Federal Agency Strategies for Enterprise Architecture Management

Ground Systems Architecture Workshop 2004

Scott A. Bernard, Ph.D. Syracuse University School of Information Studies sabernar@syr.edu







Overview

- Purpose of Enterprise Architecture (EA)
- Federal Agency Considerations
- EA Guidance Pre 2002
- EA Guidance Post 2002
- Strategies for Moving to the FEA
- Applying the FEA Reference Models
- Integrating EA into Governance





Purpose of Enterprise Architecture

I. Improved Governance

- Support the President's Management Agenda (PMA)
- Provide a citizen-centric focus
- Address the increasing reliance on information technology (IT)

II. Improved Management

- Provide an enterprise-wide, business-based view of IT resources
- Improve planning, implementation, and management of IT resources
- Maximize the use of limited agency resources

III. Improved Service Delivery

- Move toward more flexible, capable IT operating environment
- Improve IT requirements analysis capability
- Improve security planning capability



Federal Agency Considerations

Mission Considerations

- Customer and stakeholder expectations are rising
- Increasing role for IT
- Limited opportunities for multi-agency collaboration

Resource Considerations

- Limited funding available
- Limits on trained personnel
- Pressure to outsource / joint solutions
- Continuing high Optempo

EA Considerations

- Completion of current EA framework (FEAF/TEAF/DODAF)
- Migration to FEA and Reference Model approach
- Integration with strategy, capital planning, project management



EA Guidance – Pre 2002

<u>Legislative Mandate</u>:

Clinger-Cohen Act



Guidance:

OMB A-11: Agency Budget, Strategic, and Performance Planning OMB A-130: Agency Management of Information Technology Resources

Accepted EA Frameworks:

Federal EA Framework (FEAF)

Treasury EA Framework (TEAF)

Implementation via Zachman/Spewak approaches

DOD - C4ISR EA Framework

Focus:

Establish and maintain an EA program Document "as-is" and "to-be" views, a migration plan, and standards



EA Guidance – Post 2002

Legislative Mandate: Clinger-Cohen Act E-Government Act



Guidance:

OMB A-11: Agency Budget, Strategic, and Performance Planning OMB A-130: Agency Management of Information Technology Resources Federal Enterprise Architecture Program Management Office (FEAPMO)

Accepted EA Frameworks: Federal Enterprise Architecture (FEA)

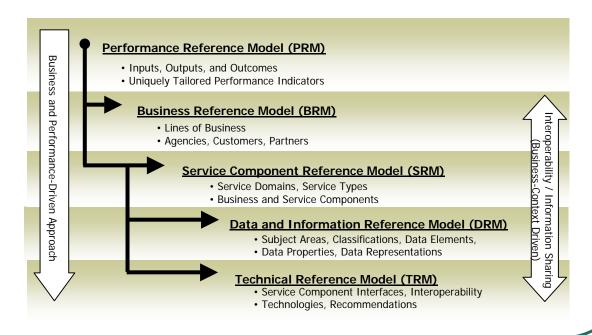
Focus:

Maintain existing EA approach for intra-agency IT resource planning Implement the FEA and move toward multi-agency planning & e-Gov initiatives Reflect mostly FEA in Exhibit 300 submissions for FY 2006



Strategies for Moving to the FEA

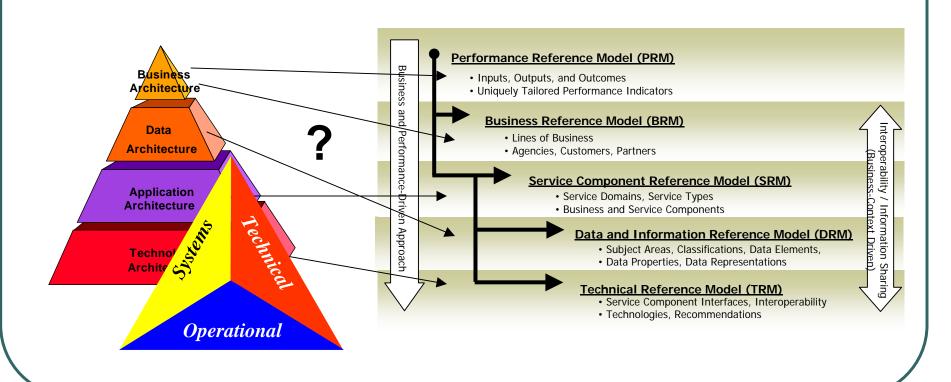
- Promote IT alignment with agency strategic direction
- Enable performance improvement
- Support business transformation
- Facilitate business case development
- Enable results-oriented initiatives





Strategies for Moving to the FEA

Specific mapping from the FEAF/DODAF to the FEA is to be determined

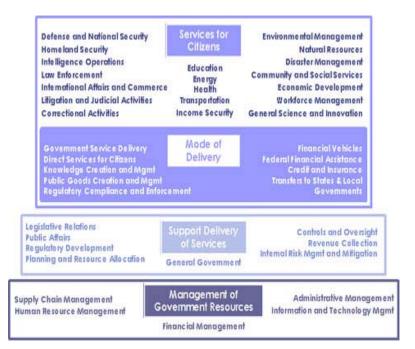




Business Reference Model

The Business Reference Model is a function-driven framework for describing the business operations of the Federal Government independent of the agencies that perform them.

The Business Reference Model Version 2.0 provides an organized, hierarchical construct for describing the day-to-day business operations of the Federal government. While many models exist for describing organizations - org charts, location maps, etc. – this model presents the business using a functionally driven approach. The Lines of Business and Sub-functions that comprise the BRM represent a departure from previous models of the Federal government that use antiquated, stovepiped, agency-oriented frameworks. The BRM is the first layer of the Federal Enterprise Architecture and it is the main viewpoint for the analysis of data, service components and technology.

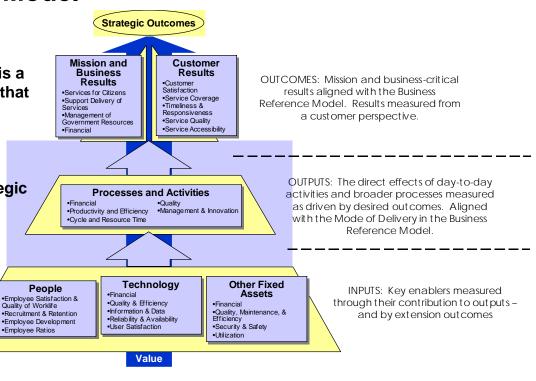




Performance Reference Model

The Performance Reference Model (PRM) is a framework for performance measurement that provides common application measures throughout the federal government.

It allows agencies to better manage the business of Government at a federal strategic level while providing a means for gauging progress towards the target FEA.

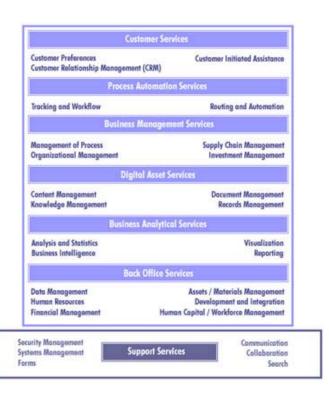




Service Component Reference Model

The Service Component Reference Model (SRM) is a business and performance-driven, functional framework that classifies Service Components with respect to how they support business and/or performance objectives.

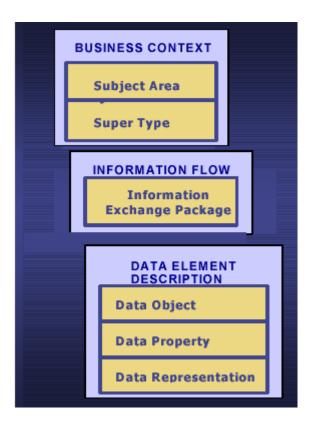
The SRM is intended for use to support the discovery of government-wide business and application Service Components in IT investments and assets. The SRM is structured across horizontal and vertical service domains that, independent of the business functions, can provide a leverage-able foundation to support the reuse of applications, application capabilities, components, and business services.





Data Reference Model

The Data and Information Reference Model (DRM) will describe, at an aggregate level, the data and information that support program and business line operations. The model will aid in describing the types of interaction and exchanges that occur between the Federal Government and its various customers, constituencies, and business partners.





Technical Reference Model

The TRM is a component-driven, technical framework used to identify the standards, specifications, and technologies that support and enable the delivery of service components and capabilities.

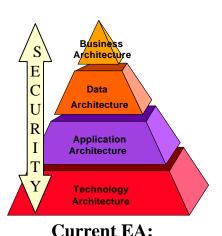
The TRM provides a foundation to describe the standards, specifications, and technologies to support the construction, delivery, and exchange of business and application components (Service Components) that may be used and leveraged in a Component-Based or Service-Orientated Architecture. The TRM unifies existing Agency TRMs and electronic Government (e-Gov) guidance by providing a foundation to advance the re-use of technology and component services from a Government-wide perspective.

	Service Access an	d Delivery	
Access Channels Web Browser Wireless / PDA Device Collaboration / Communication Other Electronic Channels	Delivery Channels Internet, Intranet Extranet Peer to Peer (P2P) Virtual Private Network (VPN)	Service Requirements Legislative / Complia Authentication / Sing Hosting	nce Network Service
	Service Platform on	d Infrastructure	
Support Platforms Wireless / Mobile Platform Independent (/PZEE) Platform Dependent (.NET) <u>Database / Storage</u> Database Storage Devices	Delivery Servers Web, Madia Application Portal Software Engineering Integrated Development Software Configuration I Testing Management, M	Management (SCM)	Hardware / Infrastructy Servers / Compute Embedded Technology Devic Peripherr WAN, LI Network Devices / Standar Video Conferenci
	Component Fra	mework	
Security Certificates / Digital Signature Supporting Security Services Data Interchange Data Exchange	Presentation / Interface Static Display Dynamic Server-Side Display Content Rendering Wireless / Mobile / Voice	<u>Business Logis</u> Platform Independent Platform Dependent	Data Manageme Database Connectiv Reporting and Analys
	Service Interface	and Integration	
Integration Middloware Database Access Transaction Processing Object Request Broker	Interoperability Data Format / Classification Data Types / Validation Data Transformation		Interfac Service Discove Service Description / Interfac



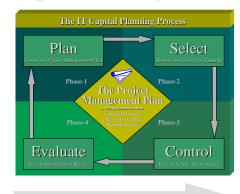
Integrating EA Into Governance (FEAF)

Current Architecture + Capital Planning Process



What we have now

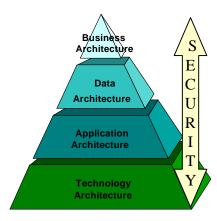
IT projects need a valid business case and architectural alignment to be selected for investment



Migration Plan Technical Standards



→ Future Architecture



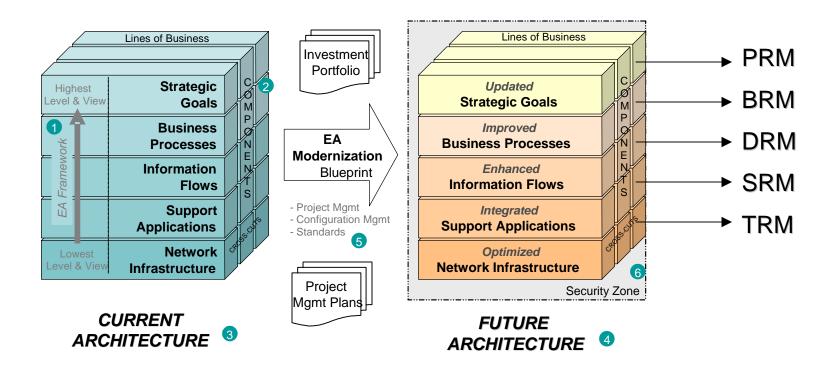
Target EA:

What we want to have The target Enterprise Architecture documents the future IT/Business architecture in terms of where the agency wants to be in 2-3 years.

The underlying implementation framework is Zachman/Spewak



Integrating EA Into Governance (FEA)



The underlying implementation framework may need to change (i.e., EA3 Cube TM)



Summary

- Government transformation is occurring PMA is guidance
- Focus is on Executive Branch wide e-Gov initiatives that include DoD
- The role of IT is increasing in delivering public services
- EA approaches are changing the FEA is emerging
- Some agencies have narrower mission areas / others are expanding
- Growing number of multi-agency initiatives
- Limited resources, due to budget cuts and current ops
- Seek out Joint and E-Gov opportunities consolidation is coming
- Make EA central to agency e-Gov strategies
- Finish the FEAF/TEAF/DODAF and concurrently incorporate the FEA
- Reflect EA in Exhibit 300s and Project Management Plans
- Integrate EA into e-Governance