strategies and become more receptive to new ways to use IT. Blades are the next-generation solution, promising improvements across the board. The IBM BladeCenter innovative, open design offers a true alternative to today's sprawling racks and overheated server rooms. So toss your cables and take the leap. Migrate to the blade solution that uses less energy and gives more choices and control. You have nothing to lose but complexity. IBM BladeCenter is the right choice. Open. Easy. Green.

Feature	Benefits
World's first scalable POWER6-based blade servers	• Maximize performance and minimize costs; consolidate workloads and virtualize on an energy-efficient platform that supports the latest POWER6 processor technology • Pay as you grow; start with a 2-processor (4 core) blade and upgrade to a 4-processor (8 core) blade when ready without scrapping your initial investment • Save time and money; standardize on a single blade platform for both 2- and 4-processor server application needs
Highly efficient and flexible design of IBM BladeCenter	• Densely pack more servers in a smaller space • Tailor system to meet varied business requirements with a choice of BladeCenter chassis • Lower acquisition cost and energy consumption versus traditional 1U or 2U rack servers • Integrate networking switch infrastructure for improved cabling and data center maintenance • Deploy in virtually any office environment for quiet, secure and contaminant-reduced operation
Pioneering EnergyScale technology and IBM Systems Director Active Energy Manager™ software	• Generate less heat by managing application utilization and server energy consumption • Use less energy to cool the system
Industry-leading IBM PowerVM virtualization technology	• Reduce infrastructure costs by doing more with fewer servers • Simplify IT operations to leverage storage, network and computing resources to control costs and be more responsive
Innovative reliability features and systems management	• Expedite hardware repairs and reduce service time • Enable scheduled maintenance with proactive monitoring of critical system components to help reduce unplanned failures
Choice of AIX, IBM i or Linux operating systems	• Standardize on a single platform that runs the large and varied portfolio of applications that support your business • Take advantage of the power of IBM's industry-leading UNIX operating system, AIX • Utilize the Linux for Power™ operating system to access the breadth of open-source applications • Exploit the simplicity of the integrated IBM i operating environment

IBM BladeCenter JS23 Express at a glance	
Form factor	Single-wide blade server for BladeCenter S, BladeCenter H, or BladeCenter HT chassis
Processor cores	Four 64-bit 4.2 GHz POWER6 with AltiVec™ SIMD and Hardware Decimal Floating-Point acceleration
Level 2 (L2) cache	4 MB per processor core; 4-way set associative
Level 3 (L3) cache	32 MB per processor socket
Memory (std/max)	Base offering: 4 GB (2 x 2 GB); Express offering: 4 GB (2 x 2 GB), up to 64 GB maximum per blade, eight DIMM slots, ECC IBM Chipkill DDR2 SDRAM running at 667 MHz (2 and 4 GB DIMMs) 400 MHz (8 GB DIMMs)
Internal disk storage	One 73,146 or 300 GB 2.5" Serial Attached SCSI (SAS) 10K rpm non-hot-swappable disk drive or 69 GB Solid State Disk; No disk drive required on base offering.
Networking	Integrated Virtual Ethernet adapter (IVE) Dual Gigabit and support for optional dual gigabit Ethernet daughter card
I/O upgrade	One PCI-E CIOv Expansion Card and one PCI-E CFFh High Speed Expansion Card
Optional connectivity	1 Gbps Ethernet, 4 and 8 Gbps Fibre Channel, 4X InfiniBand®, SAS Expansion
PowerVM Standard Edition (built-in)	Virtual LAN, POWER Hypervisor™, Micro-Partitioning™, Virtual I/O Server with Integrated Virtualization Manager, Shared Dedicated Capacity, PowerVM Lx86
PowerVM Enterprise Edition (optional)	All the features of PowerVM Standard Edition plus Live Partition Mobility and Active Memory Sharing
Systems management	Integrated systems management processor, IBM Systems Director Active Energy Manager, light path diagnostics, Predictive Failure Analysis, Cluster Systems Management (CSM), Serial Over LAN, IPMI-compliant
RAS features	IBM Chipkill ECC, bit-steering memory and cache Processor Instruction Retry Service processor with fault monitoring Hot-swappable disk bays (in BladeCenter S chassis) Hot-plug power supplies and cooling fans (on chassis) Dynamic Processor Deallocation Dynamic deallocation of logical partitions and PCI bus slots Extended error handling on PCI-E slots Redundant power supplies and cooling fans (on chassis)
Operating systems	AIX V5.3 or later, AIX V6.1 or later IBM i 6.1 or later[1] SUSE Linux Enterprise Server 10 for POWER (SLES10 SP2) or later; Red Hat Enterprise Linux 4.6 for POWER (RHEL4.6) or later; RHEL5.1 or later
High availability	IBM PowerHA™ family
System dimensions	JS23 Express blade: 9.65 in (245 mm) H x 1.14 in (29 mm) W x 17.55 in (445 mm) D; weight: 9.6 lb (4.35 kg)[2] BladeCenter H chassis: 15.75 in (400 mm) H x 17.5 in (444 mm) W x 28.0 in (711 mm) D; weight: 350 lb (159 kg)[2] BladeCenter S chassis: 12.0 in (306 mm) H x 17.5 in (444 mm) W x 28.3 in (733 mm) D; weight: 240 lb (108.9 kg)[2]
Warranty (limited)	9 hours per day, Monday through Friday (excluding holidays), next-business-day for three years at no additional cost; on-site for selected components; CRU (customer replaceable unit) for all other units (varies by country). Warranty service upgrades and maintenance are available.

IBM BladeCenter JS43 Express at a glance	
Form factor	Double-wide blade server for BladeCenter S, BladeCenter H, or BladeCenter HT chassis
Processor cores	Eight 64-bit 4.2 GHz POWER6 with AltiVec SIMD and Hardware Decimal Floating-Point acceleration
Level 2 (L2) cache	4 MB per processor core; 4-way set associative
Level 3 (L3) cache	32 MB per processor socket
Memory (std/max)	Base offering: 8 GB (2 x 4 GB); Express offering: 8 GB (2 x 4 GB), up to 128 GB maximum, 16 DIMM slots, ECC Chipkill DDR2 SDRAM running at 667 MHz (2 and 4 GB DIMMs) 400 MHz (8 GB DIMMs)
Internal disk storage	One or two 73, 146 or 300 GB 2.5" Serial Attached SCSI (SAS) 10K rpm non-hot-swappable disk drive or 69 GB Solid State Disk; No disk drive required on base offering
Networking	Integrated Virtual Ethernet adapter (IVE) Dual Gigabit and support for optional dual gigabit Ethernet daughter card
I/O upgrade	Two PCI-E CIOv Expansion Card and two PCI-E CFFh High Speed Expansion Card
Optional connectivity	1 Gbps Ethernet, 4 and 8 Gbps Fibre Channel, 4X InfiniBand, SAS Expansion
PowerVM Standard Edition (built-in)	Virtual LAN, POWER Hypervisor, Micro-Partitioning, Virtual I/O Server with Integrated Virtualization Manager, Shared Dedicated Capacity, PowerVM Lx86
PowerVM Enterprise Edition (optional)	All the features of PowerVM Standard Edition plus Live Partition Mobility and Active Memory Sharing
Systems management	Integrated systems management processor, IBM Systems Director Active Energy Manager, light path diagnostics, Predictive Failure Analysis, Cluster Systems Management (CSM), Serial Over LAN, IPMI-compliant
RAS features	IBM Chipkill ECC, bit-steering memory and cache Processor Instruction Retry Service processor with fault monitoring Hot-swappable disk bays (in BladeCenter S chassis) Hot-plug power supplies and cooling fans (on chassis) Dynamic Processor Deallocation Dynamic deallocation of logical partitions and PCI bus slots Extended error handling on PCI-E slots Redundant power supplies and cooling fans (on chassis)
Operating systems	AIX V5.3 or later, AIX V6.1 or later IBM i 6.1 or later[1] SUSE Linux Enterprise Server 10 for POWER (SLES10 SP2) or later; Red Hat Enterprise Linux 4.6 for POWER (RHEL4.6) or later; RHEL5.1 or later
High availability	IBM PowerHA family
System dimensions	JS43 Express blade: 9.65 in (245 mm) H x 2.32 in (59 mm) W x 17.55 in (445 mm) D; weight: 19.2 lb (8.7 kg)[2] BladeCenter H chassis: 15.75 in (400 mm) H x 17.5 in (444 mm) W x 28.0 in (711 mm) D; weight: 350 lb (159 kg)[2] BladeCenter S chassis: 12.0 in (306 mm) H x 17.5 in (444 mm) W x 28.3 in (733 mm) D; weight: 240 lb (108.9 kg)[2]
Warranty (limited)	9 hours per day, Monday through Friday (excluding holidays), next-business-day for three years at no additional cost; on-site for selected components; CRU (customer replaceable unit) for all other units (varies by country). Warranty service upgrades and maintenance are available.

For more information

To learn more about the IBM BladeCenter JS23 and JS43 Express blade servers, please contact your IBM marketing representative or IBM Business Partner, or visit the following Web sites:

- **ibm.com**/systems/bladecenter/power-based.html
- **ibm.com**/servers/aix
- **ibm.com**/systems/i/os/i5os/
- **ibm.com**/linux/power
- **ibm.com**/systems/bladecenter/solutions
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When referring to storage capacity, total TB equals total GB divided by 1000; accessible capacity may be less.

[1] Some of the IBM BladeCenter functions may not be supported by the IBM i operating system. These are identified at. **ibm.com**/systems/power/hardware/blades/ibmi.html.

[2] Weight can vary when disks, adapters and other peripherals are installed.

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