



A Strategic Decision

that Creates Sustainable
Business Advantage

Dual-Core Intel® Xeon®
Processor-based Platforms





Impact Far Beyond the Data Center

Your business, your customers and your competitors don't stand still. Neither does technology. It is constantly advancing and improving, presenting new benefits and new possibilities across industries.

At the same time, the variety and complexity of technologies make it essential that you choose them carefully — in order to ensure that your business's flexibility is maximized while the risks and costs are minimized.

And because your information technology is central to all business operations, your organization's future hangs in the balance: how well you can reduce costs, increase returns on assets, enhance productivity, strengthen customer relationships, respond to competitive challenges and create what your customers want to buy.

"Dell believes in delivering scalable, high-performance computing solutions in high volumes allowing easy and highly cost-effective deployment and management. The latest Dual-Core Intel® Xeon® processors help us do that more effectively than ever before."

*Neil Hand, Vice President of Worldwide Enterprise Marketing,
Dell Computer*

A Technology Decision that Defines Your Future

There are a small number of technology decisions that can truly define your future – the business possibilities and performance going forward. The introduction of Dual-Core Intel® Xeon® processor-based systems presents one of those opportunities.

Far more than just "fast servers," a technology infrastructure built on Dual-Core Intel Xeon processor-based platforms improves your return on IT assets while enabling entirely new business possibilities. Based on the advanced Intel® Core™ microarchitecture and built with complementary advanced technologies, these servers comprise a powerful, flexible, cost-effective fabric that not only delivers value in the data center, but forms a powerful pivot around which you gain new business advantages by doing things you couldn't do before:

- Reach customers in new ways while strengthening relationships
- Design more complex products and services faster
- Transform supply chains to be much more responsive and efficient
- Know sooner, decide better and act faster in the most complex, fast-paced environments
- Increase productivity and collaboration internally and with your partners

In short, the business capabilities and innovations enabled by a Dual-Core Xeon processor-based infrastructure can make your company leaner, more agile and more competitive.

An infrastructure based on new Dual-Core Intel Xeon processor-based systems is fundamentally advanced, combining multiple synergistic capabilities. And it's based on industry standards, connecting you to the largest network of hardware, software and solution providers – maximizing your choices, driving your costs down and giving you access to constant innovation and advances.

Companies like yours are capitalizing on these advantages now – the question is, will you?

"The upcoming portfolio of industry-leading HP ProLiant* 2P servers combines new Dual-Core Intel® Xeon® processors with HP's balanced system architecture to offer customers cutting-edge technologies that deliver leading performance and performance per watt.

*Paul Miller, Vice President,
HP Industry Standard Servers*

Business Innovation Made Possible

Intel continues to build more capabilities into platforms so you can do much more. With Dual-Core Intel Xeon processor-based platforms, we combine effective technologies, software services and industry alliances that optimize your infrastructure to deliver the right business services more efficiently and at lower cost:

Fundamental business solutions that allow IT to increase performance and efficiency. Enjoy powerful and affordable servers that deliver core business processes, including application servers, e-mail servers, Web servers and more. For example, new Intel Xeon processor-based servers can run core Web-based operations up to 58% faster than similarly configured competitive offerings.

www.intel.com/performance/server/xeon/java.htm

Supply chain management solutions that turn traditional supply chains into sense-and-respond demand chains and increase collaboration with suppliers and customers. New Intel Xeon processor-based servers outperform similarly configured competitive offerings for SAP's sales and distribution benchmark by up to 20%. www.intel.com/performance/server/xeon/erp.htm

Enterprise resource planning (ERP) tools that use real-time data from multiple sources and applications to improve decision making and efficiency. New Intel Xeon processor-based servers have industry-leading reliability features that protect your core business processes from downtime and help ensure you have the information you

need when you need it. And preventing downtime also saves significant cost – up to \$2 million per hour, depending on the industry.¹

Automated trading and risk analysis systems that can manage exploding trade volumes and increasing product and market complexity. New Intel Xeon processor-based servers outperform similarly configured competitive offerings for SunGard's Adaptiv Analytics* application by up to 25%.

www.intel.com/performance/server/xeon/app.htm

Customer relationship management (CRM) solutions that unify data from across your enterprise can manage more customer data faster, with performance gains of up to 3X over single-core processors.

Data analytics and business intelligence tools that turn data into business advantage faster and allow analysis of larger data sets. New Intel Xeon processor-based servers outperform similarly configured competitive offerings on transaction-intensive applications by up to 45% as measured by the TPC-C benchmark. www.intel.com/performance/server/xeon/database.htm



"IBM combines an ultra-efficient BladeCenter* design with innovative power-efficient processing from Intel, and the result is industry-leading blade [server] performance/watt."

*Scott Tease, Product Marketing Manager,
IBM eServer BladeCenter*

Building Your New Business Capabilities

Dual-Core Intel Xeon processor-based systems deliver four key capabilities to your business:

Significantly higher performance: Dual-Core platforms deliver outstanding performance with up to 3X the processing power of yesterday's single-core servers, unlocking the full potential of 64-bit, multi-core computing. By driving your data- and transaction-intensive applications faster, your business can know more, know it faster and respond better. You can deploy increasingly powerful business tools to track your marketplace and identify previously hidden opportunities. (See *Business Innovation Made Possible*, on the previous page.)

Flexibility to adapt: *Virtualization* is a technology that allows one server to act like many and squeezes more usage out of each server – increasing your computing power and available resources without increasing your cost. Intel® Virtualization Technology² (Intel® VT) – standard on Dual-Core Intel Xeon processor-based systems – works by hardware-assisting the virtualization environment, and has been heralded by industry analysts and business technology leaders as a significant advancement. Intel VT, in combination with powerful, more reliable servers, enables even greater asset utilization, allowing you to do more with less capital expense, while at the same time increasing confidence.

Ready for growth: A technology infrastructure based on Dual-Core Intel Xeon processor-based systems is modular, allowing you to expand your capabilities smoothly and cost effectively as conditions warrant. Because they're standards-based, and because nearly 40 million Intel® processor-based servers have shipped since 1996, you benefit from a huge ecosystem of providers – software vendors, hardware manufacturers and solution providers – all striving to deliver continually improving solutions to your specific business challenges. The result: the choices and tools available to your business constantly grow and improve, helping to ensure your continued business advantage.

Continuing leverage from Intel advances: Intel is continually advancing the technology that runs your business – with greater performance, increased energy efficiencies and real-world expertise on how to use technology to gain business advantage. Building your business on Dual-Core Intel Xeon processor-based systems means the capabilities of your technology foundation can advance over time and keep pace with your innovation.

All of these advantages from your Dual-Core Intel Xeon processor-based systems help you enhance your competitiveness with greater agility and responsiveness, increased customer satisfaction, higher sales and improved margins.

"The new Dual-Core Intel® Xeon® processor, featuring I/O Acceleration Technology, is ideally suited for advanced mainstream server workloads including Exchange* 12 and Windows Compute Cluster Server 2003* This means breakthrough performance, increased business agility and better energy efficiency for businesses."

Mauro Meanti, General Manager, Server & Tools Business Group, Microsoft Corporation

The Technology That Underlies Your Business Advantage

Intel Core Microarchitecture and Dual-Core Intel Xeon processor-based systems are the latest examples of how Intel's proven leadership can drive your business capabilities to the next level.

64-bit dual-core processing: Optimizes processing capacity with two complete processing units in one chip and supports both 32-bit and advanced 64-bit applications on the same server, allowing your business to smoothly migrate to 64-bit solutions. Having two cores yields a performance improvement of up to 3X that of earlier single-core processors and enables the simultaneous execution of multiple demanding tasks.

Breakthrough energy-efficient performance: Intel's 65 nanometer manufacturing technology combined with our unique Intel® Demand-Based Switching (DBS) – which reduces processor power consumption when utilization is low – allows Dual-Core Intel Xeon processor-based systems to deliver the leading performance per watt.

Hardware-assisted virtualization: Intel Virtualization Technology enables a single server to function as multiple virtual servers to securely support and separate different applications. This capability is essential to consolidating servers and allows businesses to get more from their existing systems.

Expanded memory capabilities: Fully Buffered DIMM (FBDIMM) memory proactively protects data and improves security through advanced redundancy and error checking features. Additionally, FBDIMM expands memory capacity while simultaneously allowing better memory bandwidth to meet the demands of business intelligence, database and other compute-intensive applications.

Intel® I/O Acceleration Technology³ (Intel® I/OAT): A new and unique Intel® platform technology that improves network responsiveness by getting network data to applications faster and reducing server system overhead. Implementing Intel I/OAT enables better application responsiveness without requiring changes to a business's existing network or security configurations.



"Thanks to the superb power and efficiency of the Dual-Core Intel® Xeon® processor, our customers will benefit from a more than 2X performance improvement in their data warehouse query and loading speeds — allowing them more timely access to vital information about their business."

*Stuart Frost, CEO,
DATAlegro*

Removing Today's Business Bottlenecks

In addition to driving new capabilities for your business, Dual-Core Intel Xeon processor-based systems help correct a number of traditional bottlenecks and challenges in your technology infrastructure.

Significantly lower power consumption and cost: Systems based on the advanced Intel Core microarchitecture deliver outstanding energy-efficient performance — saving energy and lowering your operating costs. In addition, when computing loads are low, Intel Demand-Based Switching technology optimizes real-time power consumption and performance, further lowering energy usage. Combined, these capabilities mean significant savings on energy costs. Over hundreds or thousands of servers, the total savings become substantial. Finally, when virtualizing your servers with Intel Virtualization Technology, you gain additional energy cost savings by deploying and powering fewer servers overall.

Increased return on assets: By doing more with your servers and operating them more cost effectively, you increase your return on IT assets. But even more importantly, the new business tools and

processes made possible by your Dual-Core Intel Xeon processor-based infrastructure enables a greater return on your people, expertise and competitive differentiators. Designed with the future in mind, these new advanced technology servers support four or more generations of Intel® multi-core processors in the same platform. This provides an ideal foundation for IT standardization — enabling lower maintenance costs through reduced complexity over time.

Unmatched reliability and increased uptime: Dual-Core Intel Xeon processor-based systems are built with more server reliability features than competitive offerings, giving you the increased uptime your business demands. A dependable infrastructure is essential to keep all of your business processes online and productive. You can count on Intel to deliver superior quality and reliability every step of the way.

By transforming the capabilities of your technology foundation and improving traditional bottlenecks, Dual-Core Intel Xeon processor-based servers increase the resources and attention you can give to your business. Less downtime, less cost, less disruption, less distraction — allowing you to focus on your strategic challenges.

Technology Options to Transform Your Business

Standardizing your technology infrastructure on Dual-Core Intel Xeon processor-based platforms brings a broad array of benefits that drive business advantage. Better technology, greater choice of solutions from a larger ecosystem, and an enhanced ability to expand and grow smoothly are truly transformative. By taking advantage of advanced Intel® server technology, you position your business to be more cost-effective, more competitive and ready to grow.

For more information on how to evaluate Dual-Core Intel Xeon processor-based systems as your standard architecture, examples of companies doing so today, and expertise specific to your industry, see your Intel representative or visit our Web site at www.intel.com/xeon.

¹ Source: META Group, *IT Performance Engineering and Measurement Strategies: Quantifying Performance Loss*, October 2000.

² Intel® Virtualization Technology requires a computer system with a processor, chipset, BIOS, virtual machine monitor (VMM) and applications enabled for virtualization technology. Functionality, performance or other virtualization technology benefits will vary depending on hardware and software configurations. Virtualization technology-enabled BIOS and VMM applications are currently in development.

³ Intel® I/O Acceleration Technology (Intel® I/OAT) requires an operating system that supports Intel I/OAT.

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