Federal Enterprise Architecture

Using EA to Design Future-Ready Agencies and Implement Shared Services

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OMB Policy Directives on EA

IT Shared Services Strategy
(May 2012)

Common Approach to Federal EA
(May 2012)

IT Reform Agenda's 25-Point Plan
(Dec 2010)

M-11-29
CIO Authorities Memo: Commodity IT (Aug 2011)

Draft for Discussion
Subject to Revision

FEDERAL INFORMATION TECHNOLOGY SHARE SERVICES STRATEGY
“Shared First”

December 9, 2011

May 2, 2012

May 2, 2012

SVR Memo
The Common Approach to Federal Enterprise Architecture is OMB policy on EA standards. FEAv2 is the implementation of the Common Approach, it provides design and analysis methods to support shared service implementation, DGS, IRM Strategic Plans, and PortfolioStat investment reviews.
The Common Approach to Federal Enterprise Architecture helps to make agencies "Future-Ready" by accelerating agency business transformation and new technology enablement by providing standardization, design principles, scalability, an enterprise roadmap, and a repeatable architecture project method.
Primary Outcomes

- Service Delivery
- Functional Integration
- Resource Optimization
- Authoritative Reference

While there are many positive outcomes that EA contributes to, these four outcomes are “primary” in that they represent areas of direct, positive impact that architectures can make within and between agencies and with customers and partners external to government.
EA Project Levels of Scope

- International
- National
- Federal
- Sector
- Agency
- Segment
- System
- Application

These levels of scope promote consistency in architecture methods to promote comparability and support varying levels of complexity. Solution Architecture is done in a similar way at all levels of scope, using the Collaborative Planning Method (CPM).
EA Program Basic Elements

1. Governance
2. Principles
3. Method
4. Tools
5. Standards
6. Use
7. Reporting
8. Audit

These basic elements ensure that agency EA programs are complete and can be effective in developing solutions that support planning and decision-making.
Element 2: Principles

General EA Principles
- Future-Ready
- Investment Support
- Shared Services
- Interoperability Standards
- Information Access
- Security and Privacy
- Technology Adoption

Design/Analysis Principles
- Strategic Drivers
- Business Activities
- Technology Enablement
The Collaborative Planning Methodology (CPM) is a repeatable process that consists of steps that require integrated multi-disciplinary activities to affect change with the collaboration of leaders, stakeholders, planners, and implementers.

It is inclusive of the full planning and implementation lifecycle and is intended for use at all levels of scope.
Element 3: Method (continued)

1. **Identify and Validate**
   - 1.1 Engage Sponsor and Assess Stakeholder Needs
   - 1.2 Analyze and Validate Needs
   - 1.3 Formulate Case to Address the Needs
   - 1.4 Identify and Engage Governance

2. **Research and Leverage**
   - 2.1 Identify Organizations and Service Providers to Engage
   - 2.2 Analyze Opportunities to Leverage
   - 2.3 Determine Whether to Leverage

3. **Define and Plan**
   - 3.1 Formalize Collaborative Planning Team and Launch Planning
   - 3.2 Refine the Vision for Performance and Outcomes
   - 3.3 Analyze the Current State, Determine Adjustments, and Plan the Target State
   - 3.4 Formulate the Integrated Plan and Roadmap
   - 3.5 Initiate Execution Governance

4. **Invest and Execute**
   - 4.1 Define Funding Strategy and Make Decision
   - 4.2 Obtain Resources and Validate Plan
   - 4.3 Execute the Plan

5. **Perform and Measure**
   - 5.1 Operate with the New Capabilities
   - 5.2 Measure Performance Against Metrics
   - 5.3 Analyze and Provide Feedback
Element 4: EA Tools

- Repository website and content to create a visual representation of architecture in its current and future states
- Decomposable views of the overall architecture and specific architectures
- Over-arching “management views” of the architecture
- Strategic planning products and performance measures
- Business process documentation to answer questions and solve problems
- Physical / logical design of data entities, objects, applications, and systems
- Physical and logical design of networks & cloud computing environments
- Configuration management and quality standards
- Security and risk solutions for physical, information, personnel and operational needs
Element 5: Standards

EA standards for doing design projects

Artifacts’ List
- Strategic Plan
- Workflow Diagram
- Dataflow Diagram
- System Interface
- Network Diagram
- Security Controls

EA standards for doing analysis projects

Design

Analysis

Consolidated Reference Model (CRM)

Performance Reference Model (PRM)
- Inputs, outputs, and outcomes
- Unique performance indicators

Business Reference Model (BRM)
- Sector
- Function
- Sub-Function

Data Reference Model (DRM)
- Area
- Type
- Sub-Type

Application Reference Model (ARM)
- System
- Application
- Interface

Infrastructure Reference Model (IRM)
- Platform
- Network
- Facility

Collaborate and Plan
1. Identify and Validate
2. Research and Leverage
3. Define and Plan

Implement and Measure
4. Invest and Execute
5. Perform and Measure
Element 6: Use

The Common Approach supports:

- Shared-Services Implementation
- Cloud-First Implementation
- Digital Strategy – Mobile & Web
- TechStats / PortfolioStats
- Security and Privacy Control Design
- Business Process Improvement
- Big Data
- Data Center Consolidation
- Voice, Data, Video Convergence
Element 7: Reporting

- Annual submission to OMB that “tells the story” of the agency’s use of IT to enable mission, support, and commodity functions.
- Due April 1st – these are public documents, nothing sensitive in it.
- Format Guidelines:
  - Main Body: a) Synopsis of IRM Strategic Plan and goals
    b) Enterprise-wide business and technology architecture
    c) Transition Plan milestones
  - Appendix 1: IT Asset Inventory
  - Appendix 2: IT Commodity Consolidation Plan (M-11-29)
  - Appendix 3: Agency Shared Services Plan (improve quality & uptake)
  - Appendix 4: EA Program Assessment / Project Value Measurement
Element 8: Audit

- Roadmap (Appendix 4) provides an evaluation of:
  - EA Program maturity
  - The value of EA projects
- Uses EA Management Maturity Framework v2 (EAMMF), Aug 2010
The Federal Enterprise Architecture
Version 2.0 (FEAv2)

Implementing the Common Approach
The Common Approach to Federal Enterprise Architecture (Common Approach) accelerates supports the identification of opportunities for shared services and design alternatives. The Federal EA version 2 (FEAv2) will be released in January 2013 and aligns with the standards of the Common Approach.
FEAv2: Major Components

FEAv2 aligns with the Common Approach and has three major components:

- **Standards:**
  - Framework
  - Artifacts

- **Methods:**
  - Common Approach
  - Collaborative Planning Method (former FSAM)

- **Analytics / Reporting:**
  - Consolidated Reference Model
  - Ex 53 & 300
  - Enterprise Roadmap
The standard artifact list consists of the “core” artifacts that need to be considered and/or tailored to support a robust set of EA artifacts for the organization.
The Collaborative Planning Methodology is a repeatable process that consists of steps that require integrated multi-disciplinary activities to affect change with the collaboration of leaders, stakeholders, planners, and implementers.

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The CRM consists of a set of interrelated “reference models” designed to facilitate cross-agency analysis and the identification of duplicative investments, gaps and opportunities for collaboration within and across agencies. Through the use of the CRM and vocabulary, IT portfolios can be better managed and leveraged across the federal government.
FEAv2: The CRM’s Reference Models

PRM – BRM – DRM – ARM – IRM – SRM

The Reference Models from have evolved from five in FEAv1 to six in FEAv2. Each Reference Model consists of the following areas:

- **Taxonomy** – Provides for categorization and inventories.
- **Methods** – Incorporates associated best practices.
- **Use Cases** – Describes how the reference model will be applied and used in the federal government. This area will apply the reference models to the Collaborative Planning Method (CPM). Each reference model will have at least three use cases.
- **Touch Points** – The relationship between all of the reference models.
Using EA to Support
Shared Services Implementation
IT Shared Service Concept Overview

Inter-Agency Lines of Business / Business Centers

Intra-Agency Shared Service Centers

Commodity
Administrative
Mission

Websites & Content Mgmt.
Infrastructure & Asset Mgmt.
Email, Help Desk, & Collaboration
Records Mgmt.
HR Mgmt.
Financial Mgmt.
Performance Mgmt.
Geospatial
Federal Health Architecture

Channels
Public, Private, Hybrid Clouds
Internal & External Host Networks

Standards
“Common Approach” to USG Architecture

Levels

Categories

Services (Examples)

Online Service Catalog

“Uncle Sam’s List”
## Architectural Components of a Service

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Requirements</td>
<td>This includes the strategic and tactical requirements for the type(s) of functionality that the service has to provide to consumers. The type of requirements depends on the type of service area, number and diversity of participating agencies, sensitivity of information/data being exchanged.</td>
</tr>
<tr>
<td>2. Workflow</td>
<td>Business processes that function through the shared service. The design of a process must support the functional requirements from #1.</td>
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<td>3. Data Exchange</td>
<td>The part of the business process in #2 that involves the creation, exchange, manipulation, storage, or deletion of data and information.</td>
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<td>4. Applications</td>
<td>This includes the software and hardware that provide the functionality and data exchange capabilities that are identified in #2 and #3.</td>
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<td>5. Hosting</td>
<td>This is the infrastructure that the application(s) are hosted in. This includes cloud-based, client-server hosting solutions.</td>
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<td>6. Security and Privacy</td>
<td>The logical, physical, process, and personnel controls that achieve required levels of protection and risk mitigation for the service.</td>
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Implementation: Two Work Streams

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<th>Intra-Agency Shared Services</th>
<th>Inter-Agency Shared Services</th>
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<tbody>
<tr>
<td><strong>Agency CIOs</strong></td>
<td><strong>Owner</strong></td>
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<td><strong>Commodity IT</strong></td>
<td><strong>Managing Partners</strong></td>
</tr>
<tr>
<td>Implementation of Agency Enterprise Architecture/Shared Service Plans</td>
<td><strong>Scope</strong></td>
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<tr>
<td></td>
<td><strong>LOBs / Business Centers</strong></td>
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<tr>
<td>Migrations, EA Plans</td>
<td><strong>2012 Focus</strong></td>
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<tr>
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<td><strong>Service Improvement</strong></td>
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<td><strong>Key Deliverable</strong></td>
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<td><strong>Assessment, Benchmarks, Roadmap</strong></td>
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**Intra-Agency Service Center** (Dept. CIOs)

**Inter-Agency LOBs / BCs** (Managing Partners)

**Commodity IT**
- Websites/CMS
- Email/Collaboration
- Mobile/Wireless
- Budget
- Financial
- GIS
- HR
- Performance
- Security
Implementation and Initial Focus

Initial Focus

- "Crawl"
- "Walk"
- "Run"

• IT infrastructure
• Enterprise IT systems
• Business systems

• Maximize the purchasing power of agency contracts for commodity IT acquisitions (e.g., PC contracts, email systems, etc.)
**Managing Partner.** The Federal agency that establishes and maintains the shared service with approval by agency leadership for intra-agency services, or by OMB for inter-agency services.

**Customer.** The Federal agency or bureau that contracts with and pays the managing partner to receive a shared service.

**Supplier.** A government or commercial organization that actually provides the shared service to consumers. Managing partners contract with suppliers using Federal-wide contract vehicles whenever practicable.
## Architectural Components of a Service

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Using Enterprise Architecture to Standardize and Improve Information Sharing Environments
Questions

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