SOA Governance and the Service Lifecycle

Naveen Sachdeva
sachdeva@us.ibm.com
IBM Software Group
Agenda

- What is SOA Governance?
- Why SOA Governance?
- Importance of SOA Governance
- SOA Governance and the Service Lifecycle
- What constitutes an SOA Governance model?
- SOA Governance and Management Method
- Governance Enablers/Tools
- SOA Governance Case Study
What is governance?

**Governance**
The establishment of *chains of responsibility* to empower people, *measurement* to gauge effectiveness, *policies* to guide the organization to meet its goals, *control mechanisms* to ensure compliance and *communication* to keep all required parties informed.

**IT governance**
The application of governance to an IT organization, its people, processes and information to guide the way those assets support the needs of the business.

**SOA governance**
A specialization of IT governance that puts key IT governance decisions within the context of the lifecycle of service components, services and business processes. It is the effective management of this lifecycle that is the key goal to SOA governance.
Why SOA Governance?

**SOA Impact**

- Distributed sourcing
- Virtualized Service Provisioning
- Numerous consumers
- Service aggregation
- Business and IT alignment

**Governance requirements**

- Sourcing / Provisioning governance
- Operational governance
- Usage governance
- Architectural governance
- Portfolio governance

SOA increases Governance requirements
SOA governance is required to shift a company to SOA

<table>
<thead>
<tr>
<th>From:</th>
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<tbody>
<tr>
<td><strong>Function oriented</strong></td>
<td><strong>Process oriented</strong></td>
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<td>Build for permanence</td>
<td>Support business adaptability</td>
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<td>One long development cycle</td>
<td>Incremental development cycles</td>
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<td>Application silos</td>
<td>Orchestrated solutions that work together</td>
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<td>Tightly coupled</td>
<td>Loosely coupled</td>
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<td>Structuring applications using components and objects</td>
<td>Structure applications using services</td>
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<td>Known implementation</td>
<td>Implementation abstraction</td>
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A scenario on the importance of SOA governance*

1. Provide a currency service that fills a specific line of business (LOB)
2. Other LOBs start using the service
3. LOBs increase use of services / quality suffers
4. Service is fixed at provider’s expense
5. Fix works temporarily but problem reappears
6. Maintenance costs soar / provider ends service

* Scenario from *Introduction to SOA Governance*, Bobby Woolf.
SOA governance effectively manages the service lifecycle by governing key processes across the entire lifecycle.

**Assemble**
- Design the architecture
- Develop the service
- Test the functionality

**Model**
- Identify business domain
- Assign ownership
- Allocate funding
- Model the service
  - Identify the service
  - Specify the service
  - Realize the service

**Deploy**
- Deploy to infrastructure
- Test the system

**Manage**
- Monitor the service
- Manage change
- Manage retirement

**Effective SOA governance must:**
- Help define guiding decisions around these processes
- Properly enforce these guiding decisions
- Communicate these guiding decisions effectively
- Evolve these guiding decisions with changing needs
- Ensure that the perspective of both service providers and consumers are properly met
What constitutes an SOA governance model?

- **Principles**—guiding objectives and/or goals and associated metrics to ensure they are met

- **Role and responsibilities**—the roles and associated responsibilities that will facilitate business and IT alignment and properly establish decision rights

- **Guiding decisions**—policies, guidelines, best practices and standards

- **Methods**—consistent approach to establishing SOA governance and applying it across the lifecycle

- **Foundational governance processes**
  - Exception and appeals
  - Compliance
  - Vitality
  - Communication

- **Platform**—enabling technology (registry, monitoring, etc.)

*Governance processes should make it easy to do things the right way and hard to do them the wrong way. Build schools, not prisons. The goal is to help people conform to best practices, not police them.*

*Mark Ericson, chief technology officer (CTO), Mindreef*
SOA governance requires a methodological and rigorous approach to be successful

A comprehensive approach is needed to implement effective SOA governance that will:

- Assess the current organizational context of your organization
- Define a governance model that the organization will accept and embrace
- Leverage tooling to make governance operational and automatic
- Function based on best practices, processes, principles, policies and a methodology

Watch out for some potential traps in implementing SOA governance:

- SOA governance is not “one size fits all”
- SOA governance is not driven by tools
- SOA governance addresses the uniqueness of service orientation. Leverage and extend IT governance to achieve SOA governance
- SOA governance requires a non-siloed, consistent approach
The Phases of Methodology; the SOA Governance and Management Method

**Design the governance approach**
- Define / modify governance processes
- Design policies and enforcement mechanisms
- Identify success factors and metrics
- Identify owners and the funding model
- Charter / refine an SOA center of excellence
- Design the governance IT infrastructure

**Put the governance model into action**
- Deploy governance mechanisms
- Deploy the governance IT infrastructure
- Educate and deploy on expected behaviors and practices
- Deploy policies

**Scope the governance need**
- Document and validate the business strategy for IT and SOA
- Assess current IT and SOA capabilities
- Define / refine the SOA vision and strategy
- Review current governance capabilities and arrangements
- Lay out the governance plan

**Manage and monitor the governance processes**
- Monitor compliance with policies
- Monitor compliance with governance arrangements
- Monitor IT effectiveness metrics
IBM’s comprehensive approach to SOA governance is the SOA Governance and Management Method

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<thead>
<tr>
<th>Plan</th>
<th>Define</th>
<th>Enable</th>
<th>Measure</th>
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<tr>
<td>Determine the governance focus</td>
<td>Define the SOA governance model</td>
<td>Implement the SOA governance model</td>
<td>Refine the SOA governance model</td>
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<tr>
<td>Tailor method for goals / environment</td>
<td>Define and refine governance processes</td>
<td>Implement the transition plan</td>
<td>Measure effectiveness of governance processes</td>
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<td>Understand current governance structures</td>
<td>Define organizational change</td>
<td>Initiate SOA organizational changes</td>
<td>Measure effectiveness of organizational change</td>
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<td>Define scope of governance</td>
<td>Define IT changes in SOA development</td>
<td>Launch the SOA center of excellence</td>
<td>Review and refine the operational environment</td>
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<td>Conduct change-readiness survey</td>
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<td>Implement the infrastructure for SOA</td>
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**Continuous SOA governance process measurement and improvement**

- Define the scope of governance: business, development governance or service management or all of the above
- Define new governance processes for services and define SOA governance mechanisms such as the SOA Center of Excellence
- Begin implementation of the SOA Center of Excellence, Skills Enablement, Organizational Change, Infrastructure Change, etc.
- Monitor composite application performance and adjust; Monitor effectiveness of governance changes
IBM establishes SOA governance through our methodology and instantiates governance with our tooling.

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<tr>
<th>Phase</th>
<th>Approach</th>
<th>Enabling SOA / IT Governance Tools</th>
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<tr>
<td>Plan</td>
<td>SOA Governance and Management Method</td>
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<tr>
<td>Define</td>
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<td>Rational Method Composer</td>
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<td>Enable</td>
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<td>Rational Portfolio Manager</td>
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<td>Measure</td>
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<td>Rational Requisite Pro</td>
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<td>Rational Portfolio Manager</td>
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<td>WebSphere Service Registry &amp; Repository</td>
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<td>Tivoli Change Management &amp; Configuration Database</td>
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<td>Rational Asset Manager</td>
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<td>WebSphere Business Monitor</td>
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<td>Tivoli Composite Application Manager for SOA</td>
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<td>Tivoli Service Level Advisor</td>
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SOA Governance
Entry Points
How to get your hands around SOA governance; understand where to start:

**Effective SOA Governance Must:**
- Help define guiding decisions around these processes
- Properly enforce these guiding decisions
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- Evolve these guiding decisions with changing needs
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### Strategic Entry Point

**Model Business Processes**
- Identify Business Domain
- Assign Ownership
- Allocate Funding
- Model the Service
  - Identify the Service
  - Specify the Service
  - Realize the Service

### Assemble Solution
- Design the Architecture
- Develop the Service
- Functionally Test

### Tactical Entry Point

**Deploy Solution**
- Deploy to Infrastructure
- System Test

**Manage/Operate System**
- Manage Access
- Monitor the Service
- Manage Change
- Manage Retirement

**Assemble Solution**

**Model**
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**Deploy**

**Manage**

**Governance & Best Practices**

**Tactical Entry Point**

**Strategic Entry Point**

**Tactical Entry Point**

**Assemble**

**Deploy**

**Manage**

**Governance & Best Practices**
An SOA Governance Case Study:

Tactical / Bottom-up Entry Point
Manufacturer initiated two parallel projects with governance as a pervasive layer in both efforts.

**Key Service**

- Customer Data Service – Consolidating over 100 physical interpretations of customer data into 4 and exposing new customer services to the enterprise.
- Real Time Messaging Service – Providing real time access to manufacturing events that can be used by the network of dealers.

**Governance**

Established an Integration Center of Excellence (ICoE) to foster governance around the ESB and any services deployed in its infrastructure. ***Emphasis is placed on organizational change management to adopt this new rigor and “Enterprise Thinking”.

**Infrastructure**

- Established the Enterprise Service Bus (WebSphere Message Broker) and Service Registry (WebSphere Service Registry & Repository)
- Designing greater interoperability across service providers, infrastructures and information consumers thus promoting the faster delivery of integration
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ICoE will be the first phase to establish an SOA CoE taking a tactical approach to mitigate risk and maximize probability for success.

SOA Center of Excellence:

- Model Business Processes
  - Identify Business Domain
  - Assign Ownership
  - Allocate Funding
  - Model the Service
    - Identify the Service
    - Specify the Service
    - Realize the Service

Assemble Solution
- Design the Architecture
- Develop the Service
- Functionally Test

Integration Center of Excellence

Deploy Solution
- Deploy to Infrastructure
- System Test

Manage/Operate System
- Manage Access
- Monitor the Service
- Manage Versions
- Manage Retirement

Model

Deploy

Assemble

Manage

Governance & Best Practices
GOALS & RESPONSIBILITIES OF ICoE:

Goals:
- Enable *rapid solution delivery*
- Reduce *integration costs*
- **Optimize and simplify** business process automation

Key Responsibilities:
- Extend *existing IT governance*
- Establish *organizational mechanisms*
- Establish *rules of engagement*
- *Vitality & compliance* of ESB services
- Define *communication mechanism*
- Define long-term *service-orientation strategy*
- Enhance the *visibility of ESB technology*
- Establish needed *skills and resources*
- Design, develop and harvest *reusable assets around ESB*
Incremental Adoption of SOA (Governance) is key.

SOA Governance Maturity

1. Bottom-up Service Integration
   - Financial self-sufficiency of CoE
   - Define recovery incentives for service providers
   - Define reuse incentives for service consumers

2. Business Domain / Ownership
   - 
   - 
   - 

3. Top-down Service Identification
   - 
   - 
   - 

SOA on your terms and our expertise
Conclusion
And
Next Steps
How to get your hands around SOA governance; understand where to start:

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Model
Assemble
Deploy
Manage
Governance & Best Practices

Deploy to Infrastructure
System Test
SOA governance factors to consider

1. Garner C-level backing across the board
2. Engage the business and drive business value
3. Establish an SOA funding model for the long term
4. An enterprise architecture facilitates initial establishment of SOA governance
5. Commit to roles, responsibilities and resources
6. Socialize the governance model
Thank You