



Guide to Schemas for PMA

PMA Schema Guide

Version 2019-MARr2019-SEP

December 1, 2022

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Table of Contents

Chapter 1 - Introduction	1
1.1 - Purpose	1
Chapter 2 - Schema Files	2
2.1 - PMA-XML.xsd	2
2.2 - SchemaGuideSchema.xsd	7

Chapter 1 - Introduction

1.1 - Purpose

This is an informative supplement for PMA. This guide is generated from the PMA Schemas and provides a consolidated reference for the schemas of this specification.

Chapter 2 - Schema Files

2.1 - PMA-XML.xsd

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            xmlns:pma="urn:us:gov:ic:pma"
            xmlns:xhtml="http://www.w3.org/1999/xhtml-StopBrowserRendering"
            xmlns:pm="urn:us:gov:ic:pm"
            targetNamespace="urn:us:gov:ic:pma"
            ism:compliesWith="USGov USIC"
            ism:resourceElement="true"
            ism:createDate="2019-09-18"
            ism:DESVersion="202111"
            ism:ISMATCESVersion="202205"
            ism:classification="U"
            ism:ownerProducer="USA"
            version="201903.201909"
            elementFormDefault="qualified"
            attributeFormDefault="qualified">
  <xsd:annotation>
    <xsd:documentation>
      <xhtml:h1 ism:ownerProducer="USA" ism:classification="U">Intelligence Community Technical
Specification XML Data Encoding Specification for Production Metrics Assertion
(PMA.XML)</xhtml:h1>
    </xsd:documentation>
    <xsd:documentation>
      <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Notices</xhtml:h2>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">Distribution Notice:
This document has been approved for Public Release and is available for use without restriction.
</xhtml:p>
    </xsd:documentation>
    <xsd:documentation>
      <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Description</xhtml:h2>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">W3C XML Schema for the XML Data
Encoding Specification for Production Metrics Assertion (PMA.XML).</xhtml:p>
    </xsd:documentation>
    <xsd:documentation>
      <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Introduction</xhtml:h2>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">This XML Schema file is one component
of the XML Data Encoding Specification (DES). Please see the document titled <xhtml:i>
      <xhtml:a href="../../Documents/PMA/DesPMAXml.pdf">XML Data Encoding Specification for Production
Metrics Assertion</xhtml:a>
      </xhtml:i> for a complete description of the encoding as well as list of all
components.</xhtml:p>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">It is envisioned that this schema or
its components, as well as other parts of the DES may be overridden for localized
implementations. Therefore, permission to use, copy, modify and distribute this XML Schema
and the other parts of the DES for any purpose is hereby granted in perpetuity.</xhtml:p>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">Please reference the preceding two
paragraphs in all copies or variations. The developers make no representation about the
suitability of the schema or DES for any purpose. It is provided "as is" without expressed
or implied warranty.</xhtml:p>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">If you modify this XML Schema in any
```

```
way label your schema as a variant of PMA.XML.</xhtml:p>
    <xhtml:p ism:ownerProducer="USA" ism:classification="U">Please direct all questions, bug
reports, or suggestions for changes to the points of contact identified in the document
referenced above.</xhtml:p>
</xsd:documentation>
<xsd:documentation>
    <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Implementation Notes</xhtml:h2>
    <xhtml:p ism:ownerProducer="USA" ism:classification="U">The root element for a production metrics assertion
is <xhtml:a href="PMA-XML_xsd_Element_pma_ProductionMetricsAssertion.html#ProductionMetricsAssertion">pma:ProductionMetricsAssertion</xhtml:a> and is implemented as a TDF
assertion.</xhtml:p>
</xsd:documentation>
<xsd:documentation>
    <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Creators</xhtml:h2>
    <xhtml:p ism:ownerProducer="USA" ism:classification="U">Office of the Director of National
Intelligence Community Chief Information Officer</xhtml:p>
</xsd:documentation>
</xsd:annotation>

<!--*****-->

<!--Start Import Statements          -->

<!--*****-->

<xsd:import namespace="urn:us:gov:ic:ism" schemaLocation="../ISM/IC-ISM.xsd"/>
    <xsd:import namespace="urn:us:gov:ic:pm" schemaLocation="../PM/PM.xsd"/>

    <!--*****-->

<!--End Import Statements          -->

<!--*****-->

<!--*****-->

<!-- Start Elements          -->

<!--*****-->

<!-- Root Element -->

<xsd:element name="ProductionMetricsAssertion"
    type="pma:ProductionMetricsAssertionType">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            <xhtml:p ism:ownerProducer="USA" ism:classification="U">The root node of production
metrics assertion.</xhtml:p>
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
```

```
<xsd:element name="ProductionMetric" type="pma:ProductionMetricType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">This element represents a production metric
triples.</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>

<xsd:attribute name="actor" type="pm:productionMetricsActorType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">This attribute represents the who of a
Production Metrics Assertion.</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>

<xsd:attribute name="subject" type="pm:productionMetricsSubjectType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">This attribute represents the what was done of a
Production Metrics Assertion.</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>

<xsd:attribute name="location" type="pm:productionMetricsLocationType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">This attribute represents the where of a
Production Metrics Assertion.</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>

<!--*****-->

<!-- Start Attributes -->

<!--*****-->

<xsd:attribute name="DESVersion" type="pma:DESVersionType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">The version number of the
DES</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>

<!--*****-->

<!-- Start Groups -->
```

```
<!--*****-->

<xsd:attributeGroup name="PMARootNodeAttributeGroup">
    <xsd:attribute ref="pma:DESVersion" use="required"/>
    <xsd:attribute ref="pm:CESVersion" use="required"/>
</xsd:attributeGroup>
<!--*****-->

<!-- End Groups -->

<!--*****-->

<!--End Attribute Definitions -->

<!--*****-->

<!--*****-->

<!--Start Type Definitions -->

<!--*****-->

<xsd:complexType name="ProductionMetricsAssertionType">
    <xsd:sequence>
        <xsd:element ref="pma:ProductionMetric" minOccurs="1" maxOccurs="unbounded"/>
    </xsd:sequence>
    <xsd:attributeGroup ref="pma:PMARootNodeAttributeGroup"/>
</xsd:complexType>

<xsd:complexType name="ProductionMetricType">
    <xsd:attribute ref="pma:actor" use="required"/>
    <xsd:attribute ref="pma:subject" use="required"/>
    <xsd:attribute ref="pma:location" use="optional"/>
    <xsd:attributeGroup ref="ism:SecurityAttributesGroup"/>
</xsd:complexType>

<xsd:simpleType name="DESVersionType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[0-9]{6}(\.[0-9]{6})?(\-{1,23})?" />
    </xsd:restriction>
</xsd:simpleType>

<!--*****-->

<!--End Type Definitions -->

<!--*****-->
```

```
<xsd:annotation>
  <xsd:documentation>
    <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Formal Change List</xhtml:h2>
    <xhtml:table ism:ownerProducer="USA" ism:classification="U" id="ChangeHistory">
      <xhtml:caption>Change History</xhtml:caption>
      <xhtml:thead>
        <xhtml:tr>
          <xhtml:th>Version</xhtml:th>
          <xhtml:th>Date</xhtml:th>
          <xhtml:th>By</xhtml:th>
          <xhtml:th>Description</xhtml:th>
        </xhtml:tr>
      </xhtml:thead>
      <xhtml:tbody>
        <xhtml:tr>
          <xhtml:td>2019-MAR</xhtml:td>
          <xhtml:td>2018-09-01</xhtml:td>
          <xhtml:td>ODNI/CIO/IAD</xhtml:td>
          <xhtml:td>Initial creation, reference the change history in the DES.</xhtml:td>
        </xhtml:tr>
      </xhtml:tbody>
    </xhtml:table>
  </xsd:documentation>
</xsd:annotation>
</xsd:schema>
```

2.2 - SchemaGuideSchema.xsd

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            xmlns:xhtml="http://www.w3.org/1999/xhtml-StopBrowserRendering"
            attributeFormDefault="qualified"
            ism:compliesWith="USGov USIC"
            ism:resourceElement="true"
            ism:createDate="2019-09-18"
            ism:DESVersion="202111"
            ism:ISMCAICESVersion="202205"
            ism:classification="U"
            ism:ownerProducer="USA"
            version="201903.201909"
            elementFormDefault="qualified"
            targetNamespace="urn:schema:guide:schema:pma"
            xml:lang="en">
  <xsd:annotation>
    <xsd:documentation>
      <xhtml:h1 ism:ownerProducer="USA" ism:classification="U">Intelligence Community
Technical Specification XML Data Encoding Specification for Production Metrics Assertion (PMA.XML)
SchemaGuide</xhtml:h1>
    </xsd:documentation>

    <xsd:documentation>
      <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Notices</xhtml:h2>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U"> Distribution Notice:
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    </xhtml:p>
    </xsd:documentation>
    <xsd:documentation>
      <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Description</xhtml:h2>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U"> W3C XML Schema used to
facilitate generation of the SchemaGuide for the XML Data Encoding Specification for
Production Metrics Assertion (PMA.XML). </xhtml:p>
    </xsd:documentation>
    <xsd:documentation>
      <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Introduction</xhtml:h2>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U"> This XML Schema file is only
used to produce the schemaGuide for the XML Data Encoding Specification (DES).
Please see the document titled <xhtml:i>
      <xhtml:a href="../../Documents/PMA/DesPMAXml.pdf">XML Data Encoding Specification for
Production Metrics Assertion</xhtml:a>
      </xhtml:i> for a complete description of the encoding as well as list of all
components. </xhtml:p>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U"> It is envisioned that this
schema or its components, as well as other parts of the DES may be overridden for
localized implementations. Therefore, permission to use, copy, modify and distribute
this XML Schema and the other parts of the DES for any purpose is hereby granted in
perpetuity. </xhtml:p>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U"> Please reference the preceding
two paragraphs in all copies or variations. The developers make no representation
about the suitability of the schema or DES for any purpose. It is provided "as is"
without expressed or implied warranty. </xhtml:p>
```

```

    <xhtml:p ism:ownerProducer="USA" ism:classification="U"> If you modify this XML Schema
in any way label your schema as a variant of PMA.XML. </xhtml:p>
    <xhtml:p ism:ownerProducer="USA" ism:classification="U"> Please direct all questions,
bug reports,or suggestions for changes to the points of contact identified in the
document referenced above. </xhtml:p>
  </xsd:documentation>
  <xsd:documentation>
    <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Implementation Notes</xhtml:h2>
    <xhtml:p ism:ownerProducer="USA" ism:classification="U">A PMA.XML instance is an
instance of a TDO with particular payload and assertions. Its structure is similar
to:</xhtml:p>
    <xhtml:ul>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">A <xhtml:a href="IC-TDF_xsd_Element_TrustedDataObject.html#TrustedDataObject">
tdf:TrustedDataObject</xhtml:a>
      </xhtml:p>
      <xhtml:ul>
        <xhtml:li ism:ownerProducer="USA" ism:classification="U">has an assertion
        <xhtml:a href="PMA-XML_xsd_Element_pma_ProductionMetricsAssertion.html#ProductionMetricsAssertion"> pma:ProductionMetricsAssertion</xhtml:a>
        </xhtml:li>
      </xhtml:ul>
    </xhtml:ul>
  </xsd:documentation>
  <xsd:documentation>
    <xhtml:h2 ism:ownerProducer="USA" ism:classification="U">Creators</xhtml:h2>
    <xhtml:p ism:ownerProducer="USA" ism:classification="U">Office of the Director of
National Intelligence Intelligence Community Chief Information Officer</xhtml:p>
  </xsd:documentation>
</xsd:annotation>
<!-- Import the schema for each "dependent" spec. This schema is only used to generate a SchemaGuide -->

<!-- PMA schema because that is the main spec -->

<xsd:import namespace="urn:us:gov:ic:pma" schemaLocation="./PMA-XML.xsd"/>

    <!-- TDF and TDF's dependencies -->

<!-- TDF schema because PMA goes inside a TDO (TDF schema imports its dependencies) -->

<xsd:import namespace="urn:us:gov:ic:tdf" schemaLocation="../IC-TDF/IC-TDF.xsd"/>

</xsd:schema>
```