

Compact four-processor server for 64-bit, mid-tier software applications



IBM System x3850



Highlights

- *Delivers breakthrough, four-processor performance with 64-bit memory addressability through IBM X3 Architecture, the third-generation of IBM Enterprise X-Architecture™*
- *Supports high-performance, dual-core 64-bit Intel® Xeon® Processors MP and runs 32- and 64-bit applications simultaneously, providing headroom and investment protection*
- *High-availability features such as three levels of memory protection and optional advanced systems management help provide high reliability*
- *Supports new PCI-Express I/O technology while maintaining legacy PCI-X 2.0 compatibility*

The IBM System x3850 delivers outstanding performance, extremely low latency and high availability and manageability along with advanced, integrated technologies that help protect your IT investment. The x3850 is designed with IBM X3 Architecture, the third generation of mainframe-inspired IBM Enterprise X-Architecture Technology, and 64-bit Intel Xeon Processors MP. Driving mission-critical applications, including Enterprise Resource Planning, database serving or custom-developed, Java™ technology-based applications like IBM WebSphere® software, the x3850 excels at performing transaction-intensive, back-office functions.

Improve performance and reduce latency

The x3850 provides more computing power in a smaller form factor (3U) than many competitive models, giving organizations powerful commercial application-hosting capabilities in a

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compact design. It delivers up to 16 times the memory addressing and up to three times the CPU bus bandwidth compared to previous server designs. Using the IBM XA-64e™ chipset, the x3850 sets a new standard for industry-leading 4-processor x86 performance by intelligently managing frequently accessed data. With its mainframe-inspired snoop filter integrated in the processor/memory controller, the x3850 tracks data stored across the dual front-side bus inside the on-chip Intel processor caches. An IBM developed 48Mb embedded DRAM serves as a cache directory and improves overall performance by minimizing bus congestion and reducing latency compared to competing x86 designs. The XA-64e speeds communications between the processors, main memory and I/O, helping the x3850 power commercial IT applications.

Leverage high availability and security

Delivering availability without compromising performance, the x3850 is an industry-leading choice for mission-critical environments. Combining high-availability technologies with newly integrated hardware-based security features, the system helps enable high

uptime and protection of your enterprise applications. Industry-leading software tools and true, hardware-based remote systems management, monitoring and alerting capabilities combine to deliver further enhancements in availability. These advancements include:

- *The field-proven, dual front-side bus architecture of the 64-bit Intel Xeon Processor MP*
- *DDR II-based IBM Active Memory™ technology including IBM Chipkill™ memory, IBM Memory ProteXion™ and Memory Mirroring*
- *Classic IBM mainframe-inspired features, including light path diagnostics, IBM Predictive Failure Analysis®, new PCI-Express slots and IBM Active™ PCI-X, plus full hot-swap redundancy in all major subsystems*
- *A Trusted Platform Module (TPM), helping to simplify and improve security management with integrated, hardware-based security functionality that authenticates users and protects against viruses and other system threats*

On demand ready

IBM System x™ servers are guided by the IBM Systems agenda that outlines an IT environment based on simplification and optimization. The IBM Systems agenda is based on these fundamental principles:

- *Virtualization—By automating, optimizing and simplifying complex infrastructures, businesses can build more resilient, manageable and cost-effective systems.*
- *Openness—By supporting and advancing open standards, enterprises can protect their IT investments both now and in the future.*
- *Collaboration for innovation—By enabling information on demand, companies can more easily collaborate with business partners, independent solution vendors and clients, helping them drive industry collaboration and provide better service.*

The overall result: a more secure and resilient IT environment.

Take advantage of integrated management

Advanced, integrated features in the x3850 also help streamline and simplify systems management while helping reduce its associated costs. Industry-leading manageability features include:

- *IPMI 2.0-compliant basic hardware monitoring and alerting with an integrated Remote Supervisor Adapter (RSA) II SlimLine (model dependent), helping protect server availability through system monitoring and delivering true remote management capabilities saving administrators time and providing them greater flexibility*
- *IBM Director software, which offers extensive hardware management within a convenient user interface. It supports multiple operating systems and a consistent framework that can be extended with plug-ins for more advanced management. For example, Virtual Machine Manager is a freely available module allowing administrators to simultaneously manage physical and VMware-based logical servers using the same console. IBM Director gives administrators faster application deployment and adaptability for remote monitoring with customizable alerts.*

Get more for your money

Many of the integrated features and innovations offered in the x3850 also help deliver investment protection by making organizations ready for the next evolution in enterprise applications and serving technologies—the migration to 64-bit applications on industry-standard x86 hardware. The x3850 now features IBM PowerExecutive™, allowing you to optimize power and cooling. Plus, IBM Calibrated Vectored Cooling helps keep internal components cool for optimum performance and greater longevity.

The x3850 also helps protect the value of your software investment with a framework that supports new 64-bit enterprise applications along with 32-bit legacy applications and system tools as well. New PCI-Express slots provide the platform to support emerging high-performance server I/O technology. And the x3850 features Active PCI-X 2.0—preserving compatibility with the existing installed-base of PCI and PCI-X 1.0 adapters.

Select configurations of the x3850 are part of the IBM Express Portfolio™, designed, developed and priced to meet the specific needs of mid-sized businesses. Express models and configurations vary by country.

x3850 at a glance

Form factor/height	Rack/3U
Processor (max)	Intel Xeon Processor MP up to 3.66 GHz (single-core) and 3.50 GHz (dual-core)/667 MHz front-side bus
Number of processors (std/max)	1 or 2/4
Cache (max)	1MB L2 per processor (single-core) and up to 2MB L2 (dual-core) and up to 16MB L3 (dual-core)
Memory ¹ (std/max)	2GB or 4GB/64GB PC2-3200 DDR II SDRAM
I/O slots (total/hot-swap)	6/6, two Active PCI-X 2.0/266 MHz and four PCI-Express x8
Disk bays (total/hot-swap)	6/6 2.5" Serial Attached SCSI (SAS)
Maximum internal storage ^{1,2}	440.4GB Serial Attached SCSI
Network interface	Integrated dual Gigabit Ethernet
Power supply (std/max)	1300W 1 or 2/2 hot-swap
Hot-swap components	Power supplies, fans, memory, hard disk drives and PCI-Express/PCI-X adapters
RAID support	RAID-0, -1, -5 optional (ServeRAID™-8i)
Systems management	IBM Alert on LAN™, Automatic Server Restart, IPMI 2.0, IBM Director, IBM ServerGuide™, Remote Supervisor Adapter II SlimLine integrated (model dependent), light path diagnostics (independently powered), Predictive Failure Analysis on hard disk drives, processors, VRMs, fans and memory, IBM Wake on LAN®
Operating systems supported	Microsoft® Windows® Server™ 2003 (Standard and Enterprise editions 32-bit and 64-bit), Red Hat Linux®, SUSE Linux, Microsoft Windows 2000 (Server and Advanced Server), VMware ESX Server
Limited warranty ³	3-year onsite limited warranty

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U.S.	1 800 426-4968
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¹ Maximum internal hard disk and memory capacities may require the replacement of any standard hard drives and/or memory and the population of all hard disk bays and memory slots with the largest currently supported drives available. When referring to variable speed CD-ROMs, CD-Rs, CD-RWs and DVDs, actual playback speed will vary and is often less than the maximum possible.

² When referring to storage capacity, GB = 1,000,000,000 bytes. Accessible capacity is less.

³ IBM hardware products are made from new parts, or new and serviceable used parts. Regardless, our warranty terms apply. For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn: Dept. JDJA/B203. IBM makes no representation or warranty regarding third-party products or services including those designated as ServerProven® or ClusterProven®.



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