SOA Governance
A Critical SOA Success Factor

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Agenda

- Introduction
- SOA Governance
- SOA Governance Activities
- Estimating Effort Required for SOA Governance
  - Sizing the Governance Job
  - Other effort drivers
- Conclusions and Future Work
Introduction

- This paper is based on findings of a research project for the Army focused on the cost implications of creating and deploying Service Oriented capabilities.

- The importance of SOA Governance to successful SOA initiatives emerged early in the research.

- Despite the importance, little is known about planning for the governance needed for SOA success.

- This phase of the research was focused on issues associated with planning for good SOA Governance.

- This paper proposes a methodology for sizing the SOA Governance problem that facilitates proper planning for the governance.
Introduction to SOA

- SOA uses networking capabilities to integrate applications in a way that is independent of:
  - Architecture
  - Programming language
  - Development platform
  - Vendor

- Service Orientation can be thought of as the next generation of object orientation
  - New degree of abstraction
  - More sophisticated tools available to deploy
Service Orientation – Not a New Concept

Service Consumer

Service Provider

Interface
Service Consumer

Interface

Service Providers

SOA from a Software Perspective

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Building Blocks of a SOA

- **Service**
  - Software implemented capability that is well-defined, self contained and does not depend on context or state of other services

- **Service Consumer**
  - Service, application or other software component that requires a specific service.
  - Located through registry
  - Initiates service through mandated interface
Building Blocks of a SOA

- **Service Provider**
  - Software entity that represents the service being delivered
  - Provider makes service contract available through service registry
  - Provider accepts and executes request for service

- **Service Registry**
  - Network space where service providers publish contracts and consumers locate services

- **Service Contract**
  - Vehicle through which provider and consumer seal the deal
Governance

- Wikipedia defines IT governance as …..
  - ‘the leadership and organizational structures and processes that ensure that the organization’s IT sustains and extends the organization’s strategies and objectives”

- SOA Governance is a subset of IT governance focused on control over adoption and implementation of SOA including……
  - Strategic adoption approach
  - Define SOA….  
    - Standards
    - Policies
    - Contracts
    - Service Level Agreements
SOA Governance

- SOA becomes valuable when service design, implementation, and usage is governed in such a way that leads to:
  - Reduced Integration Expense
  - Increased Asset Reuse
  - Increased Business/Mission Thread Agility

- SOA Governance is a concept used for activities related to exercising control over services in a SOA so that the proposed value is realized.
“SOA Governance” is a set of activities related to exercising control over services in an SOA.

- Some governance activities are **high-level**, and generally have enterprise-wide application or are ongoing oversight activities.
- Some governance activities are low-level, and apply only to specific services or sub-projects of a more broad SOA initiative.
SOA Governance high-level activities

- **SOA Policy and Strategy Development**
  - Detailing a vision of the end-state
  - Creating/enforcing broad SOA policies
  - Strategizing SOA adoption through analysis of existing IT assets
  - Selecting candidate SOA projects
  - Creating incentives system
  - Addressing funding issues.
SOA Governance high-level activities

- **SOA Education, Promotion and Marketing**
  - Promotion and marketing of enterprise SOA capabilities
  - SOA Policy education
  - Training in enterprise wide SOA procedures
  - Enterprise Level SOA related communications
SOA Governance high level activities

- **Service Provisioning Governance**
  - Provide the right services to the right consumers
  - Ensure sharing of both capability and cost responsibility
  - Align software governance with business governance
  - Management of reuse across internal and external domains to achieve maximum agility and economies of scale and scope
SOA Governance high level activities

- **Service Performance Monitoring and Optimization**
  - Oversee the instantiation and on-going use of automated service performance monitoring software
  - Develop and use governance metrics
  - Analyze metrics
  - Address failures
  - Identify areas for optimization
SOA Governance Cost Drivers

- **Domain Size Factor**
  - measure of the scope and intricacy of data, processes, and relationships common to the domain of an SOA initiative.

- **Project Scope Factor**
  - measure of the scope of requirements for the individual projects of the larger SOA initiative being modeled.

- **SOA Maturity**
  - Organizational SOA Maturity

- **Security**

- **Operating Specification**
Domain Size Factor

Baseline Domains

- 80 - Military Strike Community
- 70 - Law Enforcement Community
- 60 - Battlefield Situational Awareness (subset of Military Strike Community)
- 50 - Crime-related Data (subset of Law Enforcement Community)
- 40 - Blue Force Tracking (subset of Battlefield Situational Awareness)
- 35 - Supply Chain Management
- 30 - Basic Commercial Banking
- 20 - Human Resources
Project Scope Factor

**Measure of**

- Number of entities that contribute to SOA information sharing requirements where an entity is defined as either
  - Organization
  - Platform
  - System

- Where entities are classified to describe how much of the domain attributes for common data and processes overlap with their own attributes
Project Scope Factor

Cost vs Project Scope Factor

- SOA Policy and Strategy Development
- SOA Education, Promotion and Marketing
- Service Provisioning Governance
- Service Performance Monitoring and Optimization

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SOA Maturity Level

Cost vs SOA Maturity Level

- **Emerging**
- **Managed**
- **Optimized**

Cost

- SOA Policy and Strategy Development
- SOA Education, Promotion and Marketing
- Service Provisioning Governance
- Service Performance Monitoring and Optimization

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Conclusions and Future Work

- **SOA Governance is critical to the successful deployment of SOA capabilities**

- **Planning for SOA governance is important to project success**
  - Traditional project size metrics irrelevant
  - Domain size and project(s) scope relative to a SOA initiative appear to be better measures

- **This research is in progress and on-going**
  - We’ve postulated a set of CERs for SOA governance based on theory and experiential data.
  - Next step is to validate and refine using actual project data