

Solution Brief
Intel® Xeon® Processor
5500 Series

SAP NetWeaver* Business Warehouse Accelerator on the Intel® Xeon® Processor 5500 Series

A Smarter Platform for Business Intelligence

Key Benefits

- Up to 1.5x² performance gain for the SAP NetWeaver BW Accelerator on the Intel Xeon processor 5500 series with Intel Microarchitecture 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

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.

The SAP NetWeaver* Business Warehouse Accelerator (SAP NetWeaver BW Accelerator) software¹ 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 5500^A series with a new generation of Intel® Microarchitecture, codenamed Nehalem, boosts the performance of the SAP NetWeaver BW Accelerator by as much as 1.5x² over the previous-generation Intel Xeon processor, so you can get faster answers to critical business questions and extend the benefits of SAP NetWeaver BW Accelerator to more users.



Business Intelligence Out-of-the-Box

The SAP NetWeaver BW Accelerator 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 Business Warehouse component, the SAP NetWeaver BW Accelerator enables employees and customers to scan through terabytes of data in seconds.

Shipped as a compact appliance, the SAP NetWeaver BW Accelerator 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 the SAP NetWeaver BW Accelerator on the latest Intel® Xeon® processor-based platforms.

SAP and Intel have collaborated for years to deliver this extraordinary business intelligence appliance, optimizing and tuning the SAP NetWeaver BW Accelerator 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 is built with the TREX search and classification engine, which 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 5500 Series

The Intel Xeon processor 5500 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 5500 series brings together a number of innovative technologies to deliver intelligent performance:

- **Intel® Turbo Boost Technology**,⁵ together with Intel® Intelligent Power Technology,⁹ 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 3.5x the bandwidth for data-intensive applications that are used with the SAP NetWeaver BW Accelerator.³

“The real benefit goes well beyond query speed. There’s truly been an overall increase in analytical capabilities.”

– Phil Nickolaj, senior manager for enterprise business intelligence, Kimberly-Clark

Kimberly-Clark Thinks Faster with SAP NetWeaver BW Accelerator

Company	Kimberly-Clark
Industry	Consumer products
Key Challenges	<ul style="list-style-type: none">▪ Reduce the cost, time, and effort of running comprehensive reports across all lines of business▪ Provide data-mining analytical functionality that is deep, broad, and fast for greater business insight▪ Streamline ad hoc queries
Results	<ul style="list-style-type: none">▪ Overall query speed 2 to 120 times faster than native BI query performance, with average improvement of more than 60%▪ 87% to 95% of queries take 1 second or less▪ Data refreshed daily instead of monthly▪ Reduced mainframe usage by 65% on one of the landscapes running SAP NetWeaver BW Accelerator▪ Use of lower-cost technology to boost scalability

- Intel® Hyper-Threading Technology¹ benefits from larger caches and massive memory bandwidth, allowing for the parallel processing of more data for the SAP NetWeaver BW Accelerator.

“The Intel Xeon processor 5500 in our newly released Sun Blade* X6270 server module has allowed us to build a new generation of the SAP Business Warehouse Accelerator, which speeds up the BI performance by up to 50%. The new generation of intelligent server processors from Intel adapts to application behavior by automatically adjusting processing power to deliver optimum performance, scaling energy usage to the workload, and offers best-in-class virtualization.”

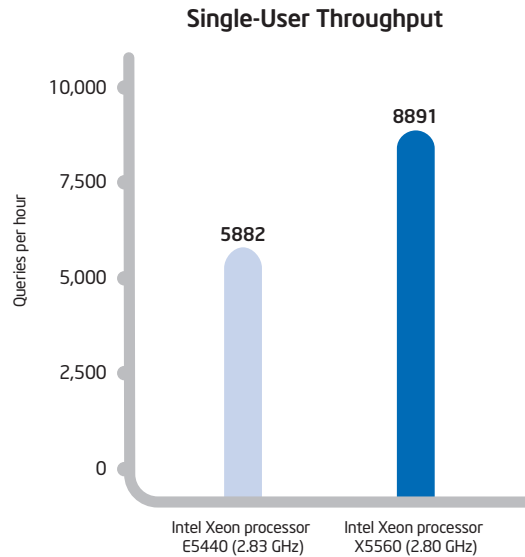
– Ronald Melanson, VP of Quality, Sun Microsystems Ltd.

Internal tests demonstrated up to a 1.5x performance improvement for the SAP NetWeaver BW Accelerator on the Intel Xeon processor 5500 series over the previous-generation processor²

- **Performance metric used:** Total running time of 140 queries in an SAP NetWeaver BW Accelerator-based landscape
- **Average response time per query:** 0.61s vs. 0.41s
- **Processor numbers:** Intel Xeon Processor X5560^A (2.80 GHz) vs. Intel Xeon Processor E5440^A (2.83 GHz)

Accelerating Business Insight

The SAP NetWeaver BW Accelerator speeds business insight with up to 100 times faster queries than native BI query performance, enabling more flexible, detailed analytics and insight for more users. The SAP NetWeaver BW Accelerator also provides timely insights with a new, transparent approach to boosting BI query performance; users can run queries without having to learn a new application.



Iwan Budnikowsky GmbH & Co. KG Gets Supercharged Reporting with SAP NetWeaver BW Accelerator

Company	Iwan Budnikowsky GmbH & Co. KG
Industry	Retail (drugstore chain)
Challenges and Opportunities	<ul style="list-style-type: none"> ▪ Accelerate reporting and analysis at the company’s service center ▪ Improve planning and decision making ▪ Reduce maintenance effort required to prepare queries
Objectives	<ul style="list-style-type: none"> ▪ Give end users rapid access to critical business information ▪ Implement an integrated, low-maintenance solution ▪ Lay foundation for enhanced reporting and analysis throughout the company
Results	<ul style="list-style-type: none"> ▪ Significantly faster insight into sales and inventory data ▪ Estimated average reduction in runtimes of between 50% and 60% ▪ Greater employee productivity ▪ More flexible reporting and analysis ▪ Considerable reduction in maintenance effort ▪ Reduced load on system, freeing up hardware resources for other tasks

“SAP NetWeaver BW Accelerator certainly delivers the goods – we’ve slashed runtime for one particularly tricky query from an hour and 40 minutes to just 45 seconds.”

– Andreas Jobmann,
IT manager,
Iwan Budnikowsky
GmbH & Co. KG

Platforms based on the Intel Xeon processor 5500 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 NetWeaver BW Accelerator on Intel Microarchitecture Nehalem brings you data warehouse performance that can translate immediately to better business performance. Servers based on the Intel Xeon processor 5500 series with Intel Microarchitecture Nehalem are 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.

Looking Back, Moving Forward

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.

What started as a plug-in appliance for the SAP NetWeaver technology platform is becoming a powerful, standalone server solution that can be deployed on other data sources, such as the SAP BusinessObjects* portfolio. SAP BusinessObjects solutions and the SAP NetWeaver BW Accelerator combine intuitive data analysis with a powerful in-memory analytic engine to provide high-speed analysis on any data source. For maximum performance, this new server solution will be built with the Intel Xeon processor 5500 series with Intel Microarchitecture Nehalem. Preliminary internal tests using the SAP BusinessObjects Polestar software on top of the SAP NetWeaver BW Accelerator demonstrated up to a 1.53x performance improvement on the Intel Xeon 5500 processor series over the previous-generation processor.⁴

"More than ever, companies need better ways to leverage business intelligence, optimize operational efficiency, and fuel their growth. Using the experience from a twenty-year strategic alliance with SAP and Intel, HP is delivering SAP NetWeaver Business Warehouse (BW) Accelerator on market-leading HP ProLiant* servers to help our joint customers significantly improve their BW query performance. With our new, more powerful and energy-efficient HP ProLiant G6 servers featuring Intel Xeon processor 5500 series, our self-contained appliance with HP StorageWorks* yields lower management expenses and comes pre-tested and optimized for quick roll-out and productivity gains."

—Elke Reichart, VP, SAP Corporate Alliance, Hewlett-Packard

Learn More

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

For more information on the Intel Xeon processor 5500 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.

¹Hyper-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.

²Intel® 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.

³Intel® 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.

⁴Formerly known as the SAP NetWeaver Business Intelligence Accelerator (SAP NetWeaver BI Accelerator).

²Source: Intel Internal measurements, February 2009. Intel Xeon Processor X5560: 24 GB (6x4 GB) DDR3-1066 MHz (only 8 GB used by the app and OS), 2.8 GHz (Turbo Boost enabled) vs. Intel Xeon Processor E5440: 16 GB (16x1 GB) DDR2-667FB (only 8 GB used by the app and OS), 2.83 GHz.

³Source: Intel internal measurement, February 2009. Stream-Triad benchmark. Red Hat Enterprise Linux Server 5.3. Intel® Xeon® processor E5472, 3.0 GHz, 2x6 MB L2 cache, 1600 MHz system bus, 16GB memory (8x2 GB FB DDR2-800) vs. Intel® Xeon® processor X5570, 2.93 GHz, 8 MB L3 cache, 6.4QPI, 24 GB memory (6x4GB DDR3-1333).

⁴Source: Intel Internal measurements, February 2009. Intel Xeon Processor X5560: 24GB (6x4GB) DDR3-1066MHz (only 6GB used by the app and OS), 2.8 GHz (Turbo Boost enabled) vs. Intel Xeon Processor E5440: 16GB (8x2GB) DDR2-667FB (only 6GB used by the app and OS), 2.83 GHz.

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