Service-Oriented Architecture

Open for business

Highlights

Sun Microsystems provides a comprehensive business integration platform that allows you to build and manage SOA-based applications. With Sun's business integration technologies and services, you can:

- Lower operational costs by enabling cross-line-of-business information sharing. Get real-time access to better information, helping improve decision making

- Provide consistent, timely new business services, increasing customer satisfaction

- Eliminate vendor lock-in by using open-source components and standards-based interfaces

- Innovate and quickly adapt to fast-changing market conditions and competitive situations — lead, not follow

> Introduction

Can your executives get sales information in real time? When interacting with customers, can sales and support personnel see all the information they need, such as service contract level, products purchased, and account notes? Do your IT resources help you stay competitive, or hold you back? Can your company quickly and cost-effectively comply with government and industry regulations? Does your IT help you accomplish your company's goals, or hold you back?

Despite massive investments in infrastructure and state-of-the-art technology, many companies still cannot get the information they need when they want it, respond to changing business conditions quickly, take advantage of new business opportunities readily, react to new competitive threats swiftly, or meet compliance requirements without major effort and expense.

When business and IT goals are out of sync, it is difficult to get a comprehensive view of the customer or the business. In legacy environments, the information provided by IT aligns with the application's feature sets, not your business processes and goals. Innovation — or merely keeping up with the competition — is challenging because personnel are bogged down by inefficient workflow processes. And without real-time information, key decisions are delayed, or based on old information.

The application market has changed significantly over the last few years, with fewer vendors offering enterprise solutions. This can mean an increased risk of lock-in, reducing your company's choices and increasing costs. Sun's open source-based SOA solutions can help reduce IT infrastructure costs, lower risk and build a flexible, standards-based software foundation for the future.

SOA benefits

The value of SOA is business agility with lower costs. SOA is an architectural approach that enables IT to manage software, data, and processes across all types of applications — including legacy and new applications — more consistently and efficiently. Application functionality is made available as an independent service, available to all applications that use that particular capability. For example, information on customer order history can be made available to all applications that need it.

With SOA, your company can:

- Improve response time, before you lose customers
- Get information now, not next week
- Reduce costs, by cutting operational costs by using IT resources more efficiently

Companies in virtually every industry are using service-oriented architectures to change and improve the way they do business.

Retail

A large, European-based retail chain has thousands of hypermarkets, supermarkets, discount stores, and convenience stores throughout Europe, Latin America, and Asia. Business is brisk — 4.73 billion euros in 2007 — but the company's IT infrastructure lagged. Each store was using different hardware and software to transmit data to headquarters. The lack of integration within the store network, and with headquarters, compromised the company's ability to respond quickly to market needs and stay ahead of the competition, as well as sell next-generation products such as online media subscriptions.

The company implemented a service-oriented architecture as part of an enterprise application integration, using open source, open standards technology — GlassFish™ v2 and Sun Java™ CAPS.

With a SOA in place, the company realized a dramatic 70-80 percent reduction in IT costs due to the new architecture. Sales transactions now flow directly to the home office for immediate processing, eliminating backlogs and ensuring quick access to customer-purchased services two times faster. In addition, headquarters now receives critical sales information from the stores in minutes instead of days. This gives management real-time visibility that helps the company to adjust quickly to consumer demand generated by its promotions; to sustain and grow its competitive advantage; and, to track financial data more efficiently for reporting. The company now has a fast, agile IT infrastructure that can easily and simultaneously deploy one application to hundreds of locations.

Government

A city council for multiple United Kingdom cities (or Burroughs) is responsible for running most local services in the area, such as social services, waste collection and roads. To meet the demands from its constituency for better customer service at a lower cost, the council launched an ambitious initiative that would ensure that citizens would only have to "tell the council once." Once in place, changing information in one council department will trigger consistent changes in all other departments. For instance when a citizen files a change of address form in the parking office, the records in other council offices — rubbish collection, libraries, planning — will be automatically updated. Since until now council departments had operated somewhat autonomously, a more integrated IT infrastructure would be required to support this vision.

A Sun SOA was deployed to create a unified view of information on the council's citizens. With the first phase completed, the council has integrated ten business processes, reducing paperwork and administrative overhead while enabling citizens to contact a wider selection of services from a single call to the telephone contact center. Future initiatives include the Web enablement of HR, social services, finance, and tax systems and the full realization of the "tell the council once" vision.

Financial services

A financial services company provides cash-free card payment solutions at thousands of POS terminals in stores and banks throughout Germany. In 2006, the company processed over 800 million transactions totaling 47 billion euros.

A SOA is ideal for complex environments such as this, where changes and enhancements can be quickly implemented. A large merchant customer of the company wanted to add additional services to their swipe-and-go POS terminals, including payment services, credit scoring, loyalty program, and more. The requirement was to have everything up and running in eight weeks — and they were, just in time for the holiday shopping season.

A Sun SOA provided the software infrastructure needed to integrate disparate systems, enabled new levels of up-selling and cross-selling, and created new service offerings that would have otherwise required more time and resources. The new capabilities offer customers more reasons to shop at this merchant, and provide more visibility into consumer behavior. The SOA approach enabled the integration to take place much faster than would have been possible with manual programming, and is providing similar benefits on other projects.

"Lock-in with any vendor is a top concern for us. Sun's implementation of the pluggable JBI standard combined with its open source strategy within Open ESB and Java CAPS have addressed this concern for us."

Vince Blanchard
Director of Architecture and New Technology, Medavie Blue Cross

Healthcare

A not-for-profit medical center, serving a Midwestern metropolitan region of the U. S., is one of the world's largest and most renowned healthcare facilities. More than 2,000 health-care personnel provide care to some 2.6 million patients annually, and the clinic is regularly recognized as one of the top four hospitals in the country by *U.S. News & World Report*.

The facility was one of the first medical centers in the country to deploy an e-prescription initiative that automated the entire prescription process, ensuring the capture of important patient information, as well as decreasing the potential for handwriting-related errors. The system worked well inside the hospital, but successfully and uniformly transmitting this information to local pharmacies proved more challenging.

By leveraging their existing Sun SOA, the IT group was able to quickly create interfaces that meshed with existing outside systems. Now, the health-care facility's physicians can write e-prescriptions for their patients with the confidence that they will be filled, quickly, easily and accurately at hundreds of retail pharmacies in the surrounding area. And patients have the peace of mind that the medications prescribed for them are the ones they receive.

Sun's unique approach to implementing SOA

Sun offers a combination of products and services to help companies evolve their IT environment to a SOA. The cornerstone product offering is the Sun Java™ Composite Application Platform Suite (Java CAPS). This comprehensive integration platform can be used to build and manage SOA-based com-posite applications by reusing, enhancing, and extending existing application and data assets. Sun's unified and comprehensive approach emphasizes a flexible platform that helps businesses realize the value of the open source community.

Sun is heavily involved with the open source community, developing, contributing, and accepting technology and innovation. Java CAPS is a strong example of Sun's relation-ship with the community — it is based on a component architecture that allows rapid integration of standards-compliant compo-nents into the core Open Enterprise Service Bus (ESB), which enables rapid plug-in of partner components. Sun is a significant participant in OpenESB, and virtually all other communities associated with Java CAPS. As the functionality matures, it is incor-porated into the commercially available Java CAPS product. Customers gain access to the innovation from the open source community — along with the assurance of proven quality standards and world-class support from Sun. Open source software also gives Java CAPS customers transparency into the underlying source code, virtually eliminating vendor lock-in.

Proven business integration specialists

Sun continues to extend leadership by building on more than 18 years of Sun expertise within SOA, ESB, and integration platforms. With over 2,000 customers, Sun is a recognized leader in providing a comprehensive SOA solution with open source core components. Java CAPS is the enterprise integration standard for some of the largest, most complex organizations in the world. Sun is the only major vendor currently developing production SOA software in open source communities. Java CAPS is comprised of open source software developed from many open source communities, including:

- Open ESB — open source enterprise service bus technologies
- Project Mural — open source master data management technologies
- OpenDS™ — open source directory server
- OpenSSO — open source single sign-on
- NetBeans™ IDE — open source integrated development environment
- GlassFish — open source application server

With Sun's extensive partner and services network, customers benefit from extensive SOA implementation experience, broad global resources, and industry leading SOA delivery methodologies to reduce the cost and complexity of SOA.

Learn More
For more information about SOA, visit sun.com/soa.

For more information about Java CAPS, visit sun.com/javacaps.

For more information about the Sun Enterprise Service Bus Suite, visit sun.com/esb.