

# SOA and Mission Architecture: A Proposed Operation Model

Hard Problems in SOA Workshop  
January 30th, 2008  
Pittsburgh, PA  
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## Main Issues Identified

**Operational Support of SOA Infrastructure requires a Mission Architecture (MA) approach. MA has two non-negotiable requirements**

### **Survivability**

- With respect to the service mission
- How specific systems and processes support the mission
- Information needed to determine and measure the survivability

### **Availability**

- Functionality of all mission support features even in a degraded state

## [Lack of Structure] – Rationale

**Mission Architecture targets weakly established and brittle processes, programs, platforms, or services created by quick-fix solutions that make architecture harder to modify in the future.**

*MA focuses the work effort on:*

- Continuity of operations and the operational state
- Ensuring no component (staffing, technology, process, work instruction, finance, measurement) is considered immune or exempt.

## [ Lack of Structure] – Current Efforts

- ▶ **The SOA-MA support encapsulation model**
- ▶ A Service Program [a service offering]
- ▶ The Service Mission
  - A Service Manager [a person]
    - The SOA Mission Architecture (SOA-MA)
      - **The Core MA Operational Elements**
        - Staff (employees, contractors, vendors, consultants, volunteers, sponsors)
        - Process – defined input leading to a defined output
        - Work Instruction – How to manipulate the input and handle the output (ITIL Framework)
        - Technology – COTS, development, acquisition, modification
        - Finances – purchase, maintenance, pricing, procurement, licensing, depreciating, budgeting
        - Measurement – functional performance measures

## [ Lack of Structure] – Challenges

### SOA–MA Service managers must steward SOA–MA by evangelizing

...the horizontal routing of requests, tasks, and projects, across service organizations.

...”build once, leverage everywhere.”

...”creativity and innovation; growth will follow.”

... functional excellence, not superior performance.

...monitoring and correction of performance defects as soon as they surface.

...survivability and availability.

## [ Lack of Structure] – Ideas to address Challenges and Gaps

Admit that variables outside of your mission architecture are part of your mission architecture – *whether you want to admit it or not.*

Appreciate that all performance pressure *is* on the service manager. Large and complex services create greater performance pressure (vice-versa).

A service manager has to have a strong sense of purpose and be willing to push into problems – *sometimes other people’s deliberately unaddressed problems.*

## [Agile Operations] – Rationale

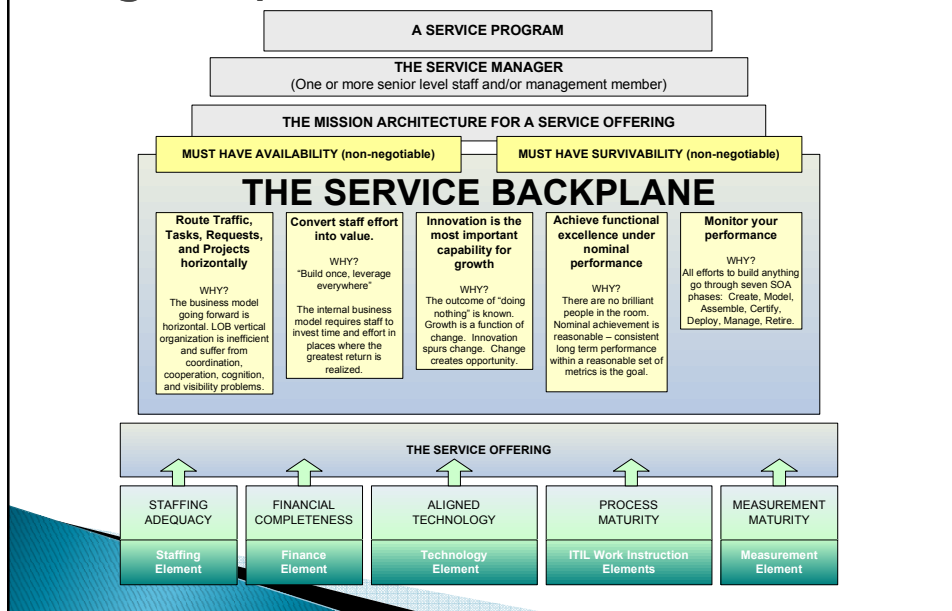
### The Hierarchy vs. The Matrix

A staffing hierarchy is not agile enough to accommodate the amount of tacit knowledge and agility required for successful SOA-MA. A hybrid mindset is required where the 'networked' staff serves the hierarchy.

### The Service Backplane

The service backplane is a mindset that glues the staff to mission architecture by emphasizing service oriented support horizontally across infrastructure, business, systems, and infrastructure support areas.

## [Agile Operations] – Current Efforts



## [Agile Operations] – Challenges

### Obstacles to SOA-MA:

**Cognition problems** (seeking answers to the wrong questions)

**Coordination problems** (getting every one to eventually demonstrate the same behavior)

**Cooperation problems** (Overcoming narrow self-interest and distrust)

**Visibility problems** (system and process behaviors poorly understood or constrained by incomplete views)

## [Agile Operations] – Ideas to Address Challenges and Gaps

**Emphasis Management Science over Software Tooling.** An analysis framework is only as sensitive as the analyst methods which manipulate data. Otherwise, SOA-MA performance becomes stuck in data collection, and may not reach real analysis.

**Standardize upon a codified taxonomy of SOA-MA variables.** All variables must be measureable and reliable indicators of mission risk. All SOA analytics and performance measurement areas subscribe to the taxonomy. The taxonomy assures consistent data collection and structure analysis methods.