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intel.

Performance + Reliability + Security = Intel Xeon Processor Formula for Mission-Critical Computing

Intel(R) Xeon(R) Processor E7 Family Delivers Record-Breaking Performance, New Security, Reliability and Energy Efficiency Features

NEWS HIGHLIGHTS

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--  Intel(R) Xeon(R) processor E7 family sets a new standard in reliability,
    availability, security and performance to help IT managers address
    data-intensive workloads.
--  Two new security features help ensure the highest levels of data
    integrity and system uptime.
--  Supports up to 10 cores, delivers up to 40 percent greater performance1
    than the previous- generation processor, and improved energy efficiency
    with a new feature that dynamically adjusts power consumption based on
    workload.
--  Builds on Intel's commitment to democratize mission-critical computing
    by accelerating the migration away from proprietary computing
    environments.
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SANTA CLARA, Calif.--(BUSINESS WIRE)-- Enabling IT departments to better manage data-intensive environments through new security and reliability features and record-breaking performance, a new family of server processors that accelerate mission-critical computing have been announced by Intel Corporation.

The record-setting Intel(R) Xeon(R) processor E7-8800/4800/2800 product families build on Intel's previous generation of server processors to set a new standard for high-end computing applications, including business intelligence, real-time data analytics and virtualization. Strengthening the line of defense for data centers, the new processors also provide advanced security features that ensure greater data integrity.

Based on Intel's leading 32-nanometer (nm) process technology, the new Intel Xeon processors have up to 10 cores with Intel(R) Hyper-Threading Technology, and deliver up to 40 percent greater performance than the Intel(R) Xeon(R) 7500 series processor. Concurrently, a new energy-saving feature reduces the power draw of idle portions of the chip. Beginning today, more than 35 systems based on the Intel Xeon processor E7 family are expected to ship from manufacturers around the world.

"Intel has been changing the economics for mission-critical computing server deployments for more than a decade, and today we are raising the bar yet again," said Kirk Skaugen, vice president and general manager of Intel's Data Center Group. "The new Intel Xeon processor E7 family delivers record breaking performance with powerful new security, reliability and

energy efficiency enhancements. The industry momentum we're seeing for this new server processor architecture is unparalleled in Intel's history. The days of IT organizations being forced to deploy expensive, closed RISC architectures for mission-critical applications are nearing an end."

Record-Breaking, Energy-Efficient Performance

The new processor family contains 18 new processors for two-, four- and eight-socket servers, and is expandable to servers with 256 sockets. It also sets more than a dozen world records in performance. A 40 percent improvement in generational compute-intensive performance can enhance the pace and accuracy of applications in such fields as scientific research and financial services where speed is essential. With up to 25 percent better performance with virtual machine[3] applications than the current generation, the new chips also hold the industry's highest virtualization performance.

IT managers seeking to achieve greater economic efficiencies can replace 18 dual-core servers[2] with a single Xeon processor E7-based server. To help address rising energy costs, the new Xeon chips include Intel(R) Intelligent Power technology that dynamically reduces idle power consumption of the chip based on the workload while also delivering advanced processor power-management capabilities.

Recognizing the range of compute-intensive applications from climate modeling to real-time business analytics, and the need for uncompromised performance to run them, Intel is offering 10 advanced 10-core versions of the chip, led by the E7-8870, E7-4870 and E7-2870, all of which reach 2.4 GHz with a TDP (Thermal Design Point) of 130 watts.

The company also announced a version of the chip that combines the benefits of high performance with low voltage, as well as a frequency-optimized version. The 10-core low-voltage E7-8867L reaches 2.13 GHz with a TDP of 105 watts, while the eight-core frequency-optimized E7-8837 tops out at 2.67 GHz with a TDP of 130 watts.

Intel Xeon processor E7 family based-platforms add a massive 2 Terabyte of memory in a four-socket system supported by the new processors. Most of these chips also contain Intel(R) Turbo Boost Technology, Intel Hyper-Threading Technology and Intel(R) Virtualization Technology (VT), which can increase performance as required, ease multitasking and enhance reliability and manageability, respectively.

New Security, Reliability Features

Intel is bringing its leading security technologies available today in its mainstream Intel(R) Xeon(R) processor 5600 series, to the mission-critical server segment with the introduction of platforms based on the Xeon processor E7 family. Intel(R) Advanced Encryption Standard New Instruction (AES-NI) allows systems to quickly encrypt and decrypt data running over a range of applications and transactions, while Intel(R) Trusted Execution Technology (Intel TXT) creates a secure platform at boot-up by protecting applications from malicious threats.

Together, these security features can ensure that virtualized environments are more reliably secure when they are launched, migrated or at rest, as well as experience better performance and functionality.

Extensive Industry Support

Starting today, system manufacturers from around the world are expected to announce more than 35 Xeon processor E7 family-based platforms. These manufacturers include Bull*, Cisco*, Cray*, Dawning*, Dell*, Fujitsu*, Hitachi*, HP*, Huawei*, IBM*, Inspur*, Lenovo*, NEC*, Oracle*, PowerLeader*, Quanta*, SGI*, Supermicro* and Unisys*.

Numerous enterprise software vendors also support Xeon processor E7 family-based platforms, including IBM*, Microsoft*, Oracle*, Red Hat*, SAP AG* and VMware*.

Ideal Servers for Small Business

Intel also announced today the Intel(R) Xeon(R) processor E3-1200 family, an entry-level server processor built to meet the unique demands of small business applications, ranging from collaboration tools to storage and back-up applications. With up to 30 percent greater performance over the previous generation, the Xeon processor E3-1200 product family is faster and provides higher reliability than a desktop computer running similar applications. Support for Error Correcting Code (ECC) memory ensures system reliability by preventing glitches that cause data breaches and downtime, and with small businesses facing a harsher climate of security threats the Xeon processor E3-1200 product family helps ensure the integrity of valuable data with Intel AES-NI and Intel TXT.

Today's news follows the recent disclosures about the low-power, single-socket Intel Xeon processors E3-1260L and E3-1220L targeted for micro servers, and the announcement of the Intel(R) Xeon(R) processor E3-1200 product family for workstations.

Product, Pricing Details

The Xeon processor E7-8800/4800/2800 families range in price from $774 to $4,616 in quantities of 1,000. The Xeon processor E3-1200 family ranges in price from $189 to $612 in quantities of 1,000. Complete pricing details can be found in the Intel Newsroom. For more details on these new Intel Xeon processors, visit www.intel.com/xeon. For more details on world records and other claims, visit www.intel.com/performance/server/.

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[1]SPECint*_rate_base2006 benchmark comparing next-generation Intel(R) Xeon(R) processor E7-4870 (30M cache, 2.40GHz, 6.40GT/s Intel(R) QPI) scoring 1,010 (includes Intel Compiler XE2011 improvements accounting for about 11 percent of the performance boost) to X7560 (24M cache, 2.26GHz, 6.40GT/s Intel QPI) scoring 723 (Intel Compiler 11.1).

Source: Intel SSG TR#1131.

[2]Intel measurements as of March 2011 of Xeon E7-4800 and dual 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.

[3]Up to 2.8x scaling transaction improvement claim based on internal OLTP benchmark comparing next-generation Intel[(R)] Xeon[(R)] processor E7-4870 (30M cache, 2.40GHz, 6.40GT/s Intel[(R)] QPI, codenamed "Westmere-EX") scoring 2.73M transactions (leading database vendor) to X5680 (12M cache, 3.33GHz, 6.40GT/s Intel QPI, formerly codenamed "Westmere-EP") scoring 970K transactions. Source: Intel SSG TR#1120.

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 in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

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    Source: Intel