"A day in the life of the S-Series"

Data Modeling and Exchange Working Group (DMEWG)

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ILS S-Series Spec Day
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What is DMEWG?

Snippets from our charter:
• Harmonize and consolidate data requirements, Data elements and business terms
• Coordinate data modeling activities
• Governance, review and publication of Aerospace and Defense Data Exchange Specifications

Whereas SX000i provides overall guidance of the S-Series of specs, the DMEWG provides the underlying technology strategy and implementation
What does DMEWG produce?

SX001G: Glossary for the S-Series ILS specifications
   – Issue 1.1 released (www.sx000i.org)
SX002D: Common data model for the S-Series ILS specifications
   – Issue 1.1 released (www.sx000i.org)
SX003X: Compatibility matrix for the S-Series ILS specifications
   – Development currently on hold
SX004G: Unified Modeling Language (UML) model reader’s guidance
   – In work, to be published alongside of S2000M Issue 6.0
SX005I: Implementer’s guide for the S-Series messaging schemas
   – Newly proposed to the ILS Spec Council
SX001G - Glossary

Consolidated listing of terms and definitions used throughout the S-Series ILS specifications

Issue 1.1 scope is limited to the terms and definitions of the data items defined in SX002D

Envisioned to include business terms and data item terms used throughout the S-Series specs
### Reading the glossary (see Chap 1.3)

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Example values</th>
<th>References to other terms used in the definition</th>
</tr>
</thead>
</table>
| `conditionTypeName` | `conditionTypeName is a word or phrase by which the ConditionType is known and can be easily referenced.` | - serviceBulletinConditionType  
- ashoreOrAfloatConditionType  
- operationalEnvironmentConditionType  
- maintenanceEnvironmentConditionType | ConditionType, refer to **Para 19** |

**Type**  
CDM ClassificationType

**Note**

**Source of the definition**

**Type of object this term refers to**

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Reading the glossary (see Chap 1.3)

Current types supported:

• Acronyms
• CDM types
  • A higher level class or attribute that is built upon primitives within the common data model
  • Example: applicabilityStatementIdentifier is a CDM IdentifierType
• UML Types
  • A class or attribute that relates to a basic Unified Modeling Language type
  • Example: ChangeAuthorization is a UML Class
  • Example: lowerBound is a UML char
SX002D – Common Data Model

Provides a harmonized information model for information that is common to more than one specification.

Provides a framework for future development and extensions.
Areas covered in the Common Data Model

• Issue 1.1 (Published)
  – Product and product variant
  – Product breakdown
  – Part as designed
  – Bill of material
  – Allowed product configuration
  – Change information
  – Security classification
  – Applicability statement
  – Remark
  – Message

• Issue 2.0 (Planned)
  – Project and contract
  – Task requirement
  – Task
  – Task resources
  – Time limits
  – Part as realized
  – Actual product configuration
  – Activity record
Development of CDM

• Data model (UML)
  – Defines information requirements

• XML Schema
  – Defines exchange format

XML Schema Authoring Rules
Use of CDM in the respective specification

Specification
Information Requirements

XML SCHEMA
Authoring Rules

Model Extension

Common Data Model

Specification
Exchange Definition

Schema Extension

CDM XML Schema
S-Series XML Schemas
Publication Plan

- **S3000L**
  - A test issue of the S3000L Issue 1.1 XML schemas have been distributed to participating vendors for testing.
  - Expected publication: Late fall, 2015

- **S2000M**
  - Expected publication: Jan 2016
Input data specifications

• One ”X” specification per S-Series specification:
  – S1000X, S2000X, S3000X, etc...

• Defines source information for a given S-Series specification when the data is expected to originate in another S-Series specification process
  – Guides the user to the XML schema location where specific source data is to be populated for exchange
  – Strive for a one-to-one mapping between specifications
  – May need to derive information and describe the transformation mapping requirements
What about PLCS?
S-Series XML Schemas and PLCS

- PLCS mappings will be provided as part of the XML schemas

```xml
<xsd:complexType name="aggregatedElement">
  <xsd:annotation>
    <xsd:appinfo>PLCS:PSM:BreakdownElement</xsd:appinfo>
  </xsd:annotation>
  <xsd:sequence>
    <!-- UML-Attributes -->
    <xsd:element name="bId" type="breakdownElementIdentifier" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:appinfo>PLCS:PSM:8id</xsd:appinfo>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="name" type="breakdownElementName" minOccurs="0" maxOccurs="unbounded" nillable="true">
      <xsd:annotation>
        <xsd:appinfo>PLCS:PSM:8description</xsd:appinfo>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="ess" type="breakdownElementEssentiality" minOccurs="0" nillable="true">
      <xsd:annotation>
        <xsd:appinfo>PLCS:PSM:8classifiedAs</xsd:appinfo>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="bEType" type="aggregatedElementType" minOccurs="0" nillable="true">
      <xsd:annotation>
        <xsd:appinfo>PLCS:PSM:8classifiedAs</xsd:appinfo>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```
S-Series XML Schemas and PLCS

• UML class and attribute names for the S-Series specifications are defined in a way that they can be transformed into PLCS Reference Data

• All valid values for different types of classifications are also named (and defined) so that they can be transformed into PLCS Reference Data

```xml
<xsd:simpleType name="figureItemRepairabilityStrategyCodeValues">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Z">
      <xsd:annotation>
        <xsd:appinfo>SX001G:noRepairItem</xsd:appinfo>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="B">
      <xsd:annotation>
        <xsd:appinfo>SX001G:reconditionItem</xsd:appinfo>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
DMEWG is actively working in the background to guarantee consistency and interoperability, not only between the suite of ILS S-Series specifications, but also with its sources and destinations (including product data standards eg PLCS).
Thank you in various languages
More information?

Please visit: www.sx000i.org

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