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Enabling Agile and Intelligent Businesses



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Executive Overview

Changing markets, competitive pressures and evolving customer needs are placing increasing pressure on IT to deliver greater flexibility and speed. Leading companies are adopting Service-Oriented Architecture (SOA) as a means of delivering on these requirements by overcoming the complexity of their application and IT environments. SOA helps businesses achieve operational excellence through process efficiency and cost rationalization while driving timely innovation in response to economic and market shifts. With Oracle SOA Suite 11*g*, businesses can attain improved efficiency in terms of utilization of IT assets and human capital through business process automation, and increased agility through agile, adaptable, rules-driven business processes.

Introduction

In the last 3 to 5 years there has been widespread adoption of SOA with businesses making significant economic investments in service-enabling their IT systems. As the SOA benefits become apparent and materialize through process automation, application integration and legacy modernization, businesses are now seeking to make their enterprises even more efficient and agile by being able to rapidly compose and revise business applications while capitalizing on these SOA investments. Oracle SOA Suite 11*g* is a significant step forward in empowering enterprises cross the chasm to the next generation business applications that is powered by a platform delivering rapid composition, comprehensive lifecycle management, easy customizability, and easy upgrade manageability and monitoring.

In this paper we discuss how Oracle SOA Suite 11g enables agile and intelligent businesses by providing a unique design advantage, a platform for agile and intelligent business applications and innovation for efficient IT execution.

Cost-Effective IT Infrastructure

In contrast to conventional integration technologies and approaches, integration projects implemented as SOA orchestrations, using Business Process Execution Language (BPEL), have yielded significantly shorter change cycles. The SOA services layer has often proven useful in decoupling a unified process from multiple back-end systems and providing the illusion of a

single process across multiple siloed business units. Additionally, this services layer has been used to insulate or future-proof front-end processes and systems from back-end infrastructures by serving as a stop-gap until the back-end systems are re-architected. With SOA based Enterprise Application Integration (EAI), businesses are able to reduce maintenance cycles from months to weeks, and reduce up to 70% of their IT expenditure on software maintenance.

On one hand SOA allows IT organizations to break free from the shackles of traditional, proprietary, integration broker technologies by advocating a common, interoperable, and open standards-based approach to integration. On the other hand SOA based integration has relied on a broad array of technologies such as BPEL engines for process orchestration, ESBs for service mediation, etc. that have disparate products with independent development environments. This has left enterprises with the challenge of mastering multiple products in their already heterogeneous IT environments. Besides, the modular nature of services and processes in the world of SOA has resulted into service and process proliferation resulting into high level of redundancy. Oracle SOA Suite 11g overcomes this paradox by offering a unified process platform for human-centric, document-centric and system-centric workflows. Its unified composite application designer, which is based on the Service Component Architecture (SCA) standard, provides rich, graphical drag-n-drop capability enhancing developer productivity; the comprehensive governance tools that promote service discovery and re-use reduce redundancy.

The Apollo Group is a leading provider of higher education programs for working adults in the United States. Apollo Group had a highly manual way of determining student eligibility for funds. With the help of E2E Consulting, Apollo automated additional fund processing for 120,000 students. To maximize its existing IT investments, the Apollo group leveraged Oracle's SOA platform to integrate PeopleSoft and Oracle E-Business Suite. Furthermore, Oracle Rules Engine was used to provide a configuration-driven, agile mechanism to evaluate student eligibility, calculate awards, and route exceptions. With the Oracle SOA platform, Apollo was able to certify more than 50,000 students, eligible for financial assistance, and achieve a 600% ROI over a 4 month period.

Oracle SOA Suite 11g offers a Unique Design Advantage for cost-effective SOA through

- "Hot-pluggability" with existing middleware and application investments, standards based interoperability and scalability on low-cost commodity hardware
- Unified Platform of the Complete, Integrated and Best-of-Breed offering that leads to higher developer productivity, re-use focused, composite application development, and faster implementation lifecycle

Operational and Business Visibility

Even though SOA has gained widespread acceptance, transitioning to SOA requires prudent and careful planning. If SOA artifacts are left unchecked, over a period of time, the inventory of

these SOA artifacts can become unmanageable resulting in diminished re-use of services and brittle business processes thereby negating the value of embracing SOA in the first place. Effective SOA governance provides you with visibility into, and oversight of, the relationships and interdependencies that connect services to other elements of SOA across the organization. Oracle SOA 11g offers a comprehensive end-to-end governance platform providing visibility encompassing people, process, and technology to effectively manage and optimize your organization's investment in SOA and achieve the expected business value from your SOA investments.

Significant improvements in operational decision-making can be attained by capturing and processing, in real-time, business events generated by probes and sensors deployed in everything from IT networks to enterprise software systems and physical world devices (through RFID readers, bar code scanners, manufacturing equipment sensors, and others). A specialized class of event-processing solutions has emerged that when coupled with SOA streamlines and automates business processes by synthesizing information across silos for pro-active, real-time, decision making aligned to organizational key performance indicators (KPIs'). Oracle SOA Suite 11*g* brings event-driven SOA to the mainstream, empowering businesses to process multiple event streams to detect patterns and trends in real time and utilize business activity monitoring to capitalize on emerging opportunities or mitigate developing risks.

Verizon Wireless, is a leading US wireless services provider, with revenues of USD 49.3 billion in 2008, serving more than 86 million customers. The key challenge facing them was processing nearly 2.5 billion call-detail records with near real-time latency for their fraud detection application. With Oracle's SOA platform, Verizon was able to re-write the existing fraud detection application based on an even-driven architecture while achieving a 95% reduction in the code-base and reducing the development cycle by 10 times. The lightweight performance engineered Oracle SOA platform allowed Verizon to reduce the underlying hardware footprint both in terms of compute capacity (from 200 CPUs to 5 CPUs) and physical storage (from 6 tonnes to a couple of hundred thousand kilograms) thereby yielding significant energy savings.

Oracle SOA Suite 11g enables Agile and Intelligent Applications for multi-channel business visibility through

- Centralized Governance of application lifecycle with dependency and impact analysis lowers costs of administration, problem detection and trouble-shooting
- 2. **Real-time Insights** and business activity monitoring through a unified service and event infrastructure

Innovation for Flexibility and Efficiency

In today's uncertain business climate, businesses face a common and persistent challenge of becoming and staying agile to satisfy ever-increasing customer expectations and accommodate new compliance mandates to sustain if not increase their competitive edge. However, change cycles are extensive and enhancements are risky, because change, even more so its impact, is hard to predict. By combining business process management (BPM) and a service-oriented approach to IT management, business integration can promote efficiency and automation across all processes, ensuring that existing IT assets support actual business processes and new IT investment is focused on maximum return. Although simple in concept, business integration has conventionally been difficult to implement. Oracle SOA Suite 11g improves the parity between business and IT through a common meta-data model to map and synchronize conceptual processes and requirements formulated by the business side of an organization with their actual implementation models developed by IT.

Additionally, with the rise of the Internet, many companies are offering their services through multiple channels such as company agents, online services, and links to partners. Each channel offers slightly different capabilities and processes, but they are all based on the same core services. Although a SOA services platform is well suited to power such multiple channels, configuration-driven process automation has been long envisioned as the holy grail of dynamic business processes. The business rules engine in SOA Suite 11g provides centralized rule definition and management thereby improving the ability to respond to change and achieve faster, multi-channel, time-to-market.

Turkcell is Turkey's largest and Europe's fourth-largest GSM operator, offering over 2,000 value-added services to its more than 29 million subscribers. To maintain its leading position in an increasingly competitive market, Turkcell decided to revitalize the ways in which value-added services were developed, deployed and controlled. Turkcell built a massive Service Delivery solution using Oracle's SOA platform and rolled out this solution, initially, to service 13 million subscribers, and eventually to 29 million subscribers. By embracing Oracle's SOA platform Turkcell is able to substantially decrease the time-to-market by 400% from 4 months to 1 month, and rationalize IT development costs by 50%.

Oracle SOA Suite 11g promotes *Innovation for Efficient IT Execution* by enhancing flexibility and efficiency through

- Business-IT Alignment through closed-loop communication minimizes Business-IT roundtripping and reduces strategy-execution delay
- 2. **Flexible** and **Efficient** adaptability of applications and processes to dynamic conditions with business rules driven automation

Conclusion

Oracle Fusion Middleware is enabling leading companies to gain operational efficiencies and business agility through adaptable, re-usable business processes and services built on a truly flexible SOA foundation. Oracle SOA Suite 11g enables agile and intelligent enterprises by

facilitating business critical IT initiatives geared towards *improving efficiency*, *flexibility*, *visibility* and *cost-effectiveness*.



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