

Solution Brief

Intel® Xeon® Processor
5600 Series



SAP BusinessObjects* Explorer, Accelerated Version, and SAP NetWeaver* Business Warehouse Accelerator on the Intel® Xeon® Processor 5600 Series

Key Benefits

- Up to 1.64x² performance gain for the SAP Business Objects Explorer, accelerated version (including SAP NetWeaver BW Accelerator), on the Intel Xeon processor 5600 series with Intel Micro-architecture (Nehalem)
- Easy implementation with plug-and-play architecture
- Lower TCO with fewer blades needed to run SAP NetWeaver BW Accelerator
- Lower operational cost with automated energy efficiency and reduced use of hardware resources

A Smarter Platform for Business Intelligence

More than ever, businesses rely on real-time access to relevant information for informed decision-making. More users, from customers to employees to suppliers, are bypassing pre-defined reports to create ad hoc queries based on expanding volumes of data.

Traditional business-intelligence platforms have become performance bottlenecks in this new era of real-time business analytics. Query response times are unpredictable, and the platforms are unable to adapt to the changing requirements of today's businesses.

SAP BusinessObjects* Explorer software, accelerated version, combines the high performance and scalability of the SAP NetWeaver* Business Warehouse Accelerator (SAP NetWeaver BW Accelerator) software with the search and exploration capabilities of SAP BusinessObjects Explorer. It includes intuitive data analysis and a powerful in-memory analytic engine to provide high-speed analysis on any data source. The SAP NetWeaver BW Accelerator,¹ co-engineered by Intel and SAP AG, enables faster business insights and process innovation with near real-time access to information. With a simple plug-and-play architecture, the SAP NetWeaver BW Accelerator is a scalable and cost-effective turnkey solution for business data warehousing and analysis.

The Intel® Xeon® processor 5600^A series with Next-Generation Intel® Microarchitecture (Nehalem) boosts the performance of the accelerated version of SAP BusinessObjects Explorer (including SAP NetWeaver BW Accelerator) by as much as 1.64x² over the previous-generation Intel® Xeon® processor, so you can get faster answers to critical business questions and extend the benefits of the software to more users.

Business Intelligence Out-of-the-Box

The SAP NetWeaver BW Accelerator, accelerated version, is an “out-of-the-box” solution that lets businesses think outside the box with spontaneous, insight-driven queries that drive timely answers to evolving business questions. An analytical engine within the SAP NetWeaver BW component, the SAP NetWeaver BW Accelerator enables employees and customers to scan through terabytes of data in seconds.

SAP NetWeaver BW Accelerator is shipped as a compact appliance and comes preinstalled on blade systems packed with Intel Xeon processors. Installation is as easy as slotting it into your existing network and performing a few simple activation steps with the SAP NetWeaver technology platform. These out-of-the-box appliances, available from major platform vendors, enable customers to quickly, simply, and cost-effectively deploy accelerated SAP NetWeaver-based business solutions on the latest Intel Xeon processor-based platforms. SAP BusinessObjects Explorer, accelerated version, can only be installed on a dedicated SAP NetWeaver BW Accelerator-certified blade. The software may be purchased in advance and shipped pre-installed on the SAP NetWeaver BW Accelerator appliance, or it can be purchased later and added to an existing installation.

SAP and Intel have collaborated for years to deliver SAP NetWeaver BW Accelerator as an extraordinary business intelligence appliance, optimizing and tuning it to utilize the advantages of Intel architecture. Engineers have used advanced Intel software tools for 64-bit Intel Xeon processors to optimize the SAP NetWeaver BW Accelerator for performance and scalability. Intel has also supported the porting of SAP NetWeaver BW Accelerator for 64-bit platforms.

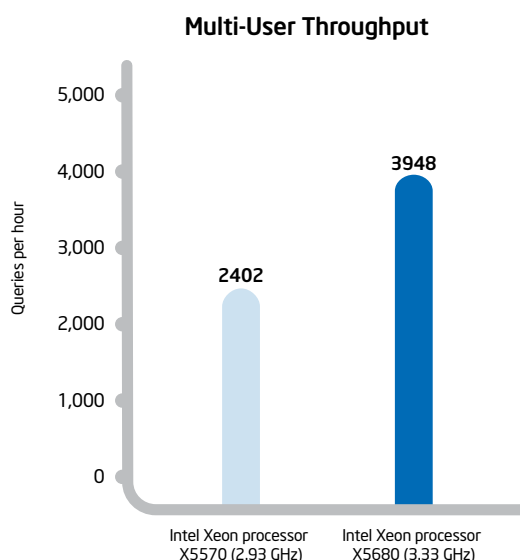
In addition, the SAP NetWeaver BW Accelerator scales with multiple cores per processor and scales out across blades to support growing numbers of users and increasing amounts of data. You can scale the SAP NetWeaver BW Accelerator to meet the heaviest demand by simply adding blades, a cost-effective way to bring massive parallel processing power to your infrastructure.

Exceptionally Intelligent Performance from the Intel® Xeon® Processor 5600 Series

The Intel Xeon processor 5600 series with Intel Microarchitecture Nehalem brings intelligent performance to the most trusted server architecture and enables new levels of performance for SAP NetWeaver BW Accelerator. The Intel Xeon processor 5600 series brings together a number of innovative technologies to deliver intelligent performance:

- **Intel® Turbo Boost Technology[§]** together with Intel® Intelligent Power Technology[§], delivers performance on demand, letting processors operate above the rated frequency to speed specific workloads. Even when the system is fully loaded, Intel Turbo Boost Technology adds performance gains to the SAP NetWeaver BW Accelerator and reduces power consumption during low-utilization periods.
- **Intel® QuickPath Technology** and an integrated memory controller speed traffic between processors and I/O controllers for bandwidth-intensive applications, delivering up to 4.2x the bandwidth for data-intensive applications that are used with the SAP NetWeaver BW Accelerator.³
- **Intel® Hyper-Threading Technology[†]** benefits from larger caches and massive memory bandwidth, allowing for the parallel processing of more data for the SAP NetWeaver BW Accelerator.

A comparison revealed that the Intel Xeon processor 5600 series will improve the performance of SAP BusinessObjects Explorer, accelerated version, by a factor of 1.64x, compared to the previous-generation processor.² When we presented these results to SAP developers, they were impressed by the scaling performance gain.



- **Performance metric used:** Maximum number of SAP BusinessObjects Explorer queries per hour in an SAP NetWeaver BW Accelerator-based landscape (maximum query throughput)
- **Processor numbers:** Intel Xeon Processor X5680^A (3.33 GHz) vs. Intel Xeon Processor X5570^A (2.93 GHz)

Accelerating Business Insight

Since the first customer deployment at BP in 2006, the SAP NetWeaver BW Accelerator has helped professionals in the energy, pharmaceuticals, retail, manufacturing, and other very competitive industries achieve business insights that increase revenue opportunities and cuts costs. Now SAP BusinessObjects Explorer, accelerated version, provides timely insights with a new, transparent approach to boosting BI query performance, allowing users to run queries without having to learn a new application. SAP NetWeaver BW Accelerator speeds native BI query performance up to 100 times, enabling more flexible, detailed analytics and insight for more users.

“With a CPU upgrade to the new Intel® Xeon® processor 5600 series chips, the accelerated version of SAP BusinessObjects Explorer achieved a 1.64x improvement in query throughput.² It would take us many person years to optimize our software stack to achieve the same performance gain.”

– Roland Kurz, Vice President, TREX Development, SAP AG

Platforms based on the Intel Xeon processor 5600 series multiply these benefits with unrivaled performance to boost both speed and scalability, enterprise RAS to help ensure business continuity, and low cost of operation through innovations such as automated energy efficiency. SAP BusinessObjects Explorer, accelerated version (including SAP NetWeaver BW Accelerator), on Next-Generation Intel Microarchitecture (Nehalem) brings you intuitive data analysis and data warehouse performance that can translate immediately to better business performance. Servers based on the Intel Xeon processor 5600 series are also more efficient, delivering additional performance and scalability within the same energy and space footprint. This new architecture reduces TCO by enabling you to run the SAP NetWeaver BW Accelerator on fewer blades.

Learn More

For more information on the SAP NetWeaver BW Accelerator and the alliance between Intel and SAP, visit www.intelalliance.com/sap.

For more information on SAP BusinessObjects Explorer, accelerated version, visit www.sap.com/solutions/sapbusinessobjects/.

For more information on the Intel Xeon processor 5600 series, visit www.intel.com/xeon.

For more information about Intel Microarchitecture Nehalem, visit www.intel.com/technology/architecture-silicon/next-gen.

⁴Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See www.intel.com/products/processor_number for details.

⁵Intel® Turbo Boost Technology requires a Platform with a processor with Intel Turbo Boost Technology capability. Intel Turbo Boost Technology performance varies depending on hardware, software and overall system configuration. Check with your platform manufacturer on whether your system delivers Intel Turbo Boost Technology. For more information, see www.intel.com/technology/turboboost.

⁶Intel® Intelligent Power Technology requires a computer system with an enabled Intel® processor, chipset, BIOS and for some features, an operating system enabled for it. Functionality or other benefits may vary depending on hardware implementation and may require a BIOS and/or operating system update. Please check with your system vendor for details.

⁷Hyper-Threading Technology requires a computer system with a processor supporting Hyper-Threading Technology and an HT Technology enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. See www.intel.com/info/hyperthreading/ for more information including details on which processors support HT Technology.

⁸Formerly known as the SAP NetWeaver Business Intelligence Accelerator (SAP NetWeaver BI Accelerator).

⁹Source: Intel Internal measurements, February 2010. Intel Xeon Processor X5680: 24 GB (6x4 GB) DDR3-1066 MHz (only 8 GB used by the app and OS), 3.33 GHz (Turbo Boost enabled) vs. Intel Xeon Processor X5570: 24 GB (6x4 GB) DDR3-1066 MHz (only 8 GB used by the app and OS), 2.93 GHz (Turbo Boost enabled). Performance measurement on SAP NetWeaver BW Accelerator backend driven by SAP BusinessObjects Explorer query generator.

¹⁰4.2x claim based on STREAM_MP-Triad benchmark results comparing 2S Intel® Xeon® Processor E5472 (12M Cache, 3.00 GHz, 1600 MHz FSB), 16GB memory (8x2 GB FB DDR2-800)-based server platform to 2S Intel® Xeon® Processor X5680 (12M Cache, 3.33 GHz, 6.40 GT/s Intel® QPI)-based server platform, 24 GB memory (12x4GB DDR3-1333). Source: Intel internal measurements SSG TR#942 and TR#1071 as of 12 February 2010.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit Intel Performance Benchmark Limitations

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