



# Innovation in Defense Acquisition Management and Oversight

*Mr. Mark E. Krzysko  
ARA / EI & OSD Studies  
Office of the Under Secretary of Defense for  
Acquisition, Technology and Logistics  
[Mark.Krzysko@osd.mil](mailto:Mark.Krzysko@osd.mil)*



# Defense Acquisition Visibility

- ▶ The Under Secretary of Defense (OSD) for Acquisition Technology & Logistics (AT&L) issues a memo addressing the improved management of the \$1.6T portfolio of Major Defense Acquisition Programs (i.e. Major Weapons Systems) through active oversight and management.

*'OSD AT&L issues memo to implement Acquisition Visibility'*



- Directs AT&L to put in place all the elements of a durable solution to provide “acquisition data as a service” to the entire acquisition community.
- Separates data governance and provider’s infrastructure responsibilities
- Weapon System Lifecycle Management Senior Steering Group to make all formal governance decisions



# Defense Acquisition Visibility

**“HOW TO GET THERE”**

## Vision

Timely access to accurate, authoritative, and reliable information supporting acquisition oversight, accountability, and decision making throughout the Department for effective and efficient delivery of war-fighter capabilities

## Governance

The data definition, data element, authoritative source, and technical delivery as it pertains to Acquisition Visibility

## Alignment

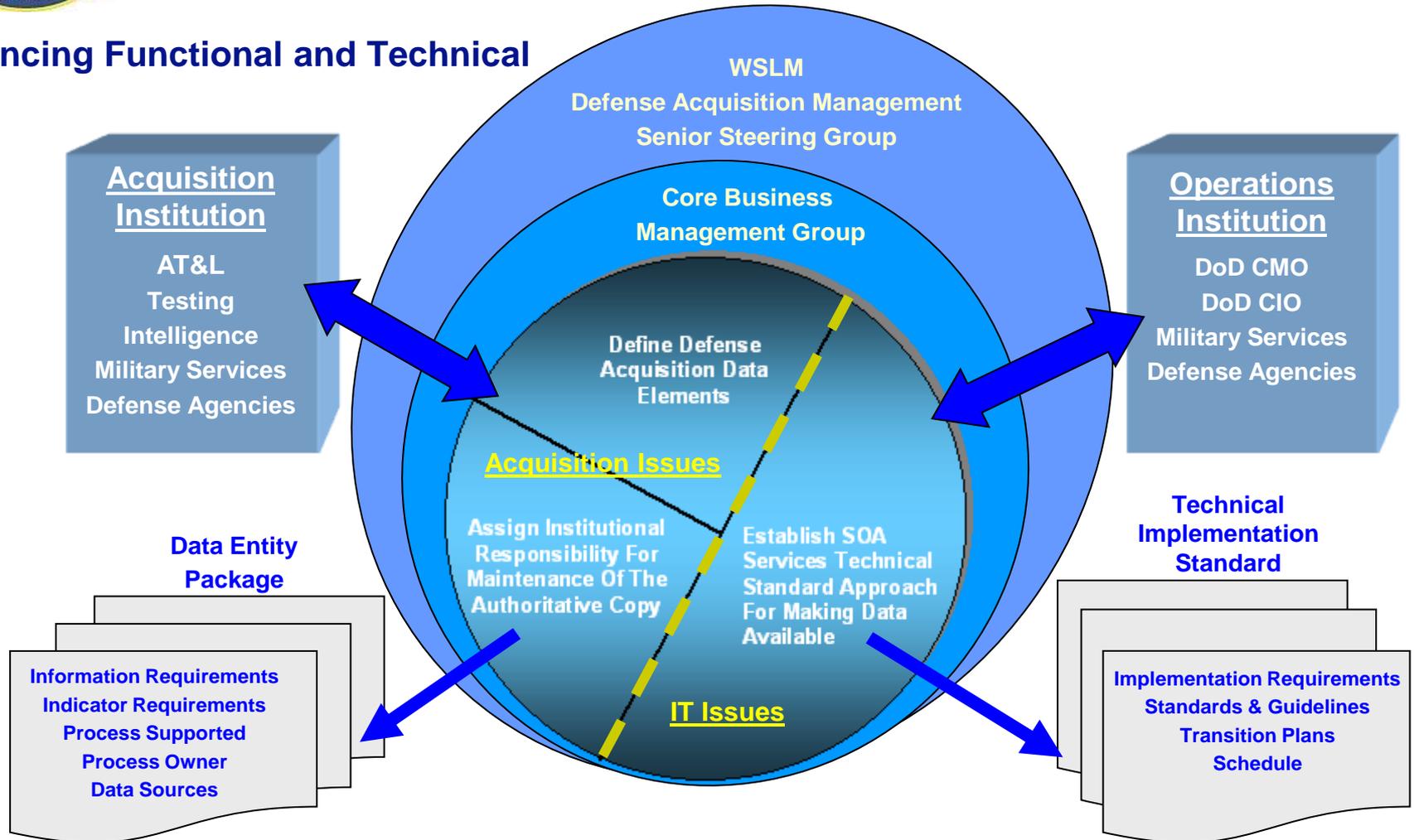
Strategic & Organizational alignment with clear delivery to the mission



# Defense Acquisition Visibility

“HOW TO GET THERE”

## Balancing Functional and Technical





# Defense Acquisition Visibility via SOA

## AV SOA Project

- ▶ **Demo:** February 2008 demonstration of data governance and Service Oriented Architecture to support major weapons system decision making. Completed in ~45 days.
  - Included 61 data elements ( Earned Value Management and Unit Cost) for 12 Major Defense Acquisition Programs (MDAPs)—4 from each Military Service
- ▶ **Pilot:** 2008-2009 pilot to solidify governance and technical approach.
  - In December 2008, provided acquisition oversight decision-making information for 37 MDAPs, totaling ~\$1.2T in program value, ~75% of the FYDP.
- ▶ **Current State**
  - In fall 2009, provided 102 MDAPs and other major programs totaling ~\$1.6T
  - 148 data elements (Earned Value Management, Program Administration, Unit Cost, Science and Technology, Milestones, Budget/Current Estimate)



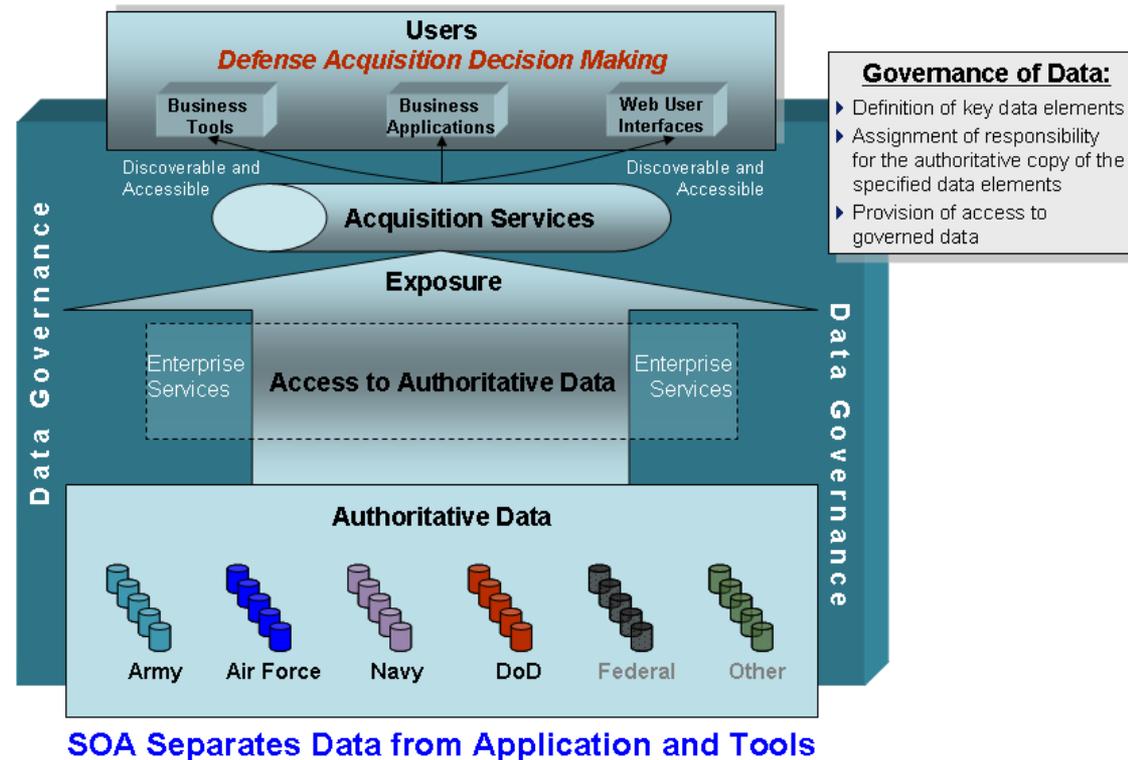
# Defense Acquisition Visibility via SOA

**“WHERE WE ARE TODAY”**

► **AV SOA Solution:** Apply Service Oriented Architecture and data governance to create unified shared services to reduce the decision cycle.

► **Results:**

- Defense acquisition information transparency across the Department
- Access to up-to-date, reliable data via any authorized application or analysis tool
- An extensible platform available for Department-wide use





# Defense Acquisition Visibility via SOA

## ACQUISITION SERVICES

- ▶ *EVM* – Contract elements included in DAMIR’s “Contract Data Point” and/or reported on the Contract Performance Report (CPR) to track progress
- ▶ *Unit Cost* – Current estimate vs. APB (current and original) at total-appropriation level (RDT&E, Procurement, MILCON, O&M), by fiscal year for comparison, to support risk identification
- ▶ *Budget* – Current President’s Budget and POM/BES submission, by appropriation and fiscal year, for identifying changes in budget positions
- ▶ *Milestone* – Program milestones as agreed upon in the APB, to provide a reference point for tracking progress
- ▶ *Science & Technology* – To compare Key Performance Parameters, thresholds, and objectives to current measurement and to identify critical technologies
- ▶ *Program Administration* – To organize/view information by program, sub-program, budget activity, program element, budget line item, and/or project code



# Defense Acquisition Visibility via SOA

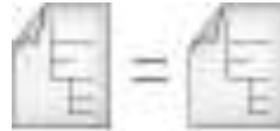
## SOA Implementation – Leverage Common Design Patterns

- ▶ AVSOA System Engineers addressed many common data concerns during implementation of the Shared Services Layer
  - By applying common design patterns AV SOA was able to effectively and efficiently address the following concerns:
    - Minimize redundant schemas and services
    - Maximize document and data standardization across the enterprise
    - Ensure consistent consumption of data throughout the enterprise
    - Consume and aggregate data from disparate sources
    - Reduce data transformation requirements



# Defense Acquisition Visibility via SOA

## Pattern: Canonical Schema



**Concern:** Ensure that data is provided and consumed consistently while reducing the need for redundant data transformations

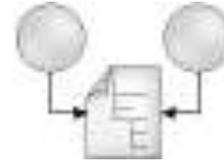
**Solution:** Implementation of Enterprise Schemas for use within the AV Enterprise

- ▶ The implementation of common schemas throughout AV
  - Drastically reduced the need for unnecessary data transformation processing and logic
  - Helped ensure that data was consistently referenced across AV data sources, shared services and business intelligence tools.



# Defense Acquisition Visibility via SOA

## Pattern: Schema Centralization



**Concern:** Avoid schema redundancy and ensure standardization

**Solution:** Data Entity Package (DEP) provides a common repository for service schemas and common data sets

- ▶ Centralizing the data schemas/patterns consumed and provided in an accessible repository allows design and development teams to:
  - avoid the common pitfall of inconsistent data representation and redundant document formats
  - work toward a common document standard across many iterations and service revisions



# Defense Acquisition Visibility

## GET OFF THE STAGE

- ▶ Breaking down the parameters of proprietary information across the Army, Navy, Air Force and the Office of the Secretary of Defense—through changes in data governance and development of shared services
- ▶ Delivering value to AT&L decision makers through timely, governed data
- ▶ Maintaining data definitions and intellectual property with the government
- ▶ Leveraging industry and Department of Defense technological advances and agility