Direction for the SOA Wave

CodeShare

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The Fourth Wave Barreling In

The impact of SOA, the fourth wave of enterprise IT, has gone way beyond the early adopters. Leading research reports show that the vast majority of CIOs and CTOs have formally explored, and in many cases begun implementing, pilot initiatives. Recent surveys conducted by InfoWorld, Yankee Group, Webservices.org and others show that over 75% of CIOs have investigated and are planning SOA investments in the next 12 to 18 months.

Despite the growing enthusiasm, SOA lacks many of the shared experiences, artifacts and patterns required for widespread and reliable IT adoption. Moreover, without a common language and industry blueprints, this wave, which promises benefits of intra- and inter-enterprise services reuse as well as process interoperability, will dissipate and eventually fizzle – ultimately only adding more custom logic and methodologies to the IT legacy. Directing the SOA wave so that it can live up to its potential requires user community leadership.

Highlighting the Need for Leadership

Confusion and Hype Accompany the Wave

Like the IT enterprise waves that preceded it, the building SOA momentum is accompanied by significant hype and confusion. Four major factors are driving this.

- Vendor Repackaging: Every major vendor claims to have embraced SOA and published their own view and reference architecture around it. In many cases, vendors are repackaging existing products and then introducing them as SOA technologies.
- Myriad Efforts to Define Standards: Multiple working groups and experts are attempting to define the SOA Blueprint or SOA

Reference Architecture from their point of view. In early 2005, an estimated 54 technical committees addressed SOA.

- Missing Products: SOA, still in its infancy, lacks many of the infrastructure tools required for industrial strength services.
- Leadership Void: SOA currently lacks a community process comprised of leader companies chartered to drive a working solution to this key IT architectural change.

20 Years of IT Sovereignty to Overcome

Traditionally, IT has been tightly aligned with department-, or, best case, division-level business requirements. The result, especially over the past 20 years, has been myopic IT strategies that are focused on either applications or integration. In addition, governance and funding models have pushed both business and IT stakeholders to do whatever it takes to meet a particular business requirement. Architecture, especially enterprise architecture, was virtually ignored.

This approach resulted in multiple, sovereign IT teams within a business unit or a division deploying systems that performed essentially the same tasks. Even the most heralded companies (i.e. those who promote IT as a key competitive differentiator) have this kind of wasteful redundancy. Companies reinvent infrastructure services such as authentication, single sign-on, and data marts, as well as applications (packaged and custom) over and over again.

In the best cases, as each business unit or department implemented its own solution, IT teams integrated the systems using a point-to-point or Enterprise Application Integration (EAI) approach, connecting the application to both up-stream and down-stream systems. To track the transactions across the business process, they propagated some key values across the applications—although inconsistently—and created multiple operational data stores (one for each business unit) to track key performance indicators.

Then, to provide a seamless user experience, IT organizations, at the request of business owners, built portal applications to connect to multiple backend applications, data marts, and master data. Figure 1 illustrates the resulting complexity.

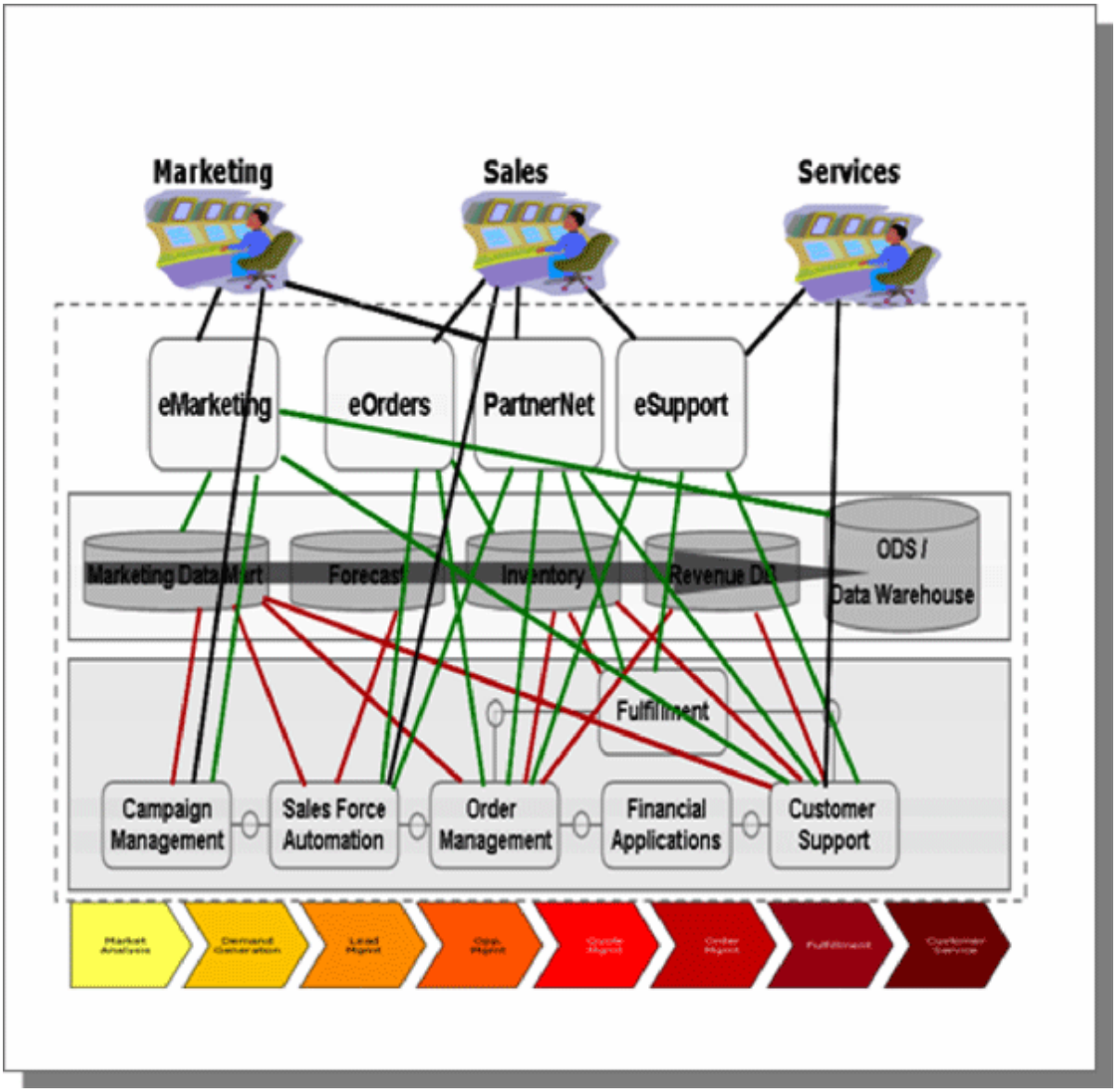

Figure 1: Current Best Case Enterprise Architecture

While effective from an architectural standpoint, this best case solution is extremely expensive to maintain, particularly as enterprises are under pressure to increase revenue while reducing costs. This complexity inhibits IT from providing new business capabilities, which in turn creates conflict between the line of business and IT organizations.

And a Requirement for Business Architecture, Too

Recently the executive suites of most major corporations have awoken to the need for greater agility along with improved compliance tracking at major process intersections. Defined as Business Architecture, the vision to satisfy both requirements is a Lego-type construct for business. The goal of this modular architecture is rapid integration and reconfiguration of key functions, leveraging best-of-breed processes from within an enterprise or acquired from shared service providers.

Key drivers for Business Architecture include:

- Mainstream adoption of Six Sigma: As a successor to the total quality movement of the 1980s, Six Sigma is gaining traction and becoming a mandate for the successful enterprise. With Six Sigma comes a renewed interest in process articulation and management across departments, business units and supply chains as a way to derive improved efficiency and competitive advantage.
- Emergence of Shared Service Providers: A recent Harvard Business Review article identified process commoditization as a key trend for CxOs to embrace. Effectively resurrecting the core-competency debate that launched ERP investments in the mid-80's, the notion of process commoditization is now stimulating the formation of shared-services providers and process refactoring across the enterprise.
- Increasing Regulatory Compliance: Myriad white papers and mainstream press articles have discussed the challenges and risks associated with recent regulatory mandates. At the core is the realization that most processes within an enterprise are poorly understood within the broader context of the corporation and hence subject to abuse and mismanagement. Regulations, such as Sarbanes-Oxley, are reawakening process management.

With the renewed interest in business architecture, it is logical to expect that a new breed of Business Architect will emerge, who, working hand-in-hand with enterprise architects, bussiness analysts, compliance auditors and process engineers, will form the Office of Business Architecture. This office will coordinate IT investments, process improvement strategies and compliance management initiatives to ensure a robust and agile business architecture.

Already a number of leading financial and manufacturing corporations are following this trend.

The Essentials of SOA Leadership

Over the past ten years, a number of significant alliances and consortiums in the IT industry were created to accelerate emerging computing paradigms. Examples include the Java Community Process (JCP), Integration Consortium, and Liberty Alliance, which were formed to gain industry consensus on standards as well as implementations of key technologies and architectures that impact the business of IT.

Mainstream SOA adoption requires the formation of a user-run leadership forum to guide the maturity of SOA. By defining common, acceptable methodologies, principles, and requisite ecosystem components (e.g., certifications, curriculum, languages, architecture, etc.), this forum enables SOA as a standard discipline.

The deliverables from this leadership organization should include a standardized SOA construct, including:

Section Name	**Description**
Service Oriented Architecture (SOA) Starting Points	Models that indicate how to get started with SOA, including assets to help frame initial discussions
Reference Architecture	The “Future Vision” of the enterprise with detailed architecture diagrams, component descriptions, detailed requirements (wherever possible), design patterns, opinions on standards, regulatory compliance standards, standards templates, and potential code assets from forum members.
SOA Framework	A framework that enables IT organization to manage the SOA Lifecycle, which includes templates for defining SOA principles, capturing the *AS-IS* state, developing a roadmap, etc.
Governance & Organization	Documents that describe and enable various patterns and best practices around Governance & Organizations, including links to insights and examples from various analysts, vendors, systems integrators, and publishers, etc.
Service Development & Deployment Cycle	Detailed process definition for service management, which includes descriptions, inputs, deliverables and templates for each phase defined in the SOA Framework section.
Revision Cycle	Detailed process description to periodically review and update the SOA Principles, SOA Reference Architecture and SOA Roadmap.

Appendix	Various assets such as: • Frequently Asked Questions (FAQs) • Common Vocabulary (or links to ones already defined) • Links to various templates

The leadership body should also advance an extensible lifecycle model to allow maturity assessment and certification of an enterprise SOA. Such a model might look like Figure 2.

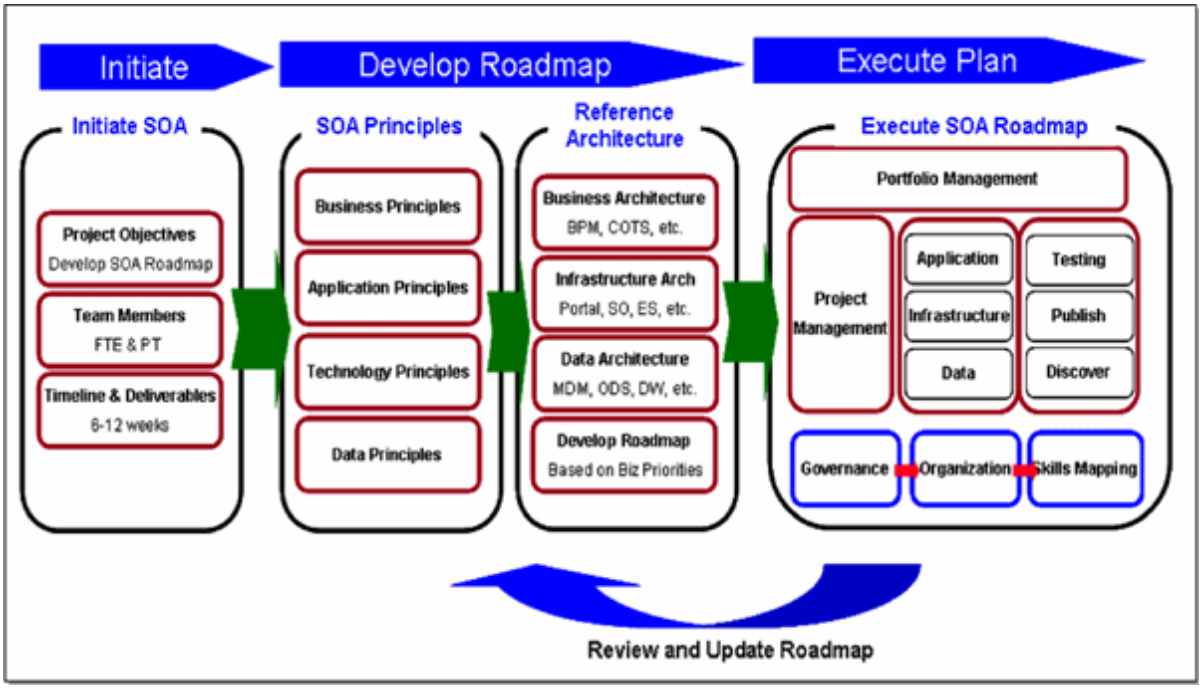

Figure 2: SOA Lifecycle

Future promise

For at least a decade, industry influencers and leaders have foreseen SOA as the next major IT wave. Based on the interest and activity within the standards bodies, industry associations, as well as vendor and user communities, SOA is primed to revolutionize IT and business. With the right direction and user-run leadership dedicated to creating a comprehensive construct, SOA can fulfill its promise and potential.