

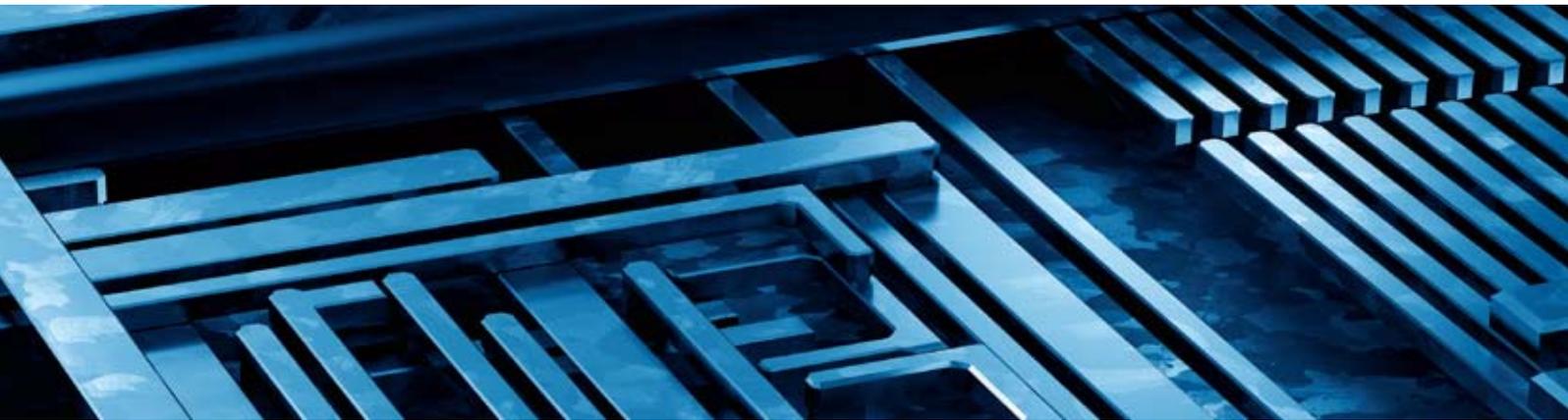
SOLUTION PROFILE

Intel® Xeon® Processor E7 Family
Kingdom Stock Transaction System



Meeting Stock Market Needs for Speed, Reliability, and Security

Kingdom Stock Transaction System delivers rock-solid support for stock transactions with its high-performance, reliable, secure solution on the Intel® Xeon® processor E7 family.



Solution provided by:



Customers and regulators place high demands and scrutiny on the systems that support stock transactions. Kingdom Stock Transaction System targets servers based on the Intel® Xeon® processor E7 family because they are very dependable and secure. They can also stand up to more general requirements for large-scale systems to deliver exemplary scalable performance while protecting budgets.

CHALLENGE:

Enable a stock market solution that inspires confidence among customers and regulators for its reliability, availability, and serviceability (RAS) capabilities as well as for system security. Deliver scalable performance that takes advantage of system resources and can scale to support very large implementations.

SOLUTION:

The Intel Xeon processor E7 family helps Kingdom Stock Transaction System meet performance and energy-efficiency demands and the requirements of the highly regulated securities trading environment. Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI) accelerates encryption operations, enhancing security without compromising performance.

CUSTOMER BENEFIT:

Providing stock market customers with a solution that targets standards-based platforms helps them meet business needs under strict budget requirements. In addition to savings in terms of capital expense, the Intel Xeon processor E7 family's energy efficiency helps save on ongoing operational costs.

Making a Great Thing Better: Optimization for the Intel® Xeon® Processor E7 Family

In the same way that they scrutinize the performance of the stock market, those closest to the inner workings of any stock exchange place very high demands on the performance of the hardware and software systems that support the market. The infrastructure must be rock solid, it must offer very high performance, and it must be cost efficient.

Kingdom Stock Transaction System targets the Intel Xeon processor E7 family to meet all those criteria, and in testing, it exhibits more than a 1.25x performance increase in transactions per second on the new platform, relative to the previous-generation processor.¹ The solution also benefits tremendously from the RAS features of the platform, as well as exhibiting exemplary cost effectiveness, satisfying the budgetary needs that stock markets share with all other organizations.

As part of its effort to make sure those criteria continue to be met, Kingdom Stock Transaction System takes advantage of the very substantial resources the Intel Xeon processor E7 family offers:

- **Relationships with Intel experts.** The company works with application engineers from Intel, giving it access to the people who know the platform best, from the processor out. Intel's technical and business disclosures help to inform the day-to-day decisions that Kingdom Stock Transaction System engineers make.
- **Intel® Performance Primitives (Intel® IPP).** Using these functions that are highly tuned for the hardware provides an excellent shortcut for Kingdom Stock Transaction System that also helps ensure high performance. In addition, Intel maintains these functions, which helps streamline optimization for future platforms.
- **Energy Efficiency.** Drawing on the platform's features to reduce energy consumption gives Kingdom Stock Transaction System the ability to deliver very favorable results in terms of operating costs.

Kingdom Stock Transaction System and the Intel Xeon processor E7 family work together to keep stock markets running smoothly, providing excellent results.

Engines of Change: The Intel® Xeon® Processor E7 Family

The Intel Xeon processor E7 family extends the limits of scalable performance, reliability, security, and energy efficiency for enterprise servers:

- **Scalable Performance.** Up to 10 cores (20 threads), support for 32-GB DDR3 DIMMs (2 TB per four-socket system),² and 30 MB of last-level cache.
- **Reliability and Security.** Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI), Intel® Trusted Execution Technology, Double Device Data Correction (DDDC), and Partial Memory Mirroring.
- **Energy Efficiency.** More performance within the same power envelope as predecessors, Intel® Intelligent Power Technology,³ and low-voltage DIMM support.⁴

Learn more about Kingdom Stock Transaction System:

www.szkingdom.com

Learn more about the Intel® Xeon® processor E7 family:

www.intel.com/xeon

¹ Testing by Kingdom and Intel. Configurations:

• Intel Xeon processor E7 family running at 2.4 GHz, 64 GB DDR3-1333 LV RAM, Microsoft Windows Server® 2008 R2, Kingdom STS v5.0, Intel® Hyper-Threading Technology enabled, Intel® Turbo Boost Technology enabled, NUMA enabled

• Intel Xeon processor 7500 series running at 2.26 GHz, 64 GB DDR3-1066 RAM, Microsoft Windows Server 2008 R2, Kingdom STS v5.0, Intel Hyper-Threading Technology enabled, Intel Turbo Boost Technology enabled, NUMA enabled

² Up to 64 slots per standard 4 socket system x 32 GB/DIMM = 2 TB.

³ Uses similar core and package C6 power states enabled on the Intel® Xeon® processor 5500 and 5600 series. Requires OS support.

⁴ Savings dependent on workload and configuration. Example: At 100 percent SPECpower® load it can save ~0.8W for 4 GB DIMM DRx8 based on early Intel internal estimates.

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.

Intel® compilers, associated libraries, and associated development tools may include or utilize options that optimize for instruction sets that are available in both Intel® and non-Intel microprocessors (for example SIMD instruction sets) but do not optimize equally for non-Intel microprocessors. In addition, certain compiler options for Intel compilers, including some that are not specific to Intel® microarchitecture, are reserved for Intel microprocessors. For a detailed description of Intel compiler options, including the instruction sets and specific microprocessors they implicate, please refer to the "Intel® Compiler User and Reference Guides" under "Compiler Options." Many library routines that are part of Intel® compiler products are more highly optimized for Intel microprocessors than for other microprocessors. While the compilers and libraries in Intel compiler products offer optimizations for both Intel and Intel-compatible microprocessors, depending on the options you select, your code, and other factors, you likely will get extra performance on Intel microprocessors.

Intel compilers, associated libraries, and associated development tools may or may not optimize to the same degree for non-Intel microprocessors for optimizations that are not unique to Intel microprocessors. These optimizations include Intel® Streaming SIMD Extensions 2 (Intel® SSE2), Intel® Streaming SIMD Extensions 3 (Intel® SSE3), and Intel® Supplemental Streaming SIMD Extensions 3 (Intel® SSSE3) instruction sets and other optimizations. Intel does not guarantee the availability, functionality, or effectiveness of any optimization on microprocessors not manufactured by Intel. Microprocessor-dependent optimizations in this product are intended for use with Intel microprocessors.

While Intel believes our compilers and libraries are excellent choices to assist in obtaining the best performance on Intel and non-Intel microprocessors, Intel recommends that you evaluate other compilers and libraries to determine which best meet your requirements. We hope to win your business by striving to offer the best performance of any compiler or library; please let us know if you find we do not. Notice revision #20101101

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