



Guide to Schemas for VIRT

VIRT Schema Guide

Version 2020-OCTr2022-MAY

December 1, 2022

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Chapter 1 - Introduction

1.1 - Purpose

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

Chapter 2 - Schema Files

2.1 - VIRT.xsd

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            xmlns="urn:us:gov:ic:virt"
            xmlns:virt="urn:us:gov:ic:virt"
            xmlns:xhtml="http://www.w3.org/1999/xhtml-StopBrowserRendering"
            xmlns:virtnetwork="urn:us:gov:ic:cenum:virt:network"
            xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
            xsi:schemaLocation="http://www.w3.org/2001/XMLSchema ../w3/2001/XMLSchema.xsd"
            targetNamespace="urn:us:gov:ic:virt"
            elementFormDefault="qualified"
            attributeFormDefault="qualified"
            xml:lang="en"
            ism:compliesWith="USGov USIC"
            ism:resourceElement="true"
            ism:createDate="2019-09-18"
            ism:DESVersion="202111"
            ism:ISMCACTCESVersion="202205"
            ism:classification="U"
            ism:ownerProducer="USA"
            version="202010.202205">
  <xsd:annotation>
    <xsd:documentation>
      <xhtml:h1 ism:ownerProducer="USA" ism:classification="U">Intelligence Community Technical Specification XML
Encoding Specification for Virtual Coverage</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 Encoding Specification
defining Virtual Coverage.</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
Encoding Specification. Please see the document titled<xhtml:i>
      <xhtml:a href="../..Documents/VIRT/DesVirtXml.pdf">XML Encoding Specification for Virtual
Coverage</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">If you modify this XML Schema in any way label your
schema as a variant of VIRT.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>
```

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        <xhtml:p ism:ownerProducer="USA" ism:classification="U">
The root element for VIRT is <xhtml:a href="VIRT_xsd_Element_VirtualCoverage.html#VirtualCoverage">virt:VirtualCoverage</xhtml:a>.
</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
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:annotation>
        <xsd:documentation>
            <xhtml:p ism:ownerProducer="USA" ism:classification="U">Import IC Information Security Marking (ISM)
attributes</xhtml:p>
        </xsd:documentation>
    </xsd:annotation>
</xsd:import>
<xsd:import namespace="urn:us:gov:ic:cvenum:virt:network"
    schemaLocation="../CVEGenerated/CVEnumVIRTNetworkName.xsd"/>
<xsd:import namespace="http://www.w3.org/1999/xlink"
    schemaLocation="../w3/1999/xlink/xlink.xsd"/>
    <!--*****-->

<!--End Import Statements-->

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

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

<!--Start All case-insensitive alphabetically-->

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

<xsd:element name="VirtualCoverage" type="VirtualCoverageType">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            <xhtml:p ism:ownerProducer="USA" ism:classification="U">The subject-matter coverage of a publication in
terms of one or more virtual addresses. May identify the protocol being used and the virtual address of
the resource.</xhtml:p>
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>

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<xsd:attribute name="DESVersion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">The version of the DES.</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="[0-9]{6}(\.[0-9]{6})?(\-{1,23})?" />
    </xsd:restriction>
  </xsd:simpleType>
</xsd:attribute>

<xsd:complexType name="VirtualCoverageType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">Type used to model the virtualCoverage
element.</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
  <xsd:attribute name="protocol" type="xsd:string" use="optional"/>
  <xsd:attribute name="address" type="xsd:string" use="optional"/>
  <xsd:attributeGroup ref="ism:SecurityAttributesOptionGroup"/>
  <xsd:attributeGroup ref="NetworkAttributesGroup"/>
</xsd:complexType>

<xsd:attributeGroup name="NetworkAttributesGroup">
  <xsd:attribute name="network"
    type="virtnetwork:CEnumVIRTNetworkName"
    use="optional">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        <xhtml:p ism:ownerProducer="USA" ism:classification="U">An Internet-Protocol-based computer network. Use
this attribute to make explicit the network where the address resides. Specify "other:name" if none of
the primary choices apply.</xhtml:p>
      </xsd:documentation>
    </xsd:annotation>
  </xsd:attribute>
  <xsd:attribute ref="DESVersion" use="optional"/>
</xsd:attributeGroup>

<xsd:attributeGroup name="OptionalResourceLinkAttributesGroup">
  <xsd:attribute ref="xlink:type" fixed="resource" use="optional"/>
  <xsd:attribute ref="xlink:role" use="optional"/>
  <xsd:attribute ref="xlink:title" use="optional"/>
  <xsd:attribute ref="xlink:label" use="optional"/>
  <xsd:attributeGroup ref="NetworkAttributesGroup"/>
</xsd:attributeGroup>

<xsd:attributeGroup name="RequiredSimpleLinkAttributesGroup">
  <xsd:annotation>
    <xsd:documentation>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">For each of the groups below, a Schematron rule
enforces that either @xlink:type or @xlink:href must be specified if any xlink attributes are

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specified.</xhtml:p>
  </xsd:documentation>
</xsd:annotation>
<xsd:attribute ref="xlink:type" fixed="simple" use="optional"/>
<xsd:attribute ref="xlink:href" use="required"/>
<xsd:attribute ref="xlink:role" use="optional"/>
<xsd:attribute ref="xlink:arcrole" use="optional"/>
<xsd:attribute ref="xlink:title" use="optional"/>
<xsd:attribute ref="xlink:show" use="optional"/>
<xsd:attribute ref="xlink:actuate" use="optional"/>
<xsd:attributeGroup ref="NetworkAttributesGroup"/>
</xsd:attributeGroup>

<xsd:complexType name="RequiredSimpleLinkType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">Basic Type for a required link</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="ism:ShortStringType">
      <xsd:attributeGroup ref="virt:RequiredSimpleLinkAttributesGroup"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>

<xsd:complexType name="RequiredSimpleLinkWithSecurityType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">Basic Type for a required link with ISM security on
the link</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="RequiredSimpleLinkType">
      <xsd:attributeGroup ref="ism:SecurityAttributesGroup"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>

<xsd:attributeGroup name="SimpleLinkAttributesGroup">
  <xsd:attributeGroup ref="xlink:simpleAttrs"/>
  <xsd:attributeGroup ref="NetworkAttributesGroup"/>
</xsd:attributeGroup>

<xsd:attributeGroup name="SimpleOrExtendedLinkAttributesGroup">
  <xsd:annotation>
    <xsd:documentation>
      <xhtml:p ism:ownerProducer="USA" ism:classification="U">An additional restriction on xlink:type to be
"simple" or "extended" should be enforced with Schematron rules in the specifications using this
attribute group</xhtml:p>
    </xsd:documentation>
  </xsd:annotation>
  <xsd:attribute ref="xlink:type" use="optional"/>

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    <xsd:attribute ref="xlink:href" use="optional"/>
    <xsd:attribute ref="xlink:role" use="optional"/>
    <xsd:attribute ref="xlink:arcrole" use="optional"/>
    <xsd:attribute ref="xlink:title" use="optional"/>
    <xsd:attribute ref="xlink:show" use="optional"/>
    <xsd:attribute ref="xlink:actuate" use="optional"/>
    <xsd:attributeGroup ref="NetworkAttributesGroup"/>
  </xsd:attributeGroup>

  <xsd:attributeGroup name="SimpleOrResourceLinkAttributesGroup">
    <xsd:annotation>
      <xsd:documentation>
        <xhtml:p ism:ownerProducer="USA" ism:classification="U">An additional restriction on xlink:type to be
"simple" or "extended" should be enforced with Schematron rules in the specifications using this
attribute group</xhtml:p>
      </xsd:documentation>
    </xsd:annotation>
    <xsd:attribute ref="xlink:type" use="optional"/>
    <xsd:attribute ref="xlink:href" use="optional"/>
    <xsd:attribute ref="xlink:role" use="optional"/>
    <xsd:attribute ref="xlink:arcrole" use="optional"/>
    <xsd:attribute ref="xlink:title" use="optional"/>
    <xsd:attribute ref="xlink:show" use="optional"/>
    <xsd:attribute ref="xlink:actuate" use="optional"/>
    <xsd:attribute ref="xlink:label" use="optional"/>
    <xsd:attributeGroup ref="NetworkAttributesGroup"/>
  </xsd:attributeGroup>

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

  <!--End All case-insensitive alphabetically-->

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

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<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>
          <th xmlns="">Version</th>
          <xhtml:td>Date</xhtml:td>
          <xhtml:td>By</xhtml:td>
          <xhtml:td>Description</xhtml:td>
        </xhtml:tr>
      </xhtml:thead>
      <xhtml:tbody>
        <xhtml:tr>
          <xhtml:td>2017-JUL</xhtml:td>
          <xhtml:td>2017-04-27</xhtml:td>
          <xhtml:td>ODNI/OCIO/ICEA</xhtml:td>
          <xhtml:td>
```

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        <xhtml:ul>
          <xhtml:li ism:ownerProducer="USA" ism:classification="U">
The schema change logs will no longer be maintained as of the 2017-JUL release.
The existing change logs will only serve as legacy information.
For changes to schema as of and after 2017-JUL, reference the change history in the DES.</xhtml:li>
          </xhtml:ul>
        </xhtml:td>
      </xhtml:tr>
      <xhtml:tr>
        <xhtml:td>2015-AUG</xhtml:td>
        <xhtml:td>2015-06-04</xhtml:td>
        <xhtml:td>ODNI/OCIO/ICEA</xhtml:td>
        <xhtml:td>Removed references to NTK</xhtml:td>
      </xhtml:tr>
      <xhtml:tr>
        <xhtml:td>2015-AUG</xhtml:td>
        <xhtml:td>2015-05-29</xhtml:td>
        <xhtml:td>ODNI/OCIO/ICEA</xhtml:td>
        <xhtml:td>Updated DESVersion Regex</xhtml:td>
      </xhtml:tr>
      <xhtml:tr>
        <xhtml:td>2015-AUG</xhtml:td>
        <xhtml:td>2015-05-26</xhtml:td>
        <xhtml:td>ODNI/OCIO/ICEA</xhtml:td>
        <xhtml:td>Added optional DESVersion attribute to network group</xhtml:td>
      </xhtml:tr>
      <xhtml:tr>
        <xhtml:td>1</xhtml:td>
        <xhtml:td>2012-09-30</xhtml:td>
        <xhtml:td>ODNI/OCIO/ICEA</xhtml:td>
        <xhtml:td>Initial release</xhtml:td>
      </xhtml:tr>
    </xhtml:tbody>
  </xhtml:table>
</xsd:documentation>
</xsd:annotation>
</xsd:schema>
```