

Advanced SOA – Architected, Governed, Integrated, and Cloud-Ready

3-day seminar

About this Seminar

Many companies have embraced a SOA approach for development and integration projects. Now they are embarking on the next phase – a more systematic adoption of Service-Oriented practices. However, simply buying into Middleware technologies like Enterprise Service Bus and the latest generation of development tools is not sufficient for successful implementation of an Enterprise SOA.

It is time to expand our view on SOA: how can we assess the maturity level of our organization and define a roadmap for future projects? Governance has to be one of our top priorities, and we need to prepare our service based applications to run in a Cloud without requiring costly modifications.

This seminar starts with the important aspects that have to be addressed when defining an architecture blueprint, which is the cornerstone of a successful SOA. This includes defining a loosely coupled architecture and proper separation into service layers (i.e. orchestration, application, and infrastructure services). We will also compare traditional, Web Services based and RESTful architectures and use a case study to illustrate the decision criteria when to use one or the other.

Next, the seminar gives you insight into the organizational challenges that IT and Business Managers face with the adoption of SOA. It emphasizes the role of Governance for IT organizations that need to increase their maturity level in order to achieve SOA adoption on a large (Enterprise) scale. It shows how to master the full service lifecycle – including design, implementation, deployment, and management - through efficient Governance and Governance Frameworks.

There should be no technology for the sake of technology – to master SOA adaption throughout an Enterprise is a multi-year undertaking. Where is the Return on Investment (ROI)? Is it worth it? We will share with you a specific ROI Model and how it was applied in a real world project.

Clearly, Cloud Computing no longer a luxury, it's a necessity. We will explain why services, “services thinking”, and service based application architecture are well positioned to take advantage of the Cloud and what the synergies between SOA and Cloud Computing are.

Finally, certain things never change - how to integrate applications in a predictable, consistent, and repeatable fashion is a challenge that has consistently been among the top priorities of most CIOs. The seminar discusses the major integration approaches used for projects, including portal-, data-, interface-, and process-integration, and then explains key issues and guidelines that architects should consider when defining a Service Oriented Integration Architecture.

The seminar closes by emphasizing the key take away points and analyzes the IT trends and directions.

What you will learn

- Learn how SOA can facilitate the alignment of IT with your Business
- Identify the challenges and benefits of developing an Enterprise Architecture
- Determine where your organization is located in a SOA Maturity Model, define a SOA Roadmap to move to the next level, and put the right SOA Governance mechanisms in place before your SOA spins out of control
- Learn how IT culture has to change to successfully adopt the new style of architecture
- Understand how to calculate ROI for SOA based on service reuse
- Discover the role of SOA in Cloud Computing
- Learn how to integrate applications in a consistent, scalable and repeatable fashion and how SOA can facilitate such an integration
- Learn how to integrate applications in and out of the Cloud

Who should attend

- Enterprise and Solution Architects who want to adopt a Service Oriented Architecture
- IT professionals including Architects and Developers who need to see how SOA can be applied to development as well as integration projects, for both on-premise and cloud-based applications
- IT Managers and IT Strategists selecting new enterprise technologies
- Consultants who need to recommend and use different implementation strategies for building a SOA and moving into the Cloud

Agenda:

1. First Things First: Enterprise and Application Architecture

- Definition of (Enterprise) Architecture
- Enterprise Architecture and Application Architecture
 - What drives the need for architecture?
 - Architecture objectives, standards and frameworks
 - Enterprise Architecture & the IT organization
 - Types of Application Architecture
 - Service Oriented Architecture (SOA)
- Logical vs. physical architectures
- Common application architecture patterns
 - Multi-step Process pattern
 - Composite Application pattern

2. SOA Phase 1

- The pieces of the SOA puzzle
- How SOA enables business strategies
- Services and SOA defined
- What is the notion of “Applications” in SOA?
- The Service Layer model
 - Infrastructure services
 - Application services
 - Orchestration services
- SOA Case study
 - Sample outline for an SOA Blueprint document
 - Sample business event walk-through
- Key SOA characteristics
 - Architecture level loose coupling
 - Service level loose coupling
- Next Generation SOA
 - SOA vs. Event Driven Architecture (EDA)
 - Synchronous vs. Asynchronous services
 - SOA in the cloud
- SOA and the data architecture
- SOA and standards
- SOA challenges

3. Service- or Resource-Oriented Architecture, or Both?

- Representational State Transfer (REST)
 - The concept of resources
 - The uniform interface
 - Architectural constraints
 - What about business logic?
 - Perceived deficiencies of REST
- When to use REST, when to use a traditional SOA
 - REST as the choice to support the presentation layer
 - The synergy of Rich Internet Applications (RIAs) and REST
 - JavaScript Object Notation (JSON) vs. XML for RIAs
 - Case study

Conceptual architecture
RESTful vs. SOAP-type Services

4. Managing the SOA Evolution: SOA Maturity Models & Roadmap

- Defining the goals – SOA maturity models
- The Open Group Service Integration Maturity Model (OSIMM)
 - Overview
 - Maturity dimensions
 - Maturity levels
 - How to assess your SOA maturity
- Example - Progress Software Maturity Model
- How do we get there – developing a SOA Roadmap
- Case study: mapping a Maturity Model to a Roadmap

5. From Chaos to Order: SOA Governance & the IT Organization

- Why SOA needs governance
- Business vs. IT vs. EA vs. SOA Governance
- Categories of SOA Governance
- Design time governance
- Run time governance
- SOA Governance goals
- SOA Center of Excellence (COE)
 - Roles and responsibilities within the IT organization

6. Get a Running Start with SOA Governance Frameworks

- Open Group standards
 - SOA Governance Reference Model (SGRM)
 - SOA Governance Vitality Method (SGVM)
- IBM SOA Governance and Management Method (SGMM)

7. A ROI Calculator For SOA - Let The Numbers Do the Talking

- Approaches to ROI calculation
- Case Study
 - Business process walk-through
 - Architecture scope
 - Architecture overview
 - Service layer model
- ROI Through Service Reuse
 - ROI Defined
 - ROI Model for Software Reuse
- Reuse beyond the core application project
- Conclusions
 - Keeping track of reuse

8. The New Frontier: Cloud Computing

- Cloud definition
 - How did we get here? From application hosting to SaaS to public & private cloud
 - Chose your flavor: IaaS, SaaS, or PaaS?

- Moving applications into the cloud
 - Resource virtualization
 - Automated, on-demand provisioning of resources and management capabilities
 - Shared infrastructure and applications

9. The Synergy of SOA and Cloud Computing

- SOA and cloud are complementary
- SOA/Cloud synergy
 - SOA + SaaS
 - SOA + PaaS
 - SOA + IaaS
- Putting it all together: the SOA-Cloud

10. Across Application Silos: The Integration Landscape

- The integration landscape – the big picture
- Portal level integration
- Data level integration
 - Extract, Transform, Load (ETL)
- Interface level integration (a.k.a. application integration)
 - The messaging backbone
 - Data transformation
 - Content-based routing
 - Establishing application connectivity through adapters
 - Integration design patterns
 - Security
 - Security in traditional Web applications
 - Extending the Web application with SOA
 - Delegation of credentials – who is the real user?
 - Single sign-on, SAML, XACML, and Policy Enforcement Point (PEP)
- Service Oriented Integration (SOI)
 - Advantages over traditional Enterprise Application Integration (EAI)
- Process level integration

11. From Enterprise Service Bus (ESB) to Internet Service Bus (ISB)

- The Enterprise Service Bus
 - Introducing the ESB
 - Conceptual ESB architectures
 - How do enterprises use ESBs today?
 - Repositories & Registries
 - Integration with the data architecture
- The need for cloud integration and its challenges
 - From ESB to “Internet Service Bus”
- The product landscape – ESB and ISB examples

12. Putting It All Together: Developing an Integration Strategy for Your Company

- Classification of integration architectures by the degree of coupling
- Approaches to leverage and migrate legacy systems
- Comparison of integration approaches and technologies
 - Decision criteria for selecting a particular approach

- Sample methodology for SOI projects

13. *Conclusions*

- Summary of the seminar
- Outlook: SOA, Cloud and the consumerization of IT