

White Paper



Service Oriented Architecture: Look beyond the myths to succeed

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Abstract

Service-Oriented Architecture (SOA) has been on the IT industry's radar as it offers the promise of a flexible IT architecture. However, certain misconceptions persist about SOA, and skepticism about its effectiveness is widespread. This paper debunks some of the misconceptions and suggests steps for successful SOA implementation.

Introduction

Service-Oriented Architecture (SOA) has for long been on the IT industry's trend list — and rightly so, given that it holds the promise of a flexible IT architecture that helps companies achieve business-IT alignment. However, to achieve a successful SOA strategy, organizations must have a governance-based framework and must adopt a three-dimensional perspective of the enterprise, involving technology, people and processes.

SOA – The Present Situation

The ability of SOA to break down business functionality into well-governed, standards-based, loosely coupled services has fired the market's imagination. The concept simplifies legacy and Business-to-Business (B2B) integration, facilitates innovation and reduces costs. An SOA strategy can deliver enormous benefits to organizations. Analysts at the Aberdeen Group expect service-oriented architecture to reduce IT costs by up to 11 percent, while Forrester Research forecasts cost savings of at least 30 percent.

In spite of promising prospects, SOA is not in widespread commercial use. In a recent Aberdeen Group survey of large corporations, most with annual sales in excess of \$1 bn, only 16 percent said that they had an SOA strategy for longer than two years. Twenty-three percent had been using SOA for a year or two. Only one in five had been using SOA for longer than two years. This indicates that it will be years before SOA comes into its own, irrespective of company size. Experts do not foresee the delivery of business solutions using SOA principles coming to the mainstream before 2010.

Skepticism about SOA

Companies are skeptical of the SOA concept for many reasons. Many carry doubts about project security, given that IT security is crucial when a company includes external partners via the architecture. However, this fear is misplaced because industry specifications such as WSSecurity and WS-Trust provide guidelines to design, develop and operate services in a secure fashion.

Another reason is the presumed complexity of SOA projects and the perceived burden on project costs. Efficient management of services in the new architecture is another issue that deters many companies from adopting an SOA strategy. The root cause for most of these doubts may be the assumption that SOA projects require total IT re-orientation and re-organization.

Misconceptions about SOA

The debate on SOA has led to many misunderstandings. Let us find out the truth.

1. SOA is purely about technology

Many companies believe that SOA is only for their IT departments. Wrong. SOA is about aligning IT to the company's business processes. To implement projects successfully, management and departments must collaborate closely with IT managers, and map and restructure processes jointly.

2. SOA is a new concept

The second widespread misconception is that SOA is a totally new and revolutionary approach. Nothing could be further from the truth. SOA is an evolved step in the development of point-to-point connections with closely coupled, non-reusable data into RPC-based integration using open standards and reusable components that are realized at a business process level.

3. SOA requires a big bang approach

Another misunderstanding is that SOA projects can be implemented only with a big bang. Instead, companies need to take a pragmatic step-by-step approach and start by identifying business processes and clarifying governance issues. All aspects of SOA cannot be realized immediately even with a sound strategy and detailed timetable.

4. SOA is an 'out-of-the-box' solution

No. SOA is not available as a standard solution. It is an evolutionary strategy that makes existing IT applications available as loosely coupled, standards-based services. SOA is closely oriented to a company's business processes and requires facets of people, process and technology to be interwoven skillfully.

5. Enterprise Service Bus is the crux

Another belief is that SOA is merely a matter of developing an Enterprise Service Bus (ESB). While ESB is a fundamental component of an SOA strategy, it is not the only component. It delivers a technical mediation platform. The first step must be to agree on business processes and applications that are a good starting point for SOA.

It Takes More Than Web Services to Achieve SOA

Many companies mistakenly believe that they can realize SOA only by making use of Web Services. SOA can be implemented even without Web Services, on the basis of the Common Object Request Broker Architecture (CORBA), for example. While implementation of an SOA with the aid of Web Services offers advantages such as platform neutrality, existing open standards, etc., not every Web Service works along SOA principles.

Reliable Partners Help

More and more companies are relying on external consulting partners to help them overcome the challenges from opting for SOA. This is borne out by the findings of a recent IDC study. In their Worldwide SOA-based Service 2006-2010 Forecast, IDC analysts anticipate that world spending on SOA-based IT services will total \$8.6 bn this year. That would be a year-on-year increase of 138 percent. The experts assume that companies planning to realize SOA projects need the support of external partners in consulting and system integration. This assumption is founded on practical knowledge: Many firms have no experience of the new approach, and are not sure how to get started, and which applications are best provided as a service. Some have drawn up an SOA strategy but are not sure if they are heading in the right direction. Still others have launched initial projects, but need support with technical implementation.

Four Steps to SOA Success

1. Define a strategy

Although SOA is an evolutionary strategy for architecting systems, it is recommended that companies take a strategic and pragmatic approach to defining and implementing SOA. At the beginning of an SOA transition, enterprises must identify business value-driven projects and targets, and incremental timescales for implementation. Immediate gratification of business needs will lead to more buy-in and investment.

2. Identify success and achievable evaluation criteria

Before implementation, companies must assess the extent of existence of SOA preconditions. Drawing up an evaluation model helps ensure that success is monitored both during and after implementation. This can be achieved by selecting a pilot with demonstrable business value, through cost reduction, faster time-to-market, or generation of additional revenues from the creation of a new business service.

3. Implement an effective governance model

SOA represents a concerted effort to change the architectural and development paradigm within an organization, from 'build from scratch every time' to 'leverage and assemble existing functionality'. An effective governance framework, standards and processes, and an investment model are required to ensure that the 'right' incentives and processes are in place to support the 'right' behaviors.

4. Create new business service models

Once the appropriate framework, processes and technologies are in place, SOA principles and services can create new revenue models for the business by securely exposing internal value processes for external commercial consumption. For example, Amazon has developed a Web Services platform that developers can 'use' as building blocks for their own applications.

About the Author

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