S1000D
Modularization Task Team

S1000D Steering Committee
2012 User Forum
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SMTT Chair
Background

• S1000D community merged diverse use groups (defense and civil aviation)
• Users concerned about complexity and growth
• SC and Council concerned about stability
• Council meeting early 2010:
  – Vision, Mission, and Goals
Vision, Mission, & Goals

• Employ a modular approach
• Focus on global requirements and constructs
• Stability
• Maintain Data Module centricity
• Support information exchange
• Leverage other standards
• Ease of implementation and contracting
Size and Complexity

- As other use communities have added requirements the specification has grown considerably
  - Existing self-contained data modules
  - Addition of repository-dependent data modules
  - Each new mechanism has added more decision points
    - Opportunity for different methods
  - Continuation down the same path will only add further volume and complexity whilst being unresponsive to needs
At what point does the specification become Unsustainable or unusable?

**Issue 4.1**
- CIR Enhancements
  - incremental update
  - applic externalization
  - Documentary Info CIR ...
- Container-Alternate extension
- IC and SNS extensions
- Generic IPD
- Service Bulletin enhancements
- CMM enhancements
- Fault enhancements

**Issue 4.0**
- Schema Cleanup
- TIR enhancements
- Process DM enhancements
- Ident and status section changes
- Steps and paragraphs recursive
- Reusable warnings and cautions
- Hotspots in IPD
- IC extensions
- Preliminary rqmts enhancements
- New Training and Checklist DMs

**Issue 3.0**
- Applicability reengineering
- Controlled Content added
- Wiring changes
- New ACT DM
- CCT and PCT changes

**Issue 2.3**
- Configuration Management
  (Applicability, A/C Table, SB List, etc.)
- Significant Data
  - Technical Information Repository
  - Business (Fault Symptom, Wiring, Scheduled Maintenance)

**Issue 2.2**
- Schema Cleanup
- TIR enhancements
- Process DM enhancements
- Ident and status section changes
- Steps and paragraphs recursive
- Reusable warnings and cautions
- Hotspots in IPD
- IC extensions
- Preliminary rqmts enhancements
- New Training and Checklist DMs
Impacts

• Implementation
  – Projects struggle with amount of choice
  – Suppliers struggle with enormity
  – Software vendors can’t/don’t want to keep up

• Evolution
  – Ability to address new requirements from diverse communities
  – Integration with other standards
  – Timely address of project requirements
Solutions

• Move from large and complex to simple and powerful
• Build a new approach – *Extensibility*
  – Mirrors most software development
  – W3C principle
  – PLCS reference data mechanism
The Council Goal

A modular based specification
Foundations and optional building blocks

Publication Building Blocks

Exchange Building Blocks

Publication Foundation Block

Exchange Foundation Block

S1000D Foundation Block

‘Core’

S1000D Building Blocks
What does it mean?

• Today all constructs are included in the ‘core’ of the standard
• In future, ‘core’ constructs may be used along with building blocks to extend use
• Stabilizes the ‘core’
• Manages the size and complexity of application
• Allows software vendors to track the ‘core’ and make business decisions about which building blocks to address
New Paradigm

S1000D

Most Everything is Core and Much is Optional

Today

If Core alone doesn’t suffice – Add building blocks

S1000D Core

After Re-engineering

Building Block

Building Block

Building Block

Building Block

Building Block
Compliance

• Spec will maintain a minimum compliance scope

• Change proposals will need to identify whether the ‘core’ is affected or building blocks
  – Narrow opportunity available to affect ‘core’ to maintain stability
Approach to Solving

• SMTT is developing a use-case questionnaire to determine how the various using communities view the spec
  – Develop descriptions of usage
  – Commonalities and differences
  – Problem statement
• Develop business case
• Requirements definition
  – Validate known, existing; Document new
• Generate solutions
  – Identify impact to spec
• Schedule the work
Accommodating Modularization

Modularization Preparation Phase
- Modularization requirements definition
- Modularization solution definition & planning (specification)
- Impact on CPF and SC process and organ.
- Conformance and compliance

Parallel Spec work - CPFs that are in compliance with modularization principles
- Multimedia and graphics work
- Model-based enterprise & 3D models
- Look & feel standards for small screens

Modularization Phase of S1000D chapter text and schemas - may include:
- Implementation guide (master guidance document)
- XML-ization of the specification
- Data Dictionary

Post Modularization:
- Packaging of Style Sheets
- ID attributes on all elements
- Raise detail level of non-aircraft part
- Improved usability for software documentation
- Doc change management process
- BREX enhancements, DML enhancements, ...

Issue 4.2
- Bug correction
- Priority CPFs (full upwards compatibility = parsing of 4.1 data using 4.2 schemas)

Issue 5
MODULARIZATION is RE-ENGINEERING

2012 | 2013 | 2014 | 2015 | ...