S1000D User Forum

RailDex

RailDex is a Railway Data Exchange initiative to standardize the exchange of maintenance documentation between actors of this industry.

ALSTOM

BOMBARDIER

SNCF

S1000D User Forum 2013
Vienna, 2013-09-16/19

Agenda

- Motivation
- History
- Organization
- Roadmap
- RailDex specifies S1000D schemas and associated business rules (BREX) to be used in the Railway technical documentation industry.
- Applicability within the RailDex Scope
- Q and A

Motivation

- Railroad industry very different from Aerospace, with no actual internal standard for maintenance documentation (huge potential)
- Different expectations across continents/customers (from traditional paper print to full web interactivity)
- Exchange data between different stakeholders OEM, INTEGRATOR, OPERATOR
- Ensure configuration of documentation source file for long period (typical lifecycle of 30/40 years)
- Enable Reuse of configured data

History

- We were in a situation where each participants had their own standards and processes. Operator/customer lack of standards cost Carbuilders a lot of rework.
- Integration of supplier data to carbuilder data must meet a customer specification of « written by a single-hand » look and feel.
  - This entails we all work with the same process and same schemas.
  - Another advantage is the possilibity to deliver data in a streamlined normalized fashion.
- We created a small initial group: Alstom Transport, Bombardier Transportation and SNCF to put in place something similar as ShipDex (shipdex.com), but for the Railway industry

Roadmap RailDex

- RailDex V1 is under work, approx 80% done at this time to cover Descriptive/Procedural/IPD/BREX based on S1000D 4.1, expected publication for Q1 2014
- RailDex V2 will start in Q2 2014 – expected for Q1 2015
  - Content to be added: Troubleshooting/Check-lists/Data Dispatch Note/Wiring/SCORM gateway
  - Enlarge Steering/WG participants to other industrial players
  - Possibly normalize the implementation solutions for railroad.

Our main objective is to promote RailDex (and S1000D 4.1) to Railway standardisation organisations: UNIFE (European), FRA (USA), UIC (Worldwide)…

Actual Steering Committee & Working Group

Raildex Steering committee is composed of the following people:

- Eric RIBEYRE (Alstom Transport – ILS Director)
- Charles METHOT (Bombardier transportation- ILS Project Mgr)
- Christian DANIEL (SNCF – Maintenance Mgr)

Raildex Working group is composed of the following people:

- David BLANDINEAU (Alstom Transport – ILS Methods and Tools)
- Philippe ZINGONI (Antéa – S1000D Expert for Alstom Transport)

- Marc FERLAND (Bombardier transportation – Document Analyst)
- Nicolas DUPUY, (PTC, Adoption Architect, S1000D Expert for Bombardier Aero)

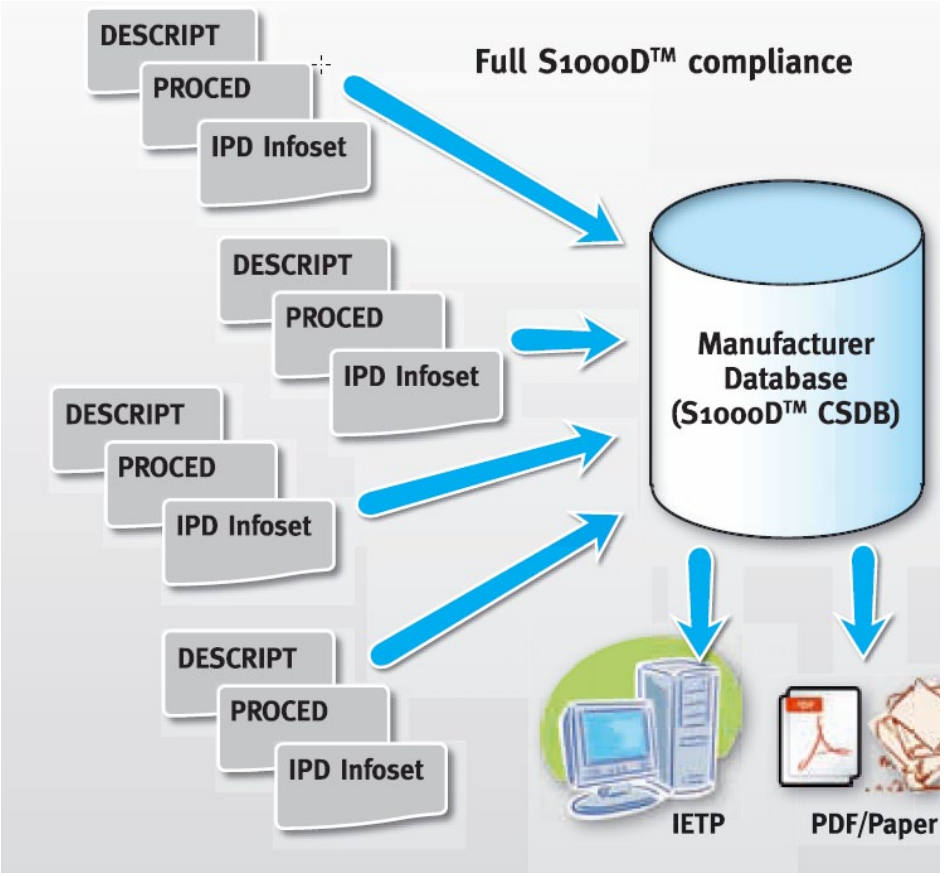
- Sébastien GOULMY (SNCF – Maintenance Rules Analyst)
- Jean Philippe GARGAM (SNCF – Illustrated Parts Catalog)
- Jean-Francois ETIENNE (Sonovision – S1000D Expert for SNCF)
- Romain CRIGNY (Sedoc – Expert/developer for SNCF on IETP)

Raildex specifies:

Raildex starts with S1000D issue 4.1 on the following schemas:

- IPD
- Description
- Procedure
- BREX

- A lot of S1000D deals with aerospace, RailDex therefore focuses on the railroad-relevant schemas.



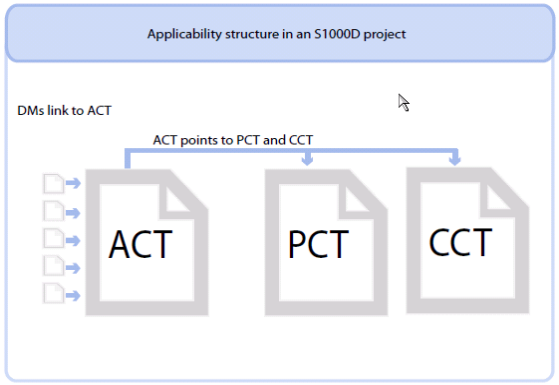
BREX

- BREX decision points are for now coded in an EXCEL worksheet.
- Implementation solutions will involve a decision to go
  - into a rules-based approach using scripting to validate data for CSDB.
  - Use a « modularity » program that automatically generates the final schemas.

DecisionPointId	Update reason	objectUse	xpath	allowedObjectFlag	Recommendation	Comment	Alstom	Bombardier	SNCF
3.9.5.1, Para 2.2	IGBRTT-0011	Data modules up to and including the initial issue of the approved release must have the attribute issueNumber set to the value 000 for inwork versions or value 001 for the initial issue and have the attribute issueType set to the value /new/.	//identAndStatusSection[descendant-or-self::dmAddress[descendant-or-self::issueInfo[attribute::issueNumber="000" or (attribute::issueNumber="001" and attribute::inWork="00")]] and descendant-or-self::dmStatus[attribute::issueType!="new"]]	0					
3.9.5.1, Para 2.2	IGBRTT-0012	Deletion of data modules is treated as a special case of update. The data module itself is not physically deleted from the CSDB but marked as deleted by setting the attribute issueType to the value /deleted/.	//@issueType	2	agree				
3.9.5.1, Para 2.2	IGBRTT-0012	Published data modules that have been changed and have the changes indicated within the data module using change elements and attributes, must have the attribute issueType set to the value /changed/ or, if the data module is reinstated, set to /instate-changed/.	//dmodule[(descendant-or-self::dmAddress[descendant-or-self::issueInfo[attribute::inwork="00"]] and (child::content[descendant-or-self::*[attribute::changeMark or attribute::changeType]] and not(descendant-or-self::dmStatus[attribute::issueType="changed" or attribute::issueType="instate-changed"]))]	0					
3.9.5.1, Para 2.2	IGBRTT-0012	Data modules that have been totally revised and that contain no change elements or attributes must have the attribute issueType set to the value /revised/ or, if the data module is reinstated, set to /instate-revised/.	//dmodule[child::content[descendant-or-self::*[attribute::changeMark or attribute::changeType]] and descendant-or-self::dmStatus[attribute::issueType="revised" or attribute::issueType="instate-revised"]]	0					
3.9.5.1, Para 2.2	IGBRTT-0012	Data modules that have had their identification and status information updated must have the attribute issueType set to the value /status/ or, if the data module is reinstated, set to /instate-status/.	//dmodule[not(descendant-or-self::identAndStatusSection[descendant-or-self::reasonForUpdate]) and not(child::content[descendant-or-self::*[attribute::changeType or attribute::changeMark]]) and (child::identAndStatusSection[descendant-or-self::*[attribute::changeType or attribute::changeMark]] and descendant-or-self::dmStatus[not(attribute::issueType="status" or attribute::issueType="instate-status")])]	0					
3.9.5.1, Para 2.2	BRDP-S1-00053	Data module change/revised ratio: Decide on the threshold that a data module is considered revised rather than changed.			less than 66% of modification : changed more than 66% of modification : revised				
3.9.5.1, Para 2.2.3	BRDP-S1-00054	Use and definitions of the attributes commercialClassification and caveat: Decide on the use and definitions of the attributes commercialClassification and caveat.			N/A				
3.9.5.1, Para 2.2.3	BRDP-S1-00055	Priorities and relationships of the security attributes securityClassification, commercialClassification and caveat:			N/A				
3.9.5.1, Para 2.2.4	BRDP-S1-00056	Use of the element <dataRestrictions>: Decide whether to include data restriction information.			Use only for Copyright info				
3.9.5.1, Para 2.2.4	BRDP-S1-00057	Use of the attribute applicability in <dataRestrictions>: Decide whether to differentiate data restrictions information based on Product configuration.			Optional, to have copyright info depending of product or personnal applicabilities				

Applicability

- Chapter 3.9.5.3 Data Modules – Applicability
- Applicability on the DM or inline
- ACT, PCT, CCT: Raildex
- Applicability Supplier/Integrator
  - One CSDB with web portal?, 2 CSDB?
- Static versus Filtered view (IETMs)



Linking of the Applicability modules of S1000D

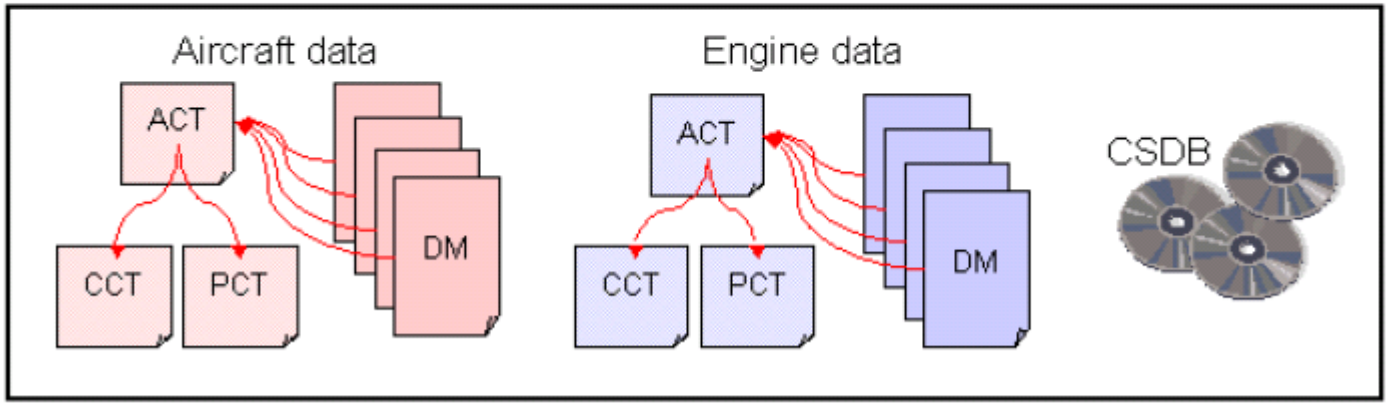
With the advent of cheap portable computing devices and viewers, it is possible to generate a tailored view of the data which is filtered for the product instance. It is the applicability model along with a defined set of rules for processing of applicability annotations that makes this filtered view possible.

Applicability (continued)

Multi-partner project

In order to illustrate the ACT catalog data module principle, a classical multi-partner scenario is used in this chapter. This is a simple example to ease the understanding, but the ACT catalog can fulfill also more complex scenarios.

A multi-partner project contains a collection of data modules provided from several partners, for instance: data modules from an aircraft data provider and from an engine data provider. Each data provider is able to define and maintain its own ACT/CCT/PCT as shown in Fig 1.



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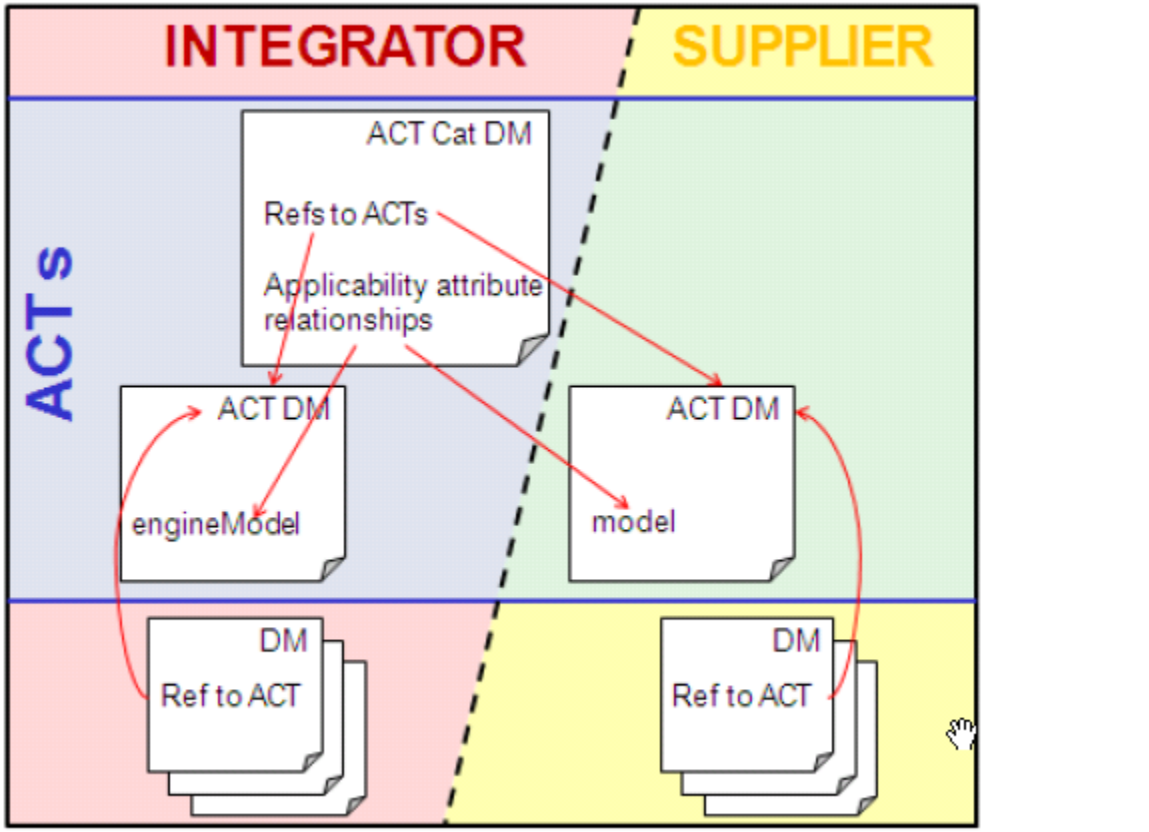
Applicability (continued)



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Questions and Answers

We would be pleased to briefly answer questions, feel free!

Thank you for your attention

On behalf of RailDex

David BLANDINEAU,

ILS Methods & Tools, Alstom Transport

Marc FERLAND, P. Eng.

Documentation Analyst, Bombardier Transportation

http://www.raildex.com/ info@raildex.com

… a special thanks to the S1000D community!