

Server Roadmap

November 2011

Business Platforms 2011

Powerful Intel® Xeon® processors offer higher performance and capability for virtualisation and data-demanding applications, plus lower energy usage.



	EXPANDABLE	EFFICIENT PERFORMANCE	ENTRY
Usages and benefits	<ul style="list-style-type: none"> Leading performance for server virtualisation and data-demanding applications Performance, reliability and scalability for large enterprises, data centres and server consolidation 	<ul style="list-style-type: none"> High performance, energy efficient and cost effective Ideal for general purpose servers and virtualisation 	<ul style="list-style-type: none"> Cost optimised Small businesses < 100 employees, basic needs (email, network, file and print)
Recommended Intel processors	Intel Xeon E7 series	Intel Xeon 5600 series	Intel Xeon E3 series
Architecture	32nm	32nm	32nm
Number of cores	Up to 10	Up to 6	Up to 4
Number of threads	Up to 20	Up to 12	Up to 8
Max processors per system	4 (up to 8 in some cases)	2	1
Cache	Up to 30MB	Up to 12MB	8MB
Base CPU clock speed	Up to 2.4 GHz	Up to 3.6 GHz	Up to 3.6 GHz
Interconnect type	4 x QPI links	QPI	N/A
Intel technologies	Intel Scalable memory interface, Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel VT-x, -d, & -c, AES-NI encryption technology, Intel Trusted Execution Technology (TXT)	Integrated memory controller, Intel Turbo Boost Technology, Intel Hyper-Threading Technology, AES-NI encryption technology, Intel VT-x, -d, & -c, AES-NI encryption technology, Intel Trusted Execution Technology (TXT)	Integrated memory controller, Intel Turbo Boost Technology 2.0, Intel Hyper-threading, AES-NI encryption technology, Intel Advanced Vector Extensions (AVX) media acceleration technology, VT-x, VT-d, Intel Trusted Execution Technology (TXT)
Proofs	<ul style="list-style-type: none"> Over 40% increase in compute performance compared to the previous generation Xeon 7500 series¹ Up to 2X the compute performance across a range of benchmarks compared to the Xeon 5600 series² 	<ul style="list-style-type: none"> Up to 60% performance boost over previous generation Xeon 5500 series³ More secure with AES-NI encryption technology and Intel Trusted Execution Technology (TXT)⁴ 	<ul style="list-style-type: none"> Up to 30% better performance over prior generation servers More secure with AES-NI encryption technology and Intel Trusted Execution Technology (TXT)⁴

For more information, visit www.intel.com/au/directions

Benchmark information

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 www.intel.com/performance/resources/limits.htm or call (U.S.) 1-800-628-8686 or 1-916-356-3104.

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1/ Up to 40% generational compute-intensive throughput claim based on SPECint*_rate_base2006 benchmark comparing next generation Intel Xeon processor E7-4870 (30M cache, 2.40GHz, 6.40GT/s Intel QPI, codenamed Westmere-EX) scoring 1,010 (includes Intel Compiler XE2011 improvements accounting for about 11% of the performance boost) to X7560 (24M cache, 2.26GHz, 6.40GT/s Intel QPI, formerly codenamed Nehalem-EX) scoring 723 (Intel Compiler 11.1). Source: Intel SSG TR#1131.

2/ 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, as well as system use patterns including wireless connectivity, may affect actual test results and ratings. Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark* and MobileMark*, are measured using specific computer systems, components, software, operations, and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

3/ Intel internal measurement (Feb 25, 2010).

Configuration details: Blackscholes*

Baseline Configuration and Score on Benchmark:- Intel pre-production system with two Intel Xeon processor X5570 (2.93 GHz, 8 MB last level cache, 6.4 GT/sec QPI), 24GB memory (6x4GB DDR3-1333), 4 x 150GB 10K RPM SATA RAID0 for scratch, Red Hat

4/ Intel AES-NI requires a computer system with an AES-NI enabled processor, as well as non-Intel software to execute the instructions in the correct sequence. AES-NI is available on Intel Core i5-600 desktop processor series, Intel Core i7-600 mobile processor series, and Intel Core i5-500 mobile processor series. For availability, consult your reseller or system manufacturer. For more information, see software.intel.com/en-us/articles/intel-advanced-encryption-standard-instructions-aes-ni/.

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