Intel® Xeon® Processor
E5-2600 Product Family

Software Ecosystem Support

March 2012

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- Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. Go to: http://www.intel.com/products/processor_number
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- Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit http://www.intel.com/go/virtualization
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- Requires a system with Intel® Turbo Boost Technology. Intel Turbo Boost Technology and Intel Turbo Boost Technology 2.0 are only available on select Intel® processors. Consult your PC manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit http://www.intel.com/go/turbo
- 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 select Intel® processors. For availability, consult your reseller or system manufacturer. For more information, see http://software.intel.com/en-us/articles/intel-advanced-encryption-standard-instructions-aes-ni/
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- Halogen-free: Applies only to halogenated flame retardants and PVC in components. Halogens are below 900ppm bromine and 900ppm chlorine.

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Optimization Notice

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Notice revision #20110804

Software Support for the Intel® Xeon® Processor E5 Family

Software is ready!

- Performance and efficiency reflected in real world applications
  - More cores/threads
  - Reduced I/O latency and bandwidth
  - Higher memory bandwidth
- Intel® AVX providing performance boost for floating point performance intensive applications
  - In this presentation, look for this tag for AVX enabled apps AVX
- ISVs are adding AES-NI support to future products
- OS/VMM supporting new levels of performance and efficiency
- Platform capabilities help software vendors support cloud models
  - In this presentation, look for this tag for Cloud support Cloud

Enhancing solutions from cloud to enterprise to high performance computing

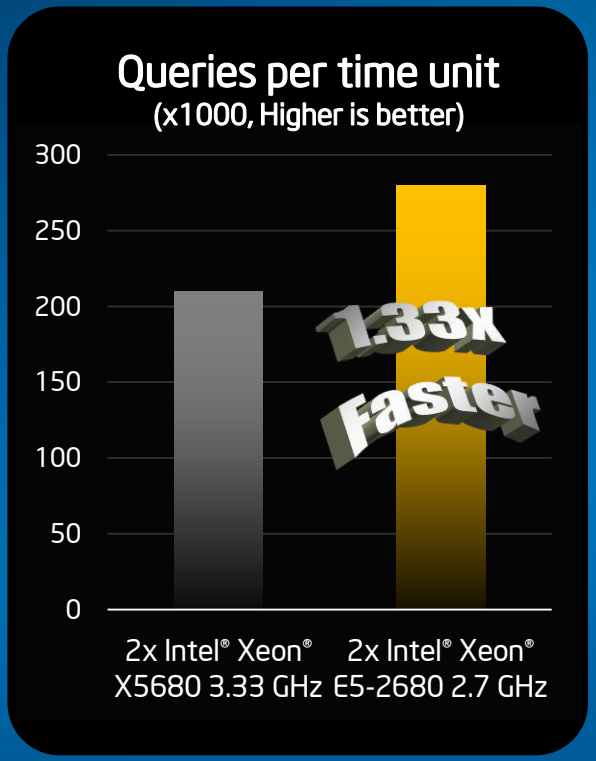
Contents

- Enterprise Applications
- Financial Services Applications
- HPC Applications
- Healthcare Solutions
- Biometric software
- Software with AVX Support
- Software with AES-NI Support

ENTERPRISE APPLICATIONS

Exasol EXASolution 4.0

High performance real-time database. Maximum performance, optimal scalability, low TCO, minimal administration.



"The enormous growth in data volumes and the complexity of analysis requirements in today's data warehouse market demand innovative database solutions with more efficient performance and scalability. Intel servers are designed from top to bottom to deliver maximum performance at minimum overhead. Looking at the performance of the Intel® Xeon® processor E5 family-based platform it shows clearly just how great the potential is for reducing spending on hardware and power consumption in cluster and virtualization environments. Put simply: the Intel® Xeon® processor E5 family-based platform delivers more performance other servers – so why invest more in hardware than you have to? EXASolution 4.0 and the Intel servers have once again shown that this combination is the right answer to growing market requirements."

Steffen Weissbarth, CEO

Advanced integrated memory controllers and additional enhanced cores benefit modern real-time in-memory database applications like Exasol EXASolution

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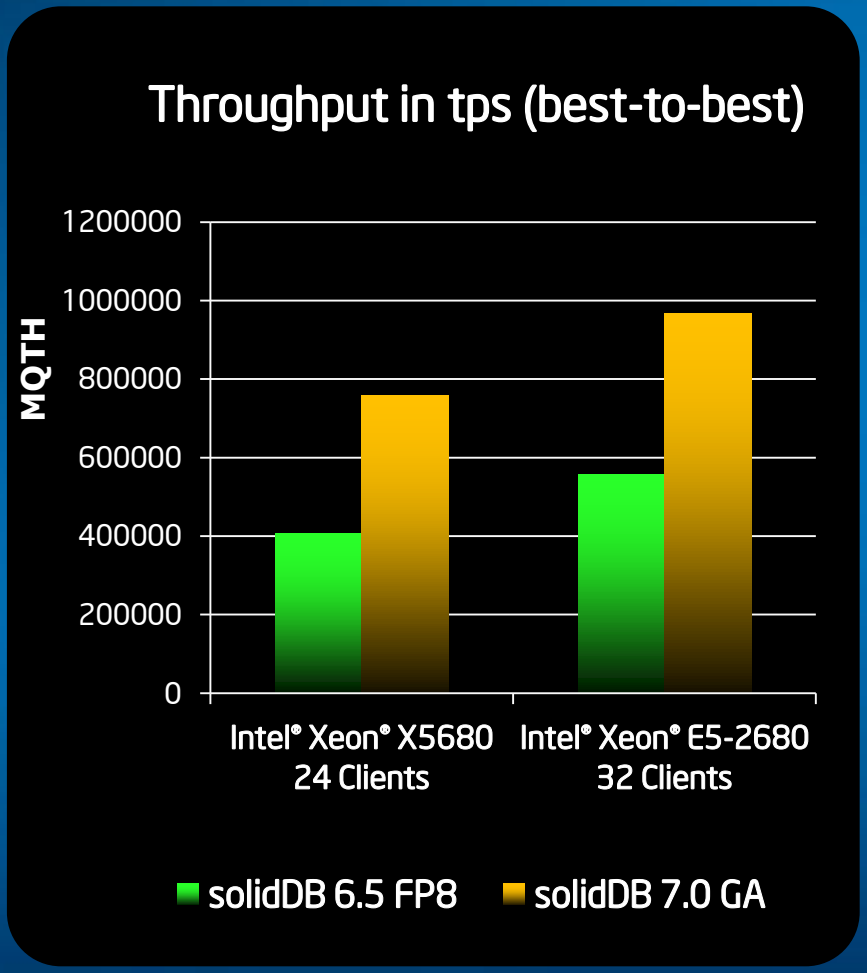
IBM SolidDB*

In-memory DataBase



"Already extremely fast, solidDB increased performance by 30% when run on the Intel® Xeon® processor E5-2600 product family. Couple this with the up to 85% increase in performance realized when moving to solidDB version 7.0 that utilizes the Intel ® Parallel Studio XE and the performance enhancement of the next generation solution is over 100%. We are pleased with the extreme speed."

Joni Lehtomaki, solidDB Development Program Director, IBM

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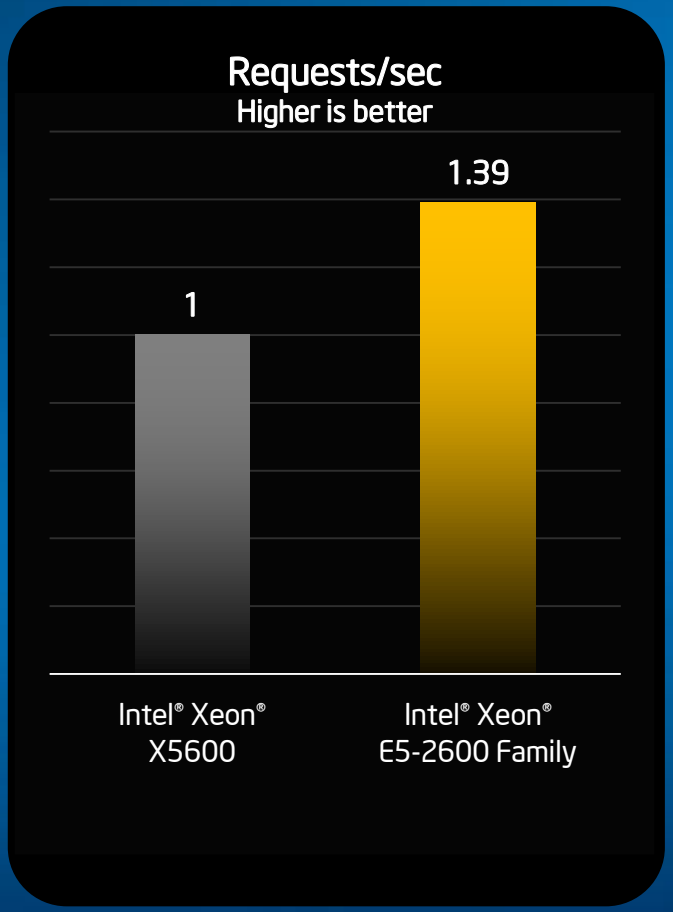
Shipping in Q1'12

Cloud

Neusoft Aclome™

Cloud



"Besides the great 1.39X performance boost on Intel® Xeon® Processor E5-2600 product family, the Intel® Node Manager technology also supports Neusoft Aclome™ Cloud to save 13% power consumption under normal workload pressure. Intel® Xeon® Processor E5-2600 product family enables Neusoft Aclome™ Cloud to be more powerful and more economical, it definitely will be one of our preferred platforms."

Yu Hongyong, Director of Neusoft Solution Readiness Center

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Naver* Search Engine

High Performance Search Engine

With the Intel® Xeon® Processor E5 family based platforms, the Search Engine retrieves huge amount of data on the fly

- **Scales to accommodate many concurrent requests from search users**
- **Offers increased processing power and faster memory channel to deliver more search servers for efficient use**

"Internal benchmark with Naver Search Engine demonstrates great scalability, performance and system capacity, showing to deliver as much as nearly 2x performance increase. Naver Search Service users can have benefit from Intel® Xeon® Processor E5 family-based platforms"

Yong-Jae Kwak, Lab. Leader, Search Platform Lab, NHN

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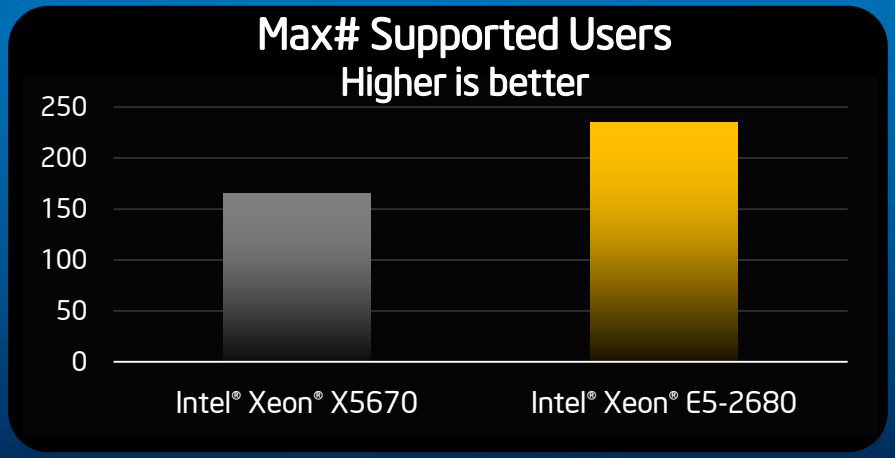
"Bugyo V ERP"
ERP application

OBC welcomes the launch of Intel® Xeon® processor E5 family-based platforms, which we believe are the best platform for "Bugyo" V ERP. Bugyo V ERP" is the high-end Bugyo series that satisfies the needs of large enterprises. Those companies have to unify ERP applications of group companies due to the requirement of IFRS.

Among our customers of Bugyo VERP, we see more cases in which shared application is used in virtualization. Our test result shows that the Intel® Xeon® processor E5 family-based platforms can handle approximately 40% more users compared to the previous platform in such shared environment.

We believe we can provide our Bugyo V ERP customers a higher performance and more cost efficient solution with Intel® Xeon® processor E5 family-based platforms.

Shigeru NAKAYAMA, OBIC BUSINESS CONSULTANTS Co., Ltd., Executive Managing Director, General Manager of development department



Compared to the Intel® Xeon® processor 5600 series-based platforms, the Intel® Xeon® processor E5 family-based platforms:

- **Process 1.43x users when Bugyo V ERP is used in a virtualized environment**
- **Support 1.22x users per 1 virtual OS**

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SAP Cryptolib

"With the Intel® AES-NI encryption enabled, we saw a 25% faster finish using a database consisitency checkload with 20% less CPU utilization. Additionally, we experienced a fantastic 2.1x speedup of Encryption/Decryption compared to not using AES-NI."

Jochen Haller, onDemand Security Officer SAP

Intel and SAP have been working collaboratively to ensure that performance is maximized even when all security features are enabled within SAP BusinessByDesign.

The new version of the SAP Cryptolib with Intel® AVX support speeds up performance of SAP BusinessByDesign's security features as well as all ABAP and C-Based SAP components that require access to cryptographic software routines.

- **Additional changes to customer implementation other than updating with a service pack containing the new version of the library**
- **All new products delivered to customers after Q1 2012 will contain this new library. New service packs released after Q1 2012 will also have the new version of the library, and can be obtained as usual from the SAP Service Marketplace**

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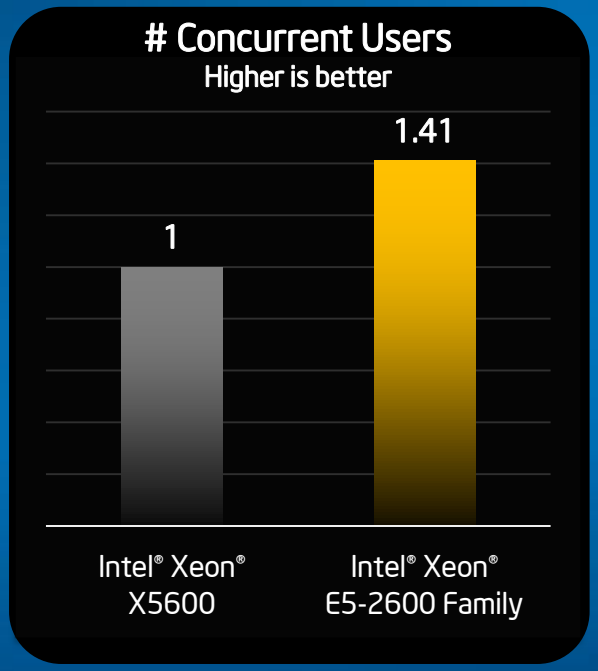
Shipping in Q1'12

UFIDA PASS Platform

Cloud

Cloud



"Comparing to previous Intel® Xeon® Processor 5600 series based platforms, UFIDA PASS Platform shows 1.41X performance boost on the Intel® Xeon® Processor E5-2600 product family based platform. SR-IOV enabled 10Gb NIC enables UFIDA PASS Platform to fully utilize the platform I/O capability to gain better performance under virtualization environment. It is an ideal hardware platform for UFIDA PASS Platform and surely will help us to deliver better services to our customers."

Wang Guowei, director of UFIDA PASS Center Development Department

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Dr.Sum EA 4.0
Business Intelligence Tool

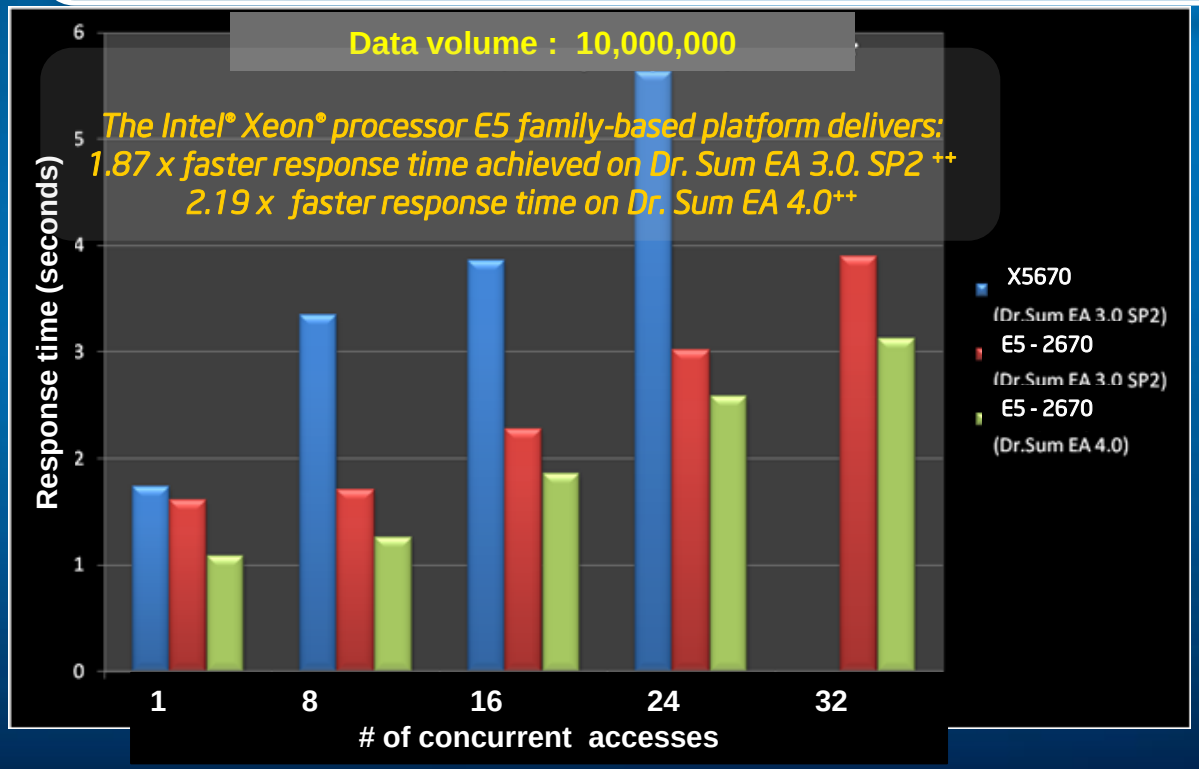
Dr. Sum EA 4.0 aggregates big data in high speed with a distributed processing architecture.

As Dr.Sum EA 4.0 was complied with Intel Composer XE, it provides great performance on the latest Intel platform.

Our test shows that Dr. Sum EA 4.0 experiences nearly 2x performance increase on the Intel® Xeon® processor E5 family-based server vs. the Intel® Xeon®5600 series based server.

We believe our customers will get immediate benefits with the combination of Dr. Sum EA 4.0 and the Intel® Xeon® processor E5 family-based platform. More managers at various levels can make timely analysis of large data sets to visualize the business and increase the company's agility.

Jun Tanaka, Chief Technical Officer, 1st Holdings, Inc. (WingArc's holding company)



High performance and scalability

- **Response time is critical for BI tool.**
- **Customers wants both high performance & cost efficiency even if data volume has increased dramatically.**
- **With Dr. Sum EA 4.0 that applied the latest Intel compiler, customers can enjoy even faster response time with the Intel® Xeon® processor E5 family based platforms.**

++Compared to Dr. Sum EA 3.0 SP2 running on the Intel ® Xeon® processor 5600 series based platform

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FINANCIAL SERVICES APPLICATIONS

Algorithmics
an IBM Company

Integrated Market and Credit Risk

Award-winning, real-time risk analysis

"Our latest benchmark results on the Intel® Xeon® processor E5-2600 product family demonstrates Algorithmics' continued commitment to improving our software performance and reducing the total cost of ownership for our clients. With industry-standard, low-cost hardware, global institutions can cost-effectively perform Monte Carlo risk simulations for their largest trading counterparties in a few minutes, and execute what-if risk profiles in milliseconds for pre-deal analysis on the trading room floor."

Neil Bartlett, Chief Technology Officer, Algorithmics, an IBM Company

Performance increase of up to 1.7 X*

Banks want to make more risk-aware decisions, and are running increasingly sophisticated risk analytics on demand.

Achieving performance increases on computationally intensive Monte Carlo risk analysis can help financial institutions to reduce their capital costs and operating expenses.

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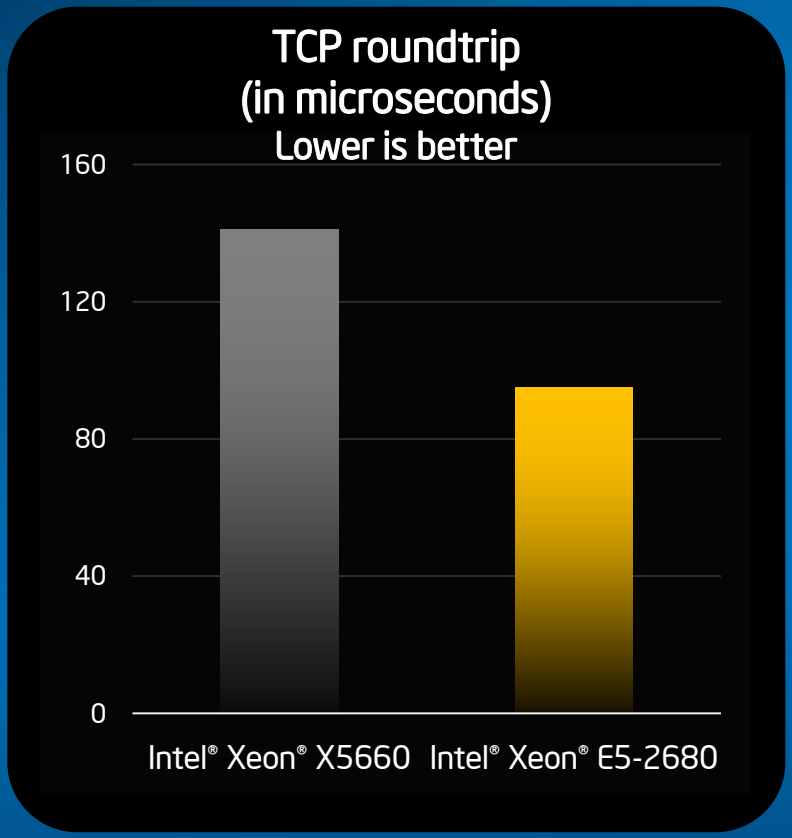
NEST* Financial Services



"Omnesys* NEST* is an innovative order management solution used extensively for algorithmic and prop trading, with ultra low latency and massive throughput capabilities. Under test lab conditions, the Intel® Xeon® processor E5 family-based platform was able to reduce TCP latency by 40%, compared to the Intel® Xeon® processor 5600 platform."

Shrikant Pandit, Managing Director, Omnesys Technologies

With 40% lower latency on Intel® Xeon® E5 family based platforms, Omnesys* NEST* will allow faster delivery of trade orders to exchanges and maximize profit

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SunGard Ambit PATS

Cloud

FSI Virtualized Private Cloud Risk Management Solution

"We successfully collaborated with Intel to configure a virtualized private cloud. The cloud framework enables developers to run concurrent Asset & Liability Management (ALM) regression testing and validation. We were able to run 15 virtualized instances on the new Intel® Xeon® processor E5-2600 product family based platform versus 11 virtualized instances on the previous Intel® Xeon® processor 5600 series based platform; without any performance degradation. This is significant because it will enable SunGard's software development team to properly size customer computing needs based on critical Risk calculation requirements. In addition, the ability to host 27% more virtual machines per server impacts SunGard's Total Cost of Ownership for our private cloud solution because it reduces our operational costs."

Jiaping Zhang – SunGard Risk and Performance Management

RiskTech 100® 2011

2011

Best Liquidity Risk & ALM Solution

- **The SunGard Ambit Asset & Liability Management (ALM) Risk solution enables risk professionals to understand the impact of market changes on the balance sheet in order to make faster and more informed business decisions**
- **Provides outstanding calculation performance for today's high-demanding risk analysis simulations**

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SunGard Ambit QFL

FSI Asset & Liability Risk Management Solution

AVX

"Regulatory mandates and the recent economic and sovereign debt crisis has led to a rise in banks re-evaluating their operational frameworks and risk management strategies. Today, risk management professionals demand high performance scalable solutions that enable timely, complex and dynamic modeling of customer behavior, economic valuation, interest rate scenarios and a wide range of other variables. With Intel's new Intel® Xeon® processor E5 2600 product family based servers, SunGard's Ambit Risk & Performance QFL solution achieved a 42% increase in performance as compared to previous benchmarks. Innovations such as Intel's Advanced Vector Extensions (AVX) helps provide our customers the performance they will need to handle higher data volumes and complex risk calculations and models."

Jo Osinga – SunGard Risk and Performance Management

2011

Best Liquidity Risk & ALM Solution

- **The SunGard Ambit Asset & Liability Management (ALM) Risk solution provides complete balance sheet market risk, liquidity risk and performance measurement, incorporating economic value analysis and dynamic earnings simulations based on deterministic and stochastic scenarios.**
- **Provides more complex risk analysis simulations in less time for less cost**

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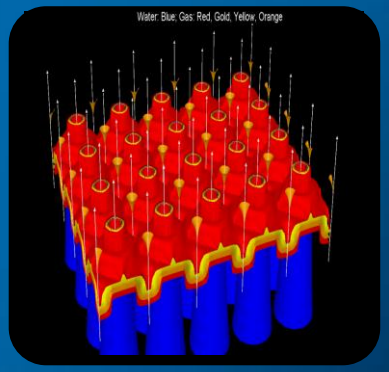
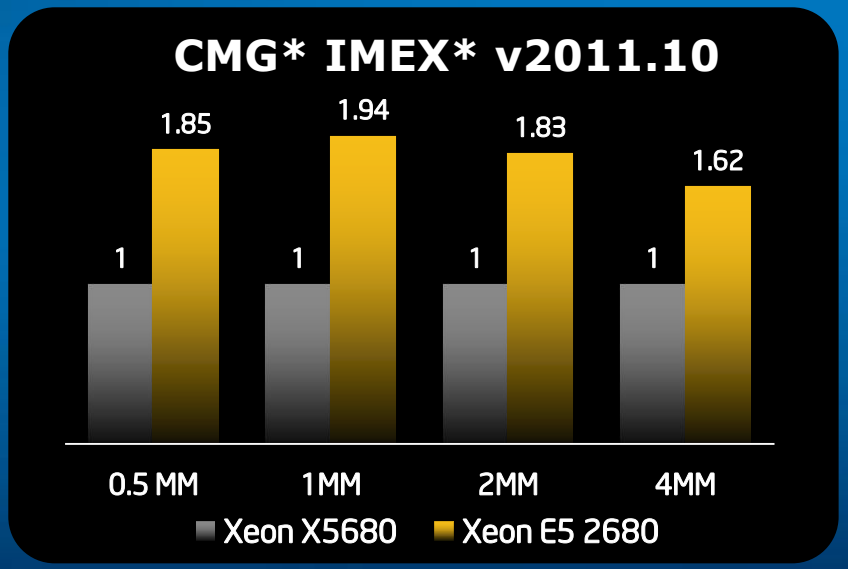
HPC APPLICATIONS

Reservoir Simulator IMEX* v2011.10

"With multi-$100MM reservoirs in play, an inexpensive hardware upgrade to Intel® Xeon® processor E5 family-based platforms enables significant performance improvements for our end users, maximizing their engineering and software investments to make better decisions sooner, using higher fidelity models and running more 'what if's' than before."

Ken Dedeluk, President & CEO, CMG





Well-engineered reservoir plan means $MM's to NPV

- **Reduce runtimes from days to hours**
- **Multiple runs, even computer-aided optimization (100's of runs)**
- **Performance uplift translates directly to optimal recovery factors and earlier cash flows**

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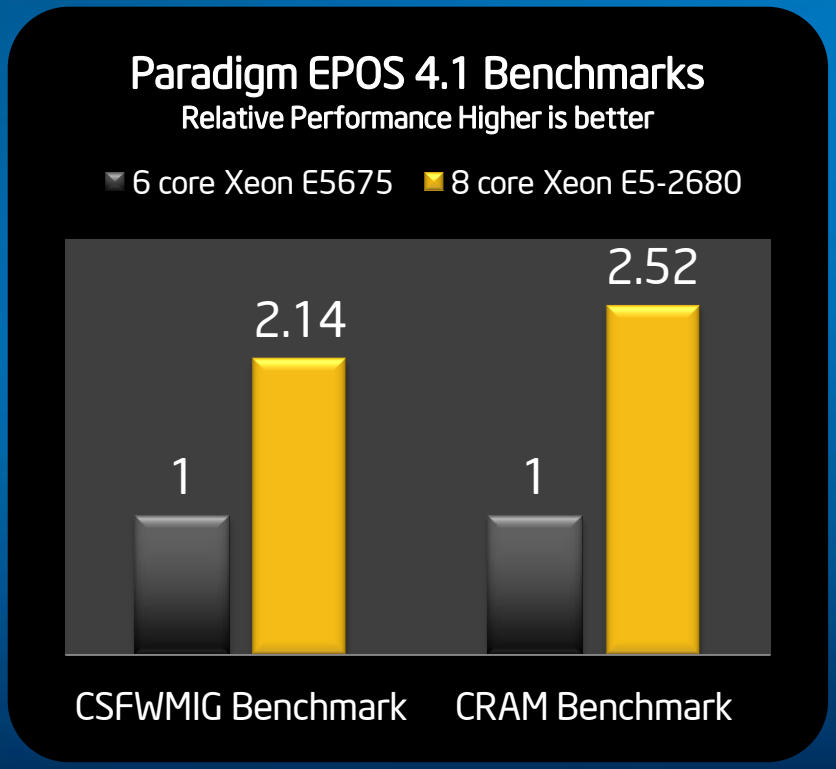
Paradigm® GeoDepth

High-resolution seismic imaging with superior scalability on E5-2680

"The Paradigm™ GeoDepth® code exploits all the architectural features of the Intel Xeon E5-2600 product family based platform, including the Intel® compiler generated AVX instructions, and the Intel® Math Kernel Library. We are seeing excellent results on this innovative Intel Microarchitecture, enabling our Seismic Imaging and Processing customers to significantly reduce the time to solution for the imaging steps in seismic migration workflows."

Duane Dopkin, Paradigm executive vice president, technology



Next level of performance in 3D seismic imaging solutions

The memory architecture of the Intel® Xeon® processor E5-2600 product family minimizes communication overheads, enabling all sixteen-cores on this dual socket platform to deliver linear scalability. Improved Hyper-Threading and Turbo technology delivers improved price performance.

Intel® AVX delivers significant speed up in FFT computations used in seismic imaging including those that use the full wave migration algorithm.

Geophysicists will experience significantly faster convergence of results with the increased scalability of the Intel Xeon Processor E5-2600 product family, enabling expedited generation of high-resolution images and reconstruction of seismic reflectivity in areas where complex wave-propagation occurs.

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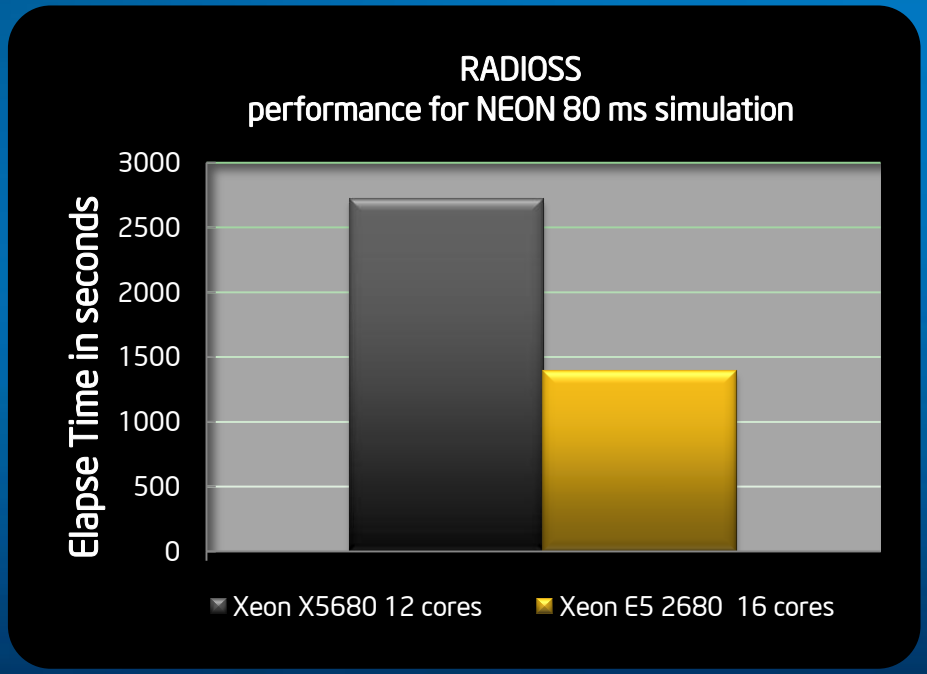
RADIOSS version 11 SA1

Manufacturing/Car crash simulation

Altair

"The strong relationship set up with Intel allowed us to optimize our solvers for this cutting-edge platform before its release. The **Intel® Xeon® processor E5 family-based platform** really offers an amazing computing performance to our customers for running **RADIOSS** Hybrid MPP."

Eric LEQUINIOU, HPC Director, Altair



With its new architecture enhancements and exceptional memory bandwidth, the Intel® Xeon® processor E5 family-based platform fully enables hybrid parallelism of **RADIOSS** and demonstrates new performance standard by achieving up to 1.95x **speedup** over previous generation Intel Xeon processor 5600 series.

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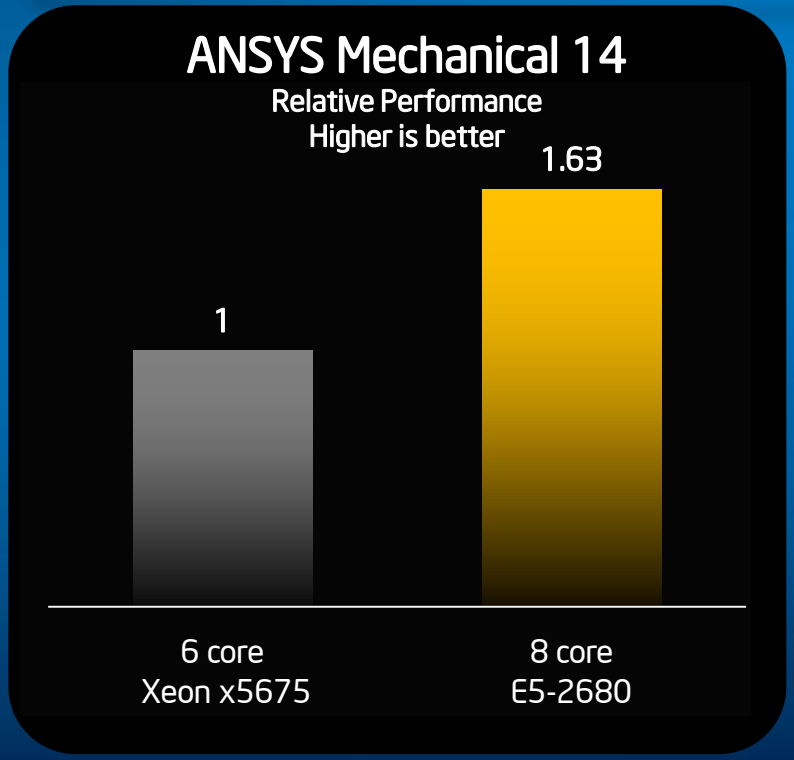
ANSYS* Mechanical
with Intel® AVX boost

"ANSYS has worked with Intel to make sure our joint customers can leverage the new Intel® Xeon® Processor E5-2600 product family, running larger, higher-fidelity models to improve product quality. This new platform, with performance 60% or more over the prior Intel generation, is a powerhouse for a majority of workflows and is a welcome component of high-performance computing as a strategic technology for engineering simulation."

Joe Solecki, Vice President, Physics Business Unit, ANSYS, Inc



Intelligent Performance for structural/thermal simulation

The memory capacity of the Intel® Xeon® processor E5-2600 product family allows even the largest of workloads to be handled in-core, significantly improving run times.

Intel® AVX is delivering significant speed up in factoring and solving the FE assembly equations matrix which are floating point intensive.

Users will usually see significant reduction in simulation runtimes even for the largest of models due to the additional cores and larger memory capacity. This will allow customers to run larger, higher fidelity models in more iterations within a set time and cost constraints to improve their product quality and enable innovation.

Source: Published/submitted/approved results as of March 6, 2012. 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.
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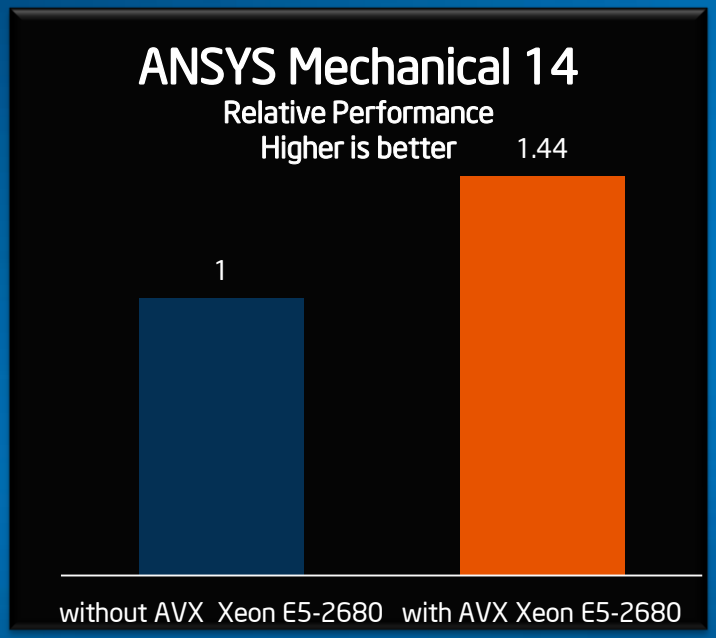
ANSYS* Mechanical

AVX Performance Speed up in ANSYS Mechanical 14.0

AVX



Leading Performance with Intel® AVX boost

Intel® AVX is delivering significant speed up in factoring and solving the FE assembly equations matrix which are floating point intensive.

Benchmark description

ANSYS 14 standard workload V14sp-4. Large sized job using direct sparse solver. The distributed version of ANSYS Mechanical is selected for the best algorithmic scaling.

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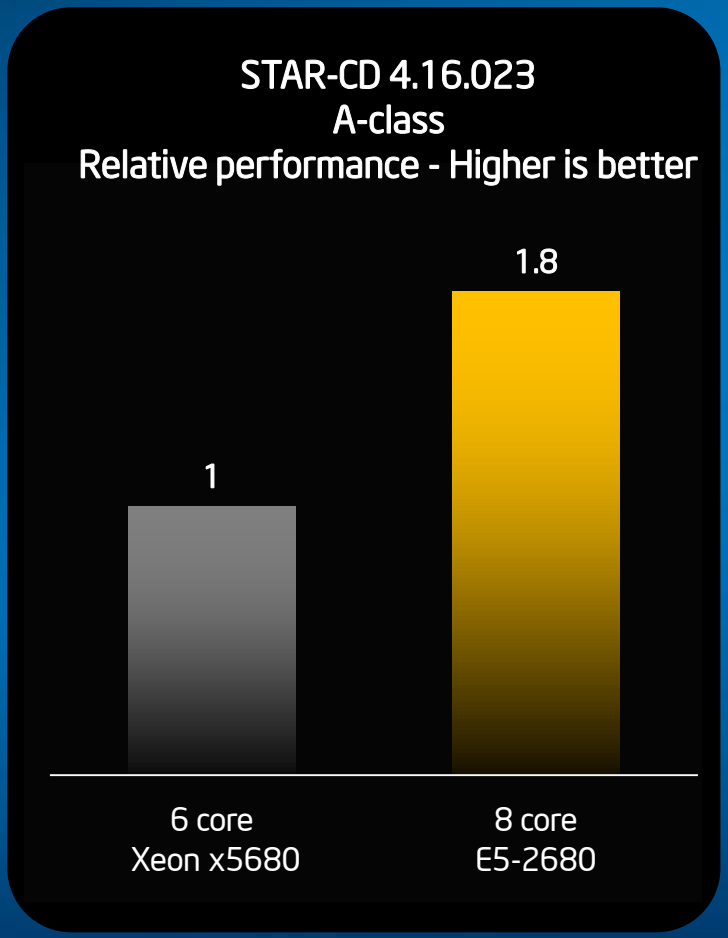
CD-adapco STAR-CD*

Industry Leading Performance on E5-2680



Intelligent Performance for CFD simulation

Increased memory bandwidth of the Intel® Xeon® processor E5 family-based platforms series allows much better utilization of its computational resources, significantly improving run times.

Users will usually see significant reduction in simulation runtimes due to the additional cores and larger memory bandwidth.

System with two Intel® Xeon® processor E5-2680 based platforms processors brings up to 1.8x speedup compared to a similar system based on previous generation Intel® Xeon® processor X5680 based platforms processors, diminishing the simulation/prototyping time and reducing the time-to-market in manufacturing.

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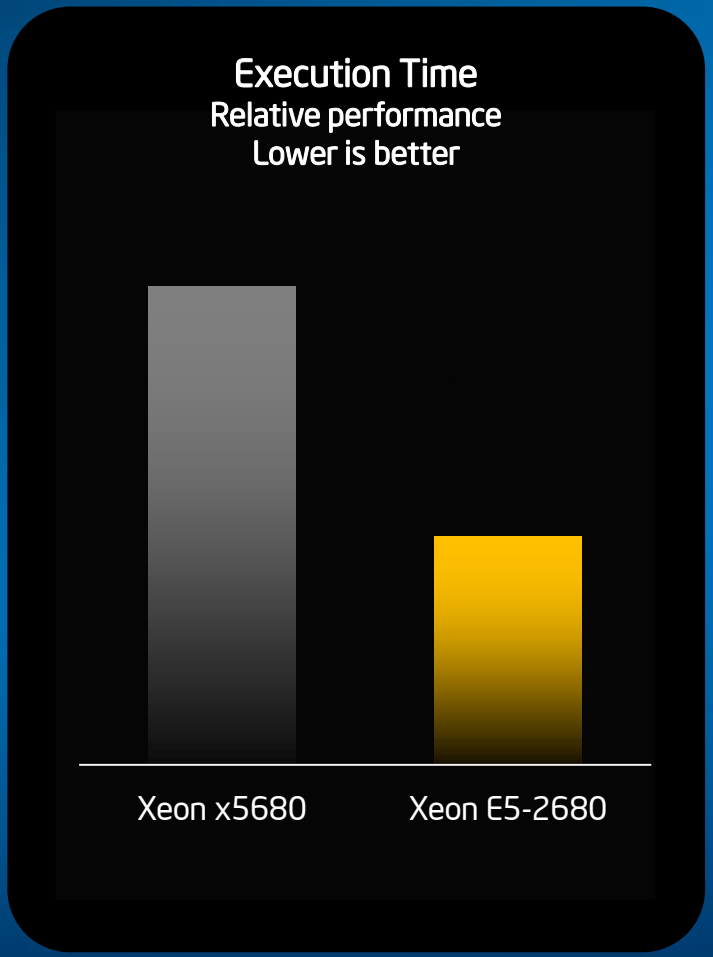
ICON FOAMpro 2.0.3

Computational Fluid Dynamics (CFD)



"ICON FOAMpro external aerodynamics simulation on the new Intel E5-2600 series is giving astonishing results. To enable a 2X speed-up with less nodes and lower frequencies is a great achievement. This kind of progress will allow our engineers to benefit of unforeseen precision in our simulations."

J. Papper, Software & Methods Development Manager, ICON

CFD with ICON FOAMpro is a key ingredient in automobile manufacturing to simulate the airflow to improve aerodynamics and fuel consumption without expensive prototyping.

Faster processing speed helps decrease turn-around and increase simulation precision.

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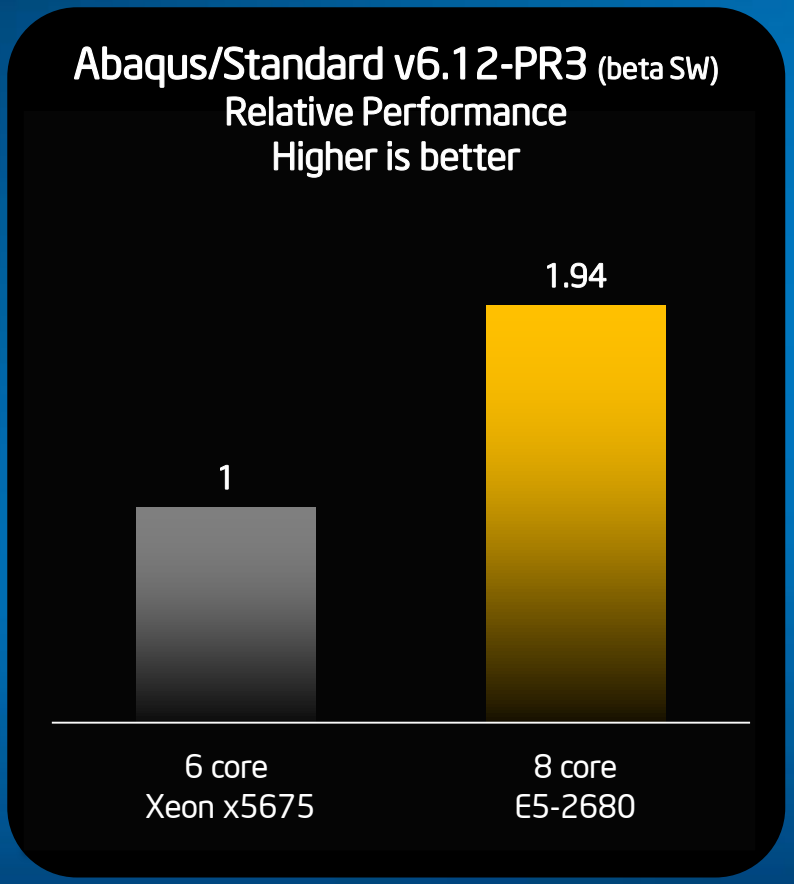
Abaqus/Explicit



Abaqus/Explicit is a finite element analysis product that is particularly well-suited to simulate brief transient dynamic events such as consumer electronics drop testing, automotive crashworthiness, and ballistic impact. It is designed for production environments, so ease of use, reliability, and efficiency are key ingredients in its architecture.

Users will usually see reduction in simulation runtimes due to new AVX vector instructions and additional cores. This will allow customers to run larger, higher fidelity models in more iterations within a set time and cost constraints to improve their overall product quality and enable innovation.

Source: Published/submitted/approved results as of March 6, 2012. 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.
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PerkinElmer Acapella 2.5.7

Bioscience

"The new Intel® Xeon® processor E5 family-based platform(s) doubles the speed of cellular image analysis."

Dr. Martin Daffertshofer, Global Product Manager Software, PerkinElmer Cellular Technologies Germany GmbH

In drug discovery today analysing images of living cells is one of the most CPU extensive processes.

The new Intel® Xeon® processor E5 family-based platform doubles the speed of cellular image analysis.

It's ideally suited for interactive and automated processing of huge image data to support the discovery of new drugs.

2x higher throughput reduces the cost of drug discovery and increases throughput in terms of tested drugs

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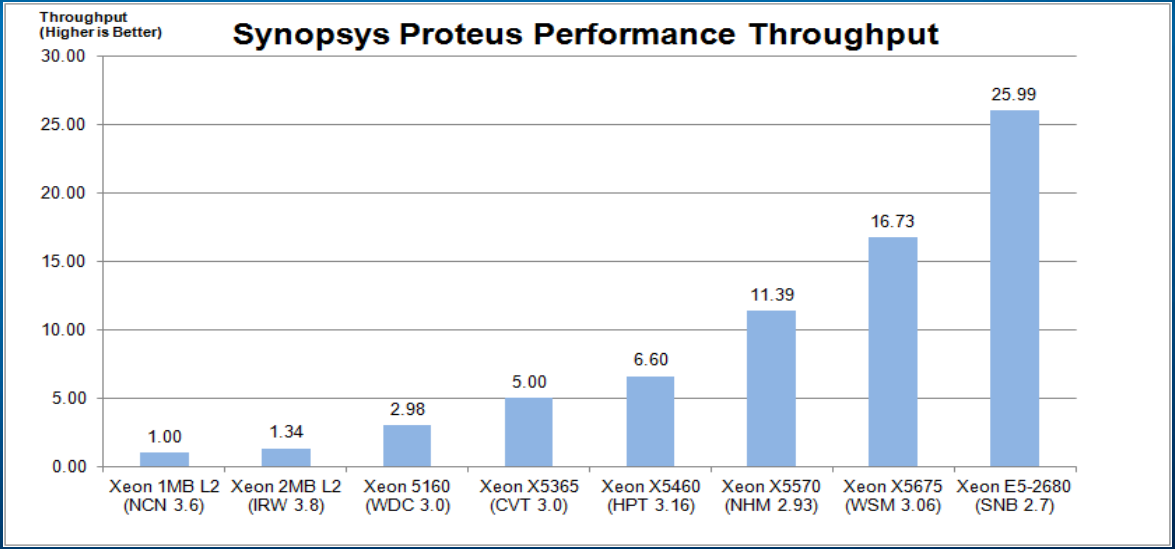
Proteus® OPC 2004.03.5_10
Electronic Design Automation

The Intel® Xeon® processor E5-2600 product family has demonstrated a substantial performance multiple when compared to the previous generation Intel Xeon processor X5600 series in High Performance Computing applications. On Synopsys' highly scalable Proteus Computational Lithography engine, which analyzes and modifies full chip design databases prior to manufacturing, the Intel Xeon processor E5-2600 product family outperforms the Intel Xeon processor X5600 series by a factor of up to 1.55x in throughput. Over the past 8 years, Synopsys' Proteus application running on Intel Xeon family of processors has shown a 25x performance improvement. By leveraging such advances in Intel CPU performance from generation to generation, Proteus users are able to improve their turn-around-time while keeping the cost of ownership low by avoiding expensive custom hardware solutions."

Dr. Howard Ko, Sr. VP & GM, Silicon Engineering Group, Synopsys, Inc



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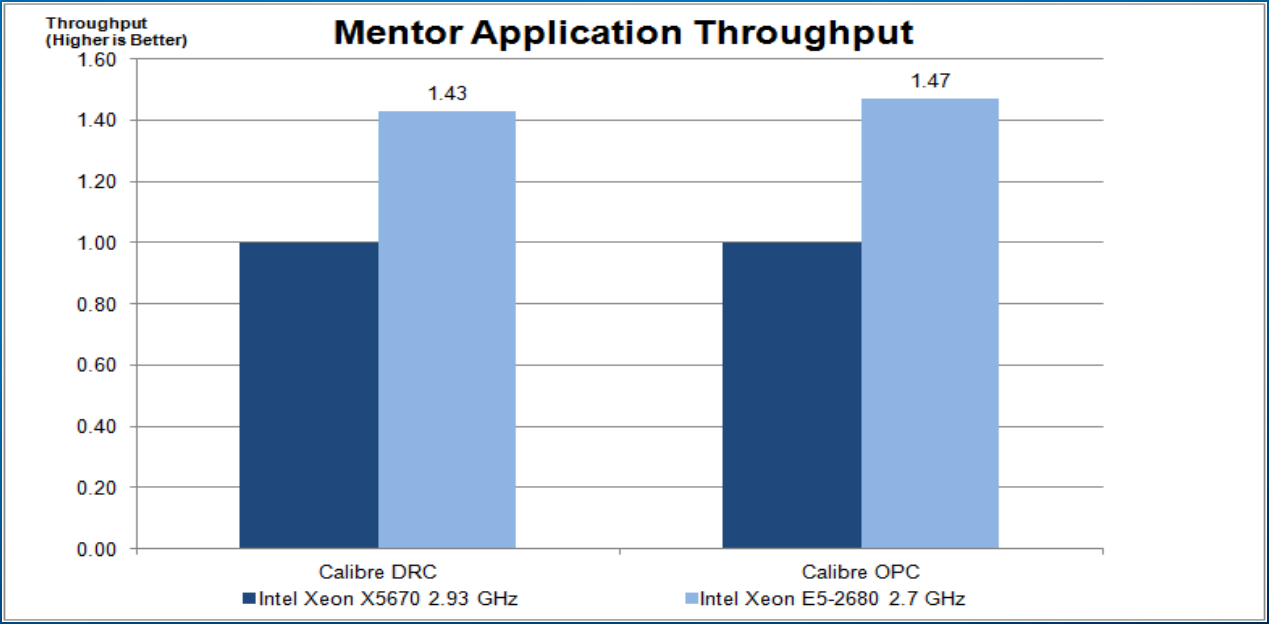
Calibre® v2011.4_14
Electronic Design Automation

"The Intel® Xeon® processor E5-2600 product family based platform offers a significant throughput increase of up to 1.47x over the Intel Xeon processor X5600 running Calibre nmDRC and Calibre nmOPC."

Michael White, Director of Product Marketing, Calibre Physical Verification, Mentor Graphics



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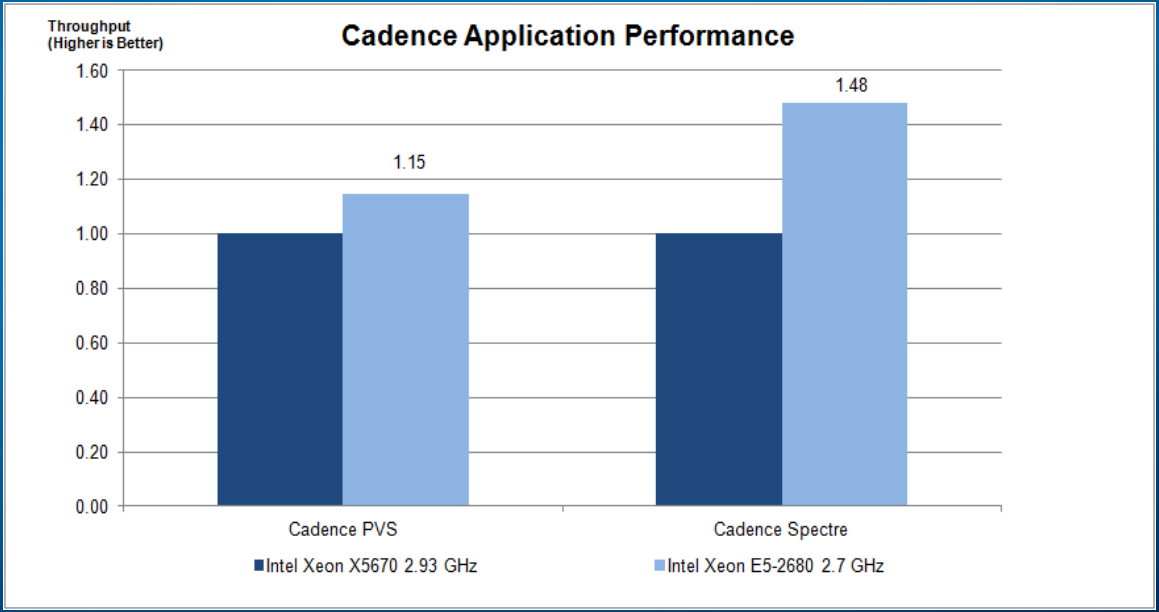
cadence® PVS® 11.1.0 and Spectre® 7.2.0.109
Electronic Design Automation

"We have seen upto 1.48x performance throughput gain for Cadence® Spectre® application on the Intel® Xeon® processor E5-2600 product family compared to earlier Intel Xeon 5600 series platform."

Steve MacQuiddy, IT Director, Engineering Infrastructure, Cadence Design Systems, Inc.



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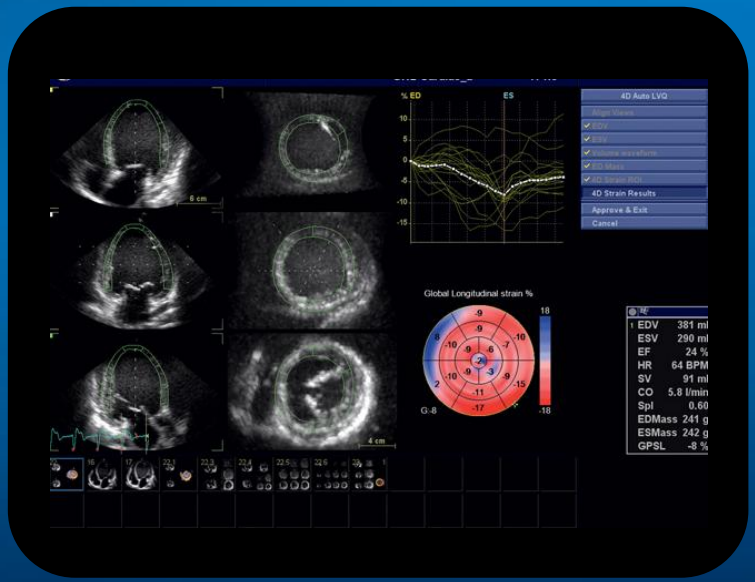
HEALTHCARE

GE Healthcare – Ultrasound

AVX

"The Intel® Xeon® processor E5 family-based platform allows us to scale our ultrasound back end software to the highest levels of scalability. This is a critical component of our system that enables to perform extremely intensive processing in real time using deep parallelization and vectorization."

Arcady Kempinski, Architect Ultrasound Israel, GE Healthcare



Intel® AVX has been critical factor to be able to enhance performance of image processing for ultrasound algorithms compared to the previous platform.

Intel® Xeon® processor E5 family-based platforms allows for usage of enhanced image quality for 2D and 3D real time ultrasound. Physicians can make use of enhanced clinical protocols due to the new platform.

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SuperPACS*

Healthcare

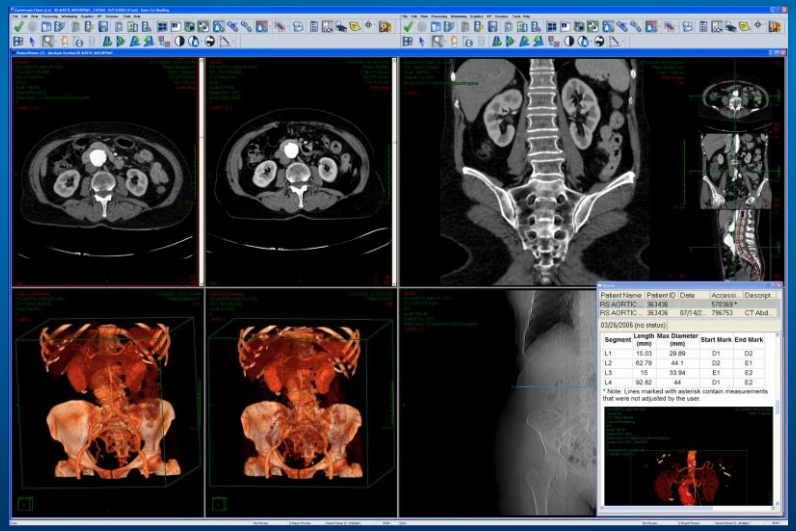
Cloud

"As Carestream is shifting its focus to cloud based medical imaging archiving, teleradiology, and image distribution – we find that the new Intel® Xeon® processor E5 family-based platform is helping us provide excellent service at very affordable prices.

Today, with the increase in CPU performance, we are also able to provide full server side rendering for image distribution - using a zero footprint HTML5 based viewer – either from the Carestream cloud or directly on-premise.

In general we see that the CPU performance has doubled compare to the Intel® Xeon® processor 5600 series-based platforms we used to deploy."

Noam Velan, Director of R&D, Carestream Health, HCIS Division



Carestream – SuperPACS is a scalable web-based platform for reading, reviewing, 3D processing, archiving and distribution of radiological imagery.

The product employs high-performance computer vision algorithms, that make extensive use of Intel multithreading and SIMD technology.

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Neusoft®
Beyond Technology ™

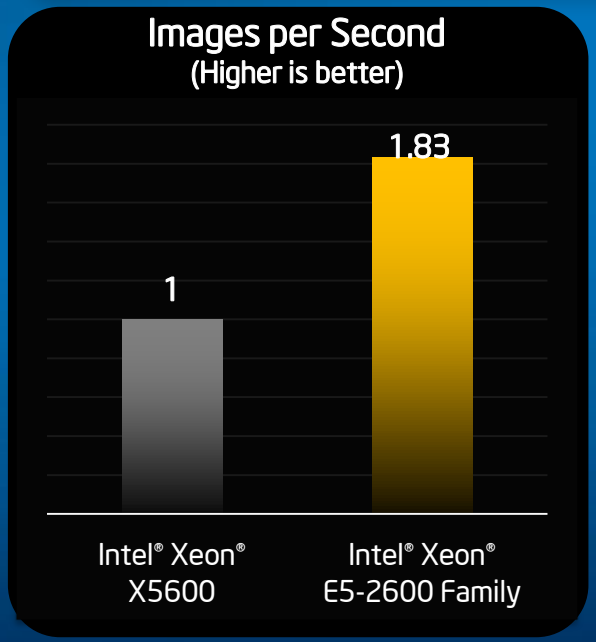
Neusoft CT

Healthcare

AVX

"It is amazing to see that Intel® AVX on the new Xeon processor E5-2600 product family greatly reduces the latency for a doctor to gain the high quality diagnostic volume images, and helps them to make the right decision in the shortest time."

Shuangxue Li, Vice President of Neusoft Medical Systems Co., Ltd., General Manager of Diagnostic Imaging Systems Division



Neusoft CT gains record breaking performance with Intel® Xeon® Processor E5-2600 product family: 1.83X performance improvement comparing to previous Intel® Xeon® Processor 5600 series

Intel® AVX optimization boosts performance by 1.24X, it shows great performance improvement comparing to previous SSE implementation.

Intel® Xeon® Processor E5-2600 product family product family achieves 1.61X performance per watt improvement comparing to Intel® Xeon® Processor 5600 series

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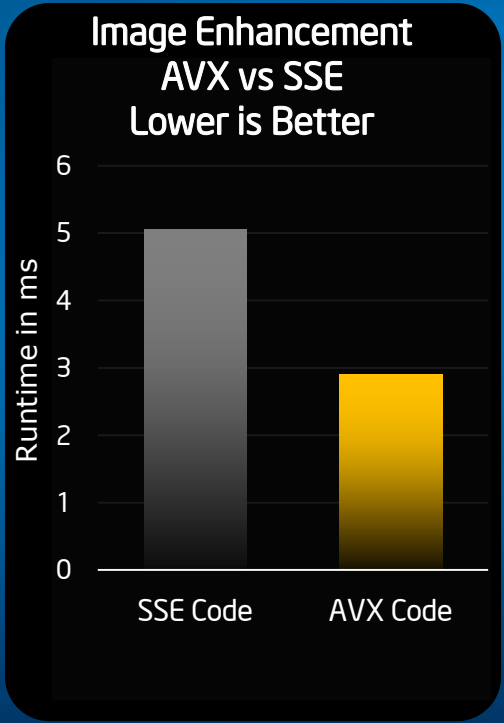
Available Q2 2012

Miniature microscope

AVX

"The new Intel® Xeon® processor E5 family-based platform enables us to support advanced image processing algorithms necessary to for 3D visualization during minimally invasive neurosurgery. The scalability of the architecture combined with SIMD Intel® AVX instructions allowed us to advance our algorithms and enable full stereo dual stream processing in real time at high frame rates required for surgery."

Alex Chanin, President and CEO, Visionsense



The Visionsense VSii system is a complete solution enabling surgeons to use a minimally invasive stereoscopic (3D) camera, for neurosurgical applications

The new Intel® Xeon® processor E5 family-based platform allows the real time processing of the video image using state of the art image processing algorithms. The platform enables linear scalability using the 16 cores (2 processors) with minimal overhead.

The new Intel® AVX commands allows performing some algorithms at close to 100% faster compared to a non AVX version.

Intel® Xeon® processor E5 family-based platforms allow the delivery of extremely high quality high definition stereoscopic video to the surgeon in real time with minimal latency. The processed stereoscopic image retains the natural depth information and allows the surgeon the best possible view of the surgical site whilst retaining a minimal invasive approach.

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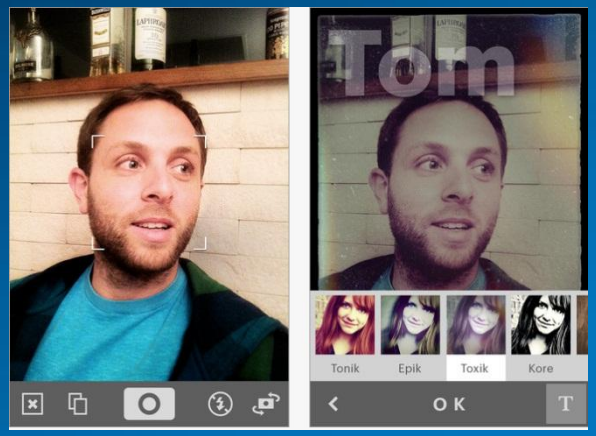
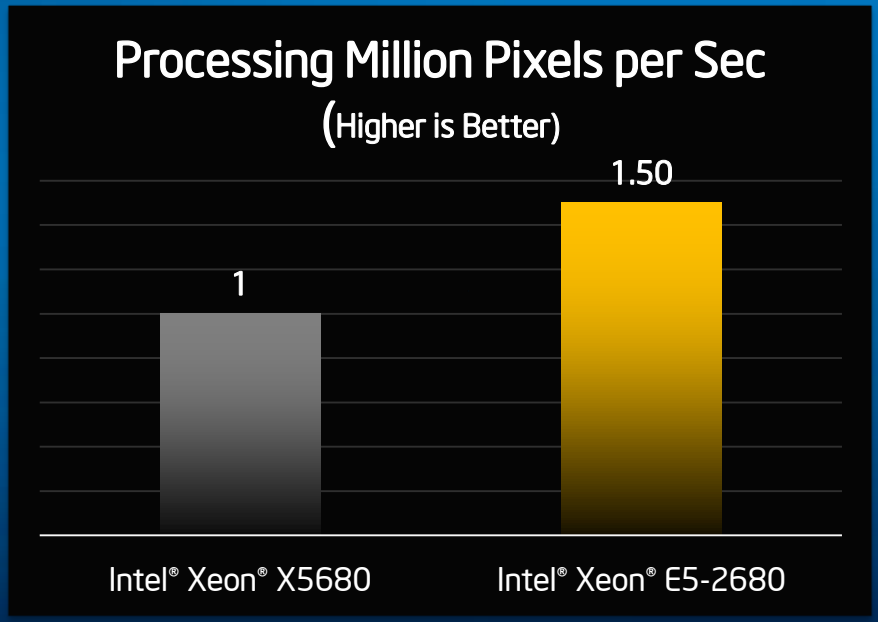
BIOMETRICS

Face Recognition Engine

Media Processing / Social Networks

AVX





"Top performance facial recognition solutions are required to process huge amounts of digital photo uploads accurately and at manageable costs. Using the Intel Xeon® processor E5® family, combined with the boost of Intel® AVX technology, we were able to reach a photo processing throughput unmatched by any world-class facial recognition solution, achieving an overall boost of 1.31x on E5-2680 over X5680 CPU."

Yaniv Taigman, CTO of face.com

- **Provides high-precision face identification solutions with world-wide coverage, at an unprecedented cost-performance ratio**
- **Utilizes Intel® AVX to accelerate floating-point operations critical for mega-scale face recognition services in the cloud**
- **Free easy-to-use API attracting thousands of developers world-wide http://developers.face.com**

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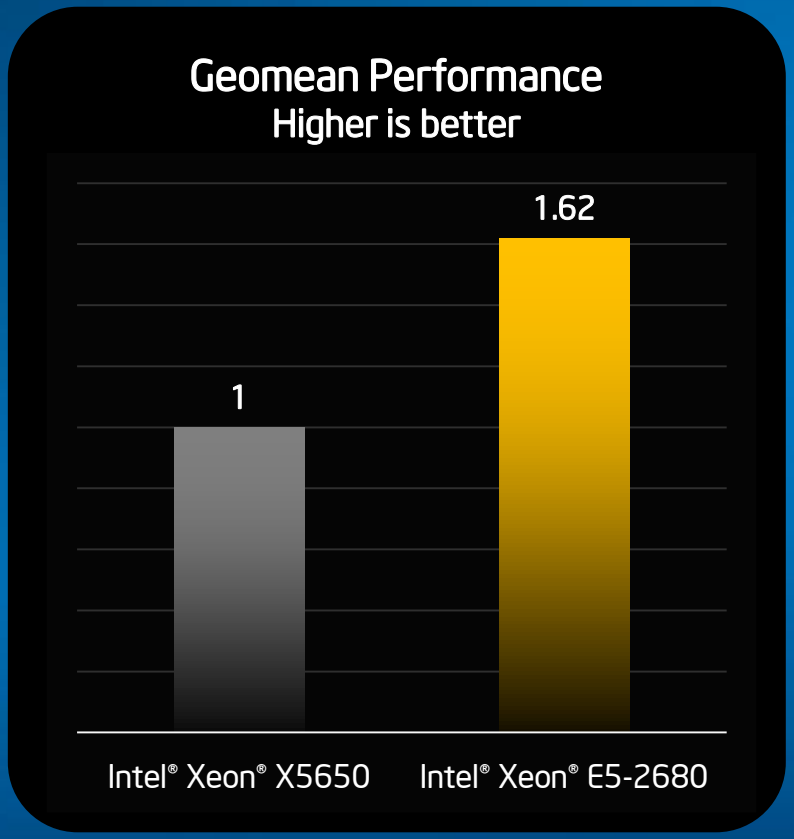
Innovatrics* AFIS System v2.5

Security



"Innovatrics* AFIS System, a complete fingerprint matching solution, delivers first-class performance. Innovatrics identification algorithm achieves speed of 85,273,633 fingerprint matches per second on the Intel® Xeon® processor E5 family-based platforms compared to 48,753,604 matches per second on the Intel® Xeon® processor 5600 series-based platforms."

Jan Lunter, CTO, Innovatrics

With up to 62% performance improvement on Intel® Xeon® processor E5 family-based platforms, Innovatrics* AFIS system can deliver faster response in identification tasks

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SOFTWARE ENHANCED WITH LATEST PROCESSOR INSTRUCTIONS

Intel® AVX Support

Manufacturing

ANSYS

INTES

LSTC Livermore Software Technology Corp.

MSC Software Simulating Reality, Delivering Certainty

Healthcare

Neusoft Beyond Technology

visionSENSE

Energy

Paradigm

OS/VM Support

redhat.

ORACLE SOLARIS

suse

vmware

Windows

Financial Services

Algorithmics

SUNGARD

Analytics / Imaging

face.com

NICE

Intel® AES-NI Ecosystem Update

Usage	Applications	Status
Secure Transactions (TLS/SSL)	Microsoft Windows Server* 2008 R2	Available now
	OpenSSL patch	Available now
	Red Hat Enterprise Linux 6	Available now
	Fedora Linux* 13	Available now
Full Disk Encryption Software	Checkpoint* Endpoint Security R73 FDE 7.4 HFA1	Available now
	McAfee Endpoint Encryption* 6.0 with ePolicy Orchestrator* 4.5	Available now
	Microsoft BitLocker *WS2008R2	Available now
	PGP universal 10.1	Available now
	WinMagic	Available now
Enterprise Applications	Oracle Berkeley* DB 11.2.5.0.26	Available now
	Oracle Database* 11.2.0.2	Available now
	VMware* ESX 4.0 U1 (supports AES-NI usage in the guest OS)	Available now
	Oracle VM 3.0 beta (supports AES-NI usage in the guest OS)	Available now
	Citrix Midnight 5.6 (supports AES-NI usage in the guest OS)	Available now
	Xen 4.0.1 (supports AES-NI in the guest)	Available now
	SAP Cryptolib*	Coming Soon
Tools Libraries	Intel® Compiler, V11.0	Available now
	Microsoft* Visual Studio 2008 SP1	Available now
	GNU Compiler Collection, GCC v4.4.0	Available now
	Microsoft Crypto Next Generation*, CNG WS2008R2	Available now
	Intel® Integrated Performance Primitives crypto library V7.0	Available now
	Network Security Services, NSS 3.12.3	Available now
	Solaris 10 Java Cryptographic Framework	Available now

Intel® AES-NI End User Testimonials

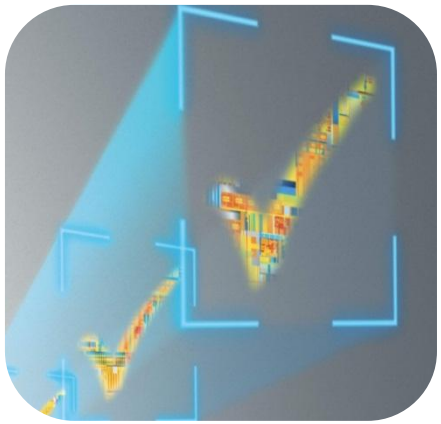
GNAX HEALTH
HEALTHCARE TECHNOLOGY. DELIVERED.

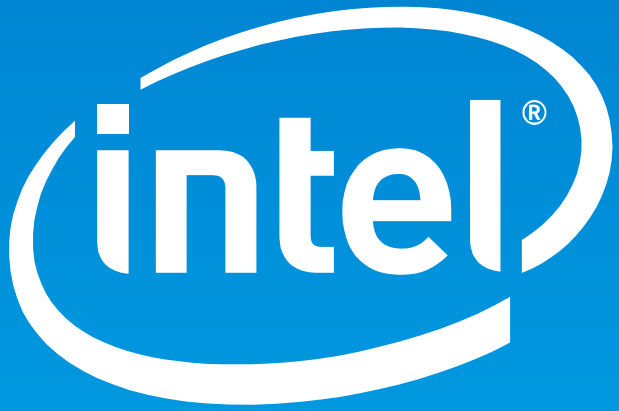
"We need a way to scale our encryption capabilities to handle more data, from more customers, without affecting end-user performance. Using Intel® AES-NI, we can scale our services and protect information while sustaining high performance."
Janakan Rajendran, CIO, GNAX Health

SK telecom

"With the launch of new cloud services, we needed a more powerful security system to protect the user's private data. That is why we chose the hardware-based Intel® AES-NI powered by Intel® Xeon® processors."

- Nam-Seuk Han, Head of the Information Technology R&D Center, SK Telecom




intel

Configuration Information

Slide #	Application	Baseline (Processor / Memory in GB)		New System (Processor / Memory in GB)	
8	Exasol EXASolution 4.0	Intel(r) Xeon(r) processor 5680	36	Intel(r) Xeon(r) processor E5-2680	32
9	IBM SolidDB* - In-memory DataBase	Intel(r) Xeon(r) processor 5650, Intel(r) Xeon(r) processor 5680	32	Intel(r) Xeon(r) processor E5-2680	72
10	Neusoft Aclome™	Intel(r) Xeon(r) processor 5680	24	Intel(r) Xeon(r) processor E5-2680	32
11	Naver* Search Engine	Intel(r) Xeon(r) processor 5667	32	Intel(r) Xeon(r) processor E5-2680	32
12	OBC "Bugyo V ERP"	Intel(r) Xeon(r) processor 5670	36	Intel(r) Xeon(r) processor E5-2680	40
14	UFIDA PASS Platform	Intel(r) Xeon(r) processor 5680	24	Intel(r) Xeon(r) processor E5-2680	32
15	Dr.Sum EA 4.0	Intel(r) Xeon(r) processor 5670	24	Intel(r) Xeon(r) processor E5-2670	32
17	Algorithmics	Intel(r) Xeon(r) processor 5675	48	Intel(r) Xeon(r) processor E5-2680	32
18	Omnesys NEST*	Intel(r) Xeon(r) processor 5660	32	Intel(r) Xeon(r) processor E5-2680	32
19	SunGard Ambit PATS	Intel(r) Xeon(r) processor 5680	48	Intel(r) Xeon(r) processor E5-2680	64
20	SunGard Ambit QFL	Intel(r) Xeon(r) processor 5680	12	Intel(r) Xeon(r) processor E5-2680	32
22	CMG* Reservoir Simulator IMEX	Intel(r) Xeon(r) processor 5680	48	Intel(r) Xeon(r) processor E5-2680	32
23	Paradigm GeoDepth	Intel(r) Xeon(r) processor 5675	48	Intel(r) Xeon(r) processor E5-2680	64
24	Altair RADIOSS	Intel(r) Xeon(r) processor 5680	24?	Intel(r) Xeon(r) processor E5-2680	32?
25-26	ANSYS* Mechanical	Intel(r) Xeon(r) processor 5675	48	Intel(r) Xeon(r) processor E5-2680	64
27	CD-adapco STAR-CD	Intel(r) Xeon(r) processor 5680	24	Intel(r) Xeon(r) processor E5-2680	32
28	ICON FOAMpro 2.0.3	Intel(r) Xeon(r) processor 5680	48	Intel(r) Xeon(r) processor E5-2680	32
29	Abaqus/Explicit	Intel(r) Xeon(r) processor 5675	48	Intel(r) Xeon(r) processor E5-2680	64
30	PerkinElmer Acapella 2.5.7	Intel(r) Xeon(r) processor 5680, Intel(r) Xeon(r) processor 5660	48	Intel(r) Xeon(r) processor E5-2680	32
31	Synopsys Proteus® OPC	Intel(r) Xeon(r) processor 5675	96	Intel(r) Xeon(r) processor E5-2680	1TB
32	Mentor Graphics Calibre®	Intel(r) Xeon(r) processor 5675	96	Intel(r) Xeon(r) processor E5-2680	1TB
33	Cadence PVS® and Spectre®	Intel(r) Xeon(r) processor 5675	96	Intel(r) Xeon(r) processor E5-2680	1TB
36	Carestream – SuperPACS*	Intel(r) Xeon(r) processor 5650	24	Intel(r) Xeon(r) processor E5-2680	32
37	Neusoft CT	Intel(r) Xeon(r) processor 5680	24	Intel(r) Xeon(r) processor E5-2680	32
38	Visionsense – Miniature microscope	N/A	N/A	Intel(r) Xeon(r) processor E5-2680	32
40	Face.com	Intel(r) Xeon(r) processor 5680	48	Intel(r) Xeon(r) processor E5-2680	64
41	Innovatrics	Intel(r) Xeon(r) processor 5650	32	Intel(r) Xeon(r) processor E5-2680	32