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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
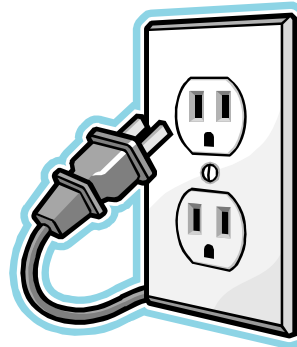   - More sophisticated tools available to deploy

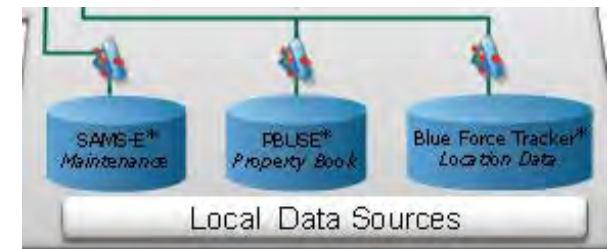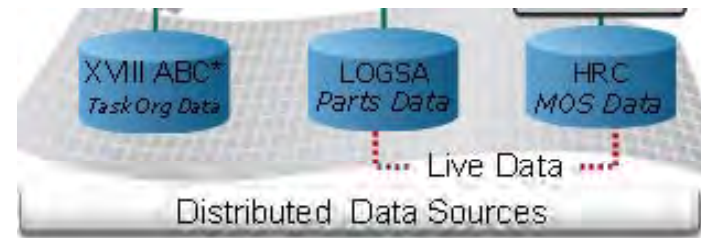# Service Orientation – Not a New Concept

Service Consumer
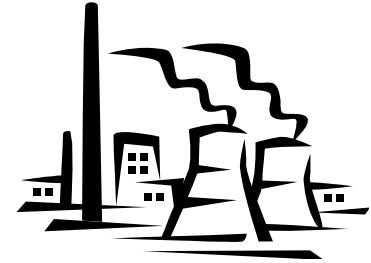
Service Provider

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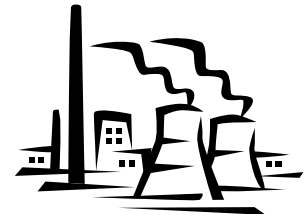
- **Service Consumer**
  - Service, application or other software component that requires a specific service.
  - Located through registry
  - Initiates service through mandated interface

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.
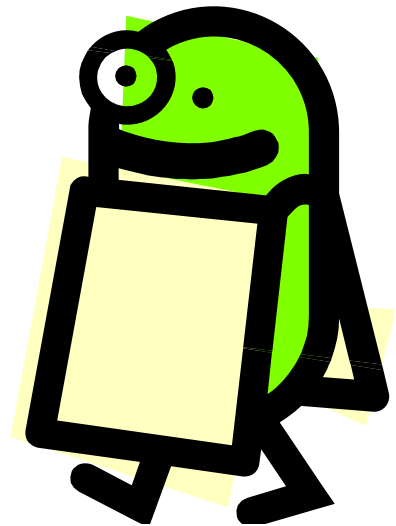
SOA Governance high-level activities

- **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
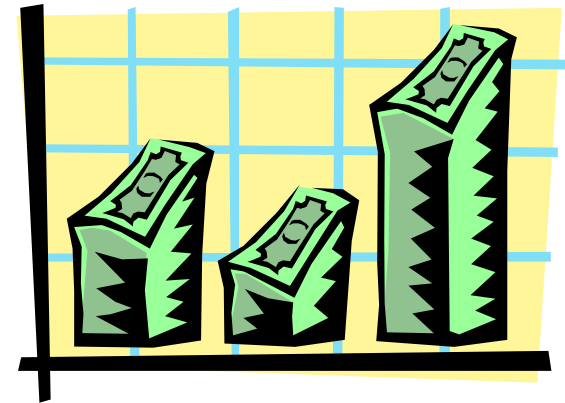
SOA Governance Cost Drivers

- **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

Cost vs Domain Size Factor
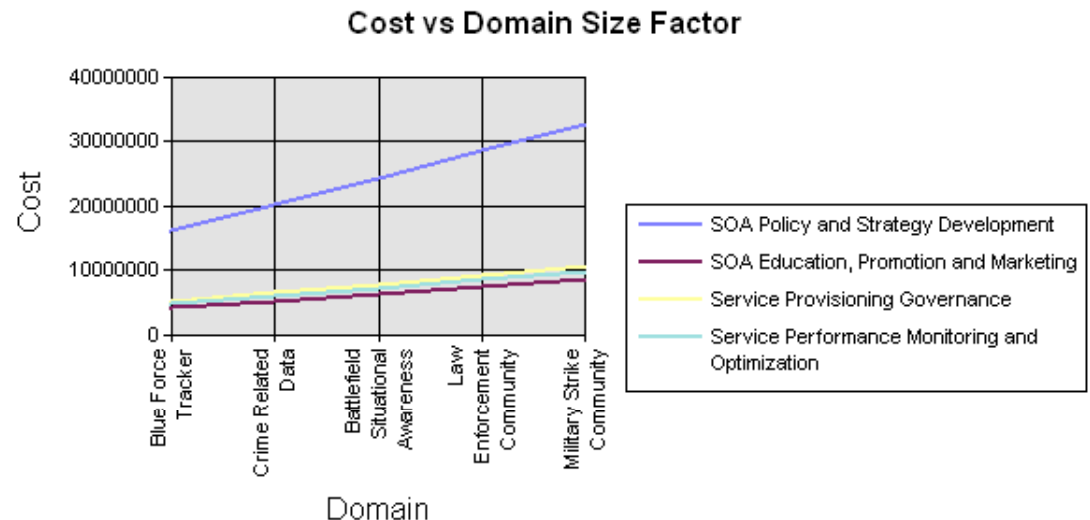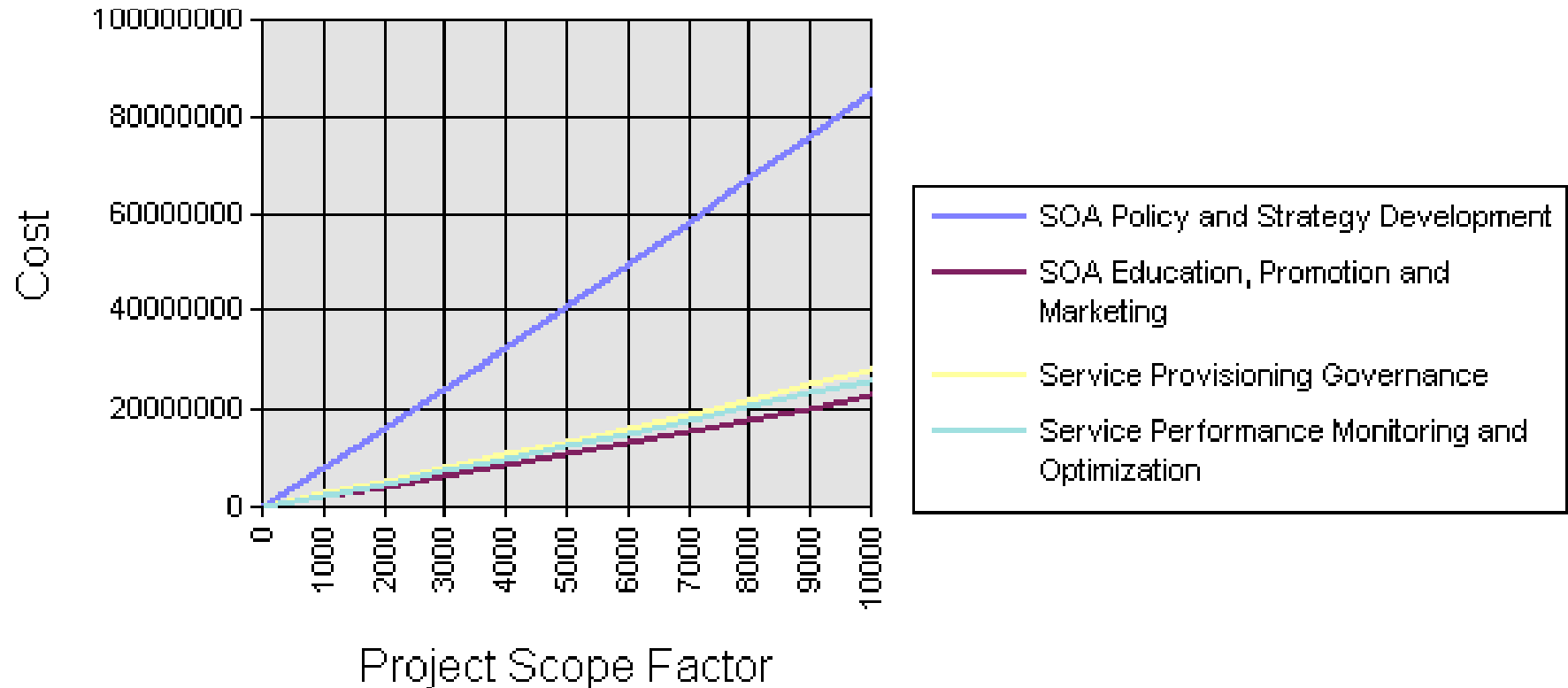
Project Scope Factor

- **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

| Section Name	Input Field		Description
1. Number of Entities Per Category			
	0	Very Low	Enter the number of entities that fit into each category. Very Low means that less than 10% of the functionality, data or processes of the domain affect this entity. Low is 10% to 25%. Medium is 25% to 40%. High is 40% to 60%. Very High is 60%+.
	0	Low	
	0	Medium	
	0	High	
	0	Very High	
Calculated Project Scope Factor: 0			OK Cancel

Project Scope Factor

SOA Maturity Level

Cost vs SOA Maturity Level
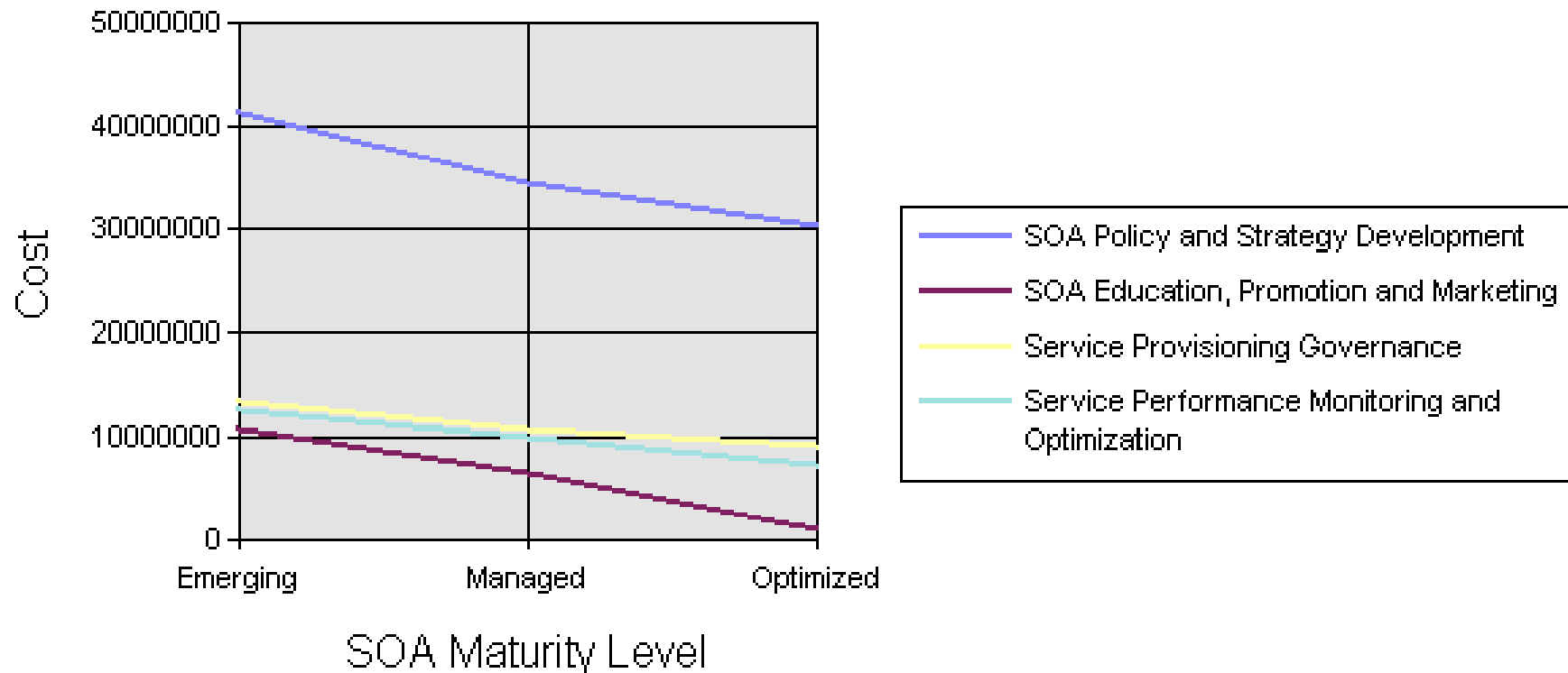
Conclusions and Future Work

- **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

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