Enterprise Lexicon Services (ELS): Pilot Tools and Web-Services for Acquisition and Mission Support

DoD Enterprise Architecture (EA) Conference

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DoD Enterprise Architecture (DoD EA)

Context of DON-EA Within DoD-EA Tier

- Global Principles
- Applicable Priority Area(s)
  - Associated Principles
  - Associated Rules

- Applicable Leaf-Level Activities
  - Linked Constraints
  - Linked Mechanisms

DON Enterprise Architecture (DON EA)

NARS Image of DON EA Framework

NAVAL ARCHITECTURE REPOSITORY SYSTEM (NARS)

Mission Area Chief Engineers (MACE) Coordination Support: Overview (OV-1)

- Capability Tracing, Assessment, Validation, and Gap Analysis
- Threat Scenarios
- Inter-Agency Cross-Domain Information-Sharing Supply-Chain

Mission Architecture Dashboard (MACE Portal)

Integrated AT&L Life Cycle Management Framework

Common Terminology - Managed Vocabulary - Enterprise Lexicon Services (ELS)
User Priorities
User Survey Results and Feedback

Selected User Priorities

- Overarching: 3%
- Governance and Policy (Only): 12%
- Configuration Management (Only): 19%
- CM Process and Operational Support: 13%
- Scalability: 5%
- Content: 8%
- Tools and Services: 4%
- Customer Support and Marketing: 10%
- Interface and Coordinate with Naval, DOD and Inter-agency Enterprise Architecture Resources: 15%
- Open Standards: 42%

Governance, Policy and Configuration Management: 42%
Content and Ease of Use: 32%
CORE Executable Architecture
System-of-Systems Engineering Framework
Need for Semantic Interoperability

Vocabulary Management Example

Enterprise Lexicon Services (ELS)

Objectives
1. Load NAERG controlled vocabulary into OneSource, and map to UCORE 2.0 and other doctrinally based sources; consider MDR-sourced and COI-driven vocabulary management efforts.
2. Provide standardized web service interface specification, enabling COTS/GOTS tools to discover, reuse, and semantically correlate against proper DON-EA terminology and associated mappings across vocabulary domains.

Ultimate Goal: Facilitate enterprise-wide technology interoperability based on Enterprise Lexicon Services (ELS) for Navy, Air Force, DoD, and Interagency Programs of Record.
Global Cyberspace Integration Center (GCIC)

Vocabulary OneSource

- Leverage existing databases of military-related Standards and COI vocabularies and promote RE-USE

- Provide a common view for diverse Vocabularies and Models (UCORE, C2CORE, MIL-STD’s, STANAGS, Joint pubs, AV-2’s, COI Vocabularies, etc.), in a single web-accessible environment regardless their native format (XML, PDF, Excel, etc.)

- Simple search GUI for quick access to detailed semantic and syntactic metadata inside vocabularies

- Sign on either via CAC or Username/Password
- Customizable project workspaces, mapping processes, and security tier with user Roles and built in Validation capability

- Allows SME’s to map relationships between different vocabulary standards in consistent/extensible format
  - Users can Expose these mappings for reuse, and allow others to export their work in various formats (excel, XML, AV-2’s, WMSL, etc.)

- OneSource data directly visible through its web service layer to other tools, registries, etc. using interoperable software tools based on open standards, avoiding proprietary dead-ends
GCIC RIIV Vocabulary Services Office

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OneSource link

- https://gcic.af.mil/onesource
QUESTIONS?

GCIC & OneSource: Making Data Visible, Accessible, and Understandable
The Way Ahead
Enterprise-Wide Semantic-Interoperability
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Description & Approach:
• The goal of this project is to prove the viability and value of web service implemented tool extensions (open standard based plug-ins) that augment COTS/GOTS tools to facilitate semantic interoperability and execution support.
• The project supports the goals of the Clinger-Cohen Act mandated Federal Enterprise Architecture Framework (FEAF) by providing COTS/GOTS tool SOA web-services extensions that facilitate the reuse of element-level components within the operational workflow context of an SOA-based FEAF construct.

Deliverables & Transition:
• FY11 - Will develop a web-services COTS/GOTS tool plug-in capability that provides an end-user dynamic “pick-lists” derived from semantic discovery of standardized information elements.
• FY12 – Based on lessons learned and scheduled scaling of project effort, further extend and operationalize the “QuikPic” capability and performance measurement capabilities.
• FY13 – Work closely with the operational end-users within the operational support and acquisition process to directly support timely information interoperability across phases and swim-lanes of workflow activities.

Significance & Payoff:
• For the first time, EA web-services will provide Enterprise Lexicon Services (ELS) capabilities for timely and easy-to-use element-level reuse. This new ELS service will be integrated into the COTS/GOTS tool point-of-use and directly support the practitioner workflow.
• This new web-service will also provide an ability to measure the impact of ELS-enabled workflow to better assess and monitor improvements in time-sensitive competencies, due to the ELS web-services.

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<th>FY12</th>
<th>FY13</th>
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Last Updated: 28 April 2010
Questions, Comments, and Dialog
Vocabulary OneSource

Overview

Capability

• Promote reusability, extensibility, visibility, and persistence of data vocabulary analysis products.
• Present a common view of diverse vocabularies, regardless of originating representation.
• Provide SME support for interpreting messaging standards, modernization into XML, and development of vocabularies.
• Develop and validate mappings between complimentary systems and specifications.

Involvement

• Involved in 17 different forums across Air Force, Joint, and NATO communities.
• Involved in development of Universal Core (UCORE) and Command and Control Core (C2 Core) vocabularies
• Involved in several integration efforts

OneSource Status

Current Version 2.3
207+ users in Current version.
157 vocabularies with 383,441 searchable terms.
30 hosted projects.
220+ COI information available (wiki style).