

A photograph showing two men in a server room. One man in a brown shirt is leaning over a desk, and another man in a light blue shirt is looking at a computer monitor. The room is filled with server racks and equipment.

Scale-Up to a New Generation of Servers Powered by Intel and Microsoft

Your mission-critical application drives your business, but as demands on service and budget continue to increase, how can you improve your efficiency? Applications related to revenue generation, security and compliance, or management of life-critical services and public safety require high availability and the best possible performance.

Host your mission-critical and core business applications with confidence a new generation of servers powered by Intel[®] Xeon[®] processor 7500 series and 5600 series with Microsoft[®] Windows Server[®] 2008 R2 and SQL Server[®] 2008 R2. This platform features dramatic innovations that can help you achieve the performance, scalability, and reliability you need for the applications that keep you in business, while reducing total cost of ownership (TCO).

Scalable Performance

Deploy mission-critical applications with a platform that can combine up to eight cores per socket and 16 processing threads in a single processor to support your most demanding applications with ease.

- Get the power you need to migrate mission-critical applications from more expensive platforms. By scaling to 256 logical processors and 2TB of memory capacity on SQL Server 2008 R2 you can see performance increases of more than 20 times over servers based on single core processors.¹
- Directly connect multiple processors to each other with four advanced, high-bandwidth interconnect links and help your mission-critical applications harness the processing power of the multi-socket Intel Xeon processor 7500 series.
- Optimize performance on SQL Server 2008 R2 workloads with a platform that intelligently adapts processor frequency to allow processor cores to run faster than the base operating frequency and to increase the I/O and inter-processor performance.

Advanced Reliability

Take advantage of software and hardware innovations to deliver advanced reliability and help ensure the high availability you need for applications that keep you in business.

- Provide a reliable, manageable, and highly available infrastructure for your critical applications with features including Windows Hardware Error Architecture (WHEA)-enhanced support for Machine Check Architecture (MCA) error recovery.
- Rely on Intel Xeon processor 7500 series-based servers to detect errors automatically, then work with Windows Server 2008 R2 to correct them. For the first time on x86 hardware, the Intel Xeon processor 7500 series features MCA error recovery.
- Take advantage of more than 20 additional new reliability, availability, and serviceability (RAS) features with Intel Xeon processor 7500 series-based servers, including dynamic reassignment of workloads across CPUs, interconnect error detection/recovery, and individual virtual machine recovery in virtualized environments.

¹ Source: Intel measurements as of March 2010 of Xeon 7500 and single-core 4-socket systems. Performance comparison using SPECint_rate_base2006. Results have been estimated based on internal Intel analysis and are provided for informational purposes only. Any difference in system hardware or software design or configuration may affect actual performance. For detailed calculations, configurations and assumptions refer to http://www.intel.com/pressroom/archive/releases/2010/20100330comp_sm.htm?iid=SEARCH#story

Flexibility and Energy Efficiency

Build an agile, more energy-efficient data center and virtualize mission- and business-critical applications with confidence using a flexible, powerful virtualization infrastructure.

- Gain the flexibility to add cross-generation Intel Xeon processors to server pools. Run virtualized mission-critical applications more efficiently with Intel Virtualization Technology FlexMigration and Hyper-V support for 64 logical processors in a host processor pool.
- Move running virtual machines between hosts with no perceptible downtime. By using SQL Server 2008 R2 support for Hyper-V Live Migration, you can ensure the level of business continuity necessary for mission-critical applications while minimizing downtime caused by hardware or power failures or natural disasters.
- Reduce energy costs without sacrificing performance through the automated energy efficiency of Intel Xeon processor 5600 series and Windows Server 2008 R2, which intelligently adjusts server performance according to your application needs.

Get Started Today

More effectively meet the changing demands of your business by taking advantage of greater choice and flexibility with servers powered by Intel and Microsoft. Contact your hardware partner today to begin exploring the benefits of this mission-critical platform.

RISC Migration

Servers powered by the Intel Xeon processor 7500 series, Windows Server 2008 R2, and SQL Server 2008 R2 are enterprise-ready alternatives to expensive, inflexible RISC-based architecture.

- Reduce costs without sacrificing performance, manageability, or security by migrating from RISC/UNIX platforms to servers powered by Intel Xeon processor 7500 series and Microsoft software.
- Achieve substantial savings in software support and licensing costs without extra fees other database software providers charge for OLAP, data mining, data compression, partitioning, encryption, and other features.
- Minimize hiring and training costs by leveraging the familiar Windows platform and avoiding the special skill requirements of RISC/UNIX systems.

Capability	Intel Xeon processor 7500 series-based servers	Intel Xeon processor 5600 series-based servers
More than 20 new reliability, availability, and serviceability (RAS) features	X	
Dynamic reassignment of workloads across CPUs	X	
Interconnect error detection/recovery	X	
Individual virtual machine recovery in virtualized environments	X	
Machine Check Architecture (MCA) error recovery	X	
Up to 8 cores per socket	X	X
16 threads in a single processor	X	X
Four advanced, high-bandwidth interconnect links	X	X
Intel Turbo Boost Technology	X	X
Intel QuickPath Technology	X	X
Sysprep Support	X	X
Integrated memory controller on each core	X	X
Native DDR3 memory	X	X
Hyper-V Live Migration	X	X