The Future of Architecture
Collaborative Information Sharing
DoDAF Version 2.03 Updates
Information Sharing
for
DoD Enterprise Architecture Conference
30 April 2012

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The Future of Architecture Collaborative Information Sharing DoDAF Version 2.03 Updates Information Sharing

Presented at the 2012 DoD Enterprise Architecture, Miami, FL, April 30 - May 3, 2012
Elements of Quality Architecture

- Single Architecture Framework
  - Policy, Direction, Guidance
  - Exchange - Standards
  - Architecture Tools
  - Certified Architects

Enabling efficient and effective acquisition of hardware, software and services used by DoD and Partners in mission performance.

Unified Defense Architecture Framework
Architecture viewpoints are composed of data that has been organized to facilitate understanding.

Overarching aspects of architecture context that relate to all models

Articulate the capability requirement, delivery timing, and deployed capability

Articulate applicable Operational, Business, Technical, and Industry policy, standards, guidance, constraints, and forecasts

Articulate operational scenarios, processes, activities & requirements

Articulate the performers, activities, services, and their exchanges providing for, or supporting, DoD functions

Articulate the legacy systems or independent systems, their composition, interconnectivity, and context providing for, or supporting, DoD functions

Describes the relationships between operational and capability requirements and the various projects being implemented; Details dependencies between capability management and the Defense Acquisition System process.
Data-Centric Paradigm

- Prior versions of DoDAF emphasized ‘products’ (i.e., graphical representations or documents).
- DoDAF V2.0 is the capture and analysis of data with its relationships:
  - Emphasizes on utilizing architectural data to support analysis and decision-making.
  - Greatly expands the types of graphical representations that can be used to support decision-making activities.
  - Supports innovative and flexible presentation of the architectural data in a meaningful, useful, and understandable manner.
DoDAF Meta Model (DM2) Purposes

1. Precise unambiguous *definition of DoDAF terms* and their inter-relationships
   - Architecture views (e.g., OV-2) are specified in DM2 terms in addition to their usual narrative text descriptions

2. Views are rendered from DM2 data
   - Views can be *exchanged* as DM2 XML or OWL data

3. Defines precision semantics for architecture *integration and analysis*
Direction for Unified Defense Architecture Framework

- Net-centricity and SoA
- SvcV views
- JCIDS & NR-KPP
  - Applicability beyond C4ISR
  - Use-based
  - Integrated Architecture
- 26 AV/OV/SV/TV views
- Linked to I&S policies
- CADM 2.0
- Joint Interoperability

- Fit-for-purpose
- Data-centric architecture
- Improved models of systems, services, capabilities, rules, measures
- DoDAF Meta Model (DM2) based on IDEAS
- Urgent CRs
  - 52 1 XSD
  - IDEAS Foundation v1.0 fixes
- Urgent CRs
  - TECHEDITs
  - DM2 OWL

Framework Objective:
- Achieve a single integrated Architecture Framework for interoperability.
- Achieve a US, Canada, and United Kingdom single Framework with a common Data Meta Model
- Achieve alignment with the US Government Common Approach to Enterprise Architecture
Recent Development

- UPDM V 2.0 published by OMG
- DoD Mandated UPDM V 2.0
- OMB Common Approach – DoDAF
- DoDAF Methodology = Common Approach
- DoD – Canada – UK Framework
- DoD Information Enterprise Architecture (DoD IEA)
DoDAF Future Development
Unified Defense Architecture Framework

- DoDAF V 2.02 developing to V2.03
- DoDAF V 2.04 add DNDAF Security
- DoDAF V 2.05 MODAF integration
- DoDAF becomes a DoD/IC Standard
- DoDAF becomes OMG Standard
- DoDAF becomes Unified Defense Architecture Framework (UDAF)
- UDAF becomes OMG Standard
- UDAF becomes required in contracts
Direction for Unified Defense Architecture Framework

- Net-centricity and SoA
- SvcV views
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- Applicability beyond C4ISR
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C4ISR F/W v1.0

DoDAF v1.0

DoDAF v1.5

DoDAF v2.0

DoDAF v2.01

DoDAF v2.02

DoDAF v2.03

DoDAF v2.04

DoDAF v2.05

UDAF

C4ISR F/W v2.0

- Urgent CRs
- 52 1 XSD
- IDEAS Foundation v1.0 fixes
- Federal Common Approach
- DNDAF Security Views
- Urgent CRs
- TECHEDIT
- DM2 OWL
- MODEM – DM2 Harmonization (IDEAS Domain Level)
- NATO NAF
- UDAF

Framework Objective:
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Standardization, e.g.,
- ISO
- OMG
- OASIS

DoDAF V2.0 Vision

Presentation Techniques
- Dashboards
- Graphical Depictions
- Reference Models
- Fusion Products
- Composite Products

Views for Other Stakeholders

Structured Knowledge Base – Common Model

Views for the Architect
Elements of Quality Architecture

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Defense Information Enterprise Architecture

April 11, 2008

DIEA Mission

DIEA Priorities

Contact Us

DIEA 1.0 Products

DIEA Architecture Description (OV-1)
- Project Charter (AV-1)
- Hierarchical Activity Model (OV-5)
- Principles and Rules (OV-6a)
- Glossary (AV-2)

FAQs

Net-Centric Guidance

DoD CIO Homepage

DoD CIO Strategic Plan

DoD Net-Centric Data Strategy

DoD Net-Centric Services Strategy

DoD Information Assurance Policy

DoD Information Sharing Strategy

DoD IT Portfolio Management Directive

DoD Telecommunications Directive

Transition Partners

Defense Business Transformation

Privacy and Web Policies

“Lead the DoD Enterprise to Achieve an Information Advantage for our People and Mission Partners”

Defense Information Enterprise Architecture Release

The Defense Information Enterprise Architecture version 1.0 (DIEA 1.0) provides a common Defense Information Enterprise foundation to support accelerated Department of Defense (DoD) transformation to net-centric operations. It presents the vision of net-centric operations and establishes near term priorities to address critical barriers that must be overcome in order to achieve the vision.

The Defense Information Enterprise Architecture consolidates underlying DoD Net-Centric policies to provide guidance for all DoD, across all portfolios, enabling informed discussions among decision-makers about key issues, and underpinning process improvements throughout the Department. Defense Information Enterprise Architecture 1.0 highlights the key principles, rules, constraints and best practices to which applicable DoD programs, regardless of Component or portfolio, must adhere in order to enable agile, collaborative net-centric operations.

Defense Information Enterprise Architecture Products

This website represents the main method for distributing Defense Information Enterprise Architecture 1.0. The full set of Defense Information Enterprise Architecture 1.0 products are available from the left side menu entitled "DIEA 1.0 Products" where users can access:
Office of Management and Budget (OMB) Current Activities

Common Approach Working Group

Collaborative Planning Methodology (CPM) Working Group

FEA Artifact Working Group
OMB Rewrite of the FEA

• Common Approach Finalizations
• FEAv2 Alignment
  – CRM / RM Working Group Updates
  – FSAM / CPM Working Group Update
  – Artifact Working Group Kickoff – Chair – Walt Okon
    • Map the DoDAF to the Common Approach
• Shared Services Update
• SPC Architecture Sub-Committee Kick-Off
  – Co-Chairs: Brett Brunk and Chris Chilbert
  – Terms of Reference
Office of Management and Budget (OMB)
FEA Artifact Working Group

Lines of Business

- Governance
- Standards / Configuration Mgmt.
- Capital Planning / Portfolio Mgmt.
- Program / Project Mgmt.
- Security / Privacy

Domains
- PRM / P1-5: Strategic Plans
- BRM / B1-8: Business Activities
- DRM / D1-6: Data & Information
- ARM / A1-9: Systems & Applications
- IRM / I1-5: Networks & Infrastructure

Shared Services
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Exchange

Exchange + Standards = Interoperability

• Unified Profile for DoDAF and MODAF (UPDM)

• Universal Core (UCore)

• National Information Exchange Model (NIEM)
White House – PM-ISE

Program Manager for Information Sharing Environment
PM-ISE

Interagency Policy Committee
Standards Working Group

• The Standards Working Group shall advise and support the Information Integration Subcommittee (IISC) and the Information Sharing and Access Interagency Policy Committee (ISA IPC) by addressing information sharing environments and the portfolio of issues related to information sharing enablers. The Standards Working Group shall support the IISC by addressing the challenges of coordinating, reviewing, influencing, approving and issuing government wide standards and profiles. This Standards Working Group (SWG) will focus on how these Standards and Profiles should be coordinated to ensure agreement, reduce duplication of effort and competing efforts, and influence existing standards efforts approved and issued across the “whole of government.”

• The Standards Working Group (SWG) shall leverage the Federal, State, Local, and Tribal (SLT) processes and other fora to capture best practices and lessons learned from standards and profile efforts. The SWG will evaluate and select the best of International, Commercial and Government standards before developing any new specification, standards, and profiles.
Elements of Quality Architecture

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- Exchange
- Architecture Tools

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Architecture Tools

• **Guidance**
  – DoDAF v2.0
  – Federated Architecture Strategy
  – DoD IEA

• **DoD Tools**
  – DoD Architecture Registry System (DARS)
  – DoD IT Standards Registry (DISR)
  – GIG Technical Guidance (GTG) Tool
  – Meta Data Repository (MDR)

**Vendor Tools are Necessary**
DARS Relationship with the Net-Centric Operating Environment

DARS

Enterprise Catalog

DoD Metadata Registry

DoD Service Registry

NCOE Shared Space

Content Metadata

Enterprise Catalog

DARS

AV-1 Metacard

Content Pull

Content Pull

Browse and Search

DoD’s Net-Centric Enterprise Architecture Management Environment

Architecture Producers

Register AV-1

Publish Content

Architecture COP

Community of Practice (COP)

Common Framework, Vocabulary, Discovery and Exchange

Requirements

Content Pull

Architecture Consumers

EA’s Analysis and Decisions

Architecting Tools & Repositories

Content + Metadata

AV-1 Metacard

EA Content + Metadata

EA Navigation via Linked Content

Publish Content
# COTS Tools

<table>
<thead>
<tr>
<th>Tool Name</th>
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<th>Modeling Languages Supported</th>
<th>Primary Functionality</th>
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Elements of Quality Architecture

- Single Architecture Framework
- Policy, Direction, Guidance
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Enabling efficient and effective acquisition of hardware, software and services used by DoD and Partners in mission performance.

Unified Defense Architecture Framework
Certified Enterprise Architects design the information technology architecture structure enabling the efficient and effective acquisition of hardware, software and services utilized by the DoD in missions supporting the warfighters.
Accepted nominees are required to participate in and successfully complete all of the following:

**First Session**
- **March 19 – April 1, 2012**
  Complete preparation session work
  Estimated Level of work: 20 hours
- **April 2 – April 6, 2012**
  Participate in classroom education
  Estimated level of work: 50 hours
- **April 7 – April 30, 2012**
  Complete post-course assessment
  Estimated level of work: 60 hours

**Second Session**
- **May 21 – June 3, 2012**
  Complete preparation session work
  Estimated Level of work: 20 hours
- **June 4 – June 8, 2012**
  Participate in classroom education
  Estimated level of work: 50 hours
- **June 9 – July 2, 2012**
  Complete post-course assessment
  Estimated level of work: 60 hours

Participants will be able to:

- Describe the nexus between enterprise architecture (EA) and successful enterprise planning and execution to advance mission performance
- Identify EA’s role in facilitating other critical agency activities, e.g., capital planning and investment control (CPIC) and information assurance
• The first course in the EA Professional Development series.
• Designed to be the first exposure to foundational enterprise architecture (EA) concepts and practices. Sets the “common language” for EA discussions for professionals new to the EA field as well as functional business people, customers, suppliers, and others who desire an overview of enterprise architecture and the benefits it can bring to an organization.
• This self-paced, online course is 40 hours in length and organized into three modules each consisting of five to six supporting topics.
• MODULE 1: Introduction To Enterprise Architectural Concepts: This module introduces the foundational concepts behind enterprise architecture and discusses the business value that enterprise architecture brings to the organization. The module discusses the nature of complex organizations and provides an overview of the layers of the enterprise technology architecture.
• MODULE 2: Initiating Enterprise Architecture This module discusses fundamentals of planning for enterprise architecture initiatives, modeling the different layers of the enterprise, and building and maintaining an Enterprise Architecture. The importance of governance and change management for EA success is also explored.
• MODULE 3: Enterprise Architecture Implementation and Maintenance
  • This module discusses topics related to successful EA implementation and maintenance. The importance of leadership and effective decision making to the success of EA is explored as well as the composition and management of the EA project team. Factors that influence the success of EA in an organization are discussed as well as concepts and issues surrounding the measurement of EA value and risk identification and analysis for EA initiatives. The module concludes with a comparison of popular EA frameworks and a discussion of “hybrid” EA frameworks, opportunity, and the diversity of its workforce.
Tutorials

DoD Enterprise Architecture, Standards, Interoperability Requirements and Assessment Resources DoD Enterprise Architecture/Standards/Interoperability Requirements and Assessment Resources

Walt Okon
Dave Brown
Ed Zick

CADIE and Network Information Engagement UPDM
Ron Vandiver, Chief Architect, TRADOC

DoD Information Enterprise Architecture (IEA) & Reference Architecture
Al Mazyck

DoD ESI & The Joint Information Environment (JIE)
James Clausen
Jim Cecil

Selecting DoDAF 2.0 Views and Models for DoDAF Projects, Integration and Analysis, UPDM
Walt Okon
Beryl Bellman
Ann Reedy

Enterprise Architecture Directions: Professionalization, Competencies, Certification and Education
Con Kenney

Unified Profile for DoDAF and MODAF (UPDM) - Architecture Exchange
Dan Brookshier, No Magic
Graham Bleakley, IBM
Matt Hause, Chief Consulting Engineer, ATEGO

DoD Architecture Registry System (DARS) - Find and reuse architectures
Chamroeun Chhun, DARS Project Lead, US CERDEC, SED
Sanae Benchaaboun, DARS Developer, US CERDEC