

# SOA and Business Processes: Making the Connection

By Greg Holden

If you have ever seen one of the creations of the architect Frank Gehry, who is known for designing public buildings comprised of a complex system of dramatically curved metal plates, you know that intricate architecture can be attention-getting. But some of the benefits aren't immediately obvious. For instance, Gehry's Millennium Park structure in Chicago initially drew both praise and criticism for its appearance. But after time passed, citizens agreed that the building works well as a concert hall and is acoustically perfect.

Service-Oriented Architecture (SOA) is also complex, and one of its main characteristics is that an SOA system is comprised of multiple applications that are combined to accomplish critical business processes. Discussions of SOA can quickly grow so complex that the system's main benefits to an organization are difficult to fully understand. This article discusses SOA Suite 11g, a family of products that take SOA to a new level and correct some of the problems caused by the very combination of components and multiplication of languages that make SOA a flexible, agile system. Two central questions will be addressed:

- What are the business process management tools contained in Oracle SOA Suite 11g, and how do they create an SOA architecture that helps your business work more efficiently and productively on a global scale?
- What is the practical value of the solutions that SOA brings to the work people do across global enterprises?

## Service-Oriented Architecture Market Trends

According to ZDNet Readership Data and Analysis, there is tremendous growth in buyers' interest in service-oriented architecture (SOA). Audience activity around SOA topics grew approximately 10% between December 2009 and January 2010 and we continue to see an increase in readership.

November 2009 through to January 2010 saw +25% increases in ZDNet user engagements with Oracle technologies.

### What are all these people downloading?

The topics of greatest interest to ZDNet readers are:

- SOA Strategy: A Comprehensive Yet Flexible Suite for a Pervasive Architecture
- A Revolution in Agility: Business Integration Through Service Oriented Architecture
- SOA Maturity Model: Guiding and Accelerating SOA Success

## SOA: Benefits and Challenges

The term *Service-Oriented Architecture* refers to the use of multiple small-scale computer applications called *services* that are combined to process data and that work together no matter what computer technologies and languages they use. SOA was developed as an alternative to the use of large-scale applications called *vertical silos* that serve as all-in-one solutions for organizations. Rather than developing big applications or buying expensive single products, a company can assemble an SOA—an information infrastructure drawn from different services--to create a business solution.

SOA's main advantages are well-known: by combining applications, you can implement solutions incrementally, which saves money. You give your customers flexibility by providing them with familiar applications, such as Web-based services, that let them make purchases, check inventory, or perform other functions. A multinational organization that uses SOA typically finds it easier to work globally, and can grow and change more quickly, because it can add and remove components from its SOA architecture as needed.

But the fact that SOA makes use of disparate applications that make use of different computing environments presents business managers with challenges. Applications that have many different formats with different storage requirements might mean that you have no single tool to visualize what those applications are doing and to adjust how they work. The essential business functions of auditing, analysis, and growth are made more difficult, not easier. That's where Oracle SOA Suite 11g comes in.

## Oracle SOA Suite 11g: Business Process Management Tools

Oracle SOA Suite 11g provides your organization with a set of unified, powerful tools that are standards-based, which means they can communicate easily with a wide variety of applications. They also include visual tools such as dashboards that let managers monitor network and business activity and make changes as needed.

- **Oracle BPEL Process Manager.** This flagship service component of the suite lets developers easily create a business process by assembling a set of discrete services into an end-to-end process flow.
- **Oracle Human Workflow.** This service component lets people issue approval, report errors, create worklists, receive instant message (IM) notifications, and use Microsoft Excel to initiate tasks.
- **Oracle Business Activity Monitoring (BAM).** Oracle's BAM provides a framework that enables business users to monitor critical business operations in real time.
- **Oracle Complex Event Processing (CEP).** Oracle CEP can process multiple event streams to detect patterns and trends in real time and provide enterprises the

necessary visibility to capitalize on emerging opportunities or to mitigate developing risks.

- **Oracle B2B.** This e-commerce gateway enables your company to exchange business documents such as orders, shipping instructions, invoices, and inventory requests securely and reliably.
- **Oracle Business Rules.** Oracle Business Rules makes processes and applications more flexible by enabling business analysts and non-developers to easily define and modify business logic without programming.
- **Oracle Service Bus (OSB).** Oracle Service Bus is a proven, lightweight, and scalable SOA integration platform that delivers low-cost, standards-based integration for high-volume, mission critical SOA environments.
- **Oracle Adapters and Bindings.** Adapters enable different software applications to be added to the SOA Suite service infrastructure using standard protocols, regardless of the interfaces they use. They enable your SOA system to communicate with legacy systems, packaged applications, Oracle applications such as its E-Business Suite, and database technologies.

## Oracle SOA Suite 11g: Business Benefits

SOA systems are cost-effective because they can be implemented in stages. They make use of programming languages in which developers all over the world are fluent. They are highly scalable and can be changed easily because they are made of multiple components. But what are the practical benefits to the way your company does business? Some of the most important advantages are listed below:

- **Simplified and productive development experience.** SOA Suite 11g adheres to an emerging set of standards: the Service Component Architecture (SCA). Such standardized guidelines streamline the process of adding components and applications to the SOA. The SOA Composite Editor allows developers to create new applications at lower cost.
- **Simplified assets management and discovery.** The Oracle Enterprise Registry system allows the re-use of existing services.
- **Impact analysis and change management.** The Enterprise Repository lets people view interdependencies and automate workflow with unified management and monitoring. They can assess and consistently view the impact of a change from anywhere in the organization and then mitigate the risks associated with that change.

- **Performance and scalability.** Oracle SOA Suite 11g is the industry's most scalable and highest performance SOA platform. It has been implemented in thousands of mission-critical systems worldwide.
- **Common service infrastructure.** The common service infrastructure provides the option of reducing runtime containers and optimizes communication of data between applications.
- **Real-time processing and real-time agility.** An SOA back-end can interface with front-end applications that let customers and employees request data, place orders, and perform other functions with extreme speed and efficiency.

SOA allows companies to combine standard front-end applications like Web browsers with back-end database functions and a variety of middleware services. The resulting integration, based on standards, enables developers to string together end-to-end solutions across a global infrastructure. Day-to-day business processes are streamlined and can be managed more tightly. Once a solution like Oracle SOA Suite 11g is implemented, the business value is no longer obscured by its complex architecture; it becomes obvious to all who need to use it.