Next Generation Logistics Transactions - Extensible Markup Language (XML) Kick-Off Meeting

DLSS/DLMS X12 & XML - Our Approach
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Defense Logistics Management Standards Office
http://www.dla.mil/j-6/dlmsso/
Outline:

• Purpose/mission
• Key DoD oversight policy
• What we do
• Who we do it for
• How we do it
• Not easy stuff
• Current focus areas
  – Migrating DoD unique information standards to common commercial standards
  – Supporting modernization (ERPs)
  – Exploring new technology solutions
    XML within the DLMS
• Summary
Business Rules and Standards

Purpose/Mission:
• Facilitate enterprise integration and continuous process improvements to logistics management and operations by:
  – Developing business rules and implementation of DoD policy
  – Developing and managing the DoD logistics information exchange infrastructure
  – Publishing detailed procedures that identify who does what, when, and how along the DoD supply chain:
Key DoD oversight policy:

• DoDD 8190.1, DoD Logistics Use of EDI Standards:
  - DoD Executive Agent for logistics data interchange

• DoDD 4140.1 Materiel Management Policy
  - Authorizes publication of DoD business rules and standards

• DoD 4140.1-R Materiel Management Regulation
  - “Loaded” with policy, procedure, and guidance

• DoD 4000.25 series of Manuals covering both business rules and standard operational procedure implementation is well grounded in DoD policy
What we do:

• DLMSO administers DoD-wide:
  - Defense Logistics Standard Systems (DLSS)
  - Defense Logistics Management System (DLMS)
  - DoD Physical Inventory Control Program
  - DoD Logistics Functional Data Administration

• DLMSO chairs:
  - DLMS Process Review Committees (PRCs)
  - Unique Item Tracking Committee
  - Customer Wait Time / Logistics Response Time Committee
  - DoD Supply Discrepancy Reporting Sub-Committee
  - Joint Physical Inventory Working Group
  - Joint Small Arms Coordinating Group
  - DoDAAD/MAPAD Committees
DoD 4140.1-R...
Ensure accurate property...records for the physical inventory are maintained in support of customers requirements and readiness by performing physical inventories and location surveys...

DoD 4000.25-M, Vol 2 (28 pages of detailed business rules that support DoD policy)...
C6.3.8.1.1 Requested Inventory. When the owner/manager has requested an unscheduled inventory...the owner/manager will initiate a follow-up using DS 846P which cites Management Code X...from the DoD...

Person-to-Person integration glue...defines who does what, to whom, when, and how...
Business Rule Hierarchy

**Governing Rules - Operating Rules - Automated Rules**

**Physical Inventory Control**

**Governing Rules**

DoD Policy is contained in DoD 4140.1-R, paragraph C5.7.5.1.1

Physical inventory procedures are contained in DoD 4000.25-M, Vol 2, Chapter 6

**Operating Rules**

**Example:** Paragraph C6.2.6.1: Owners/managers and storage activities shall daily match all active record (stock number which had any transactions affecting record balances) on hand balances.

**Automated Rules**

The storage activity shall submit the daily closing balance to each affected owner/manager using MS supplements to Federal IC 846R with Code List Qualifier Code FH citing code 1 (End of Day Processing)

**Computer Speak**

If DS846R LQ02 QTY02 Quantity.Qualifier.Code = SYSTEM.BALANCE then Generate DS846R LQ01 Code. List. Qualifier.Code FH=1 (To show Balance is End of Day) and LQ02 QTY02 Code.List.Qualifier Quantity(End of Day Balance)

DoD dilemma: To maintain backward compatibility - Modernizing to Legacy: Driven business rules must be embedded/applied at the operational, technical, and system levels.
**Transaction Construction Rules (Level 1):**
“What's allowed and what's not” available codes for data elements, mandatory or optional - technical construction

**Data Rules (Level 2):** The rules about each data element: meaning, structure, valid values, etc.

**Sender Rules (Level 3):** Describes how to communicate senders business requirements

**Routing/Validation Rules (Level 4):** Describes how transactions are validated and where DAAS sends them

**Translation Rules (Level 5):** Describes how data is mapped between transmission media

**Receiver Rules (Level 6):** Describes how recipient system is to process/react to the sending systems transaction

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**Machine Readable Transaction**

Levels 2 through 6 are independent of the media of transport (level 1) DLSS, DLMS, XML, IDOC, UDF, BODS, etc.
Business Rules and Standards

Information Exchange Business Rules and Standards

A Key to Interoperability

Process rules and standards documented in DoD 4000.25-M
ERP systems will likely drive need to revise business rules
Collaborative process for development and publication managed by DLMSO
Process management and configuration:

DoD/Federal oversight for Implementation Convention (IC) structural changes
- Functional Working Groups
- DISA Compliance Check
- ANSI coordination (applicable to new standards development)
- Electronic Data Interchange Standards Management Committee (EDISMC)/Federal EDI Standards Management Coordinating Committee (FESMCC)

DoD “Good News Story”
- Time tested, effective, efficient, institutionalized; meets today’s challenges
Who we do it for ---
customers/users:

• TOP LEVEL MANAGEMENT: OSD PSAs, Joint Chiefs of Staff (JCS), UCCs, Component Headquarters, Major Commands, Civil Agency Headquarters, etc.

• DoD & Non DoD OPERATIONAL TRADING PARTNERS: Cradle-to-grave process management activities, enterprise-wide service providers, private sector product & service providers, and civil agencies, and foreign governments.
Not Easy Stuff:

- How does a customer identify when he wants delivery?
  - Priority designator --- maybe unless there’s an RDD
  - Required delivery date --- maybe unless RDD contains:
    - A special code or...
    - Transaction has special management indicator or...
    - There is pre-agreed to arrangement with supplier
Current focus areas:

• Migrating DoD unique information standards to common commercial practices (Federally mandated standards)

• Supporting modernization (Enterprise Resource Planning (ERP))

• Exploring new technology solutions

• Process management and configuration
Migrating DoD unique information standards to common commercial standards:

**Characteristics of Current Environment**
- DoD-Unique
  - Business Practices
  - Systems
  - Data
    - Interfaces
    - Data Elements
    - Codes

**Characteristics of Target Environment**
- Open International (Commercial)
  - Best Business Practices
  - Commercial Off-The-Shelf Software
  - Shared / Integrated Data
    - Standard Interfaces
    - Standard Data Elements
    - Standard Codes

**Implementation Conventions (ICs)**
- MILS
- 80 column card format
- ANSI ASC X12
- 55 ICs
- UN/EDIFACT
- Web-based EDI (e.g., XML) standards
- HL7
- Web-interpretable Repository-based ICs
- DLSS
- 450+/- Transaction Sets Embedded In Systems
- Separates Data From Systems
- Redundant Data Complex/Unique Codes Multiple Replications
- Common Data Management
- Data Independence
- Comprehensive Data Reference Model

Pace of standards, ICs, and data must be synchronized
Business Rules and Standards

Supporting modernization (ERPs):

• IAW DoD direction and in coordination with Components:
  – Identified common enterprise-wide requirements
  – Mapped requirements against current capabilities - revealed gaps
  – Identified policies/framework needed to ensure economic, effective implementation
  – Wrote plan of action with implementation milestones
Exploring new technology solutions:

“A broad base of business rules to include uniform policies, procedures, time standards, transactions, and data management designed to meet DoD’s requirements for total logistics support. The DLMS is founded upon the sound application of ANSI ASC X12 EDI and will be expanded to employ other emerging EB/EC technologies such as: data sharing, automated identification technology, object-oriented user interfaces, electronic malls, web-based technology, and electronic funds transfer. Opens the door to new and emerging technologies

DoDD 8190.1...
Why Extensible Markup Language (XML)?

- XML - subset of SGML (Standardized General Markup Language) and HTML
- Provides more flexible EDI form designed to support WEB based applications
- DLA/DLMSO strongly supporting development of XML schemas and implementation of XML standard for DoD
- DLMSO has developed W3C compliant XML schemas, using EDIFECS SpecBuilder tool. The XML schemas equate to the DLMS ANSI ASC X12 ICs/supplements.
- DLMSO participating/supporting various industry groups (ASC X12 XML Workgroup, Federal CIO XML Workgroup, and DISA Namespace Manager & Repositories)
- DAASC has capability to translate - MILS/DLSS><DLMS X12><DLMS XML
- Using the DLMS XML capitalizes on existing data standards...
Business Rules and Standards

Why a “standard” approach?

Ensures interoperability among trading partners for interagency transactional exchanges
Business Rules and Standards

XML Schema
Where We Are

Current status:

- DLMSO has acquired COTS tools: EDIFECS & XML Spy
- Schema generation (version 2) is complete
- DAASC has acquired Mercator v6.5 Schema Import Tool
- DLIS & DISA repositories in place
- Schemas posted to DLMSO’s XML web page

Next steps:

- DLMSO continue to post schemas to DISA/DLIS repositories
- Continue to monitor progress of ANSI’s Context Inspired Component Architecture (CICA) for XML - target implementation
- DAASC develop maps
- DLMSO/DAASC/DLIS develop operational systems test
- DLMSO prepare and have OSD issue policy memorandum
Business Rules and Standards

DISA Repository

http://diides.ncr.disa.mil/xmlreg/user/index.cfm

DoD METADATA REGISTRY AND CLEARINGHOUSE

DoD XML Registry
Session validated for Nat Obey [Logout]

Search Results
(69 Records)

Submission Packages
DLMSO_100_Series_XM... (v.1.0, Developmental, 20-Feb-03) [MGTINTCG Namespace - Management Intercha...] XML Schema for 4030 140B Unique Item Tracking Reporting
DLMSO_800_Series_XM... (v.1.0, Developmental, 11-Feb-03) [MGTINTCG Namespace - Management Intercha...] XML Schema for 4030 842AAW Nonconformance Report DoD WebSDR
DLMSO_810L_XML_Sche... (v.1.0, Developmental, 15-Apr-02) [MGTINTCG Namespace - Management Intercha...] XML Schema for 4010 810L Rev 1 Invoice (Logistics Bill)
DLMSO_XML_Schema_18... (v.2.0, Developmental, 31-Jul-02) [MGTINTCG Namespace - Management Intercha...] XML Schema for 4010 180M Material Returns Reporting
Business Rules and Standards

DLIS Repository

http://www.dlis.dla.mil/XRL

The XML Resource Library (XRL) provides a mechanism for managing metadata used for e-commerce and data exchanges. It establishes a recognized authoritative site for the submission and access of information models containing XML artifacts such as schemas, DTDs, mapping documents, etc. Furthermore, it provides services to support data integration and application interoperability.

The XRL is an operational or active repository to facilitate and enable data interoperability (data exchange). It has been specifically designed using the ebXML Technical Architecture Specification. Within the repository portion of the ebXML architecture specification, is the requirement to make vocabularies, business templates and Business Processes used to transact business accessible by all partners. The XRL serves this purpose. This means that information for data exchanges can be kept, maintained and reused as data exchanges grow. This data is otherwise lost or invisible. Another key feature of an operational repository is to validate a data exchange. This is a standard process that an application can automatically invoke through the XRL.

Using XRL assists in improving data sharing and exchange. The XRL also helps reduce data latency and the use of derivative data, improving the reliability of information retrieved. As a result, commanders and operational planners will have access to information that allows them to make better management decisions.
## Extensible Markup Language (XML)

The following table lists XML schemas for the DLMS supplements and their equivalent ANSI ASC X12 formats. The remaining schemas are available at: 810-858; 861-997

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Data transfer media may change, but the data & sender/receiver rules do not.
We are expanding our overarching logistics role to meet today’s enterprise integration challenge and support the future logistics enterprise by:

- Migrating DoD away from proprietary EDI standards
- Actively supporting Component modernization
- Exploring & implementing new technology solutions

End-state:

- Support the adoption of the best business practices
- Ensure that business transactions are successfully exchanged among DoD AISs, regardless of the data transmission media (standards) used by the AISs involved.

The DLMS are now XML capable and ready for your use.

http://www.dla.mil/j-6/dlmsso/
MODELS 1984
FIPS 161.2 1996
DoDD 8190.1 2000
XML 2002
MILS 1960'S