SV-4 : Systems Functionality Description

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

This document defines the mapping between the DODAF SV-4 Systems Functionality Description 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.

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1. Introduction

The SV-4 Systems Functionality Description Product Description in the DoDAF Volume II: Product Descriptions document defined SV-4 as follows.

> The Systems Functionality Description documents system functional hierarchies and system functions, and the system data flows between them. Although there is a correlation between Operational Activity Model (OV-5) or business-process hierarchies and the system functional hierarchy of SV-4, it need not be a one-to-one mapping, hence, the need for the Operational Activity to Systems Function Traceability Matrix (SV-5), which provides that mapping.

DoDAF Volume II also describes the use of various types of diagrams for representing SV-4 content.

2. SV-4 Concepts

A Systems Functionality Description may be used to represent the following concepts.

- The concepts covered by OV-5 Operational Activity Model (e.g. Nodes, systems, and flows).
- Functional decomposition
- System functional use cases

3. SV-4 AP233 Mapping Issues

This section describes the issues in mapping between SV-4 Systems Functionality Descriptions 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 develoment team or others.

1. SV-4 functional decomposition is mapped into AP233 Functional breakdowns. This should be considered in more detail as AP233 is completed. Breakdown and assembly are treated separately in ISO STEP and it may be that the concept of assembly is more appropriate for the DoDAF views in question.
2. The mapping for `AMPAA_SUBSEQ_ID` which seems to relate two `Functional_element_usage`s needs to be investigated.
3. The mapping for additional descriptive text such as `PROC_ACTV_SRCDC_TX`, `PRC_ACT_SCP_DSC_TX`, `ACT_MDL_DV_ST_TX`, `ACT_MDL_ORG_CTX_TX`, and `ACTV_MDL_SCP_TX` needs to be investigated. It is possible to map these as

string-valued properties that are classified or extended text might better be represented as a generated text document file defined as an AP233 Document.

4. Several CADM attributes such as `INF_ASST_CMT_TX` and `INF_ASST_DFN_TX` are text descriptions of various aspects of CADM concepts. It is possible to map these as string-valued properties that are classified classified as **INFORMATION-ASSET DEFINITION TEXT**, etc. but this needs more study. For example, extended text might better be represented as a generated text document file defined as an AP233 Document.

4. Mapping SV-4 CADM XML to AP233 XML

This section defines the mapping from the CADM XML representation of SV-4 Systems Functionality Descriptions 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.

4.1. SV-4 and related Activity Model Mapping

This section describes the mapping for the CADM SV-4 itself.

The following table documents the Systems Functionality Description mapping.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)
`SYS_FUNC_DESCR / DOC_ID`	A `Document` with related version and definition, as specified in CADM Documents, as in AP233 approach to documents. The `Document`, as specified and related version and definition are classified as **SYSTEM-FUNCTIONALITY-DESCRIPTION**.
`SYS_FUNC_DESCR / ACTV_MDL_IA_ID`	The `Document_assignment` child element `Assigned_document` linking the AP233 representation of the CADM Activity Model with the `Document_definition` representing the Systems Functionality Description itself which is referenced through the `Is_assigned_to` child element.

Table 1: Within the SYS_FUNC_DESCR_TBL CADM XML Element

The following table documents the Information Asset mapping.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)
`INFO_ASSET`	An AP233 document with related version and definition. Details of the document depend on its

	type code below. For SV-4, only `IA_TY_CD` value **13 = ACTIVITY MODEL** is addressed.
`INFO_ASSET / IA_TY_CD`	Maps as the classification of the AP233 document and related version and definition (or other representation) of the CADM Information Asset based on the following values. • 1 = USER PRESENTATION VIEW not currently mapped • 2 = SYSTEM SEGMENT not currently mapped • 3 = DATA DOMAIN not currently mapped • 4 = DATA CLASS not currently mapped • 5 = INTERNAL RECORD not currently mapped • 6 = DATA ENTITY not currently mapped • 7 = APPLICATION not currently mapped • 8 = INFORMATION SYSTEM not currently mapped • 9 = CONCEPTUAL DATA MODEL not currently mapped • 10 = DATA ATTRIBUTE not currently mapped • 11 = CONCEPTUAL DATA MODEL VIEW not currently mapped • 12 = DOMAIN MODEL not currently mapped • 13 = ACTIVITY MODEL maps as a `Digital_document_definition` with classification **ACTIVITY MODEL** • 14 = EXTERNAL/PHYSICAL MODEL not currently mapped • 15 = SOFTWARE APPLICATION not currently mapped • 16 = INTERNAL DATA MODEL not currently mapped • 17 = HIERARCHICAL REQUIREMENT DICTIONARY not currently mapped • 18 = DATA DICTIONARY not currently mapped • 19 = DATABASE not currently mapped • 98 = NOT SPECIFIED not currently mapped • 99 = NOT KNOWN not currently mapped • 21 = UML MODEL not currently mapped • 20 = SYSTEM PLATFROM not currently mapped
`INFO_ASSET / INF_AST_ACRYNM_TX`	The assigned identifier classified as a **Acronym** of the AP233 `Document`, or other representation, of the CADM Information Asset.
`INFO_ASSET / INF_ASST_CMT_TX`	See SV-4 Issues.

INFO_ASSET / INF_ASST_DFN_TX	A Description child of the Document or an external file linked to the document, see SV-4 Issues.
INFO_ASSET / IA_ID	Not currently used in the mapping except for reference from kinds of CADM Information Assets (e.g. Activity Model).
INFO_ASSET / INF_ASSET_NM	The assigned identifier classified as a **Name** of the AP233 Document, or other representation, of the CADM Information Asset.
INFO_ASSET / IA_REUSABLE_CD	Maps as the classification of the AP233 document and related version and definition (or other representation) of the CADM Information Asset based on the following values. • 1 = N--NON-REUSABLE INFORMATION ASSET maps as **INFORMATION-ASSET NOT REUSABLE** • 2 = R--REUSABLE INFORMATION ASSET maps as **INFORMATION-ASSET REUSABLE** • 8 = NOT SPECIFIED maps as **INFORMATION-ASSET REUSABLE NOT SPECIFIED** • 9 = NOT KNOWN maps as **INFORMATION-ASSET REUSABLE NOT KNOWN**
INFO_ASSET / INF_AST_SHT_NM	The assigned identifier classified as a **Short Name** of the AP233 Document, or other representation, of the CADM Information Asset.
INFO_ASSET / IA_STD_AUT_CD	An Organization with an assigned identifier from the list of values (e.g AMERICAN NATIONAL STANDARDS INSTITUTE) and an Approving_person_organization with Person_organization child referring to the Organization and with Autorized_approval child referring to the Approval. The Approving_person_organization is classified as **INFORMATION-ASSET STANDARDIZATION AUTHORITY**.
INFO_ASSET / IA_STD_ST_CD and IA_STD_ST_CALDT	An Approval_status classified with one of the following text values depending on the code. The status is assigned to the Document_definition or

	`Digital_document_definition` and the assignment is classified as **INFORMATION-ASSET STANDARDIZATION STATUS**. The assignment date is then defined as follows (see Date). The `Date_or_date_time_assignment` element child `Items` element refers to the `Approval_assignment` and the `Date_or_date_time_assignment` is classified as an **INFORMATION-ASSET STANDARDIZATION STATUS CALENDAR DATE**. • 1 = A--APPROVED maps as **APPROVED** • 2 = C--CANDIDATE maps as **CANDIDATE** • 3 = D--DEVELOPMENTAL maps as **DEVELOPMENTAL** • 4 = R--DISAPPROVED maps as **DISAPPROVED** • 5 = X--ARCHIVED maps as **ARCHIVED** • 8 = NOT SPECIFIED maps as • 9 = NOT KNOWN maps as **NOT KNOWN**
`INFO_ASSET / INF_ASST_VRS_ID`	The assigned identifier classified as a **Version Identifier** of the AP233 `Document_version`, or other representation, of the CADM Information Asset.
`INFO_ASSET / MAINT_ORG_ID`, `OWNER_ORG_ID`, `STEWARD_ORG_ID` and `VENDOR_ORG_ID`	An `Organization` (see AP233 Organizations) assigned to the `Document` and related version and definition with the assignments classified as an **Maintaining Organization**, **Owner Organization**, **Steward Organization** and **Vendor Organization** respectively.
`INFO_ASSET / SC_CD`	The assignment of a `Security_classification` to the AP233 `Document` and related version and defintion, or other AP233 representation, with child element `Security_level` containing the text (not the number) of the security class.

Table 2: Within the INFO_ASSET_TBL CADM XML Element

The following table documents the Activity Model mapping.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)
`ACTV_MODEL`	An AP233 document with related version and definition when `INFO_ASSET / IA_TY_CD` value **13 = ACTIVITY MODEL**.

ACTV_MODEL / ACTV_MDL_IA_ID	Not used in mapped except for reference to CADM Information Asset information.
ACTV_MODEL / ACTV_MDL_AUT_NM	A Person, Organization and Person_in_organization as described in AP233 Organizations. The Organization_or_person_in_organization child element Items refers to he Document and related version and definition and the child element Assigned_entity refers to the Person_in_organization. The **Maintaining Organization** from the CADM Information Asset defined earlier is used.
ACTV_MODEL / ACTV_MDL_CALDT	The assignment of a date to the Document and related version and definition. The Date_or_date_time_assignment element child Items element refers to the Document, version and definition and the Date_or_date_time_assignment is classified as an **ACTIVITY-MODEL CALENDAR DATE**.
ACTV_MODEL / ACT_MDL_DV_ST_TX	See SV-4 Issues.
ACTV_MODEL / ACT_MDL_ORG_CTX_TX	See SV-4 Issues.
ACTV_MODEL / ACTV_MDL_SCP_TX	See SV-4 Issues.
ACTV_MODEL / ACTV_MDL_TNS_CD	A classification of the Document representing the CADM Activity Model as **AS-IS ACTIVITY MODEL** when A or **TO-BE ACTIVITY MODEL** when T.
ACTV_MODEL / ACTV_MDL_TY_CD	A classification of the Document representing the CADM Activity Model depending on the following values. • 01 = IDEF0 ACTIVITY MODEL maps as **IDEF0 ACTIVITY MODEL** • 02 = YOURDON-DEMARCO DATA FLOW DIAGRAM maps as **YOURDON-DEMARCO DATA FLOW DIAGRAM** • 03 = GENERALIZED FUNCTIONAL DESCRIPTION maps as **GENERALIZED FUNCTIONAL DESCRIPTION** • 04 = NOT SPECIFIED maps as **ACTIVITY MODEL TYPE NOT SPECIFIED** • 05 = NOT KNOWN maps as **ACTIVITY MODEL TYPE NOT KNOWN**

ACTV_MODEL / ACTV_MDL_VALDTN_CD	An Approval_status classified with one of the following text values depending on the code. The status is assigned to the Document_definition or Digital_document_definition and the assignment is classified as **ACTIVITY-MODEL VALIDATION STATUS CODE**. • 01 = VALIDATED BY USER maps as **ACTIVITY-MODEL VALIDATION BY USER** • 02 = NOT VALIDATED BY USER maps as **ACTIVITY-MODEL VALIDATION NOT BY USER** • 03 = VALIDATION HAS BEEN REQUESTED maps as **ACTIVITY-MODEL VALIDATION REQUESTED** • 04 = VALIDATION HAS BEEN INITIATED maps as **ACTIVITY-MODEL VALIDATION INITIATED** • 05 = NOT ACCEPTED maps as **ACTIVITY-MODEL VALIDATION NOT ACCEPTED** • 06 = ARCHIVED maps as **ACTIVITY-MODEL VALIDATION ARCHIVED** • 08 = NOT SPECIFIED maps as **ACTIVITY-MODEL VALIDATION NOT SPECIFIED** • 09 = NOT KNOWN maps as **ACTIVITY-MODEL VALIDATION NOT KNOWN**
ACTV_MODEL / ACTV_MDL_VWPT_TX	An Assigned_document_property (see AP233 Properties) assigned to the Document_definition or Digital_document_definition. The Assigned_document_property with related Document_property_representation classified as a **Activity Model Viewpoint** with related Descriptive_document_property with child element String_value containing the text describing the viewpoint.

Table 3: Within the ACTV_MODEL_TBL CADM XML Element

The following table documents the Activity Model Process Activity mapping.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)

ACTV_MDL_PROC_ACTV / PA_ID and ACTV_MDL_IA_ID	A View_definition_usage classified as **Activity Model Occurrence** where the Relating_view refers to the Document_definition representing the CADM Activity Model and the Related_view refers to the Functional_element_definition representing the CADM System Function.
ACTV_MDL_PROC_ACTV / ACT_MDL_PRC_CAT_CD	A classification of the View_definition_usage representing the CADM Activity Model Process Activity depending on the following values • 1 = D--DECOMPOSABLE ACTIVITY maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY CATEGORY DECOMPOSABLE ACTIVITY** • 2 = T--TRANSACTION REQUIREMENT ACTIVITY maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY CATEGORY TRANSACTION REQUIREMENT ACTIVITY** • 8 = NOT SPECIFIED maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY CATEGORY NOT SPECIFIED** • 9 = NOT KNOWN maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY CATEGORY NOT KNOWN**
ACTV_MDL_PROC_ACTV / ACT_MDL_PRC_CMP_CD	A classification of the View_definition_usage representing the CADM Activity Model Process Activity depending on the following values • 1 = A--AGGREGATE ACTIVITY maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY COMPOSITION AGGREGATE ACTIVITY** • 2 = D--DISCRETE ACTIVITY maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY COMPOSITION DISCRETE ACTIVITY** • 8 = NOT SPECIFIED maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY COMPOSITION NOT SPECIFIED** • 9 = NOT KNOWN maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY COMPOSITION NOT KNOWN**
ACTV_MDL_PROC_ACTV / AMPA_DESCR_TX	The Description child element of the View_definition_usage.
ACTV_MDL_PROC_ACTV / AMPA_DIAG_NM	An assigned identifier of the

	View_definition_usage classified as a **ACTIVITY-MODEL-PROCESS-ACTIVITY DIAGRAM NAME**
ACTV_MDL_PROC_ACTV / AMPA_EST_CST_AMT	An assigned property for the View_definition_usage the assignment is classified as **Estimated Cost** with the value represented as a Numerical_item_with_unit classified as **Monetary Value** and a Unit of **US Dollars**.
ACTV_MDL_PROC_ACTV / AMPA_LEAF_CD	A classification of the View_definition_usage representing the CADM Activity Model Process Activity depending on the following values • 1 = YES, PROCESS-ACTIVITY IS A LEAF NODE maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY LEAF** • 2 = NO, PROCESS-ACTIVITY IS NOT A LEAF NODE maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY NOT LEAF** • 8 = NOT SPECIFIED maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY LEAF NOT SPECIFIED** • 9 = NOT KNOWN. maps as **ACTIVITY-MODEL-PROCESS-ACTIVITY LEAF NOT KNOWN**
ACTV_MDL_PROC_ACTV / AMPA_REF_ID_TX	An assigned identifier of the View_definition_usage classified as a **ACTIVITY-MODEL-PROCESS-ACTIVITY REFERENCE IDENTIFICATION TEXT**
ACTV_MDL_PROC_ACTV / ACT_MDL_DTL_REF_ID	An assigned identifier of the View_definition_usage classified as a **ACTIVITY-MODEL-PROCESS-ACTIVITY SOURCE DETAIL REFERENCE IDENTIFIER**

Table 4: Within the ACTV_MDL_PROC_ACTV_TBL CADM XML Element

4.2. System Function Decomposition

AP233 breakdowns of all kinds are treated using the same a pattern. DoDAF functional decomposition is mapped into AP233 Functional breakdown.

This table shows the mapping for System Function, which is a kind of Process Activity

CADM XML Element(s)	AP233 Representation
PROC_ACTVTY	Depends on the PROC_ACTV_CAT_CD, see below.
PROC_ACTVTY / PROC_ACTV_CAT_CD	When one of the following values, maps to Functional_element with related version and definition as specified in AP233 Function Breakdowns. All three are classified as follows depending on the value. • 01 = DATA STORE maps to **DATA STORE** • 02 = SYSTEM FUNCTION maps to **SYSTEM FUNCTION** • 03 = START STATE/CONDITION maps to **START STATE** • 04 = END STATE/CONDITION maps to **END STATE** When the following values, maps as specified in OV-5 Process Activity Mapping • 08 = NOT SPECIFIED maps to not classified • 09 = **NOT KNOWN** • 05 = **PROCESS-ACTIVITY**
PROC_ACTVTY / PA_ID	The assigned identifier of the Functional_element
PROC_ACTVTY / PA_NM	The assigned identifier classified as a **Name** of the Functional_element
PROC_ACTVTY / PA_VERS_ID	The assigned identifier classified as a **Version Identifier** of the Functional_element_version
PROC_ACTVTY / PAFNTL_PROC_ID	Not mapped for System Function (is mapped for Process Activity in OV-5 Process Activity Mapping)
PROC_ACTVTY / DOC_ID	An AP233 Document assigned to the Functional_element_definition.
PROC_ACTVTY / CSC_ID	Not mapped.
PROC_ACTVTY / PA_DEF_TX	The Functional_element Description child element containing text.
PROC_ACTVTY / SC_CD	The assignment of a Security_classification to the Functional_element and related version and defintion with child element Security_level containing the text (not the number) of the

	security class.
PROC_ACTVTY / PRC_ACT_SCP_DSC_TX	Not currently mapped. See SV-4 Issues
PROC_ACTVTY / PROC_ACTV_SRCDC_TX	Not currently mapped. See SV-4 Issues
PROC_ACTVTY / PA_CREAT_CALDT	See Date. The Date_or_date_time_assignment element child Items element refers to the Functional_element_definition and the Date_or_date_time_assignment is classified as an **Date_actual_creation**.
PROC_ACTVTY / PROC_ACTV_VALID_CD	An Approval_status classified with one of the following text values depending on the code. The status is assigned to the Functional_element_definition. • 01 = **APPROVED** • 02 = **PROPOSED** • 03 = **DRAFT** • 04 = **CONCEPTUAL** • 05 = **DISAPPROVED** • 06 = **ARCHIVED** • 08 = NOT SPECIFIED maps to not classified. • 09 = **NOT KNOWN**
PROC_ACTVTY / PROC_ACTV_HIER_TX	The assigned identifier classified as a **ACTIVITY HIERARCHY TEXT** of the Functional_element_definition
PROC_ACTVTY / PROC_ACTV_HIER_NM	The assigned identifier classified as a **ACTIVITY HIERARCHY NAME** of the Functional_element_definition
PROC_ACTVTY / PA_ALT_ID	Identifier of the Functional_element (see AP233 id approach.) classified as **ALTERNATE IDENTIFIER**

Table 1: Within the PROC_ACTVTY_TBL CADM XML Element

This table describes the mapping for the System Function CADM concept, which is a subtype of Process Activity.

CADM XML Element(s)	AP233 Representation
SYS_FUNC / FUNC_AR_ID	The classificaton of the Functional_element and related version and definition, mapped from the PA_ID below, by a an AP233 External Class representing the FUNCTIONAL_AREA (see Functional Area Mapping) referenced by the

	FUNC_AR_ID.
SYS_FUNC / PA_ID	See SYSFUNC_DESCR_TX below.
SYS_FUNC / SYSFUNC_DESCR_TX	

Table 2: Within the SYS_FUNC_TBL CADM XML Element

This table describes the mapping for the Activity Model Process Activity Association CADM concept.

CADM XML Element(s)	AP233 Representation
ACTV_MDL_PA_ASSOC / ACTV_MDL_IA_ID	An assignment of the AP233 concept representing the identified Information Asset (e.g. AP233 Document or AP233 Assignment) to the Functional_element_usage.
ACTV_MDL_PA_ASSOC / ORD_PA_ID and SUB_PA_ID	Maps to a Functional_element_usage as specified in AP233 Funcion Breakdowns (also see AP233 Breakdowns) classified as an **FUNCTIONAL DECOMPOSITION USAGE** Both Functional_element_definitions should have been classified as a **SYSTEM FUNCTION**. The ORD_PA_ID maps to the Functional_element_usage Relating_view child element and is a reference to the Ordinate Process Activity and the SUB_PA_ID maps to the Functional_element_usage Related_view child element and is a reference to the Subordinate Process Activity.
ACTV_MDL_PA_ASSOC / AMPAA_CREA_CALDT	See Date. The Date_or_date_time_assignment element child Items element refers to the Functional_element_usage and the Date_or_date_time_assignment is classified as an **Date_actual_creation**.
ACTV_MDL_PA_ASSOC / AMPAA_REV_CALDT	See Date. The Date_or_date_time_assignment element child Items element refers to the Functional_element_usage and the Date_or_date_time_assignment is classified as an **Date_actual_revision**.
ACTV_MDL_PA_ASSOC / AMPAA_ROL_DSCR_TX	The Decsription child element of the Functional_element_usage

ACTV_MDL_PA_ASSOC / AMPAA_SUBSEQ_ID	Not currently mapped, see SV-4 Issues.

Table 3: Within the ACTV_MDL_PA_ASSOC_TBL CADM XML Element

4.3. Functional Area Mapping

In AP233, categories, types and classifications are represented using as External Classes. The CADM FUNCTIONAL_AREA is therefore represented outside of the AP233 XML exchange file. An example set of these along with other External Classes is provided in External Classes Used In Mapping using the Web Ontology Language (OWL) to represent the classes. This results in Uniform Resource Identifier being assigned for each class. This URI (which can be a Web address or Uniform Resource Locator (URL) is the identifier of each External Class that is referenced in an AP233 XML exchange file.

5. Example SV-4 CADM XML Data

This section contains example SV-4 CADM XML data.

5.1. Example SYS_FUNC_DESCR

```
<SYS_FUNC_DESCR>
  <ACTV_MDL_IA_ID>20000012</ACTV_MDL_IA_ID>
  <DOC_ID>888</DOC_ID>
</SYS_FUNC_DESCR>
```

5.2. Example INFO_ASSET

```
<INFO_ASSET_DOC>
  <IA_ID>20000012</IA_ID>
  <DOC_ID>323</DOC_ID>
  <IA_DOC_ID>1</IA_DOC_ID>
  <IA_DOC_ROLE_CD>3</IA_DOC_ROLE_CD>
</INFO_ASSET_DOC>
<DOC>
  <DOC_ID>323</DOC_ID>
  <DOC_NM>AIP Phase II Benchmarks</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>AIP2BM</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>Textual description of the AIP Phase II
Benchmarks</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>
```

5.3. Example ACTV_MODEL

```
<ACTV_MODEL>
  <ACTV_MDL_IA_ID>20000012</ACTV_MDL_IA_ID>
  <ACTV_MDL_SCP_TX>SUPPORTS THE GENERATION OF AN INTEGRATED ARCHITECTURE AS
DEFINED IN DODAF VERSION 1.0
  </ACTV_MDL_SCP_TX>
  <ACTV_MDL_TNS_CD>T</ACTV_MDL_TNS_CD>
  <ACTV_MDL_VWPT_TX>VIEW POINT OF SYSTEM PLANNER</ACTV_MDL_VWPT_TX>
  <ACTV_MDL_AUT_NM>FRANCISCO LOAIZA</ACTV_MDL_AUT_NM>
  <ACTV_MDL_CALDT>20031214</ACTV_MDL_CALDT>
  <ACT_MDL_DV_ST_TX>FIRST ITERATION FOR AIP PHASE II</ACT_MDL_DV_ST_TX>
  <ACTV_MDL_TY_CD>1</ACTV_MDL_TY_CD>
  <ACTV_MDL_VALDTN_CD>2</ACTV_MDL_VALDTN_CD>
  <ACT_MDL_ORG_CTX_TX>THE SPONSORING ORGANIZATION IS OASD(NII). THE PRIMARY
FOCUS IS ARCHITECTURE
                      DATA INTEROPERABILITY
  </ACT_MDL_ORG_CTX_TX>
</ACTV_MODEL>
```

5.4. Example ACTV_MDL_PROC_ACTV

```
<ACTV_MDL_PROC_ACTV>
  <PA_ID>20019311</PA_ID>
  <ACTV_MDL_IA_ID>20000012</ACTV_MDL_IA_ID>
  <AMPA_EST_CST_AMT>200000</AMPA_EST_CST_AMT>
  <ACT_MDL_PRC_CAT_CD>1</ACT_MDL_PRC_CAT_CD>
  <AMPA_DESCR_TX>NONE PROVIDED</AMPA_DESCR_TX>
  <ACT_MDL_PRC_CMP_CD>8</ACT_MDL_PRC_CMP_CD>
  <AMPA_REF_ID_TX>NONE PROVIDED</AMPA_REF_ID_TX>
  <AMPA_LEAF_CD>8</AMPA_LEAF_CD>
  <AMPA_DIAG_NM>TRP CONTEXT DIAGRAM</AMPA_DIAG_NM>
</ACTV_MDL_PROC_ACTV>
```

5.5. Example PROC_ACTVTY

```
<PROC_ACTVTY>
  <PA_ID>20019311</PA_ID>
  <PA_VERS_ID>1</PA_VERS_ID>
  <PAFNTL_PROC_ID>20007001</PAFNTL_PROC_ID>
  <PA_NM>External Source for model Inputs</PA_NM>
  <DOC_ID>323</DOC_ID>
  <CSC_ID>20000001</CSC_ID>
  <PA_DEF_TX>External source for inputs into the activity model</PA_DEF_TX>
```

```
  <SC_CD>14</SC_CD>
  <PRC_ACT_SCP_DSC_TX>NONE PROVIDED</PRC_ACT_SCP_DSC_TX>
  <PROC_ACTV_SRCDC_TX>AIP PHASE II TEAM</PROC_ACTV_SRCDC_TX>
  <PA_CREAT_CALDT>20031214</PA_CREAT_CALDT>
  <PROC_ACTV_CAT_CD>8</PROC_ACTV_CAT_CD>
  <PROC_ACTV_VALID_CD>3</PROC_ACTV_VALID_CD>
  <PROC_ACTV_HIER_TX>NONE PROVIDED</PROC_ACTV_HIER_TX>
  <PROC_ACTV_HIER_NM>TRP</PROC_ACTV_HIER_NM>
  <PA_ALT_ID>NONE PROVIDED</PA_ALT_ID>
</PROC_ACTVTY>
```

5.6. Example SYS_FUNC

```
<SYS_FUNC>
<FUNC_AR_ID>11111111</FUNC_AR_ID>
<PA_ID>20019311</PA_ID>
<SYSFUNC_DESCR_TX>The system reports global position.</SYSFUNC_DESCR_TX>
</SYS_FUNC>
```

5.7. Example ACTV_MDL_PA_ASSOC

```
<ACTV_MDL_PA_ASSOC>
  <ACTV_MDL_IA_ID>20000018</ACTV_MDL_IA_ID>
  <ORD_PA_ID>20019315</ORD_PA_ID>
  <SUB_PA_ID>20019316</SUB_PA_ID>
  <AMPAA_SUBSEQ_ID>1</AMPAA_SUBSEQ_ID>
  <AMPAA_CREA_CALDT>20031212</AMPAA_CREA_CALDT>
  <AMPAA_REV_CALDT>20031214</AMPAA_REV_CALDT>
  <AMPAA_ROL_DSCR_TX>Subactivity</AMPAA_ROL_DSCR_TX>
</ACTV_MDL_PA_ASSOC>
```

6. Example SV-4 AP233 XML Data

This section contains example SV-4 AP233 XML data.

6.1. Example Functional_element, version and definition

```
<ap233:Functional_element id="id-funel12971">
  <Id>20019311</Id>
  <Name>External Source for model Inputs</Name>
  <Description>External source for inputs into the activity
model</Description>
</ap233:Functional_element>

<ap233:Identification_assignment
id="id-funel12971Functional_element_identification_code-idassign">
  <Identifier>20019311</Identifier>
  <Role>Functional_element_identification_code</Role>
  <Items>
    <ap233:Functional_element ref="id-funel12971" xsi:nil="true" />
  </Items>
</ap233:Identification_assignment>
```

```
<ap233:Classification_assignment
id="id-funel12971Functional_element_identification_code-idassign-classification_assignm
  <Items>
    <ap233:Identification_assignment
ref="id-funel12971Functional_element_identification_code-idassign"
xsi:nil="true" />
  </Items>
  <Assigned_class>
    <ap233:External_class ref="id-Functional_element_identification_code"
xsi:nil="true" />
  </Assigned_class>
</ap233:Classification_assignment>

<ap233:Identification_assignment id="id-funel12971Name-idassign">
  <Identifier>External Source for model Inputs</Identifier>
  <Role>Name</Role>
  <Items>
    <ap233:Functional_element ref="id-funel12971" xsi:nil="true" />
  </Items>
</ap233:Identification_assignment>

<ap233:Classification_assignment
id="id-funel12971Name-idassign-classification_assignment">
  <Items>
    <ap233:Identification_assignment ref="id-funel12971Name-idassign"
xsi:nil="true" />
  </Items>
  <Assigned_class>
    <ap233:External_class ref="id-Name" xsi:nil="true" />
  </Assigned_class>
</ap233:Classification_assignment>

<ap233:Functional_element_version id="id-funelver12971">
  <Id>1</Id>
  <Of_product>
    <ap233:Functional_element ref="id-funel12971" xsi:nil="true" />
  </Of_product>
</ap233:Functional_element_version>

<ap233:Functional_element_definition id="id-funeldef12971">
  <Id>1</Id>
  <Name>NONE PROVIDED</Name>
  <Defined_version>
    <ap233:Functional_element_version ref="id-funelver12971" xsi:nil="true"
/>
  </Defined_version>
  <Initial_context>
    <ap233:View_definition_context ref="id-sv4" xsi:nil="true" />
  </Initial_context>
</ap233:Functional_element_definition>

<ap233:Classification_assignment
id="id-funel12971-classification_assignment">
  <Items>
```

```
    <ap233:Functional_element ref="id-funel12971" xsi:nil="true" />
  </Items>
  <Assigned_class>
    <ap233:External_class ref="id-System_function" xsi:nil="true" />
  </Assigned_class>
</ap233:Classification_assignment>

<ap233:Classification_assignment
id="id-funelver12971-classification_assignment">
  <Items>
    <ap233:Functional_element_version ref="id-funelver12971" xsi:nil="true"
/>
  </Items>
  <Assigned_class>
    <ap233:External_class ref="id-System_function" xsi:nil="true" />
  </Assigned_class>
</ap233:Classification_assignment>

<ap233:Classification_assignment
id="id-funeldef12971-classification_assignment">
  <Items>
    <ap233:Functional_element_definition ref="id-funeldef12971"
xsi:nil="true" />
  </Items>
  <Assigned_class>
    <ap233:External_class ref="id-System_function" xsi:nil="true" />
  </Assigned_class>
</ap233:Classification_assignment>
```

6.2. Example Functional_element_usage (for functional decomposition)

```
<ap233:Functional_element_usage id="id-vdr150411111113271">
      <Id>1</Id>
      <Relation_type>Functional_decomposition</Relation_type>
      <Description>Subactivity</Description>
      <Relating_view>
        <ap233:Functional_element_definition ref="id-funeldef13220"
xsi:nil="true" />
      </Relating_view>
      <Related_view>
        <ap233:Functional_element_definition ref="id-funeldef13271"
xsi:nil="true" />
      </Related_view>
    </ap233:Functional_element_usage>
    <ap233:Classification_assignment
id="id-vdr150411111113271-classification_assignment">
      <Items>
        <ap233:Functional_element_usage ref="id-vdr150411111113271"
xsi:nil="true" />
      </Items>
      <Assigned_class>
        <ap233:External_class ref="id-Functional_decomposition"
xsi:nil="true" />
      </Assigned_class>
```

```
</ap233:Classification_assignment>
```