

Sun Systems for Oracle Coherence

Scale enterprise Web beyond boundaries

When it comes to predictably scaling mission-critical enterprise Web applications with OLTP workloads, fast and reliable access to frequently used data is the key to boosting performance. Distributed caching platforms enable users to reduce the operating costs while boosting scalability and performance of data-intensive applications by securely keeping business-critical data in the memory of redundant servers. Oracle Coherence is a proven and widely deployed product, and Sun Systems for Oracle Coherence provides superior ROI for large and dispersed organizations, creating the best infrastructure to deliver

More than 25 years of collaboration and joint development between Sun and Oracle stand behind the solution. Together, they have delivered solutions tested in the most demanding enterprise environments, set world-record benchmarks time and again, and provided world-class support for customers.

What's more, based on this architecture, Sun and its partners can help you implement an integrated, end-to-end Sun™ Rapid Solutions offering — so you can deploy or enhance your enterprise Web infrastructure with confidence,

Sun Systems for Oracle Coherence delivers unmatched scalability and breakthrough performance, along with the flexibility, reliability, and security you require in enterprise deployments.

Highlights

- Get up to 2.5x the e-commerce queries and transactions per second by adding Sun Systems for Oracle Coherence
- Gain maximal ROI with near-linear scalability for Oracle Coherence deployments on Sun architecture
- Scale to millions of operations per second
- Run Oracle Coherence and Java-based application tier in the same chassis on either CMT technology-based or x64 systems
- Speed deployment time by up to 200 hours using proven, tested, and documented Sun BluePrints™
- Save up to 40% or more on database CPU requirements
- Get up to 50% reductions in real estate and electricity costs

these services. Whether you're looking to enhance your e-commerce or enterprise Web infrastructure or considering deploying a new one from scratch, Sun Systems for Oracle Coherence delivers unmatched scalability and breakthrough performance, along with the flexibility, reliability, and security you require in enterprise deployments.

With the first-ever system blueprint of its kind, this solution combines Oracle Database and management software with Oracle Coherence, an in-memory data grid — together with highly scalable and flexible Sun servers, next-generation storage, and networking technologies, including the first enterprise-class solid-state storage device.

knowing that you can achieve the highest levels of speed, scale, and simplicity.

New levels of scale and reliability

At the core of the solution lies the Sun Blade 6000 modular system, which provides a massive amount of compute power as well as outstanding flexibility and superior power and cooling efficiency. Its server nodes support both UltraSPARC® CMT technology-based and industry-standard x64 systems, enabling you to match chip architecture, memory density, and operating system to best meet your Oracle Coherence and application tier requirements, while still taking advantage of a unified, consolidated datacenter deployment strategy. So you can scale easily to match exploding user growth while maintaining full flexibility.

This reference architecture then combines the Sun Blade 6000 modular system server modules with Sun Unified Storage solutions as the primary storage for the Oracle Database 11g, Oracle Coherence, and Oracle WebLogic Server. But what makes it unique are the flexibility of the Sun Blade 6000 modular system chassis and the deep memory footprint of its blades in combination with Oracle Coherence Grid Edition software.

Oracle Coherence, an in-memory data grid, provides fast access to frequently used data by keeping it in memory instead of storage. The enabling technology for Oracle's new middleware, it accelerates Web services and provides continuous data availability and transactional integrity, no matter where servers are located — even in the unlikely event of a server failure.

Sun integrated computing infrastructure delivers the performance required for even the most demanding of these infrastructures, so scaling limitations and bottlenecks no longer prevent you from getting optimal ROI from your software. You can achieve higher query rates and more complex analytics through massive parallel processing. It's your data — taken to the next level.

Performance up, risk time down

When it comes to processing speed and performance for enterprise Web applications, Sun Systems for Oracle Coherence can easily scale to millions of operations per second. It uses Oracle Coherence to push data closer to the application server, taking advantage of the large memory footprint of the Sun blades. It can deliver up to 2.5x the

e-commerce queries and transactions per second to existing e-commerce and OLTP workloads. And by eliminating I/O bottlenecks, the blade architecture reduces storage latency, accelerating application performance to meet stringent SLAs.

The Sun CMT technology-based systems themselves also stand out for performance. On industry-standard benchmarks measuring Application and Enterprise Java Server performance, Sun dual-socket CMT-based architectures beat competing dual-socket designs and delivered over 4x the performance of IBM POWER 6-based platforms and over 4.5x the performance of HP Itanium 2-based systems¹. This kind of performance advantage can be critical in environments using Oracle WebLogic Server and Oracle Database with Oracle Coherence.

The Sun Blade X6270 server module uses the Intel® Xeon® Processor 5500 series, which achieves nearly triple the performance of the previous generation of Intel Processors. Deploying on the Solaris™ Operating System (Solaris OS) along with this new processor enables reliability, efficiency, and observability benefits unavailable on any other platform — a result of the two-year collaboration between Sun and Intel on the Intel Xeon Processor 5500 series.

What's more, Sun's Solaris OS fault management architecture preemptively identifies hardware issues, reducing unplanned downtime, and the Integrated Lights Out Manager (ILOM) framework enables enhanced manageability of the network, even if one or more servers go down.

Keep it simple

Life in the datacenter becomes simpler when a unified blade system architecture can handle any type of workload you throw at it, and Sun Systems for Oracle Coherence delivers just that flexibility. Unlike the complex blade chassis management approach of competing blade systems, Sun Blade systems do not require proprietary, vendor-specific management tools, simplifying management.

Value for the enterprise

Perhaps most important, along with all of its performance and flexibility, Sun Systems for Oracle Coherence also delivers significant savings. Unique internal blade chassis I/O reduces network switching requirements for the Oracle Coherence architecture — for less risk and cost. And Sun's unique, chassis-based service pricing means you pay one price for support, no matter what type of blade you use or how many blades are installed — saving real money for enterprise customers.

The Sun Blade 6000 modular system with Sun Blade T6340 server module reduces electricity consumption by up to 65% and takes up to 60% less real estate compared to the IBM BladeCenter JS22 blade server. And you can speed deployment time by up to 27% versus traditional approaches by using Sun's proven, tested, and documented Sun BluePrints guidelines to deploy Oracle Coherence.

Sun™ Rapid Solutions make it easy

Sun Rapid Solutions are a set of ready-to-deploy, scalable solutions designed to target specific customer needs. They are built using Sun IP, hardware, software, and service components, which can help you achieve high-quality implementations and get to market faster. The Sun Rapid Solutions difference includes:

- Modular solution building blocks that help distinguish you from the competition
- Consistent, standard methodology and repeatable artifacts that enable faster delivery
- Best-of-breed services that reduce deployment risk and increase value

Achieve optimal performance with SunSM Services

To ensure that your systems run at peak levels and that you optimize business performance, let the experts at Sun Services help you build, support, and transform your IT infrastructure. Leverage Sun best practices during the initial setup of your environment with prescribed Sun Services, including Enterprise Installation Services, Custom PS Workshop, and Custom PS System Implementation Services.

Then, tailor your solution to meet your unique business requirements with recommended Sun Services, including Custom PS Assessment Service, Custom Oracle Configuration Service, SunSM i-Runbook Service, Sun Single Point of Contact (SPOC), SunSM Remote Operations Management, and SunSM Preventive Services.

Sun Microsystems Global Financial Services (SMGFS) provides comprehensive solutions, competitive terms, and flexible payment options tailored to your qualifying business requirements. With years of experience financing Sun hardware, software, and services, SMGFS is uniquely positioned to help identify the right financing solution for your business and acquisition needs today.

Achieve maximal performance for your enterprise Web deployment

Enterprise Web initiatives can yield significant benefits for organizations, but the requirements of large enterprises present unique challenges. Sun Systems for Oracle Coherence delivers the scale, speed, simplicity, and savings to deploy enterprise Web applications quickly and easily, empowering you to get the most from your initiatives and deliver rapid ROI. And that enables you to quickly and easily provide or enhance the collaboration and communication tools that your organization needs in order to compete, excel, and win.

Learn more

To learn more about Sun Systems for Oracle Coherence, go to: sun.com/oraclecoherence.

1. SPEC and the benchmark names SPECjAppServer, SPECjbb are registered trademarks of the Standard Performance Evaluation Corporation. Competitive data was obtained from <http://www.spec.org> on 10/21/2009. 4 x Sun SPARC Enterprise T5240 (2 chips) cluster - 9,500.76 SPECjAppServer2004 JOPS@Standard or 2,375 SPECjAppServer2004 JOPS@Standard per node. 26 x IBM BladeCenter JS22 Express (2 chips) cluster -14,004.42 SPECjAppServer2004 JOPS@Standard or 539 SPECjAppServer2004 JOPS@Standard per node. Sun Blade T6340 server module (2 chips) - 388,456 SPECjbb2005 bops, 24,279 SPECjbb2005 bops/JVM. HP Integrity rx2660 (2 chips) 80,884 SPECjbb2005 bops, 80,884 SPECjbb2005 bops/JVM.



Sun Microsystems, Inc. 4150 Network Circle, Santa Clara, CA 95054 USA Phone 1-650-960-1300 or 1-800-555-9SUN Web sun.com

