Specifications for Interoperability Through Life

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Completing the Picture....

S1000D → The S Series Specs → Other e-Business Standards

..... for a complete e-business capability

Vision: All players of the global aerospace value network will be able to share data securely through the life of the products and services.
Scope – 4 Business Domains

- Integrated Logistic Support (The S Series Specs)
- Secure Information Sharing
- Supply Chain
- Product Lifecycle Management (PLM)
The Challenge of Interoperability

- e-Business interoperability between organisations and re-use of solutions across projects is imperative to the elimination of wasted costs and to improve data quality.
- Many standards and initiatives have the potential to satisfy part of:
  - The overall requirement for interoperability:
    - Between companies, business partners and through the supply network
    - Between functions in an organisation
    - Between application systems
Data Explosion Through The Life Cycle

Market Needs > Design - Products (PDM) - Configuration - Specification > Manufacturing / Supply Chain > Support/Services - Products & spares - Configuration - ILS (Repair, maintenance) - Health Usage - Logistics - Tech Docs > Feedback / Problems

As needed > as designed > as manufactured > as delivered > as maintained

Product Lifecycle Management (Industrial approach for end to end process)

Design activities (incl. series and mods)
Manufacturing (incl. series and mods)
Support / ILS

Req. Eng. System  PDM Sys  ERP Sys  MRO / Service Sys

----- ENTERPRISE DATA – REUSE ------
Some Aero & Defence challenges

Concept Development

- Parameterized Specifications (Aerodyn Office)
- Parameterized CAD Model (Pre-projects DO)
- Aerothermodynamics

Design, manufacture & Assembly

- "Full 3D configured DMU" deployed with component and sub-assembly Suppliers

Validation & Certification

- "Full virtual rigs" deployed with Testing Labs and Certification authorities
- "Full virtual A/C enabled services" deployed with Operators and MROs

Operations

How to organise collaboration around these artefacts?
How to reach collaboration industrial performance?

Standards!
The ASD Strategic Standardisation Group (SSG)

The European Aerospace, Space and Defence companies response to the challenge of e-Business standardisation:

• Identify a coherent set of e-Business Standards to reduce overall cost and complexity
• Drive the identification, development, maintenance, interoperability and exploitation of a set of coherent e-Business standards
• Managed across 4 Enterprise e-Business Domains:
  • Design and Collaboration
  • Integrated Logistics Support
  • Supply Chain
  • Security (Secure Information Sharing)
The ASD Strategic Standardization Group (SSG)

The ASD SSG does not aim to create new eBusiness standards but to **support effective governance at European level of International and European standards**:

- Identifying a set of standards to use or to develop in order to cover the full spectrum of needs for eBusiness;
- Proposing and applying governance tools at strategic and technical level (e.g. radar screen)
- Developing a network of experts
- Developing liaisons with all relevant standardisation organisations
  - Including an MoU with AIA.....
Drive for co-ordination and coherence…
Interoperability framework: organizing the tools to master business requirements and consistency

Business Scenario & Use Cases

Identify & describe the need

Life Cycle Gap Analysis

Radar Screen

Address the need

Roadmap

Develop standards & policies

ASD SSG meeting, 16-17 July, AIAD Rome
"Radar screen" (V1.6 awaiting SSG confirmation)

Available external standards

Monitor external development

ASD development

Participate in external development

Blip available
Blip in preparation
Current ASD SSG actions

Version: V1.5
Typical ‘blip’ S1000D Specification for Technical Publications

Abstract

- The International specification for technical publications utilizing a common source database, commonly known as S1000D, has been produced to establish standards for the documentation of any civil or military vehicle or equipment. It is based on international standards such as SGML/XML and CGM for production and use of electronic documentation.

- In addition, it defines a Common Source Data Base (CSDB) to provide source information for compilation of the publications and for use in electronic logistics information systems to deliver modules of information direct to the user.

- More recently, it has been linked to the PLCS development, which enables the compilation of technical documentation direct from the current product structure, and to SCORM, for training materials.
New!!
AIA and ASD just signed an MoU on eBusiness standards, covering joint activities between ASD SSG and AIA

What is on this portal
• Welcome
• Terms of Reference
• Members
• Work Groups
• Industry Requirements
  • PLM Interoperability
  • Integrated Logistics Support
  • Hub collaboration
  • SCM Standards Policy
  • Communication
  • Coordinating with AIA
• Projects
  • BoostAero
  • ILS suite of specifications
  • LOTAR
  • STEP AP242
  • TDP Message
  • TSCP
• Radar Chart
• Publications
• Planning
• Contacts

About ASD Strategic Standardization Group

Overview
The Strategic Standardization Group (SSG) was setup in October 2008 by a group of European manufacturers, A&D associations and military governmental agency in order to share efforts of development of common A&D e-Business standards and associated harmonized European policies for operational use.

Collaboration with AIA (U.-S.)
The ASD SSG has established a collaboration with the American Aerospace Industries Association (AIA) and ASD SSG re-use several of the methods initiated by the AIA Electronic Enterprise Integration Committee (EEIC), (like the Radar Chart representation).
We encourage you to visit their site at:
http://www.aia-aerospace.org/resource_center/ebusiness/
Through-Life-cycle Interoperability

SSG Intent:

• Develop a coherent set of specifications that are interoperable with specifications within its own domain as well as other speculations from other domains:
• To minimize project dependency by defining clear guidance and by avoiding inclusion of project and national specific rules and constructs
• To ensure commonality between related specifications to support the re-use across projects
• To establish a well-defined data transfer mechanism between the different disciplines based on PLCS.
• To cover all aspects of business interface activities over the entire life cycle of a product.
• To be the contractual baseline for industry and customers
• To be up to date with the technical development and changes
Development and governance of the core suite of STEP standards for PLM interoperability

Process & use cases

- Systems Engineering (AP 233)
- Systems Engineering (AP 239)
- Multi disciplinary Analysis & design (AP 209)
- Managed Model Based 3D Engineering (AP 242)
- Electronic assembly, interconnect & packaging design (AP 210)
- Engineering Properties for product design & verification (AP 235)
- Integrated CNC Machining (AP 238)

Information

- Product Life Cycle Support (PLCS)
- Suite of AIA - ASD ILS Specs (SX000)

Standards for processes and Engineering methods not described

- N1: STEP AP 242: Convergence of AP 203 and AP 214
  N2: study not started

Concept | Simulation | Definition | Manufacturing | Support
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- Product Life Cycle
Industry Specifications in PLM

➢ Product Life-Cycle Management using S-Series.
Key messages

1. A consistent set of e-business standards is being identified, assessed, developed and implemented in answer to European Aerospace, Space & Defence Industry business needs.

2. ASD SSG provides the needed capability:
   - Consensus at European AeroSpace & Defence industry level
   - Supported by National Trade Associations
   - Co-ordinated with US activities

3. The set of coherent and consistent standards / specifications have been identified and adoption and exploitation is in progress – The ‘Radar Chart’

4. Several projects have been launched / completed to fill gaps, eg. Long Term Archiving and Retention (LOTAR), Technical Data Package TDP)

5. A Through-Lifecycle Interoperability technical paper is in work

ASD SSG seeks the widest participation and contributions!