Aligning, not Integrating Architectures: Leveraging a Common Language to Federate Disparate Architectures

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Agenda

- Guiding Principles
- Challenges
- Federated Methodology & Solution
- Alignment Approach
- Systemic Analysis
- Maintenance
- Benefits & Conclusion
Guiding Principles

- Connect a series of disparate process architectures to uncover the end-to-end visibility of the broader distribution process

- Establish automated means to access, trace and display the information
  
  - Utilize the information to expose potential systemic gaps, seams, overlaps and inefficiencies
  
  - Maintain touch-points and configuration
Challenges

- DPO architecture and processes in CRIS (Corporate Resource Information Source)
- Logistics end-to-end (E2E) processes flow across independent service/agency architectures that are managed in a variety of applications
- Compliance requirements from Business Enterprise Architecture (BEA) and other policy architectures
- No disruption to ongoing service architectures
- Limited resources
Iterative process that aligns existing architectures within a Federated Methodology.

Governing Authority
Common/Reference Architecture
Autonomous Architectures

Identification of Commonalities
Scope Definition

Establishing Governance
Defining Standards and Guidelines
Adapting Standards and Commonalities

Feedback
Solution

- Utilize ARIS as independent application that federates (aligns rather than integrates or duplicates) existing architectures
- Establish a tailored model representing DoD’s Joint Deployment and Distribution environment founded on SCOR
- Web based, Tool Agnostic
JDDA Alignment Architecture Overview

BEA 3.0

Alignment Analysis

JDDA

ARMY to JDDA Alignment (Order Fulfillment)

DTS to JDDA Alignment

AF LogEA to JDDA Alignment (Order Fulfillment)

USMC to JDDA Alignment

DLA to JDDA Alignment

NAVY to JDDA Alignment
Defining Standards and References

Developing Reference Architecture (JDDA is SCOR Based)

Managing Architectures and Processes

Analyzing Architectures

Aligning Architectures (Activity to Activity)

Linking Architectures

JDDA Alignment Approach
Resulting Environment

ALIGNMENT

- Navy
- DLA
- Air Force
- Army
- USMC

Service/Agency Architectures

Financial Architectures

INTEGRATION

- JDDA Reference/Capability Model
- SCOR
- Materiel Supply & Services
- Business Enterprise Architecture (BEA)

- DPO Master Capabilities List
- JDEA
- JDA
- DTS
- TCCs Architectures
- Theater Distribution Architectures
- Joint Tactical Core Dep Arch (JTCDA)
Systemic Analysis / Utilization & Value

• Changing the Paradigm
  – From: Independent business unit driven, reactive, and system-centric
  – To: Proactive and focused on the complete supply chain process
  – Examples:
    • Policy Compliance
    • Capability Fulfillment
    • Process Comparison/Improvement
Policy Compliance Example

- **Example Issue:**
  - BEA 3.0 Mandated RFID Standards support by Service/Agency/CoCOM systems

- **Analysis Steps:**
  - BEA 3.0 aligned to JDDA
  - RFID standards compliance traced from the BEA through the JDDA, and into Service/Agency/CoCOM system views
  - Focus systems GATES, WPS

- **Results:**
  - Focus systems currently not actively supporting RFID standards in TV-1 profile
  - Program Managers of identified systems of requirement for standards support
  - Standards traceability established, potential feed in to program IPT reviews
**Capability Fulfillment Example**

- **Example Issue:**
  - Service/Agency/CoCOMs support for USTRANSCOM Master Capability
    - Specifically C1G (Capability to propose modes, select routes and carriers, and dynamically schedule)

- **Analysis Steps:**
  - USTRANSCOM Capabilities are composed of JDDA activities
  - Service/Agency/CoCOM aligned to JDDA
  - Scope of “support” for a capability broken out by Service/Agency/CoCOM
  - System View information available in aligned Service/Agency/CoCOM architectures

- **Results:**
  - Identified coordination focus areas across the Service/Agency/CoCOM
  - Capability traceability established, potential feed in to program IPT reviews
  - Allows management by capability rather then by system/program
Process Comparison/Improvement Example

- Example Issue:
  - Enterprise-wide scenario documentation and improvement
  - Specifically Order Fulfillment across Service/Agency/CoCOMs

- Analysis Steps:
  - Service/Agency/CoCOM specific Order Fulfillment scenarios aligned to the JDDA
  - Scope of activities aggregated
  - Joint process flow aggregated
  - System View information available in aligned Service/Agency/CoCOM architectures

- Results
  - Potential Gap/Seams/Duplications identified across Service/Agency/CoCOM participants
  - Potential system to system interfaces and data exchange identified
  - Complete picture of broader Supply Chain allows true process improvement, avoids domain specific optimization
Maintaining Alignment

Rules of Engagement

• Purpose
• Working group
• Monitor changes
  – SCOR
  – JDDA ref model
  – Component architectures
• Access to tool
• Training
Conclusion and Outlook

• SCOR provided a common language & glue
• JDDA reference architecture is flexible and adaptable, vertically and horizontally
• Alignment results can be put to work now
• Analysis methods and tools are under development to further create architecture value
• Structured efforts required to maintain the Federated Architecture work
• Aligned architectures are working and Federated Architecture is achievable

Provides “card catalog” to library of processes