

Multi-Agency Enterprise Architecture Planning Framework

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MITRE Sponsored Research

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Problem

■ Modernization Programs

- Involve large financial and human resource investments
- Are high risk with numerous failures
- Require improved architectures, strategic planning, performance improvement, and investment processes

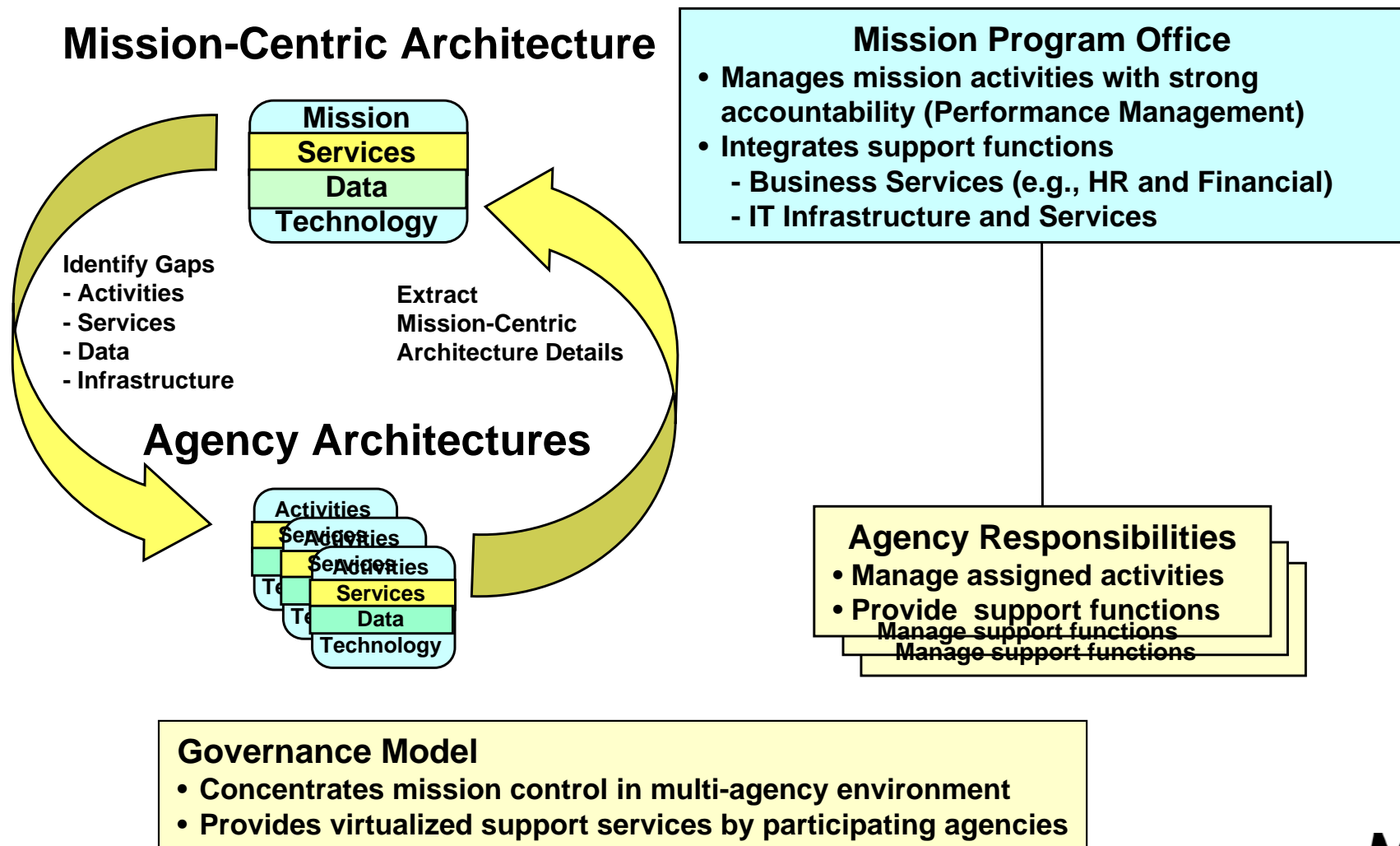
■ Multi-Agency Environment

- Deals with emerging national problems
- Is more complex with even higher risk
- Requires a more comprehensive and disciplined planning approach
- Varies in detail and structure among participating agency architectures
- Has inconsistent, insufficient, and underutilized content
- Involves complex interactions of the organization's total missions, strategies, processes, information, systems, applications, and data
- Requires consensus and interaction throughout/across organizations
- Needs well-defined mission objectives and performance requirements

How can enterprise architectures (EA) be used to support multi-agency planning and analysis?

Background

- **Mission-centric architecture can:**
 - Integrate critical features of participating agency architectures
 - Support a multi-agency mission program office (or equivalent)



Objective

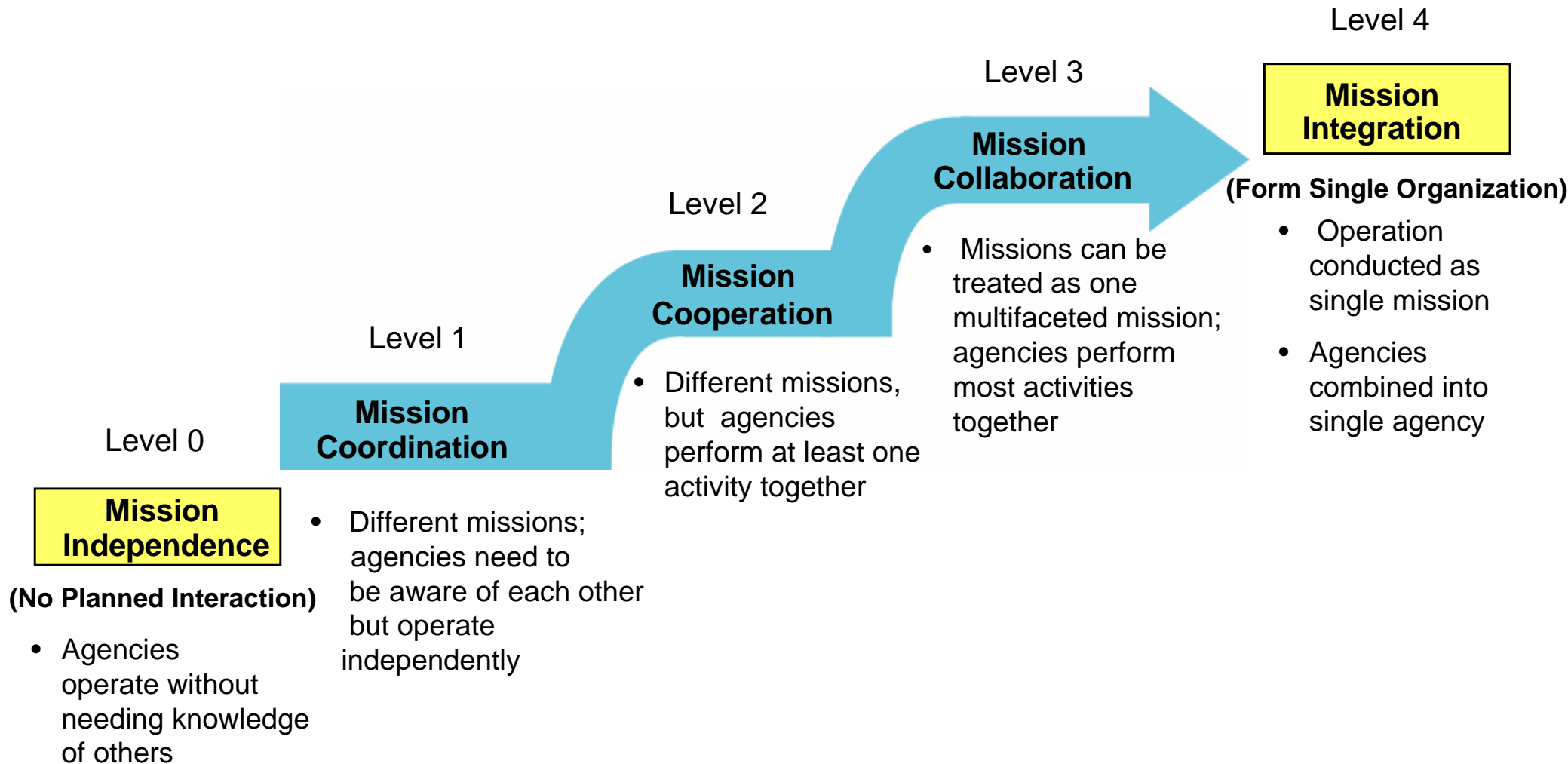
- **Develop an analytical approach to use architectures for multi-agency mission planning and modernization**
 - Multi-agency mission governance
 - Well-defined mission performance **ACTIVITIES**
 - Effective data and information exchange
 - Technology and infrastructure investment
- **Characterize differences between single vs. multi-agency modernization problem**
 - Define a readiness model and measures
 - Exploit a Web-based Planner's Workbench (e.g., standardized tag-sets, XML, Web Services, and Web Technology for Workbench)

Activities

- **Identify mission-centric and agency support roles, responsibilities, authorities, and accountability (R2A2) and relate them to architecture elements**
- **Develop a readiness model for multi-agency architectures and evaluate for multi-agency test cases**
- **Identify defined EA activities related to test case mission scenarios**

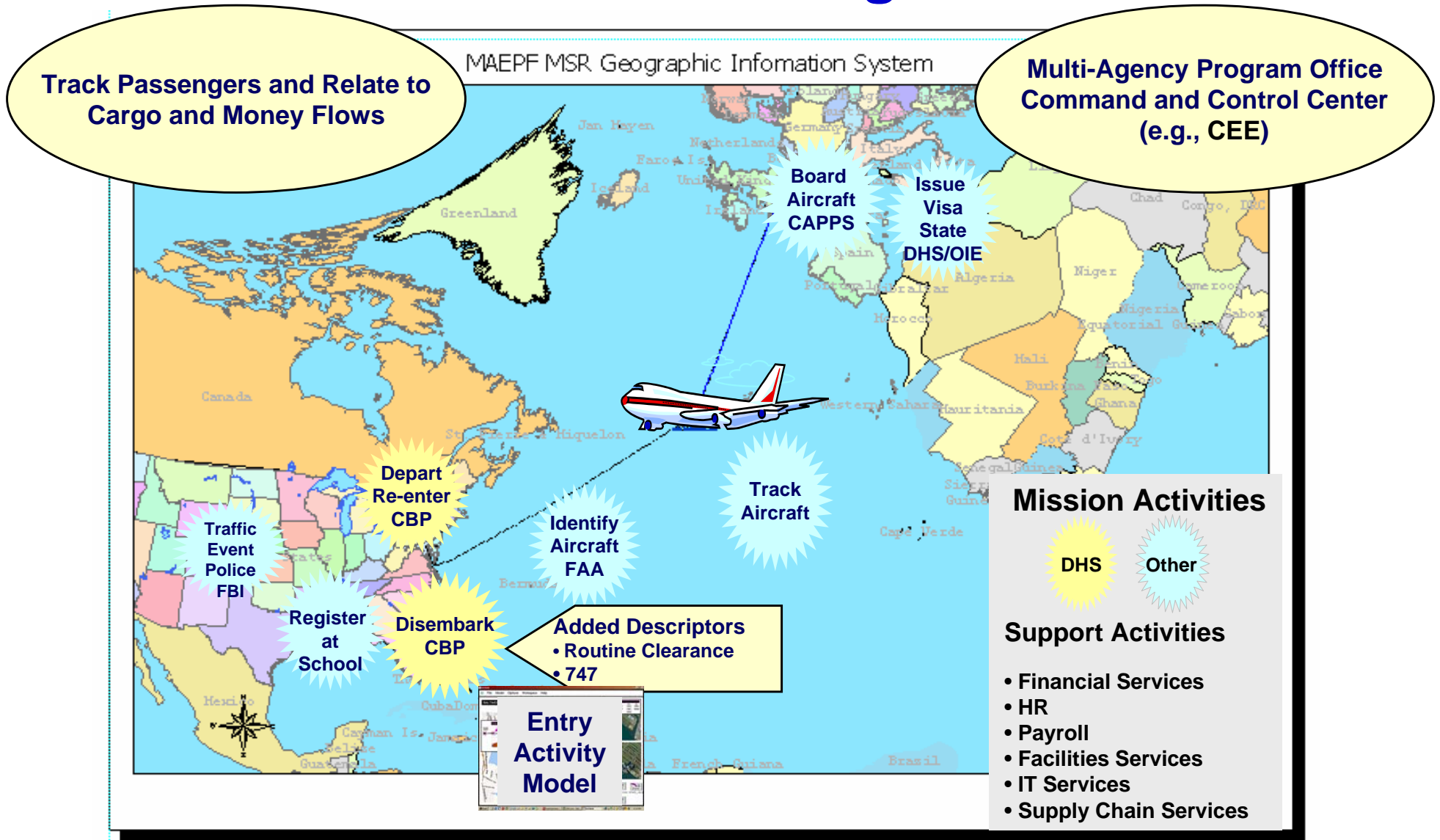
Highlight

Readiness Model Five Levels of Interaction * ...



Demonstration

End-to-End Activities Passenger Scenario



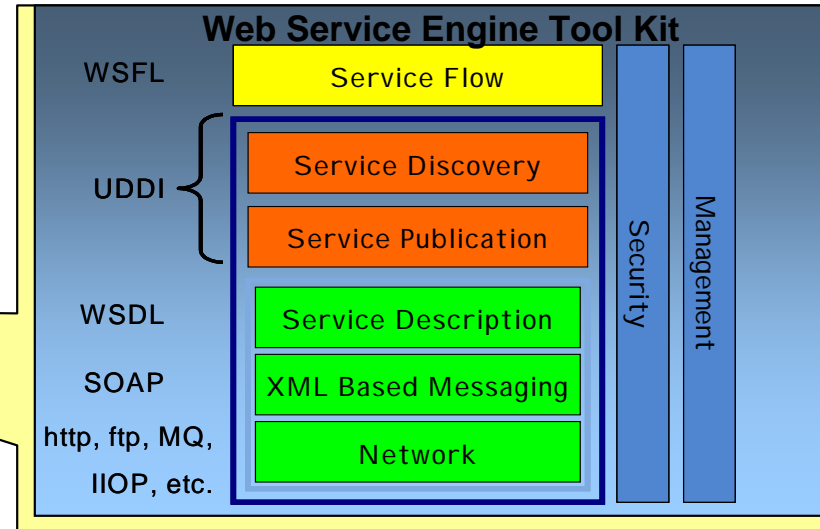
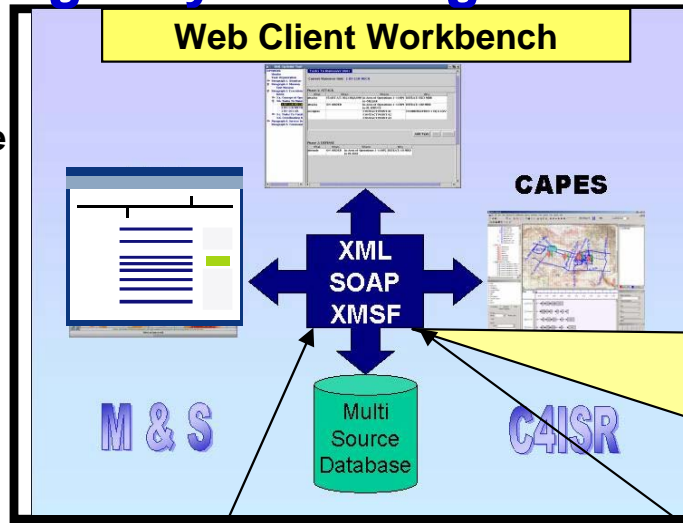
Linked Activity Models for End-to-End Performance Analysis

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Highlight

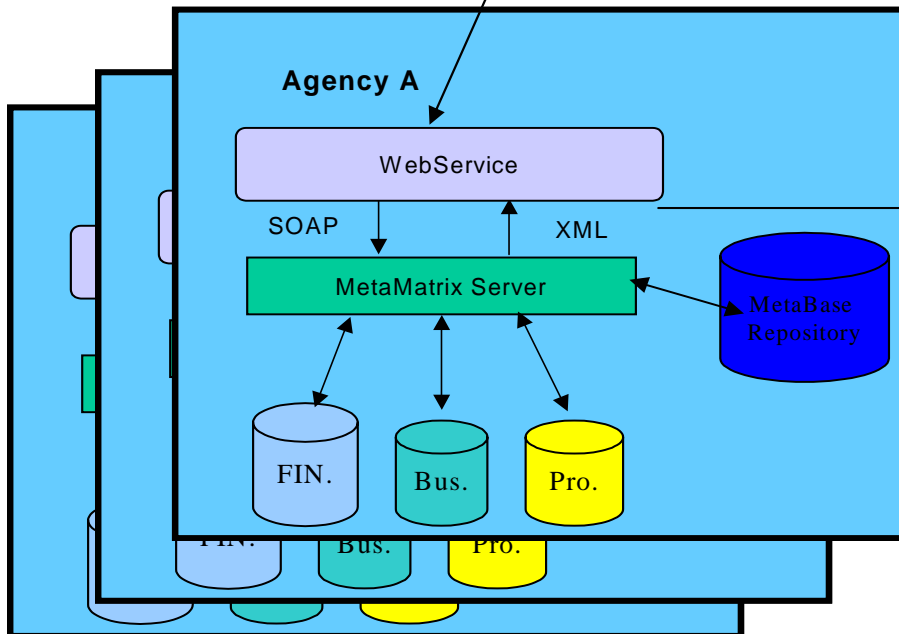
Multi-Agency Planning Workbench Via Web Service Architecture

- 2. Dynamically create SOAP request per WSDL
- 4. XSLT processing and display XML documents

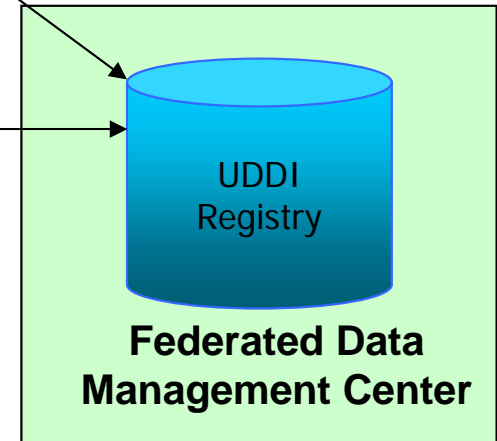


3. XML Document Returned to Web Client

1. Search for Web Services (WSDL)



- Objectives:**
- Identify & Extract Agency EA Features
 - Construct Mission-Centric Architecture
 - Construct Performance Model



Impacts

- **Via readiness model—help modernization planners and strategic planners determine:**
 - **Completeness of agency architectures to support multi-agency missions**
 - **State of readiness for required interactions among agencies**
- **Via Planners Web Services Workbench—identify and analyze opportunities to:**
 - **Leverage the OMB-XML initiatives for improving access**
 - **Share high quality information and services among multiple agencies**
- **Meet interoperability data sharing and collaboration challenges for multi-agency planning**

Future Plans

- **Establish a collaborative environment with MITRE architects to exploit mission-centric architectures**
- **Continue progress on Web-based toolkit**
 - COTS Integration (e.g., use OMG and HLA)
 - Meta-Repository—sizing and performance
- **Mature test cases and demonstrate readiness model**
 - Across MITRE practice areas/Centers
 - International trade and passenger entry
 - Department of Homeland Security (DHS)
Common Enforcement Environment
 - Joint DHS—National Guard mission (independent research and development [IR&D])