

Planning and Building an Enterprise SOA vision

Applies to:

Business Experts

Summary

Taking an organization through the implementation of an enterprise service-oriented architecture is an evolving process which needs the right approach to succeed. Rohit Kumar Shukla describes the steps required for implementing successful enterprise SOA.

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Introduction

Taking an organization through the implementation of an enterprise Service-Oriented Architecture (SOA) is an evolving process which needs a good approach from the outset in order to succeed. What follows is one such approach to planning and implementing an enterprise SOA.

1. Map Enterprise Service-Oriented Architecture to Your Business

To be successful, organizations must approach enterprise Service-Oriented Architecture (SOA) from outside the traditional boundaries of technology. Rather than trying to map your business goals and requirements onto your enterprise SOA vision, try focusing on the key business drivers and map your enterprise SOA requirements so that they become an extension of your business goals. Use this as a mechanism to establish cooperation and co-ownership between IT and the business community.

A practical way to achieve this is by identifying your key pain points - usually something like a broken business process or a requirement to get a single, coherent view of customer information. These points often require the integration and coordination of data that span multiple applications and business processes and can be good use cases for the principles of enterprise SOA. By involving the business users in the process, you inspire their support and active participation, which can lead to the development of solid business cases for enterprise SOA.

2. Take a Long View and Implement Incrementally

Enterprise SOA does not represent a quick fix to long-standing IT and business challenges. It is a long-term strategy, the impact and benefits of which cannot be realized over the short term. This may be one of the most important messages to convey upfront to stakeholders.

In order to plan for and accommodate the long-term nature of enterprise SOA, you should start gradually. Start on a small scale by first building the core infrastructure, skills and fundamental knowledge before starting with the larger and more critical phases. This not only allows for the tight management of risks associated with enterprise SOA, but it also enables you to learn from the experience and to improve the approach over time.

Most of the value and benefits of enterprise SOA manifest over time and must be measured over a period of years. Reuse, for example, will not happen overnight. But momentum will slowly grow as developers get used to the notion of developing and reusing services, which in turn will lead to services becoming ubiquitous within the enterprise.

3. Manage Your Course by Creating an Enterprise SOA Plan

Many companies are taking the right approach here by creating a comprehensive enterprise SOA reference architecture and execution plan. This is an indication of the maturity level of enterprise SOA within these organizations. However, it is important to remember that enterprise SOA should be viewed as a long-term strategy. Your planning should reflect that reality. In order to follow the step-wise approach, it's important to model enterprise SOA initiatives into manageable pieces that can be implemented over time.

4. Build a Team

With the introduction of enterprise SOA, IT is presented with new techniques and new opportunities. We are being challenged to rethink the approach we take to the integration of diverse applications, most of which have been designed in a very monolithic fashion. Most of our education, training and experience revolve around application design and very little thought has been given to inter-application integration.

A good analogy is the difference in perspective between an architect and a city planner. Both have very different educations and backgrounds, as well as different priorities. The architect is focused on designing a new building, while the city planner is focused on the larger context in which the new building will fit: namely, the city.

Likewise, we are faced with a similar situation within IT. Developers are focused on application design, and usually don't consider how the applications they are building will integrate with surrounding business applications. The IT architect is more concerned with the integration issue and looks at the larger IT context. It is important to acknowledge the fact that we have to adjust our attitude and approach to basic application design. It is also important to realize that the IT architect (the city planner) has an important role to play to ensure that new or existing applications can be integrated into the enterprise SOA fabric.

To implement enterprise SOA successfully, managers must cultivate talent. The key is to assemble a core team of people who understand enterprise SOA (or provide the team with enterprise SOA training if necessary) and can spread the initiative within the organization. This core team is crucial to driving the success and adoption of enterprise SOA and should consist of people experienced and knowledgeable in technology and application design. It should also include members who are conversant with the business aspects of design. As IT evolves into more of a consulting partner to business, IT professionals must become more business-savvy.

Some of the roles that should form a key part of the enterprise SOA Team include:

- Enterprise SOA Steering Board (CTO, Business Stakeholder, CIO, VP Architecture and VP Development)
- Enterprise SOA Architecture Authority (VP Architecture, Enterprise Security Architect, Enterprise Integration Architect, Enterprise Data Architect, Service Librarian)
- Services Portfolio Management (Business Sponsor, Portfolio Lead, Development Team)
- Enterprise SOA Enablement Group (ESOA Architect, Key Services Developers, Key Domain Experts)
- Services Infrastructure Team (Operations Lead, Key Architects)

This is by no means an exhaustive list, but it gives a glimpse into the type of roles that should be involved, and the functional part they must play in the overall enterprise SOA initiative.

5. Define and Track Reuse

One critical factor in implementing reusability in enterprise SOA is to define the metrics that will be used to measure reuse. You should define these early in the life cycle, before you go live with your enterprise SOA project. You should also establish mechanisms to measure the real levels of reuse. There are a number of ways this can be accomplished.

For example, you can implement an enterprise SOA management framework so that you can monitor real-time runtime behavior. This will not only enable you to track which services are available, but also how they are being used and how often they are being called. As a result, you should be able to track performance and quality of services available.

You can also gather and track Enterprise Service Bus (ESB) usage statistics. Many enterprise SOA initiatives use an ESB as an integral part of the infrastructure, especially when reliability is a concern or you need to switch between protocols. With the ESB as a central part of the SOA architecture, you can track the levels of reuse of the services and infrastructure with a high degree of accuracy.

6. Measure the Results

The final crucial step to the overall success of your enterprise SOA initiative is measuring the impact and results of your enterprise SOA implementation. Step one referred to the need to build a strong business case, but at some point IT has to prove to the business that implementing enterprise SOA has had a positive impact. The CFO will usually look at the ROI and TCO numbers to determine whether the effort was worth the investment. Business users will measure the impact of enterprise SOA through the impact (both positive and negative) it has had on their domain. They will measure success in terms of improved processes and productivity, cost savings and increased revenue; they may even measure success in terms of their ability to respond to new customers.

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