Service Oriented Architecture for Managers

Service Oriented Architecture (SOA) is a leading technology direction for more and more IT groups who are trying to create integrated and consistent solutions throughout their organization. Although many implementation details of SOA, including the supporting Web Services technologies, are well understood, there has been very little analysis of the impact of SOA on the management decision making process. Those most successful implementing SOA and Web Services will be those who understand the technology fundamentally, but more importantly, understand the new decision matrix that it creates and how these decisions ultimately impact long term planning. This course covers a range of topics from an understanding of the management issues presented by SOA to a practical look at the details of SOA legacy enablement.

Objectives:

- Understand the basic concepts of SOA and Web Services
- Understand the costs, risks and benefits of the SOA approach
- Understand how to model a Service Oriented Architecture for an organization integrating existing software solutions with new ones
- Understand the skills, practices, and processes related to creating Service Oriented Architectures
- Understand why to use Web Services with SOA
- Understand issues related to SOA Operations
- Understand the practical details of legacy enablement

Topics Covered:

- What is SOA
- The business impact of SOA
- How does SOA fit into your environment
- A look at SOA activities and processes
- Introduction to Web Services
- Incorporating SOA and Web Services into an organization
- SOA Best Practices
- SOA vendors and maturity
- SOA Legacy enablement

Audience:

This course is designed for business and technical manager who are interested in what SOA is all about and the practical implications of its implementation in their organization. No prerequisites needed.

Duration

2 days
Outline:

1. **What is Service Oriented Architecture**
   - SOA definition and brief explanation
   - The business value of a SOA
   - What makes up a SOA
   - The relationship between SOA and Web Services

2. **The Business Impact of SOA**
   - Benefits:
     - Legacy integration
     - Long-term migration path
     - Agility in responding to changes in the business environment
     - Better understanding of business requirements
     - Leverage existing, and future, IT assets
     - Better integration of third-party products, as services
   - Costs/Risks:
     - IT Workforce retraining and re-education
     - Understanding and modeling the business processes for the future
     - Web Services maturity
     - Improve change control and configuration management
     - Compliance
     - Continual change
     - Expansion of the “system”

3. **Setting The Context for SOA**
   - Progress in Distributed Systems architecture
     - Message passing and other Middle Ware
   - Loose Coupling
     - Concept
     - Importance
     - Building and measuring
   - Enterprise Architecture and SOA
   - Agile Methods
   - The Top-down (Outside-in) architectural approach
   - Web Services as Middle Ware
   - The 4+1 View model of SOA

4. **Service Oriented Architecture Activities**
   - Iterative development within a Service Oriented Architecture
   - The role of Architecture
   - Enterprise-wide architectural activities
   - Project-wide architectural activities
   - Project Management considerations
   - Sample development process
     - Requirements focus
     - Design focus
     - Development team skills
     - Configuration Management and component reuse
     - Effective testing

5. **Introduction to Web Services**
   - What are Web Services
   - How Web Services work
   - Advantages and disadvantages
   - The Fundamental technologies of Web Services
     - Overview of XML
     - Overview of SOAP
     - Overview of WSDL
     - Overview of UDDI
   - The expanding set of Web Services standards
   - Maturity of Web Services standards
   - Some hype associated with Web Services and the realities
   - An example the use of Web Services within a Service Oriented Architecture

6. **Incorporating SOA and Web Services into an Organization**
   - Considerations when adopting SOA and Web Services
• Phases of integration of SOA and Web Services
  — Exploratory Phase
  — Sporadic Adoption Phase

7. **SOA Best Practices**
• Modern Software Development Principles
  — Develop Iteratively
  — Manage Requirements
  — Use Component Architectures
  — Model Visually
  — Verify Quality
  — Control Changes
• SOA General Principles
  — Develop a top-down, extended Enterprise architecture
  — Build and maintain a platform independent service model
  — Maintain feedback at all points
  — Follow Agile methodology principles and techniques
  — Encapsulate legacy functionality
  — Follow a federated software model

  — Intersystem Adoption Phase
  — Established SOA Phase
  — Mature Phase

  — Compose atomic services into coarse-grained services
  — Build for broad applicability
  — Perform ad hoc upgrades
  — Prioritize SOA transition activities in-flight

8. **SOA Vendors**
• Solution categories
• Leading vendors and products
• Choosing SOA Partners
• Platform issues

9. **SOA Legacy Enablement**
• Existing services
• Integration options
• Business considerations
• Exercise: During this exercise, the instructor facilitates approaches to enabling legacy systems. These may include mainframe, CORBA, J2EE or Microsoft, or some combination of these.