

Oracle's Service-Oriented Architecture Strategy

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Business velocity refers to a company's ability to generate operational speed while heading in the right direction. Velocity is defined as the speed of execution. In the 90s, the mantra was "how fast can tasks be completed?" In the twenty-first century, companies are revising this slogan to "moving fast in the right direction." To accelerate business velocity, a company must possess visibility into the business operation, the right business strategy, and the flexibility to realign operations toward evolving business goals. This combination provides a company with the potential to gain a competitive edge in terms of time to market for products and services, responsiveness to customers, and customer satisfaction.

Core Topics	Key Issues
Application and Integration Platform Strategies	<ul style="list-style-type: none"> ➔ Which new application and integration platform technologies and standards offer users value and competitive advantage? ➔ What do leading-edge deployments look like?
Choosing an Application and Integration Infrastructure Vendor	<ul style="list-style-type: none"> ➔ What high-impact differentiators will make a difference for vendors and users? ➔ What is the value proposition offered by each vendor?

Businesses integrate data, applications, and processes to gain competitive advantage, reduce costs, improve responsiveness, increase customer satisfaction, and accelerate business velocity. While there are numerous approaches to integrating these business assets and processes, the service-oriented architecture (SOA) promises to become the standard integration methodology as it matures. Beyond integration, SOA will accelerate the development of composite and event-driven

applications such as RFID (radio frequency identification). For the first time, all of the major vendors and many user industry organizations agree upon basic standards such as XML and web services. These standards provide the foundation for most SOA implementations. Hence, integration, application, and database vendors are all driving SOA strategies and delivering SOA-enabling products. In this *Technology Trends* we analyze Oracle's SOA strategy.

Oracle Delivers on Its Integration Strategy

Oracle commands a large share of the database market and maintains a strong position in the application server market with the Oracle 10g Database and Oracle Application Server (AS) 10g. Rather than create a complex array of integration extensions and products, Oracle has directly embedded integration capability into the Oracle AS 10g Enterprise Edition product. Since SOA is emerging as the integration architecture of the future, Oracle is focusing its integration platform on SOA. However, it will also continue to support J2EE and other integration standards. This strategy builds on a theme of simplicity and business velocity and acceleration, tying an IT value proposition to an end-user business value proposition.

Oracle has been gaining ground against entrenched competitors in the integration market. Its platform, which is simpler to develop, understand, deploy, and manage, resonates with IT organizations looking to reduce deployment expenses. However, some integration platforms, notably WebSphere and some platforms from pure-play vendors such as Tibco, offer greater vertical industry specialization and templates that may enhance productivity at the business

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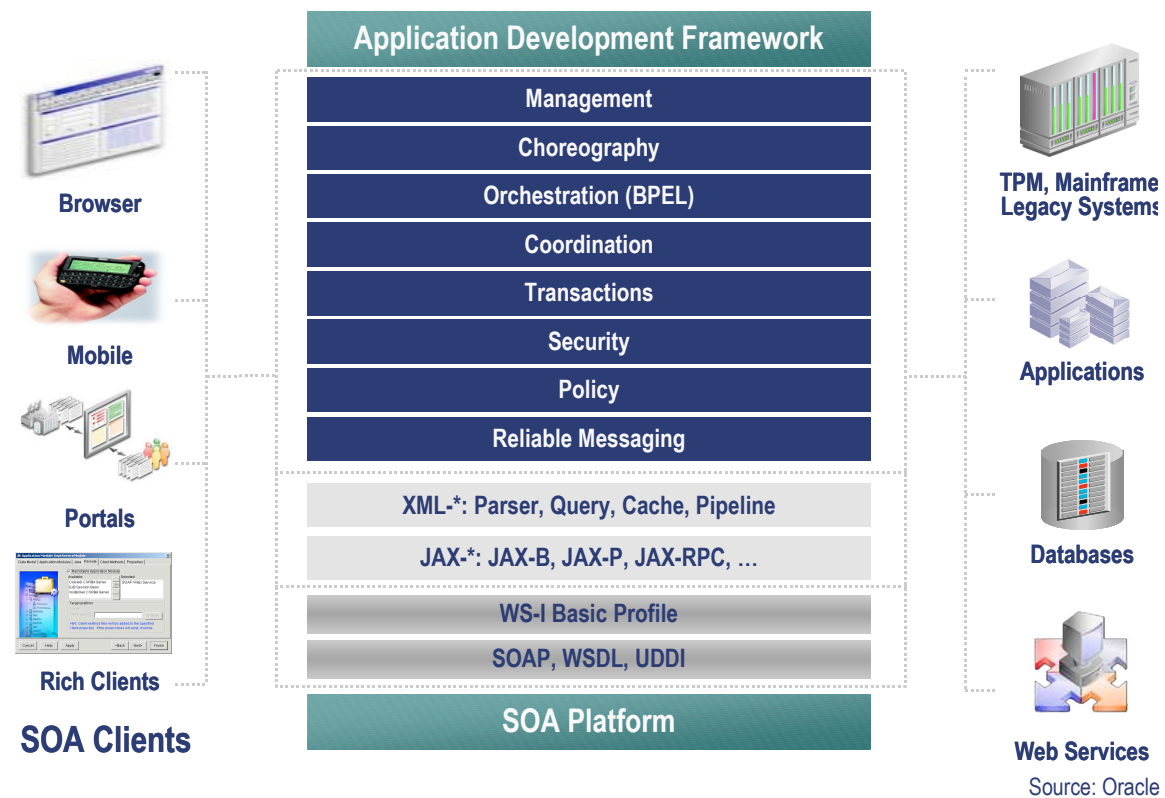
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process implementation level. Oracle has made a strong commitment to developing value added capabilities for vertical industries such as manufacturing, health, and financial services. Oracle needs to continue to round out its vertical industry integration offerings and improve the visibility of its current vertical tools and experience.

The SOA Platform

The SOA platform provides a rich set of capabilities for designing, building, hosting, securing, orchestrating, and managing services. These services may be created from legacy applications on traditional mainframes, packaged applications, custom applications, databases, and web services. Beyond program-to-program service access, these services may present results to human business process participants through a variety of client devices and interfaces, such as those illustrated at the left in Figure 1. Figure 1 also highlights the enterprise service enablement capabilities of the Oracle 10g platform. Oracle 10g supports all of the agreed-to web services standards building on a J2EE base.

Figure 1: Oracle AS 10g SOA Platform



SOA Support for Collaborative BPM

Since collaborative Business Process Management (BPM) represents a continuous improvement cycle, it requires a solid SOA infrastructure foundation. Modeling tools enable the business analyst, who does not possess deep programming skills, to be a productive collaborative partner in the process. Using the model created by the business analyst, developers implement the business process via Business Process Execution Language

Significance for IT and End Users

- ➔ SOA enables accelerated business strategy execution. IT needs to begin to build experience with this new architecture immediately.
- ➔ SOAs can simplify infrastructure by reducing the number of interconnections between applications and promoting reuse. IT can begin to implement an SOA with Oracle 10g in existing environments side-by-side with traditional integration platforms. Oracle AS 10g provides tools and a simple J2EE platform for building SOAs.
- ➔ New skills and tools need to be developed and employed to implement an SOA. But once those skills are developed, they can be leveraged cross-platform and cross-vendor because Oracle's SOA platform is based on industry standards.
- ➔ Oracle's application experience gives it first hand insight into what an SOA means for integrating applications and business processes. Oracle built its SOA platform with the application developer's perspective at the forefront.
- ➔ Unlike some SOA platform vendors, Oracle competes with other leading cross-industry application suite vendors. Strained inter-vendor relationships can possibly impact the effectiveness of services and technical support in mixed environments.
- ➔ IT can improve the competitiveness of the business with Oracle AS 10g, an IT-friendly SOA platform. DHBA has observed this is particularly the case if the IT organization has deployed Oracle 9 or 10 and has skills on these platforms. If a business is not implementing an SOA strategy, it needs to consider Oracle as a partner to help it get started.
- ➔ The Oracle AS 10g service-oriented platform provides the ability to manage the processes and specific events that are propagated through the system.

(BPEL), calling on services previously published as web services or using other techniques within the service-oriented architecture.

The new business process is deployed on a process master server, which coordinates and runs the business processing, calling on resources that it needs to execute the business process. Managing the business process involves optimizing the business flow using historical data and a business rules engine.

Analysts use business activity monitoring (BAM) tools such as a dashboard to keep track of events and take pre-emptive or corrective action as needed in real time. These tools are built on a business activity-monitoring repository that shows all the metadata information regarding processes, execution, and events. The business user has the ability to decide what he or she wants to monitor and what information is transferred into the specific monitoring groups and associated with individual processes and events. This capability enables the business user to proactively optimize the business process. For example, suppose a customer support manager sets a target for the department to complete customer support calls in less than five minutes. That manager can monitor the process in real time and be notified if the average call time has exceeded the five minutes, or if a particular support representative exceeds five minutes too often.

That's accelerating business velocity.

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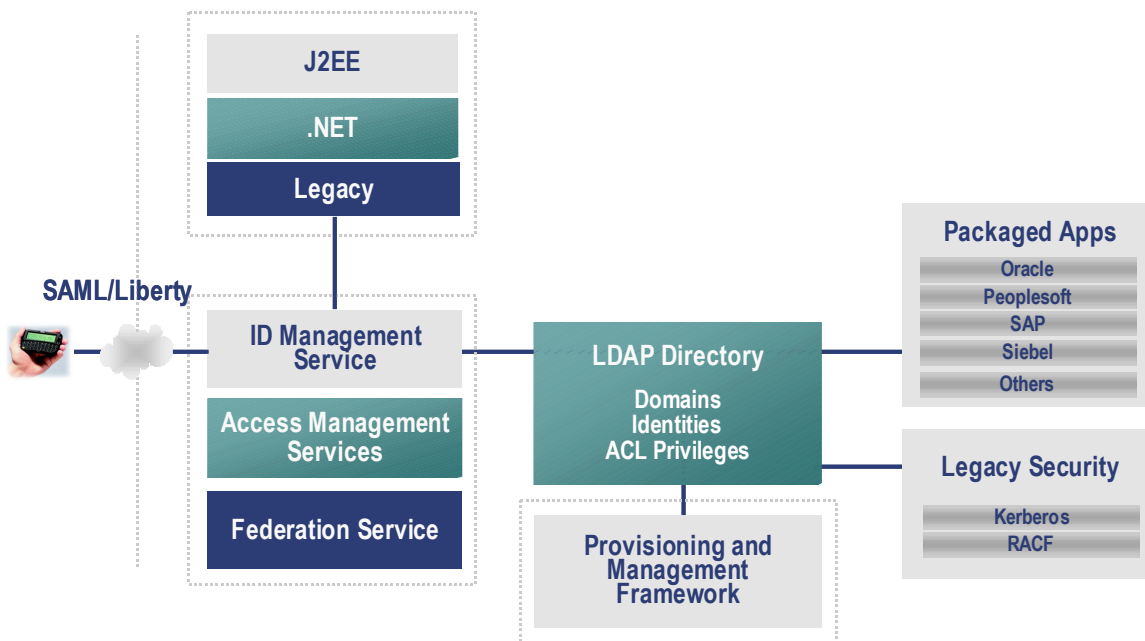
Service Management and Security

Beyond a simple internal point-to-point web service integration, the issue of how to manage and secure services once they are deployed is top of mind with developers and IT administrators. The flexibility afforded by an SOA also creates a much more fluid environment that requires strict management and security policies and an infrastructure to support those policies.

Complete SOA lifecycle management becomes critical when primary business processes depend on the SOA to execute. The lifecycle that Oracle AS 10g supports starts with provisioning. This includes the ability to create, configure, clone, and deploy services as well as register them in a UDDI or other directory. IT requires tools to ensure the compatibility, conformance, integrity, and security (discussed in the next paragraph) of these services. IT also needs to meter, log, and bill for application services in an SOA, which requires monitoring tools. Availability and business continuity become even more important in this environment because the business process is only as strong as its weakest link. So it is critical that the weakest link can at least ensure the expected business process quality of service. Finally, to close the lifecycle, these services must be upgradeable in a non-disruptive manner.

Oracle AS 10g provides a standards-based security framework with common sign-on. Figure 2 illustrates how the services that enable client requests remain secure and how all Oracle AS 10g components share a common user repository and a common source of authentication. User information and authentication data is kept in a standard LDAP directory as part of Oracle AS 10g. The Liberty identity framework enables secure, standards-based identity management. Beyond Liberty, Oracle will support emerging commercially relevant identity management standards.

Figure 2: Oracle 10g SOA Security Architecture



Source: Oracle

DHBA Bottom Line

SOA represents an infrastructure approach to accelerating business strategy execution and simplifying IT. SOAs require different design skills and deployment practices. Oracle is a leading application and integration platform provider that has built tools to help with this transition. Additionally, Oracle has significant cross-industry expertise with Oracle 11i Applications. These applications are deployed at a large number of businesses and are integrated with other applications and into business processes using various integration architectures. Oracle recognized the need to simplify these integration infrastructures within its own applications business and responded with Oracle AS 10g. DHBA sees that the simplicity of Oracle AS 10g resonates with users and that SOA is yielding benefits to early adopter businesses. This is the Oracle SOA strategy at work.

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