

SV-7 : Systems Performance Parameters Matrix

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

This document defines the mapping between the DODAF SV-7 Systems Performance Parameters Matrix 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-7 Systems Performance Parameters Matrix Product Description in the DoDAF Volume II: Product Descriptions document defined SV-7 as follows.

The Systems Performance Parameters Matrix product specifies the quantitative characteristics of systems and system hardware/software items, their interfaces (system data carried by the interface as well as communications link details that implement the interface), and their functions. It specifies the current performance parameters of each system, interface, or system function, and the expected or required performance parameters at specified times in the future.

2. SV-7 Concepts

An Systems Performance Parameters Matrix may be used to represent the following concepts in addition to the System concepts defined in other DoDAF Views.

- Characteristics of the interface (e.g. Security classification)

3. SV-7 AP233 Mapping Issues

Warning:

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

This section describes the issues in mapping between SV-7 Systems Performance Parameters Matrix 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. No SV-7 specific issues yet.

4. Mapping SV-7 CADM XML to AP233 XML

This section defines the mapping from the CADM XML representation of SV-7 Systems Performance Parameters Matrix 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.

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4.1. SV-7 Mapping

This section describes the mapping for the CADM SV-7 itself.

See Example SYS_PERF_PAR_MTX for example CADM XML SV-7 Systems Performance Parameters Matrix data.

The following table documents the SYSTEM-PERFORMANCE-PARAMETER-MATRIX {SV-7} mapping.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)
SYS_PERF_PAR_MTX	An AP233 Document with related version and definition as specified in AP233 approach to documents. An AP233 Group is associated with the Document_definition using an AP233 Document_assignment. The Document and related version and definition and the Group and Document_assignment are each classified as SYSTEM-PERFORMANCE-PARAMETER-MATRIX . See the CADM Document mapping for more.
SYS_PERF_PAR_MTX / SPPM_DOC_ID	The identifier for the Document assigned by the owning organization.

Table 1: Within the SYS_PERF_PAR_MTX_TBL CADM XML Element

See Example SYS_PERF_PAR_MTXEL for example CADM XML SV-7 Systems Performance Parameters Matrix Element data.

The following table documents the SYSTEM-PERFORMANCE-PARAMETER-MATRIX-ELEMENT mapping.

CADM XML Element(s)	AP233 XML Element(s) or Attributes(s)
SYS_PERF_PAR_MTXEL	An AP233 Group which relates the various AP233 representations of CADM Systems, Guidance, etc. This Group is related to the AP233 Group representing the matrix by being referenced in the Elements child of that Group.
SYS_PERF_PAR_MTXEL / CAP_ID	A reference to the AP233 representation of the CADM Capability, classified as a SYSTEMS-PERFORMANCE-MATRIX-ELEMENT-CAPABILITY , within the AP233 Elements child of the Group representing the matrix element.
SYS_PERF_PAR_MTXEL /	A reference to the AP233 representation of the

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DIR_CONSTR_GUID_ID	CADM Guidance, classified as a SYSTEMS-PERFORMANCE-MATRIX-ELEMENT-DIRECTED-CONSTRAINT within the AP233 Elements child of the Group representing the matrix element.
SYS_PERF_PAR_MTXEL / SYS_ID	A reference to the AP233 representation of the CADM System, classified as a SYSTEMS-PERFORMANCE-MATRIX-ELEMENT-SYSTEM , within the AP233 Elements child of the Group representing the matrix element.
SYS_PERF_PAR_MTXEL / SPPM_DOC_ID	The AP233 Group representing the matrix element being referenced by a child of the Elements child of the Group representing the matrix. The link to the AP233 Document_definition related to the Group representing the matrix is made by a Document_assignment.
SYS_PERF_PAR_MTXEL / SYSC_ID	A reference to the AP233 representation of the CADM System Capability, classified as a SYSTEMS-PERFORMANCE-MATRIX-ELEMENT-SYSTEM-CAPABILITY within the AP233 Elements child of the Group representing the matrix element.
SYS_PERF_PAR_MTXEL / SYS_DCNSTR_ID	A reference to the AP233 representation of the CADM System Directed Constraint, classified as a SYSTEMS-PERFORMANCE-MATRIX-ELEMENT-SYSTEM-DIRECTED-CONSTRAINT within the AP233 Elements child of the Group representing the matrix element.
SYS_PERF_PAR_MTXEL / SYS_PPME_DESCR_TX	An AP233 Description_text_assignment and Description_text as described in AP233 Descriptions. The AP233 description is assigned to the Group representing the matrix element.
SYS_PERF_PAR_MTXEL / SYS_PPME_ID	The identifier for the Group representing the element.
SYS_PERF_PAR_MTXEL / TIME_FRAME_PRD_ID	A reference to the AP233 representation of the CADM Period, classified as a SYSTEMS-PERFORMANCE-MATRIX-ELEMENT-TIME-FRAME , within the AP233 Elements child of the Group representing the matrix element.

Table 2: Within the SYS_PERF_PAR_MTXEL_TBL CADM XML Element

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5. Example SV-7 CADM XML Data

This section contains example SV-7 CADM XML data.

5.1. Example SYS_PERF_PAR_MTX

```
<SYS_PERF_PAR_MTX>
  <SPPM_DOC_ID>70003333</SPPM_DOC_ID>
</SYS_PERF_PAR_MTX>
<DOC>
  <DOC_ID>70003333</DOC_ID>
  <DOC_NM>SAMPLE SV-7</DOC_NM>
  <CSC_ID>20000001</CSC_ID>
  <TIME_FRAME_PRD_ID>20102341</TIME_FRAME_PRD_ID>
  <DOC_APP_CALDT>20031126</DOC_APP_CALDT>
  <DOC_ARCHPROD_TY_CD>25</DOC_ARCHPROD_TY_CD>
  <DOC_CRTN_CALDT>20031203</DOC_CRTN_CALDT>
  <DOC_CAT_CD>J</DOC_CAT_CD>
  <DOC_VER_ID>VERSION 1.0</DOC_VER_ID>
</DOC>
```

5.2. Example SYS_PERF_PAR_MTXEL

```
<SYS_PERF_PAR_MTXEL>
  <CAP_ID></CAP_ID>
  <DIR_CONSTR_GUID_ID></DIR_CONSTR_GUID_ID>
  <SYS_ID></SYS_ID>
  <SPPM_DOC_ID>70003333</SPPM_DOC_ID>
  <SYSC_ID></SYSC_ID>
  <SYS_DCNSTR_ID></SYS_DCNSTR_ID>
  <SYS_PPME_DESCR_TX>This is example 1 of a Systems Performance Matrix
Element.</SYS_PPME_DESCR_TX>
  <SYS_PPME_ID>70008888</SYS_PPME_ID>
  <TIME_FRAME_PRD_ID></TIME_FRAME_PRD_ID>
</SYS_PERF_PAR_MTXEL>
```

6. Example SV-7 AP233 XML Data

This section contains example SV-7 AP233 XML data.

6.1. Example Group

```
<ap233:Group id="id-group20000">
  <Id>99999999</Id>
  <Name>The Group for the matrix</Name>
  <Elements>
    <ap233:Group ref="id-group16650" xsi:nil="true" />
  </Elements>
</ap233:Group>
<ap233:Group id="id-group16650">
```

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```
<Id>99991007</Id>
<Name>The Group for matrix element 1</Name>
<Elements>
  <ap233:System_functional_element ref="id-sysfunel1111" xsi:nil="true"
/>
  <ap233:Activity_method ref="id-actmeth2222" xsi:nil="true" />
</Elements>
</ap233:Group>
<ap233:Security_classification_assignment id="id-secclassassn16650">
  <Classification>
    <ap233:Security_classification ref="id-Unclassified" xsi:nil="true" />
  </Classification>
  <Items>
    <ap233:Group ref="id-group16650" xsi:nil="true" />
  </Items>
</ap233:Security_classification_assignment>
<ap233:Description_text id="i1">
  <Description>A very, very long text description of the element of
  interest goes here. It can be very long indeed.
</Description>
</ap233:Description_text>
<ap233:Description_text_assignment id="i20" >
  <Description>
    <ap233:Description_text id="i1" xsi:nil="true" />
  </Description>
  <Items>
    <ap233:Group id="id-group16650" xsi:nil="true" />
  </Items>
</ap233:Description_text_assignment>
<ap233:Classification_assignment>
  <Assigned_class>
    <ap233:External_class ref="i88" xsi:nil="true" />
  </Assigned_class>
  <Items><ap233:Description_text_assignment id="i20" xsi:nil="true"
/></Items>
</ap233:Classification_assignment>
<ap233:External_class id="i88">
<Id>http://www.ap233.org/ap233_classes#SYSTEM-PERFORMANCE-PARAMETER-MATRIX-ELEMENT-DESC
  <External_source>
    <ap233:External_class_library ref="i10" xsi:nil="true" />
  </External_source>
</ap233:External_class>
```

6.2. Example Document_assignment

```
<ap233:Document_assignment id="id-docassn26022">
  <Assigned_document>
    <ap233:Document_definition ref="id-docdef95000" xsi:nil="true" />
  </Assigned_document>
  <Is_assigned_to>
    <ap233:Group ref="id-group20000" xsi:nil="true" />
  </Is_assigned_to>
  <Role>System_performance_parameter_matrix</Role>
</ap233:Document_assignment>
```

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```
<ap233:Classification_assignment id="id-260229494">
  <Items>
    <ap233:Document_assignment ref="id-docassn26022" xsi:nil="true" />
  </Items>
  <Assigned_class>
    <ap233:External_class ref="id-System_performance_parameter_matrix"
xsi:nil="true" />
  </Assigned_class>
</ap233:Classification_assignment>
```