

OV-6c : Operational Event-Trace Description

This document defines the mapping between the DODAF OV-6c Operational Event-Trace 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 1.02.

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1. Introduction

The OV-6c Operational Event-Trace Description in the DoDAF Volume II: Product Descriptions document defined OV-6c as follows.

The Operational Event-Trace Description provides a time-ordered examination of the information exchanges between participating operational nodes as a result of a particular scenario. Each event-trace diagram should have an accompanying description that defines the particular scenario or situation.

2. OV-6c AP233 Mapping Issues

Warning:

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

This section describes issues in mapping between OV-6c Operational Event-Trace Description 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. The use of AP233 Group could be replaced by a new concept in AP233 supporting sequences.

3. Mapping OV-6c CADM XML to AP233 XML

This section defines the mapping from the CADM XML representation of OV-6c Operational Event-Trace Description into an ISO AP233 XML representation of that same data. The mapping is defined at the detailed level of the XML elements and attributes themselves as it is aimed at implementors. 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. OV-6c Operational Event-Trace Description

This section describes the mapping for the CADM OV-6c EVENT-TRACE-DESCRIPTION itself. It is represented by the EV_TRACE_DESCR XML element.

CADM XML Concept(s)

AP233 XML Element(s) or Attributes(s)

OV-6c : Operational Event-Trace Description

EV_TRC_DESCR	An AP233 Document, with related version and definition, assigned to an AP233 Group containing a sequence of Event_relationships
EV_TRC_DESCR / EV_TRC_DESC_DOC_ID	Document is assigned to a sequence of Event_relationships and is identified.
EV_TRC_DESCR / EV_TR_DE_USE_TY_CD	The classification of the Document representing the System Event Trace Description when the following value. <ul style="list-style-type: none"> 01 = OPERATIONAL EVENT-TRACE-DESCRIPTION classified as Operational_event_trace_description Otherwise, the concept is not an Operational Event Trace Description.

Table 1: EVENT-TRACE-DESCRIPTION (EV_TRC_DESCR element) Mapping

3.2. OV-6c Operational Event-Trace Description Element

This section describes the mapping for the CADM OV-6c EVENT-TRACE-DESCRIPTION-ELEMENT. It is represented by the EV_TRC_DESCR_EL XML element.

CADM XML Concept(s)	AP233 XML Element(s) or Attributes(s)
EV_TRC_DESCR_EL	The assignment of an element that is part of the Event Trace Description to the AP233 Group that represents it.
EV_TRC_DESCR_EL / EV_TRC_DESC_DOC_ID	The assignment of the AP233 Group to the AP233 Document representing the Event Trace Description.
EV_TRC_DESCR_EL / EV_NCL_ID	An AP233 Identifier assigned to the AP233 Group classified as an EVENT-NODE-CROSS-LINK-ID .
EV_TRC_DESCR_EL / EVTDE_SEQ_ID	An AP233 Event_relationship relating the AP233 Event referenced by the related CADM EVENT-NODE-CROSS-LINK with the AP233 Event referenced by the next EVENT-TRACE-DESCRIPTION-ELEMENT in the sequence.
EV_TRC_DESCR_EL / EVTDE_STDUR_FRM_TX	The AP233 Event_relationship child Description element for the AP233 Event_relationship(s) representing the

	sequence.
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Table 1: EVENT-TRACE-DESCRIPTION-ELEMENT (EV_TRC_DESCR_EL element) Mapping

3.3. OV-6c Event Node Cross Links

This section describes the mapping for the EVENT, PROCESS-EVENT, and EVENT-NODE-CROSS-LINK concepts as represented by the EVENT, PROC_EVENT, and EV_NODE_CROSS_LINK XML elements.

This table describes the mapping for the CADM Event Node Cross Link concept which depends on the CADM Node concept that is mapped in SV-1 (see SV-1 Node and Node Relationship Mapping).

CADM XML Concept(s)	AP233 XML Element(s) or Attributes(s)
EV_NODE_CROSS_LINK	An AP233 Event and two related AP233 Event_assignments grouped using an AP233 Group.
EV_NODE_CROSS_LINK / EV_NCL_ID	The Group is identified and the Identification_assignment is classified as Event_node_cross_link_identifier
EV_NODE_CROSS_LINK / EV_NCL_TRNS_DUR_TX	Description or Document is assigned to ? and the description attribute of the assigned Document is used for the EVENT-NODE-CROSS-LINK TRANSIT DURATION FORMULA TEXT. The Document is further classified as Event_node_cross_link_transit_duration_formula_text .

Table 1: EVENT-NODE-CROSS-LINK (EV_NODE_CROSS_LINK element) Mapping

This table describes the mapping for the CADM Event concept.

CADM XML Concept(s)	AP233 XML Element(s) or Attributes(s)
EVENT	Mapped as specified in OV-6b Process Event and Event Mapping.

Table 2: EVENT (EVENT element) Mapping

This table describes the mapping for the CADM Process Event concept.

CADM XML Concept(s)	AP233 XML Element(s) or Attributes(s)
PROC_EVENT	Mapped as specified in OV-6b Process Event

and Event Mapping.

Table 3: PROCESS-EVENT (PROC_EVENT element) Mapping

4. Example OV-6c CADM XML Data

This section contains example OV-6c CADM XML data.

4.1. Example EV_TRC_DESCR

```
<EV_TRC_DESCR>
  <EV_TRC_DESC_DOC_ID>33300000</EV_TRC_DESC_DOC_ID>
  <EV_TR_DE_USE_TY_CD>01</EV_TR_DE_USE_TY_CD>
</EV_TRC_DESCR>
<DOC>
  <DOC_ID>33300000</DOC_ID>
  <DOC_NM>SAMPLE OPERATIONAL EVENT TRACE DESCRIPTION {OV-6c}</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>11</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>
```

4.2. Example EV_TRC_DESCR_EL

```
<EV_TRC_DESCR_EL>
  <EVTDE_SEQ_ID>1</EVTDE_SEQ_ID>
  <EV_NCL_ID>99990000</EV_NCL_ID>
  <EV_TRC_DESC_DOC_ID>33300000</EV_TRC_DESC_DOC_ID>
</EV_TRC_DESCR_EL>
<EV_TRC_DESCR_EL>
  <EVTDE_SEQ_ID>2</EVTDE_SEQ_ID>
  <EVTDE_STDUR_FRM_TX>Wait 24 hours</EVTDE_STDUR_FRM_TX>
  <EV_NCL_ID>99992222</EV_NCL_ID>
  <EV_TRC_DESC_DOC_ID>33300000</EV_TRC_DESC_DOC_ID>
</EV_TRC_DESCR_EL>
```

4.3. Example EV_NODE_CROSS_LINK

```
<EV_NODE_CROSS_LINK>
  <EVT_ID>50001111</EVT_ID>
  <EV_NCL_ID>99990000</EV_NCL_ID>
  <EV_NCL_TRNS_DUR_TX>30 minutes</EV_NCL_TRNS_DUR_TX>
  <ORIG_NODE_ID>20001111</ORIG_NODE_ID>
  <TERM_NODE_ID>20002222</TERM_NODE_ID>
</EV_NODE_CROSS_LINK>
<EV_NODE_CROSS_LINK>
  <EVT_ID>50002222</EVT_ID>
  <EV_NCL_ID>99992222</EV_NCL_ID>
```

```

<EV_NCL_TRNS_DUR_TX>45 minutes</EV_NCL_TRNS_DUR_TX>
<ORIG_NODE_ID>20001111</ORIG_NODE_ID>
<TERM_NODE_ID>20002222</TERM_NODE_ID>
</EV_NODE_CROSS_LINK>
<NODE>
  <NODE_ID>20001111</NODE_ID>
  <NODE_NM>OP Node 1</NODE_NM>
</NODE>
<NODE>
  <NODE_ID>20002222</NODE_ID>
  <NODE_NM>OP Node 2</NODE_NM>
</NODE>
<EVENT>
  <EVT_BGN_CALDTTM>20031214000000.000</EVT_BGN_CALDTTM>
  <EVT_END_CALDTTM>20031215000000.000</EVT_END_CALDTTM>
  <EVT_ID>50001111</EVT_ID>
  <EVT_NM>Event 1</EVT_NM>
  <EVT_TY_CD>001</EVT_TY_CD>
</EVENT>
<EVENT>
  <EVT_BGN_CALDTTM>20031220000000.000</EVT_BGN_CALDTTM>
  <EVT_END_CALDTTM>20031223000000.000</EVT_END_CALDTTM>
  <EVT_ID>50002222</EVT_ID>
  <EVT_NM>Event 2</EVT_NM>
  <EVT_TY_CD>001</EVT_TY_CD>
</EVENT>

```

5. Example OV-5 AP233 XML Data

This section contains example OV-6c AP233 XML data.

5.1. Example Event and Event_relationship

```

<ap233:Event id="id-Event-001">
  <Id>50002222</Id>
  <Name>Event 2</Name>
  <Actual_start_date>20031220000000.000</Actual_start_date>
</ap233:Event>
<ap233:Event id="id-Event-002">
  <Id>50001111</Id>
  <Name>Event 2</Name>
</ap233:Event>
<ap233:Event_relationship id="id-Event_relationship-100" >
  <Relation_type>sequence</Relation_type>
  <Description>Time Expression Goes Here</Description>
  <Relating_event>
    <ap233:Event ref="id-Event-001" xsi:nil="true" />
  </Relating_event>
  <Related_event>
    <ap233:Event ref="id-Event-002" xsi:nil="true" />
  </Related_event>
</ap233:Event_relationship>

```

5.2. Example Group

```
<ap233:Group id="id-Group-001">
  <Name>Group A</Name>
  <Elements>
    <ap233:Event ref="id-Event-001" xsi:nil="true" />
    <ap233:Event ref="id-Event-002" xsi:nil="true" />
    <ap233:Event_relationship ref="id-Event_relationship-100" xsi:nil="true"
  />
  </Elements>
</ap233:Group>
```