

BUSINESS BENEFITS

WITH SUN YOU CAN ACHIEVE...

50% to 80% decrease in footprint
70% to 80% increase in server utilization
30+% decrease in power consumption

Sun and Intel® solutions — innovators working with innovators

Intel and Sun are companies known for driving technological innovation. Sun delivers Intel processor-based systems that excel at running the Solaris™ 10 operating system, MySQL™, and Java software. They are optimized by Sun and Intel with excellent performance and scalability specifically for systems based on Intel Xeon processors. Sun's breakthrough system designs are optimized for high-performance, compact footprint, energy efficiency, and simplified manageability whether running Solaris, Linux, or Windows operating systems. By combining Intel's leadership in processor design and Sun's system design expertise, Sun and Intel are delivering industry leading systems for virtualized environments, consolidation activities, and critical applications where throughput, data integrity, efficiency, security, and manageability are required.

LEARN MORE ABOUT WHAT YOU NEED TO KNOW

VISIT

sun.com/intel
sun.com/intel/benchmarks
intel.com/sunalliance
intel.com/xeon

CONTACT SUN

Visit sun.com/federal to learn about Sun's portfolio of solutions that support the unique requirements of the federal government or contact your Sun Microsystems Federal sales representative at (800) 903-3883.

BLOGS

blogs.sun.com/jonathan
blogs.sun.com/BVass

DOWNLOADS

sun.com/download

TRY & BUY

sun.com/tryandbuy



© 2009 Sun Microsystems, Inc. All rights reserved. Sun, Sun Microsystems, the Sun logo, Solaris, MySQL, Java, Sun Fire, and Sun Blade are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries. Information subject to change without notice.

SUN AND INTEL

SUN FACTS YOU NEED TO KNOW

OPEN, SECURE, EFFICIENT



A BUSINESS STORY

Issues addressed through technology

Innovation for the sake of innovation provides little value to business. Intel and Sun are addressing your business issues through innovations in the following areas:

- > **Web 2.0** – Provide direct information access and citizen services enhancements
- > **Service-Oriented Architecture (SOA)** – Accomplish more work with fewer resources with the ability to adapt to frequent changes to mission requirements
- > **Business applications** – Ideal platform for departmental information systems, providing timely access to decision support data
- > **Virtualization** – Systems optimized for virtualization environments, provide more efficiency with less resources
- > **Security** – Coupled with Sun Java™ System software to provide full user life-cycle process automation and implementation conformity
- > **Cost** – Lower ownership and operation costs with industry standard components and leading energy efficiencies

10 reasons to choose Sun and Intel

1. System design

Sun provides a wide range of Intel Xeon processor based systems to meet the operational needs and mission requirements of any organization. Sun's focus is on performance, energy efficient design, and industry standard components, and the Solaris Operating System (OS) tuned for the Xeon processor delivers record-breaking scalability. From single socket, quad-core workstations to four socket, 24-core rack mount and blade systems, Sun and Intel offer leading processing performance and systems with enhanced quality and reliability designs.

2. Silicon design

Today's demanding enterprise environment requires the combination of high-performance and low power consumption solutions. Sun's line of Intel-based servers are built around Xeon processors and Intel® microarchitecture employing next-generation, 45nm Hi-k multi-core technology. Optimized to deliver state-of-the-art features that raise the bar on energy-efficient performance, Intel microarchitecture continues to be the catalyst for innovative new designs. Intel's latest-generation microarchitecture represents the next step in faster, multi-core technology that intelligently maximizes performance workload.

3. Performance

Energy efficiency, density, and total cost of ownership are important in today's environment. However, performance continues to be an absolute

requirement. Sun and Intel systems have broken world records for performance. For example, the Sun Fire™ X4450 server obtained a World Record score of 531,669 bops for all four-socket systems, demonstrating an almost 15% improvement over the previous best result and the new X4170 system, equipped with two Intel Xeon X5570 processors, produced a new world record SPECint2006 score of 36.8.

4. Energy efficiency

Research shows that for every one dollar an organization spends on IT innovation (new hardware), another fifty cents is spent cooling existing hardware. With the rise in energy prices, experts predict that in five years these numbers could be equal. Combining virtualization techniques, high-performance energy efficient processors, and energy efficient system design allows end-users to develop more energy efficient datacenters.

5. Server consolidation via virtualization

Many IT organizations already using virtualization for consolidation and capex reduction are now looking at ways to use virtualization around disaster recovery and dynamic load balancing. These new use models have changed the requirements and considerations for virtualization. Factors like architectural consistency, hardware and software compatibility, roadmap, and I/O are playing an increasingly important role. Sun and Intel offer the ideal platform for virtualization environments with enhanced memory capacity, leading I/O capability and enhanced reliability, availability, and serviceability (RAS) features. For example, NaviSite continues to explore new ways to leverage its virtualization infrastructure to keep up with increasing client demands. Specifically, NaviSite looked to Sun and Intel to help deploy variable processing capacity quickly and support a wider range of operating systems and applications, leveraging the Sun Blade™ 6000 platform and Sun Blade X6250 server modules powered by Intel Xeon processors.

6. Operating system support

Freedom of choice. Sun and Intel have been working together on performance optimizations and chip

enablers to provide increased performance, power optimization, and virtualization options for the Solaris OS running on Intel Xeon processor-based systems. Sun continues to be a major open source contributor to the Linux community and supports multiple Linux distributions across the x64 system platforms. As an OEM partner, Sun is committed to ensuring interoperability and effectiveness with Microsoft across all our products and solutions. The Sun-Microsoft partnership continues to grow in strength, with a joint agreement to focus on SOA, Information Lifecycle Management, and Windows on Sun. With the power of VMware Infrastructure 3, Sun systems and storage, and Solaris 10, organizations can maximize performance and reduce overall cost of ownership through server consolidation, improved business continuity, and enterprise desktop manageability.

7. Java

The Sun Java Virtual Machine (JVM) delivers highly optimized performance on Intel systems right out of the box. The ongoing collaboration between Intel and Sun has resulted in a high level of optimizations made to the Sun JVM specifically for the Intel Xeon processor. Developers can obtain excellent Java performance simply from this choice of hardware and JVM, even before taking any specific tuning steps.

8. Security

At the OS level, the Solaris Security Toolkit simplifies and automates the process of securing Solaris OS and is based on proven security best practices and practical customer site experience gathered over many years. And with multi-core processors from Intel, these security tasks are performed without slowing down the system. Together, Sun and Intel provide a secure computing environment without sacrificing performance.

9. Software optimization

Regardless if your software is off-the-shelf, developed in-house, or a combination of both, Intel and Sun offer software engineers the tools and expertise needed to get the most from your software platform. From compilers to performance analyzers, threading tools and math libraries, Intel and Sun know all the hooks to get the very most from your hardware and software environment.

10. System/solutions offerings

As shown in the graphic below, modernizing your server infrastructure not only simplifies your enterprise environment, but also saves significant resources; both physical and financial.

2004

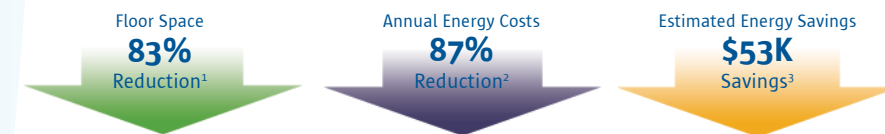
- > 6 racks
- > 126 servers
- > 240 sq ft
- > 48 kW
- > 5.1M ops/sec



2008

- > 1 rack
- > 17 servers
- > 40 sq ft
- > 6 kW
- > 5.1M ops/sec

The Bottom Line Benefits for IT (<2 year ROI4)



Source: Intel January 16, 2008

Performance comparison using SPECjbb2005 bops (business operations per second) between (2004) 2 socket single core Intel® Xeon® processor (3.6 Ghz) and (2008) 2 socket Quad-core Intel® Xeon® processor E5450 (3.0 GHz, 80 W 1333 MHz) measured 8/22/07