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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

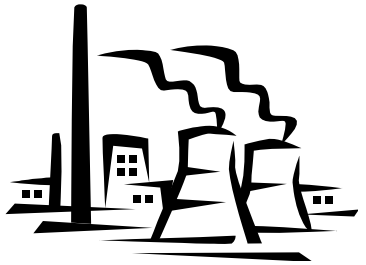
Introduction to SOA

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

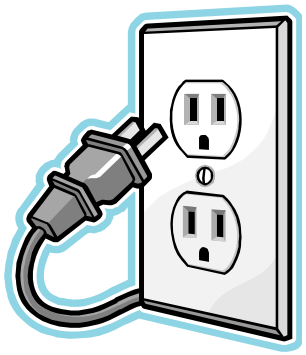
- **Service Orientation can be thought of as the next generation of object orientation**
  - New degree of abstraction
  - More sophisticated tools available to deploy

Service Orientation – Not a New Concept

Service Consumer

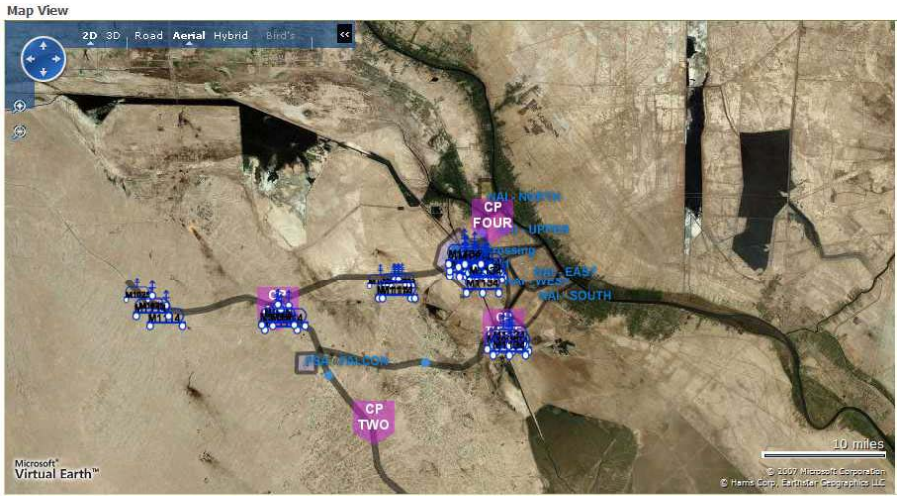


Service Provider

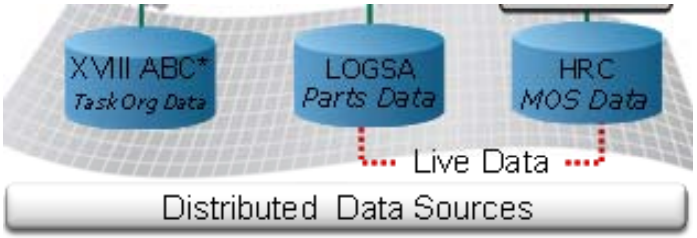


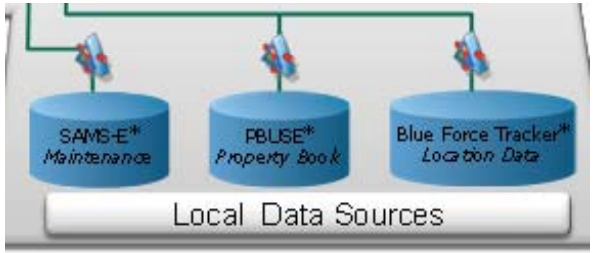
Interface

SOA from a Software Perspective



Service Consumer





Interface

Service Providers

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

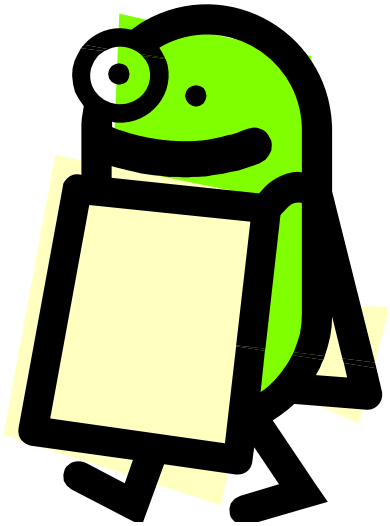
- **“SOA Governance” is a set of activities related to exercising control over services in an SOA.**
  - Some governance activities are **high-level**, and generally have enterprise-wide application or are ongoing oversight activities.
  - Some governance activities are low-level, and apply only to specific 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 an 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

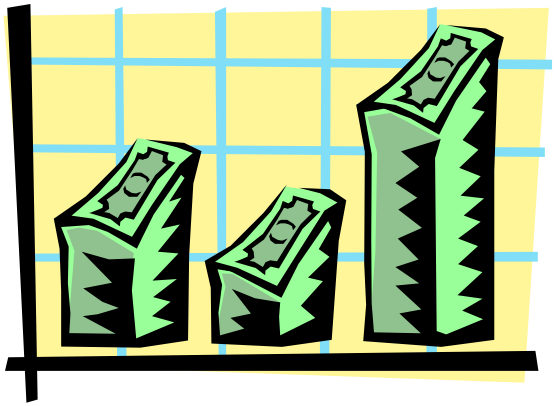


SOA Governance high level activities

- **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



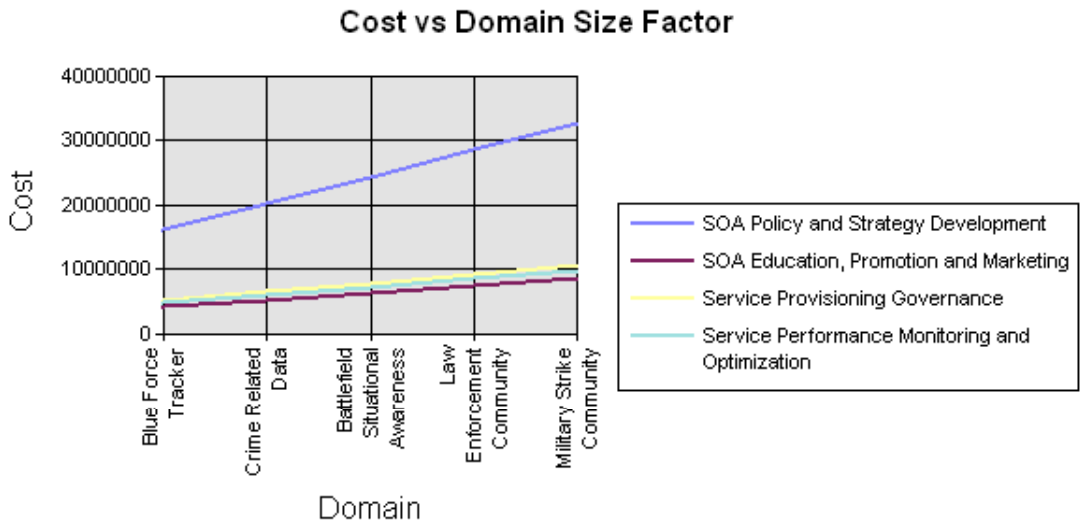
SOA Governance Cost Drivers

- **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

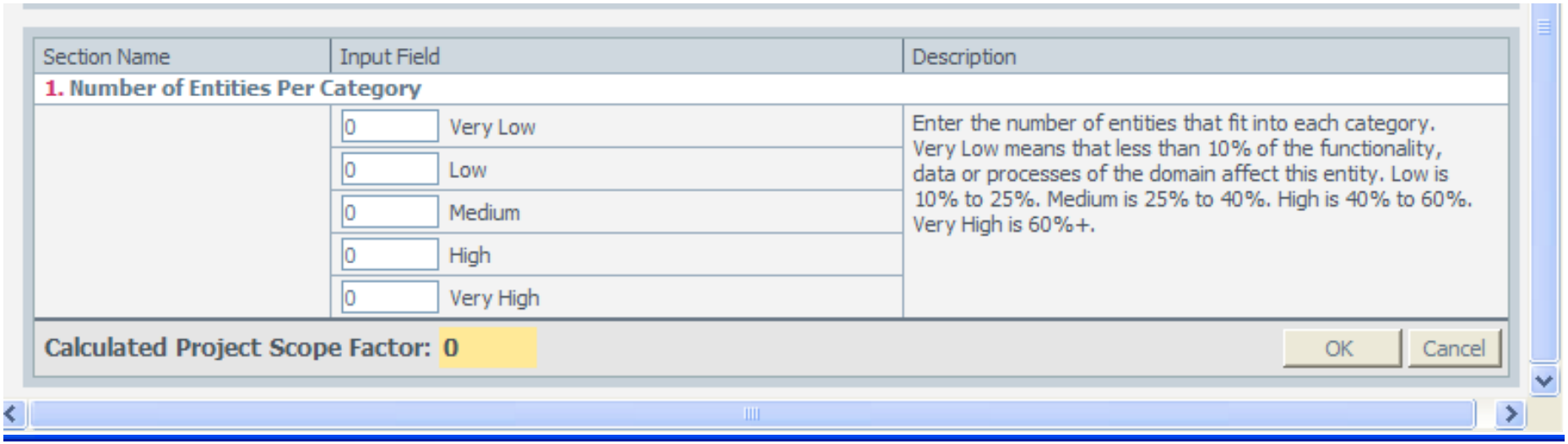
Baseline Domains

- 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

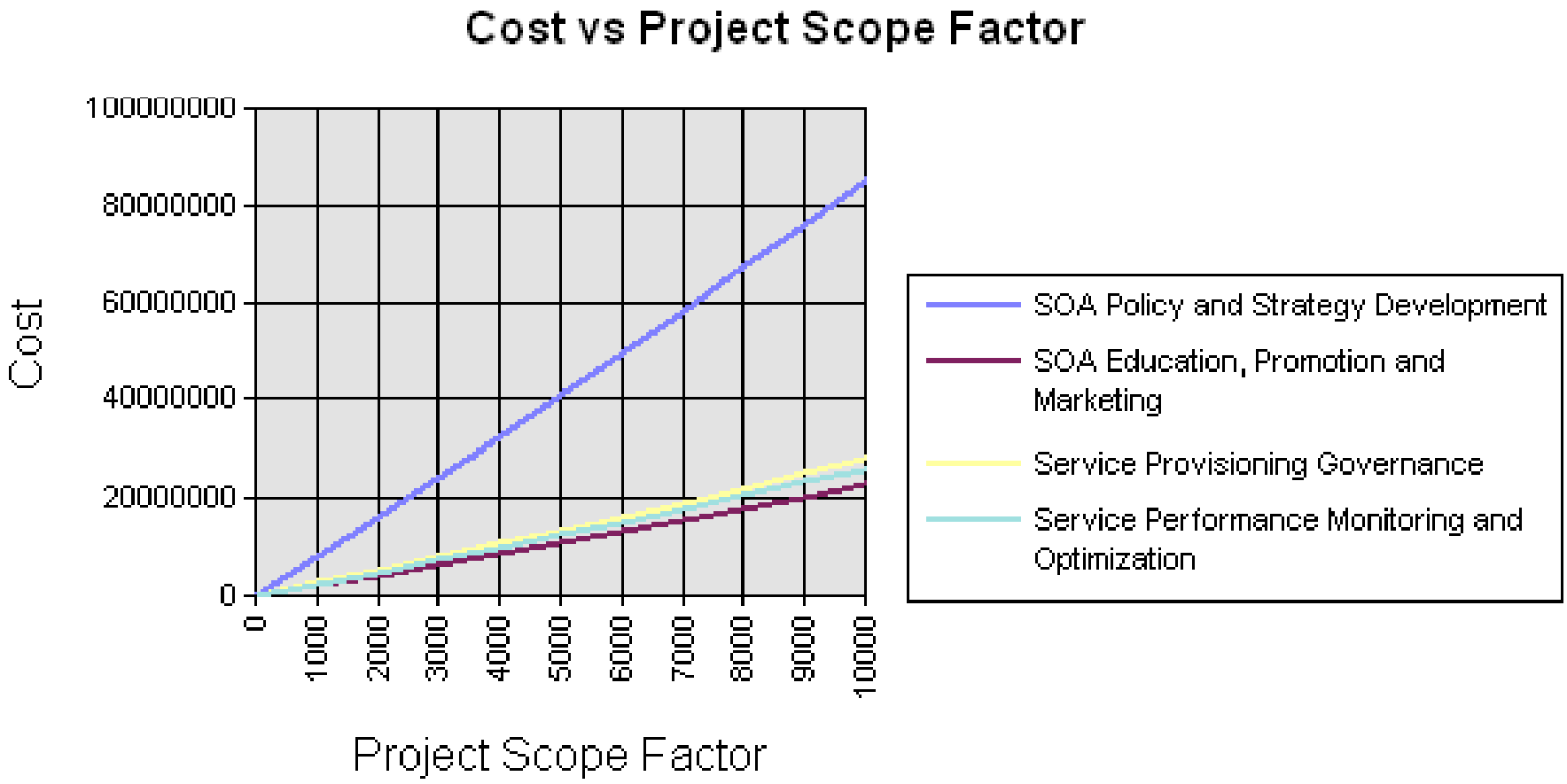


Project Scope Factor

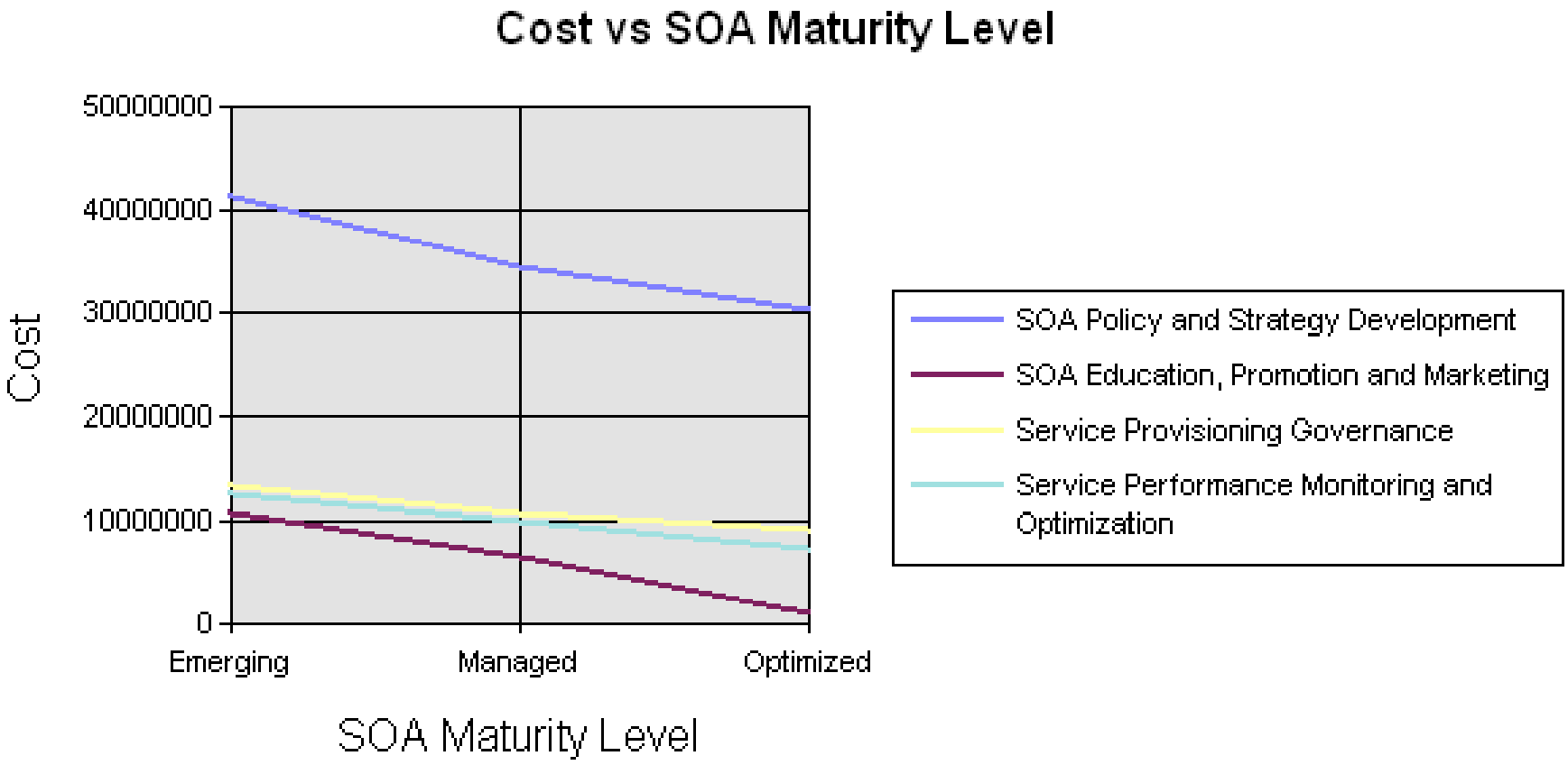
- **Measure of**
  - Number of entities that contribute to SOA information sharing requirements where an entity is defined as either
    - Organization
    - Platform
    - System
  - Where entities are classified to describe how much of the domain attributes for common data and processes overlap with their own attributes



Project Scope Factor



SOA Maturity Level



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