S1000X - Input data specification for S1000D

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Agenda

• Statement of work
• The team
• S1000D Chapter structure
• Document relationships
• Structure
• Future
Statement of work

• The purpose of the S1000X Working Group (S1000XWG) is to specify all input data required from other specifications to S1000D. **These required data include but are not limited to the S-Series of specifications.** The task team’s deliverable shall be a new specification numbered S1000X and titled “Input data specification for S1000D”.

• It will first concentrate on specifying required input data from S2000M 6.1, S3000L 1.1 and GEIA-STD-0007B to S1000D issue 4.1.
Where does S1000X belongs
The team

- S1000X WG is a working group of the ILS-Council
- Current officers are:
  - Joakim Lundqvist, Chair (Saab)
  - Paul Haslam, Vice Chair (O’Neil & Associates)
  - Parker Owen, Secretary (Integrated Support Systems) (ISS)
- Companies and organizations that contribute to the S1000X work:
  - Airbus Defence and Space
  - Airbus Helicopters
  - BAE Systems
  - FBC
  - Isselnord
  - ISS
  - Leonardo
  - NAVSEA/DoD
  - Netherlands Ministry of Defence
  - NSPA/NATO
  - O’Neil & Associates
  - Saab
  - Swedish Defence Materiel Administration
S1000X Chapter structure

• Chapter 0
  • Front matters

• Chapter 1
  • General chapter

• Chapter 2
  • How to use S1000X

• Chapter 3
  • Common information chapter
    • Refer to data dictionary
    • Refer to chapter 4

• Chapter 4
  • The specific specification mapping details
  • Mapping examples

• Chapter 5
  • Terminology and terms
S1000X – Document relationships

General requirements for input data specification for target S-Series specification

Target S-Series specification requirements

Detailed source mapping information for applicable source data systems

Terminology Mapping

Chapter 2: General Requirements

Chapter 3: Target Requirements

Links from target requirements to source information

Links to target and source data element definitions, if available

Chapter 4: Source Information
- Chapter 4.#: Mapping information from specific source data specification / system with mapping examples

Chapter 5: Terminology Mapping

Target Data Element Definitions

Source Data Element Definitions
S1000X structure, issue 0.1

Chapter 0 – Title page
Chapter 1 – Introduction
Chapter 2 – General
Chapter 3 – Target requirements
Chapter 4 – Source information
Chapter 5 – Terminology mapping

Chapter 3.2 – Common construct
Chapter 3.2.1 – Identification and status section
Chapter 4.2 – S2000M
Chapter 5.2 – S2000M

Chapter 3.8 – Parts information
S1000X – Document relationships

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Chapter 5: Terminology Mapping

Target Data Element Definitions

Source Data Element Definitions
S1000X – Document relationships

Target requirements

- Chapter 2: General Requirements
- Chapter 3: Target Requirements
- Chapter 4: Source Information
  - Chapter 4.1: Mapping information from specific source data specification / system with mapping examples
- Chapter 5: Terminology Mapping

Target Data Element Definitions

Source Data Element Definitions

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Terminology Mapping
## Chapter 3.8 – Parts information

### S1000X - Input data specification for S1000D (S1000D User Forum 2018)

<table>
<thead>
<tr>
<th>No.</th>
<th>Target: Functionality area and DetailPath</th>
<th>Target requirements</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.5.1.2.1.1.2g.0</td>
<td>Sub-subsystem code</td>
<td>Define the sub-subsystem code. Refer also to Chap 3.2.1</td>
<td>S2000M 0007</td>
</tr>
<tr>
<td>39.5.1.2.1.1.2g.6</td>
<td>Assembly code</td>
<td>Define the assembly code. Refer also to Chap 3.2.1</td>
<td>S2000M 0007</td>
</tr>
<tr>
<td>39.5.1.2.1.1.2g.7</td>
<td>Disassembly code</td>
<td>Define the disassembly code. Refer also to Chap 3.2.1</td>
<td>S2000M 0007</td>
</tr>
<tr>
<td>39.5.1.2.1.1.2g.8</td>
<td>Disassembly code variant</td>
<td>Define the disassembly code variant. Refer also to Chap 3.2.1</td>
<td>S2000M 0007</td>
</tr>
</tbody>
</table>

The requirement for the target

Link to S1000D data dictionary

Link from S1000X chap 3.8 to chap 3.2.1

Unique ID

Link to S1000D data dictionary
### Chapter 3.2.1 – Identification and status section

<table>
<thead>
<tr>
<th>No.</th>
<th>Target: Functionality Area</th>
<th>Target requirements</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9.5.1.2.1.2@5</td>
<td>Sub-system code</td>
<td><code>identAndStatusSection</code></td>
<td>S2000M, S3000F, S4000P, S5000F, S6000T 0007</td>
</tr>
<tr>
<td>3.9.5.1.2.1.2@6</td>
<td>Assembly code</td>
<td><code>identAndStatusSection/ dmAddress/ dmIdent/ dmCode/ @subSystemCode</code></td>
<td>S2000M, S3000L, S4000P, S5000F, S6000T 0007</td>
</tr>
<tr>
<td>3.9.5.1.2.1.2@7</td>
<td>Disassembly code</td>
<td><code>identAndStatusSection/ dmAddress/ dmIdent/ dmCode/ @assemblyCode</code></td>
<td>S2000M, S3000L, S4000P, S5000F, S6000T 0007</td>
</tr>
<tr>
<td>3.9.5.1.2.1.2@8</td>
<td>Disassembly code variant</td>
<td><code>identAndStatusSection/ dmAddress/ dmIdent/ dmCode/ @disassemblyCodeVariant</code></td>
<td>S2000M, S3000L, S4000P, S5000F, S6000T 0007</td>
</tr>
<tr>
<td>3.9.5.1.2.1.2@9</td>
<td>Information code</td>
<td></td>
<td>S2000M</td>
</tr>
</tbody>
</table>

**Link to S1000D data dictionary**

**Link to S1000D**

**Link to source information S1000X chap 4.X**
HTML file to explain the attribute

Reusing the schema data to get a full definition of the data element in S1000D

HTML files for each data element per schema (IPD)
S1000X – Document relationships

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Terminology Mapping

Chapter 2: General Requirements

Chapter 3: Target Requirements

Chapter 4: Source Information
- Chapter 4.#: Mapping information from specific source data specification / system with mapping examples

Links from target requirements to source information

Links to target and source data element definitions, if available

Chapter 5: Terminology Mapping

Target Data Element Definitions

Source Data Element Definitions
S1000X – Document relationships

Source Information

Chapter 2: General Requirements

Chapter 3: Target Requirements

Chapter 4: Source Information
- Chapter 4.1: Mapping information from specific source data specification / system with mapping examples

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Links from target requirements to source information

Links to target and source data element definitions, if available
# Chapter 4 – Mapping details

<table>
<thead>
<tr>
<th>No.</th>
<th>Target: Functionality area and Detail/Path</th>
<th>Source: Detail/Path</th>
<th>Mapping details and requirements</th>
<th>Triggering event BRDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9.5.1_2.1.1.2@4</td>
<td>Subsystem code</td>
<td>locdp/msgContent/cas/figSm/csn/10</td>
<td>same unique ID</td>
<td>1. Take the content at position 4 of child element <code>&lt;iD&gt;</code> of element <code>&lt;cas&gt;</code>, formatted as an integer. 2. If there is a space character at this position (separate IP presentation of equipment - non-chapterized), then take the content at position 6 of child element <code>&lt;iD&gt;</code> of element <code>&lt;ipp&gt;</code>.</td>
</tr>
</tbody>
</table>
| 3.9.5.1_2.1.1.2@5 | Subsystem code | locdp/msgContent/cas/figSm/csn/10 | same unique ID | 1. Take the content at position 5 of child element `<iD>` of element `<cas>`, formatted as an integer. 2. If there is a space character at this position (separate IP presentation of equipment - non-chapterized), then take the content at position 7 of child element `<iD>` of element `<ipp>`.
Chapter 4 – Mapping examples

<table>
<thead>
<tr>
<th>No.</th>
<th>Target: Functionality area and Detail/Path</th>
<th>Target example (XML fragment only)</th>
<th>Source data (XML fragment only)</th>
</tr>
</thead>
</table>
| 3.9.1.2.1.1.2@0 | Sub-system code | <dmCode subSystemCode="0"/> | figureItemIdentifier (CSN):<locipd>.<msgContent><case>.<headCase><com>
<id>000000000010000</id>
</com></case></msgContent></locipd> |
| 3.9.1.2.1.1.2@0 | Assembly code | <dmCode assemblyCode="0000"/> | figureItemIdentifier (CSN):<locipd>.<msgContent><case>.<headCase><com>
<id>000000000010000</id>
</com></case></msgContent></locipd> |
| 3.9.1.2.1.1.2@0 | Disassembly code | <dmCode disassemblyCode="01"/> | figureItemIdentifier (CSN):<locipd>.<msgContent><case>.<headCase><com>
<id>000000000010000</id>
</com></case></msgContent></locipd> |
| 3.9.1.2.1.1.2@0 | Disassembly code variant | <dmCode disassemblyCodeVariant="A"/> | figureItemIdentifier (CSN):<locipd>.<msgContent><case>.<headCase><com>
<id>000000000010000</id>
</com></case></msgContent></locipd> |

Same unique ID
Link to S1000D data dictionary
What are we looking for (S1000D)
Where to find it in the source (S2000M)
S1000X – Document relationships

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Chapter 5: Terminology Mapping

Links from target requirements to source information

Links to target and source data element definitions, if available

Target Data Element Definitions

Source Data Element Definitions
S1000X – Document relationships
Terminology mapping

General requirements for input data specification for target S-Series specification

Chapter 2: General Requirements

Target S-Series specification requirements

Chapter 3: Target Requirements

Detailed source mapping information for applicable source data systems

Chapter 4: Source Information
- Chapter 4.#: Mapping information from specific source data specification / system with mapping examples

Links from target requirements to source information

Links to target and source data element definitions, if available

Chapter 5: Terminology mapping

Target Data Element Definitions

Source Data Element Definitions

S1000X - Input data specification for S1000D (S1000D User Forum 2018)
### Chapter 5

**Table 3: Terminology mapping - S2000M**

<table>
<thead>
<tr>
<th>No.</th>
<th>Data element name</th>
<th>TLE / Acronym</th>
<th>Format</th>
<th>Type</th>
<th>Min length</th>
<th>Max length</th>
<th>Definition / Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>figureItemAttaching/Storage/ShippingItem</td>
<td>ASP</td>
<td>n1</td>
<td>string</td>
<td>1</td>
<td>1</td>
<td>Indicates an item that is an attaching, storage or shipping part at a specific figureItemIdentifier (CSIN).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Notes:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 1 = Attaching part</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 2 = Storage part</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 3 = Shipping part</td>
</tr>
<tr>
<td>2</td>
<td>changeAuthorizationIdentifier</td>
<td>CAN</td>
<td>an.20</td>
<td>string</td>
<td>1</td>
<td>20</td>
<td>Identifies an authority or an authorizing notice for engineering or other changes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Notes:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 0 = False: Item does not require to be calibrated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 1 = True: Item requires to be calibrated.</td>
</tr>
<tr>
<td>3</td>
<td>customerIdentifier</td>
<td>CIN</td>
<td>a2</td>
<td>string</td>
<td>2</td>
<td>2</td>
<td>Identifies the customer to whom specific data is applicable. It contains either a country code (ISO 3166-1), or an organizational code maintained by the S2000M administrator.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Notes:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Position 1: Material item category code (alphabetic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Positions 2 and 3: Product chapter number (alphabetic)</td>
</tr>
<tr>
<td>4</td>
<td>hardwarePart/beforeRequirement</td>
<td>CMK</td>
<td>m1</td>
<td>boolean</td>
<td>1</td>
<td>1</td>
<td>Identifies an item that requires calibration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Notes:</td>
</tr>
<tr>
<td>5</td>
<td>figureItemIdentifier</td>
<td>CSIN</td>
<td>an16</td>
<td>string</td>
<td>16</td>
<td>16</td>
<td>Identifies the location of the item within the illustrated parts catalog (IPC) according to the standard numbering system.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Notes:</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Position 1: Material item category code (alphabetic)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Positions 2 and 3: Product chapter number (alphabetic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Position 4: Section (alphabetic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Position 5: Subsection (alphabetic)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>- Positions 6 thru 8: Subject (alphabetic)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>- Positions 9 and 11: Figure number (alphabetic)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Position 12: Figure number variant (alpha except &quot;Y&quot; and &quot;O&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Positions 13 thru 15: Item number (numeric)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Position 16: Item number variant (alpha except &quot;Y&quot; and &quot;O&quot;)</td>
</tr>
<tr>
<td>6</td>
<td>figureItemContainer/Location</td>
<td>CTL</td>
<td>an7</td>
<td>string</td>
<td>7</td>
<td>7</td>
<td>Identifies the location at which the data record for the item's category 1 container is held.</td>
</tr>
</tbody>
</table>
Tailoring of S1000D

• Business rules

• Example: S3000L vs GEIA-STD-0007 for procedural information
  • Business rule decision point BRDP-1X-00001 - Applicable source specifications:
    • Identify the source specifications applicable to the mapping of required input data for S1000D in a given project.
## Schedule

<table>
<thead>
<tr>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>2019</td>
</tr>
<tr>
<td>July</td>
<td>January</td>
</tr>
<tr>
<td>August</td>
<td>February</td>
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<tr>
<td>September</td>
<td>March</td>
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<tr>
<td>October</td>
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<tr>
<td>November</td>
<td></td>
</tr>
<tr>
<td>December</td>
<td></td>
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Current plan

<table>
<thead>
<tr>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDIT</td>
<td>EDIT</td>
</tr>
<tr>
<td>EDIT</td>
<td>REVIEW</td>
</tr>
<tr>
<td>REVIEW</td>
<td>EXTENDED</td>
</tr>
<tr>
<td>Publishing</td>
<td>REVIEW</td>
</tr>
<tr>
<td>REVIEW</td>
<td>REVIEW</td>
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</tr>
<tr>
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</tr>
</tbody>
</table>

- EDIT: Editing Phase
- REVIEW: Review Phase
- EXTENDED REVIEW: Extended Review Phase

S1000X - Input data specification for S1000D (S1000D User Forum 2018)
### Beyond issue 0.1

| Chapter 3.3 – Descriptive information | Chapter 3.14 – Learning data module | Chapter 4.4 – S4000P | Chapter 5.4 – S4000P |
| Chapter 3.5 – Fault information | Chapter 3.15 – Maintenance checklists and inspections | Chapter 4.5 – S5000F | Chapter 5.5 – S5000F |
| Chapter 3.7 – Crew/Operator information | Chapter 3.16 – Service bulletin data module | Chapter 4.6 – S6000T | Chapter 5.6 – S6000T |
| Chapter 3.9 – BDAR information | Chapter 3.17 – SCO content data module | Chapter 4.8 – Other sources | Chapter 5.8 – Other sources |
| Chapter 3.10 – Wiring data | Chapter 3.18 – Incremental update |
| Chapter 3.11 – Process data module |
| Chapter 3.13 – Container data module |
Beyond issue 0.1

• S1000D issue 4.2
• S2000M 6.2
• S3000L 2.0
• S4000P
• S6000T
Thank you
for your attention!

Questions?