

TV-1 : Technical Standards Profile

NOTICE: At the time this document was written, AP233 was still undergoing development.

This document defines the mapping between the DODAF TV-1 Technical Standards Profile and the ISO 10303 AP233 Systems Engineering information model. This mapping is defined for the purpose of enabling data exchange between computer applications supporting the ISO AP233 standard and those supporting the US DoDAF CADM format, specifically CADM 1.01 Draft for Review dated 11 July 2003.

Table of contents

1 Introduction.....	2
2 TV-1 AP233 Mapping Issues.....	2
3 Mapping TV-1 CADM XML to AP233 XML.....	2
3.1 TV-1 Mapping.....	2
3.2 Information Technology Standard Mapping.....	4
3.3 Information Technology Standard Associations Mapping.....	6
4 Example TV-1 CADM XML Data.....	7
4.1 Example TECH_STD_PROF.....	7
4.2 Example TECH_STD_PROF_EL.....	7
4.3 Example IT_STD.....	8
5 Example TV-1 AP233 XML Data.....	8
5.1 Example Document.....	8
5.2 Example Document_version and Document_definition.....	9

1. Introduction

The TV-1 Technical Standards Profile Product Description in the DoDAF Volume II: Product Descriptions document defined TV-1 as follows.

The Technical Standards Profile collects the various systems standards rules that implement and sometimes constrain the choices that can be made in the design and implementation of an architecture.

DoDAF Volume II also describes various representations of TV-1 content.

2. TV-1 AP233 Mapping Issues

Warning:

At the time this document was written, AP233 was still undergoing development.

This section describes the issues in mapping between TV-1 Technical Standards Profiles and ISO AP233 as of the date of publication of this document. These issues may be addressed in future work by the DoDAF Working Group, the ISO AP233 development team or others.

1. CADM elements such as TECHSTDPE_DESCR_TX, ITSTD_MEAS_DESC_TX and ITSTD_CRIT_DESC_TX that are extended text might better be represented as a generated text document file defined as an AP233 Document.

3. Mapping TV-1 CADM XML to AP233 XML

This section defines the mapping from the CADM XML representation of TV-1 Technical Standards Profiles into an ISO AP233 XML representation of that same data. See AP233 for more information on the AP233 XML Schema and the AP233 EXPRESS schema.

Please review the rules for AP233 XML data production as they are applicable to all implementations.

3.1. TV-1 Mapping

This section describes the mapping for the CADM TV-1 itself.

See Example TECH_STD_PROF for example CADM XML Technical Standards Profile data.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)
TECH_STD_PROF	A Document with related version and definition

TV-1 : Technical Standards Profile

	as specified in AP233 approach to documents. The Document and related version and definition are classified as TECHNICAL-STANDARD-PROFILE .
TECH_STD_PROF / TECHSTD_PRF_DOC_ID	The identifier for the Document assigned by the owning organization.

Table 1: Within the TECH_STD_PROF_TBL CADM XML Element

See Example TECH_STD_PROF_EL for example CADM XML Technical Standards Profile Element data.

The following table specifies the mapping for Technical Standards Profile Elements.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)
TECH_STD_PROF_EL	A Document_definition_relationship as specified in AP233 approach to documents classified as TECHNICAL-STANDARD-PROFILE-ELEMENT .
TECH_STD_PROF_EL / TECHSTDPE_ID	The identifier of the Document_definition_relationship.
TECH_STD_PROF_EL / GUID_ID	A Document_definition as specified in AP233 Documents representing Guidance.
TECH_STD_PROF_EL / TECHSTDPE_DESCR_TX	The Description child element of the Document_definition_relationship. See TV-1 Issues
TECH_STD_PROF_EL / TECHS_ID	Not currently mapped.
TECH_STD_PROF_EL / TECHSTD_PRF_DOC_ID	The reference in the Document_definition_relationship to the Document_definition representing the TV-1 document itself.
TECH_STD_PROF_EL / ITSTD_AGR_ID	The reference in the Document_definition_relationship to the Document_definition representing the Information Technology Standard.
TECH_STD_PROF_EL / IMPL_TF_CD	A classification (see external class) of the Document_definition_relationship as one of the following. <ul style="list-style-type: none"> • 1 = BASELINE • 2 = INTERMEDIATE • 3 = OBJECTIVE

	<ul style="list-style-type: none"> • 8 = NOT SPECIFIED as not classified • 9 = NOT KNOWN
TECH_STD_PROF_EL / TECHSTDPE_IM_MD_CD	<p>A classification (see external class) of the Document_definition_relationship as one of the following.</p> <ul style="list-style-type: none"> • 01 = SPECIFIES HOW THE IMPLEMENTATION WILL OCCUR maps as IMPLEMENTATION STATUS HOW • 02 = SPECIFIES WHETHER IMPLEMENTATION IS NECESSARY maps as IMPLEMENTATION STATUS NECESSARY • 03 = SPECIFIES WHETHER IMPLEMENTATION IS PLANNED maps as IMPLEMENTATION STATUS PLANNED • 04 = SPECIFIES THAT IMPLEMENTATION IS BEGUN maps as IMPLEMENTATION STATUS BEGUN • 05 = SPECIFIES THAT IMPLEMENTATION IS COMPLETE maps as IMPLEMENTATION STATUS COMPLETE • 08 = NOT SPECIFIED as not classified • 09 = NOT KNOWN maps as IMPLEMENTATION STATUS NOT KNOWN

Table 2: Within the TECH_STD_PROF_EL_TBL CADM XML Element

3.2. Information Technology Standard Mapping

This section describes the mapping for the CADM Information Technology Standard concepts.

See Example IT_STD for example CADM XML Information Technology Standard data.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)
IT_STD	A Document with related version and definition as specified in AP233 approach to documents.
IT_STD / ITSTD_AGR_ID	The identifier of the Document assigned by the owning organization.
IT_STD / ITSTD_CAT_CD	<p>A classification (see external class) of the Document as one of the following.</p> <ul style="list-style-type: none"> • When 01, then APPLICATION PROGRAM INTERFACE STANDARD • When 02, then DATA STANDARD

TV-1 : Technical Standards Profile

	<ul style="list-style-type: none"> • When 03, then DATA MODEL STANDARD • When 04, then MESSAGE STANDARD • When 05, then PROTOCOL STANDARD • When 06, then HARDWARE STANDARD • When 07, then SOFTWARE STANDARD • When 08, then PROCESS STANDARD • When 09, then DEVELOPMENT STANDARD • When 10, then STANDARD PROFILE • When 98, then NOT SPECIFIED • When 99, then NOT KNOWN • When 11, then STANDARD CONVENTION
IT_STD / ITSTD_CRIT_DESC_TX	See TV-1 Issues.
IT_STD / ITSTD_DEV_STA_CD	<p>A classification (see external class) of the Document as one of the following.</p> <ul style="list-style-type: none"> • When 01, then CONCEPT DRAFT • When 02, then COMMITTEE DRAFT • When 03, then FINAL REVIEW DRAFT • When 04, then ADOPTED • When 05, then WITHDRAWN • When 06, then WORKING DRAFT • When 08, then NOT SPECIFIED • When 09, then NOT KNOWN
IT_STD / ITSTD_LAYER_CD	<p>A classification (see external class) of the Document as one of the following.</p> <ul style="list-style-type: none"> • 01 = OPEN SYSTEMS INTERCONNECTION (OSI) LAYER 1 (PHYSICAL LAYER) OSI PHYSICAL LAYER • 02 = OPEN SYSTEMS INTERCONNECTION (OSI) LAYER 2 (DATA LINK LAYER) OSI DATA LINK LAYER • 03 = OPEN SYSTEMS INTERCONNECTION (OSI) LAYER 3 (NETWORK LAYER) OSI NETWORK LAYER • 04 = OPEN SYSTEMS INTERCONNECTION (OSI) LAYER 4 (TRANSPORT LAYER) OSI TRANSPORT LAYER • 05 = OPEN SYSTEMS INTERCONNECTION (OSI) LAYER 5 (SESSION LAYER) OSI SESSION LAYER • 06 = OPEN SYSTEMS INTERCONNECTION (OSI) LAYER 6 (PRESENTATION LAYER) OSI PRESENTATION LAYER • 07 = OPEN SYSTEMS INTERCONNECTION (OSI) LAYER 7 (APPLICATION LAYER) OSI APPLICATION LAYER • 08 = MULTIPLE OPEN SYSTEMS

	<p>INTERCONNECTION (OSI) LAYERS OSI MULTIPLE LAYERS</p> <ul style="list-style-type: none"> • 90 = OTHER OTHER LAYER • 98 = NOT SPECIFIED maps as not classified • 99 = NOT KNOWN OSI LAYER NOT KNOWN
IT_STD / ITSTD_MEAS_DESC_TX	See TV-1 Issues.
IT_STD / ITSTD_ORG_DESIG_ID	The identifier of the Document assigned by the source standards body.
IT_STD / ITSTD_ORG_DESIG_NM	An identifier of the Document assigned by the source standards body and classified as a Short name .
IT_STD / ITSTD_PRJ_SPC_CD	<p>A classification (see external class) of the Document as one of the following.</p> <ul style="list-style-type: none"> • 1 = GENERIC maps to PROJECT-GENERIC • 2 = maps to PROJECT-SPECIFIC • 3 = maps to PROFILE-SPECIFIC • 8 = NOT SPECIFIED maps as not classified • 9 = NOT KNOWN maps to PROJECT-SPECIFIC NOT KNOWN
IT_STD / ITSTDCAT_ID	A classification of the Document and related version and definition. See IT Standard Category Mappings.

Table 1: Within the IT_STD_TBL CADM XML Element

3.2.1. Information Technology Standard Category Mapping

The CADM concept of INFORMATION-TECHNOLOGY-STANDARD-CATEGORY are not mapped as part of the AP233 data that is exchanged between systems. These categories are represented using the AP233 External Class. Each category (e.g. C4ISR.NCC) and its related properties are managed outside AP233 itself. The categories are used by classifying the documents in question.

3.3. Information Technology Standard Associations Mapping

This section describes the mapping for the CADM Information Technology Standard Associations.

In AP233, CADM Information Technology Standards are represented as AP233 Documents. Relationships between AP233 Documents and other AP233 concepts are defined using Document_assignment. That assignment is then classified to specify its meaning. As

TV-1 : Technical Standards Profile

Document_assignment is a well-defined pattern in AP233, the links between TV-1 standards and the other CADM elements to which they apply are not documented as part of this mapping.

4. Example TV-1 CADM XML Data

This section contains example TV-1 CADM XML data.

4.1. Example TECH_STD_PROF

```
<DOC>
  <DOC_ID>337</DOC_ID>
  <DOC_NM>TRP TECHNICAL-STANDARD-PROFILE {TV-1}</DOC_NM>
  <SC_CD>14</SC_CD>
  <CSC_ID>20000001</CSC_ID>
  <TIME_FRAME_PRD_ID>20102341</TIME_FRAME_PRD_ID>
  <DOC_APP_CALDT>20031126</DOC_APP_CALDT>
  <DOC_ABBRV_NM>TRP TECHSTDPROFL</DOC_ABBRV_NM>
  <DOC_ARCHPROD_TY_CD>98</DOC_ARCHPROD_TY_CD>
  <DOC_ORIGINATOR_NM>AIP PHASE II TEAM</DOC_ORIGINATOR_NM>
  <DOC_CRTN_CALDT>20031203</DOC_CRTN_CALDT>
  <DOC_DESC_TX>TRP DOCUMENT THAT REFERENCES THE TECHNICAL STANDARDS THAT
APPLY TO
          THE TRP INTEGRATED ARCHITECTURE AND HOW THEY ARE TO BE
IMPLEMENTED
  </DOC_DESC_TX>
  <DOC_NOTATION_TX>TEXT</DOC_NOTATION_TX>
  <DOC_CAT_CD>J</DOC_CAT_CD>
  <DOC_PROMULG_CD>998</DOC_PROMULG_CD>
  <DOC_RMK_TX>VALIDATED FOR AIPP PHASE II UNDER OASD(NII)
GUIDANCE</DOC_RMK_TX>
  <DOC_TMPRL_SCP_CD>3</DOC_TMPRL_SCP_CD>
  <DOC_VER_ID>VERSION 1.0</DOC_VER_ID>
  <DCMNT_RNG_CD>B</DCMNT_RNG_CD>
  <DOC_URL_TX>NONE PROVIDED</DOC_URL_TX>
  <DOC_TY_CD>98</DOC_TY_CD>
  <DOC_PUB_DT>20031203</DOC_PUB_DT>
</DOC>
<TECH_STD_PROF>
  <TECHSTD_PRF_DOC_ID>337</TECHSTD_PRF_DOC_ID>
</TECH_STD_PROF>
```

4.2. Example TECH_STD_PROF_EL

```
<TECH_STD_PROF_EL>
  <TECHSTD_PRF_DOC_ID>337</TECHSTD_PRF_DOC_ID>
  <TECHSTDPE_ID>55001</TECHSTDPE_ID>
  <ITSTD_AGR_ID>20003227</ITSTD_AGR_ID>
  <GUID_ID>24100094</GUID_ID>
  <IMPL_TF_CD>2</IMPL_TF_CD>
  <TECHS_ID>3001</TECHS_ID>
```

```

<TECHSTDPE_DESCR_TX>All future systems must be able to process XML data
efficiently,
        and reliably
</TECHSTDPE_DESCR_TX>
<TECHSTDPE_IM_MD_CD>2</TECHSTDPE_IM_MD_CD>
</TECH_STD_PROF_EL>

```

4.3. Example IT_STD

```

<IT_STD>
  <ITSTD_AGR_ID>20003227</ITSTD_AGR_ID>
  <ITSTD_CAT_CD>1</ITSTD_CAT_CD>
  <ITSTDCAT_ID>20000069</ITSTDCAT_ID>
  <ITSTD_MEAS_DESC_TX>INFORMATION-TECHNOLOGY-STANDARD IS TO BE APPLIED FOR
CONFORMANCE IN
          ACCORDANCE WITH JTA 2. Information Processing
Standards
  </ITSTD_MEAS_DESC_TX>
  <ITSTD_CRIT_DESC_TX>CRITERIA APPLICABLE: TRANSMISSION SPEED, REFRESH
RATE, RELIABILITY OF SERVICE.
  </ITSTD_CRIT_DESC_TX>
  <ITSTD_DEV_STA_CD>2</ITSTD_DEV_STA_CD>
  <ITSTD_PRJ_SPC_CD>2</ITSTD_PRJ_SPC_CD>
  <ITSTD_LAYER_CD>3</ITSTD_LAYER_CD>
  <ITSTD_ORG_DESIG_NM>IEEE</ITSTD_ORG_DESIG_NM>
  <ITSTD_ORG_DESIG_ID>IPS 1212</ITSTD_ORG_DESIG_ID>
</IT_STD>

```

5. Example TV-1 AP233 XML Data

This section contains example TV-1 AP233 XML data.

5.1. Example Document

```

<ap233:External_class id="id-Document_identification_code">
<Id>http://www.cadm.org#Document_identification_code</Id>
  <Name>Document Identification Code</Name>
  <External_source>
    <ap233:External_class_library xsi:nil="true" ref="id-cadmlib" />
  </External_source>
</ap233:External_class>

<ap233:Document id="id-doc12771" />

<ap233:Identification_assignment id="id-doc12771-idassign">
  <Identifier>20003227</Identifier>
  <Items>
    <ap233:Document ref="id-doc12771" xsi:nil="true" />
  </Items>
</ap233:Identification_assignment>

<ap233:Classification_assignment
id="id-doc12771-idassign-classification_assignment">

```

```
<Items>
  <ap233:Identification_assignment ref="id-doc12771-idassign"
xsi:nil="true" />
</Items>
<Assigned_class>
  <ap233:External_class ref="id-Document_identification_code"
xsi:nil="true" />
</Assigned_class>
</ap233:Classification_assignment>
```

5.2. Example Document_version and Document_definition

```
<ap233:Document_version id="id-docver12804">
  <Of_product>
    <ap233:Document ref="id-doc12804" xsi:nil="true" />
  </Of_product>
</ap233:Document_version>

<ap233:Document_definition id="id-docdef12804">
  <Defined_version>
    <ap233:Document_version ref="id-docver12804" xsi:nil="true" />
  </Defined_version>
  <Initial_context>
    <ap233:View_definition_context ref="id-tv1" xsi:nil="true" />
  </Initial_context>
</ap233:Document_definition>

<ap233:Classification_assignment
id="id-docver12804-classification_assignment">
  <Items>
    <ap233:Document_version ref="id-docver12804" xsi:nil="true" />
  </Items>
  <Assigned_class>
    <ap233:External_class ref="id-Information_technology_standard"
xsi:nil="true" />
  </Assigned_class>
</ap233:Classification_assignment>

<ap233:Classification_assignment
id="id-docdef12804-classification_assignment">
  <Items>
    <ap233:Document_definition ref="id-docdef12804" xsi:nil="true" />
  </Items>
  <Assigned_class>
    <ap233:External_class ref="id-Information_technology_standard"
xsi:nil="true" />
  </Assigned_class>
</ap233:Classification_assignment>
```