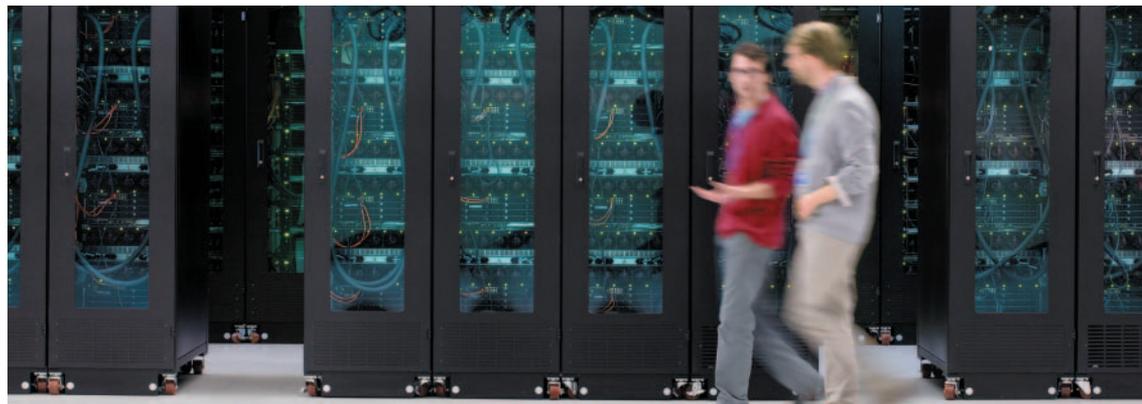




New servers deliver more performance, more savings, and faster estimated ROI.

Introducing the next generation of intelligent server processors—the Intel® Xeon® processor 5600 series.



Give your business the benefit of industry leading energy efficiency and performance that adapts to your workload with the Intel® Xeon® processor 5600 series. Now you can boost server performance by up to 60% over Intel® Xeon® 5500 platforms.¹ Plus, you can achieve similar performance as an Intel® Xeon® processor X5570, but with up to 30% lower power, using servers based on next generation 32nm processing technology.² And, you have the advantage of being able to combine servers from multiple generations in the same virtualization pool to extend failover, load balancing, and disaster recovery.

NEW FEATURES OF THE INTEL® XEON® PROCESSOR 5600 SERIES

Intelligent Performance

Built on the new Intel® 32nm process technology and the Nehalem microarchitecture, these new processors deliver more performance per watt and automatically control power consumption.

More cores and more cache

With up to 50 percent more cores and 50 percent more cache than the Intel® Xeon® 5500 series processors, these processors offer plenty of room for growth.

Enhanced security capabilities

Protect your business with faster data encryption enabled by Advanced Encryption Standard New Instructions, and benefit from additional protection against software attacks for highly virtualized and cloud deployments with Intel® Trusted Execution Technology.

Typical 2-Socket Intel® Xeon® Processor Based Servers^{3,4}

IT ANALYSIS	PURCHASED IN 2005	PURCHASED IN 2010	BENEFIT
Processors	Intel® Xeon® processor (1 core, 3.8 GHz, 2-MB L3 cache)	Intel® Xeon® processor X5680 (6 cores, 3.33 GHz, 12-MB L3 cache)	Five additional cores per processor provide especially massive improvements in performance for multi-threaded applications
Performance per Server	Baseline	Up to 15X	Performance increase enables greater capacity or consolidation
Total Number of Servers	315 in 15 rack	21 in 1 rack	95% reduction in server numbers and smaller data center footprint
Watts per Server	382W active/228W idle	383W active/117W idle	Up to 48% less idle power ²
FINANCIAL ANALYSIS			
Total Annual Energy Costs (estimated)	\$154,581	\$7,588	Almost \$147,000 per year savings
Operating System Licensing Costs (estimated)	\$283,500	\$18,900	~ \$264,600 in annual savings
Estimated ROI			5 months

Refresh for real business benefits.

Whether you want to refresh to get more performance from the same number of servers or are looking to increase efficiencies by consolidating, the new Intel Xeon processor 5600 series delivers measurable advantages in both scenarios.

From a performance standpoint, replacing a server purchased in 2005 with a new Intel Xeon processor 5600 series based server enables up to 15 times the performance.³ Alternately, you could replace 15 of your older servers with one new Intel Xeon processor 5600 series based server and achieve estimated ROI in five months.⁴

For more information about the Intel Xeon processor 5600 series, contact your Intel sales representative or visit www.intel.com/go/servers

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel® products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit Intel Performance Benchmark Limitations. Intel does not control or audit the design or implementation of third party benchmark data or Web sites referenced in this document. Intel encourages all of its customers to visit the referenced Web sites or others where similar performance benchmark data are reported and confirm whether the referenced benchmark data are accurate and reflect performance of systems available for purchase.

¹ Up to 60% performance increase compared to Intel® Xeon® 5500 series claim supported by a CPU intensive benchmark (Blackscholes*). Intel internal measurement (February 25, 2010). Baseline configuration and score on benchmark: Intel pre-production system with two Intel® Xeon® processors X5570 (2.93 GHz, 8 MB last level cache, 6.4 GT/sec QPI), 24GB memory (6x4GB DDR3-1333), 4x 150GB 10K RPM SATA RAID for scratch, Red Hat® EL 5 Update 4 64-bit OS. Source: Intel internal testing as of February 2010. SunGard v3.0 source code compiled with Intel® v11.0 compiler. Elapsed time to run benchmark: 18.74 seconds. New configuration and score on benchmark: Intel pre-production system with two Intel® Xeon® processors X5680 (3.33 GHz, 12 MB last level cache, 6.4 GT/sec QPI), 24GB memory (6x4GB DDR3-1333), 4x 150GB 10K RPM SATA RAID for scratch, Red Hat EL 5 Update 4 64-bit OS. Source: Intel internal testing as of February 2010. SunGard v3.0 source code compiled with Intel v11.0 compiler. Elapsed time to run benchmark: 11.51 seconds.

² Baseline configuration and score on benchmark: Fujitsu PRIMERGY RX300 S5 system with two Intel® Xeon® processors X5570 (2.93 GHz, 8MB L3, 6.4 GT/s, Quad-core, 95W TDP), BIOS rev. R1.09, Intel® Turbo Boost enabled, Intel® Hyper-Threading Technology enabled, NUMA* enabled, 5 x Fans, 24 GB (6x4GB DDR3-1333 DR registered ECC), 1x Fujitsu* MBD2147RC 147GB 10K RPM 2.5" SAS HDD, 1x800W PSU, SLES 11 (X86_64) Kernel 2.6.27.19-5-default. Source: Fujitsu Performance Lab testing as of March 2010. SPECint_rate_base2006 score: 250. <http://docs.ts.fujitsu.com/dl.aspx?id=0140b19d-56e3-4b24-a01e-26b8a80cfe53> new configuration and score on benchmark: Fujitsu* PRIMERGY RX300 S6 system with two Intel® Xeon® processors L5640 (2.26 GHz, 12MB L3, 5.86 GT/s, Hex-core, 60W TDP), BIOS rev R1.00A, Intel® Turbo Boost enabled, Intel® Hyper-Threading Technology enabled, NUMA enabled, 5 x Fans, 24 GB (6x4GB DDR3-1333 LV DR registered ECC), 1x Fujitsu MBD2147RC 147GB 10K RPM 2.5" SAS HDD, 1x800W PSU, SLES 11 (X86_64) Kernel 2.6.27.19-5-default. Source: Fujitsu Performance Lab testing as of March 2010. SPECint_rate_base2006* score: 250 <http://docs.ts.fujitsu.com/dl.aspx?id=4af74e10-24b1-4c8f-bb3b-9c4f5f177389>

³ Intel performance comparison using SPECjbb2005* business operations per second between four-year-old single-core Intel® Xeon® processor 3.8 GHz with 2M cache based servers and one new Intel® Xeon® processor X5600 based server. Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel® products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information, visit www.intel.com/performance/server. Baseline platform: Intel® server platform with two 64-bit Intel® Xeon® processors 3.80GHz with 2M L2 cache, 800 FSB, 8x1GB DDR2-400 memory, 1 hard drive, 1 power supply, Microsoft Windows® Server 2003 Ent. SP1, Oracle JRockit™ build P27.4.0-windows-x86_64 run with 2 JVM instances. New platform: Intel server platform with two six-core Intel® Xeon® X5670, 2.93 GHz, 12MB L3 cache, 6.4QPI, 12 GB memory (6x2GB DDR3-1333), 1 hard drive, 1 power supply, Microsoft Windows Server 2008 64 bit SP2, Oracle JRockit build P28.0.0-29 run with 2 JVM instances.

⁴ Estimated based on comparison between 2S Single Core Intel® Xeon® 3.80 with 2M L2 cache and 2S Intel® Xeon® X5680 based servers. Calculation includes analysis based on performance, power, cooling, electricity rates, operating system annual license costs and estimated server costs. This assumes 8kW racks, \$0.10 per kWh, cooling costs are 2x the server power consumption costs, operating system license cost of \$900/year per server, per server cost of \$7200 based on estimated list prices and estimated server utilization rates. All dollar figures are approximate. Performance and power comparisons are based on measured server side java benchmark results (Intel Corporation February 2010). Platform power was measured during the steady state window of the benchmark run and at idle. Performance gain compared to baseline was 15x. Baseline platform: Intel® server platform with two 64-bit Intel Xeon processors 3.80GHz with 2M L2 cache, 800 FSB, 8x1GB DDR2-400 memory, 1 hard drive, 1 power supply, Microsoft Windows® Server 2003 Ent. SP1, Oracle JRockit™ build P27.4.0-windows-x86_64 run with 2 JVM instances. New platform: Intel server platform with two Intel® Xeon® processors X5680 (12M Cache, 3.33 GHz, 6.40 GT/s Intel® QPI), 24 GB memory (6x4GB DDR3-1333), 1 SATA 10krpm 150GB hard drive, 1 800w power supply, Microsoft Windows Server 2008 64 bit SP2, Oracle JRockit build P28.0.0-29 run with 4 JVM instances.

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