

UNCLASSIFIED



Guide to Schematron Rules and Patterns

OC-NTK Schematron Guide

Version 1

6 September 2013

This document has been approved for Public Release by the Office of the Director of National Intelligence. See 'Distribution Notice' for details.

UNCLASSIFIED

UNCLASSIFIED

Distribution Notice:

This document has been approved for Public Release and is available for use without restriction.

This document has been approved for Public Release by the Office of the Director of
National Intelligence. See 'Distribution Notice' for details.

UNCLASSIFIED

Table of Contents

Chapter 1 - Introduction	1
1.1 - Purpose	1
Chapter 2 - Rules	2
2.1 - ../Rules/OC-NTK_ID_00001.sch	3
2.2 - ../Rules/OC-NTK_ID_00002.sch	4
2.3 - ../Rules/OC-NTK_ID_00003.sch	5
2.4 - ../Rules/OC-NTK_ID_00004.sch	6
2.5 - ../Rules/OC-NTK_ID_00005.sch	7
2.6 - ../Rules/OC-NTK_ID_00006.sch	8
Chapter 3 - Abstract Patterns	9
3.1 - ../Lib/ValidateTokenValuesExistenceInList.sch	10
Chapter 4 - Schematron Schema	11
4.1 - ../OC-NTK_XML.sch	12
Chapter 5 - Removed Rules	13

Chapter 1 - Introduction

1.1 - Purpose

(U) The following documentation is informative. The actual Schematron files are the normative record. This documentation is generated from the Schematron files via XSLT it may be missing some file or pieces of a file but whatever is here other than titles came from the original file.

(U) It is envisioned that this will be a useful resource to search and read but for questions and debates the source files should be consulted.

(U) Rules identifiers are all of the format OC-NTK-ID-XXXXX, with rule files named OC-NTK_ID_XXXXX.sch. Any other heading indicates a supporting file that may strongly influence a rule but is not actually a numbered rule.

Chapter 2 - Rules

All of the numbered Rules for OC-NTK are listed in this section. These rules may depend strongly on patterns defined in the Abstract Patterns section or on variables defined in the Schematron Schema section.

2.1 - ./Rules/OC-NTK_ID_00001.sch

Rule Description: OC-NTK-ID-00001 [OC-NTK-ID-00001][Error] The OC-NTK Profile DES must be [guide://2020/oc-ntk.des.v1].

Code Description: For every ntk:ProfileDes element of an ntk:AccessProfile that has an ntk:AccessPolicy of [guide://2020/oc-ntk.aces], the ntk:ProfileDes must be [guide://2020/oc-ntk.des.v1].

Schematron Code:

```
<?ICEA pattern?><!-- Notices - Distribution Notice:
    This document has been approved for Public Release and is
    available for use without restriction.
    -->
<sch:pattern id="OC-NTK-ID-00001">

    <sch:rule
context="ntk:AccessProfile[ntk:AccessPolicy='guide://2020/oc-ntk.aces']">
    <sch:assert test="ntk:ProfileDes='guide://2020/oc-
ntk.des.v1'">
    [OC-NTK-ID-00001][Error] The OC-NTK Profile DES must be [guide://
2020/oc-ntk.des.v1].
    </sch:assert>
    </sch:rule>
    </sch:pattern>
```

2.2 - ./Rules/OC-NTK_ID_00002.sch

Rule Description: OC-NTK-ID-00002 [OC-NTK-ID-00002][Error] If the Access Profile has a value with a vocab specified as [urn:us:gov:ic:cenum:usagency:agencyacronym], then the value of the Originator must be a term from the USAgency CES. Human Readable: If the Access Profile specifies agency values as being of the namespace urn:us:gov:ic:cenum:usagency:agencyacronym, the originator specified must be defined in the USAgency CES.

Code Description:

Schematron Code:

```
<?ICEA pattern?><!-- Notices - Distribution Notice:
    This document has been approved for Public Release and is
    available for use without restriction.
-->
<sch:pattern is-a="AllowableUSAgencyValues" id="OC-NTK-ID-00002">

    <sch:param name="context"

value="ntk:AccessProfile[ntk:AccessPolicy='guide://2020/oc-ntk.aces']
[ntk:AccessProfileValue[matches(@ntk:vocabulary, '^urn:us:gov:ic:cenum:usagenc
y:agencyacronym$')]]/
ntk:AccessProfileValue[matches(@ntk:vocabulary, '^urn:us:gov:ic:ntk:profile:oc:
originator$')]]"/>
        <sch:param name="searchTerm" value="."/>
        <sch:param name="errMsg"
            value="" [OC-NTK-ID-00002]
[Error]        If the Access Profile has a value with a vocab specified as
[urn:us:gov:ic:cenum:usagency:agencyacronym], then the value of the
Originator must be a term from the USAgency CES. Human
Readable: If the Access Profile specifies agency values as being of the
namespace urn:us:gov:ic:cenum:usagency:agencyacronym, the
originator specified must be defined in the USAgency CES.
'"/>
        </sch:pattern>
```

2.3 - ../Rules/OC-NTK_ID_00003.sch

Rule Description: OC-NTK-ID-00003 [OC-NTK-ID-00003][Error] The value in the @ntk:vocabulary attribute must exist in CVEnumOcNtkVocab.xml. Human Readable: The value specified for the vocabulary must exist in the OC-NTK vocab CVE.

Code Description: This rule uses an abstract pattern to consolidate logic. It checks that the value in parameter \$searchTerm is contained in the parameter \$list. The parameter \$searchTerm is relative in scope to the parameter \$context. The value for the parameter \$list is a variable defined in the main document (OC-NTK_XML.sch), which reads values from a specific CVE file.

Schematron Code:

```
<?ICEA pattern?><!-- Notices - Distribution Notice:
      This document has been approved for Public Release and is
available for use without restriction.
-->
<sch:pattern is-a="ValidateTokenValuesExistenceInList" id="OC-NTK-ID-00003">

      <sch:param name="context"

value="ntk:AccessProfile[ntk:AccessPolicy='guide://2020/oc-ntk.aces']/
ntk:AccessProfileValue"/>
      <sch:param name="searchTermList" value="@ntk:vocabulary"/>
      <sch:param name="list" value="$vocabList"/>
      <sch:param name="errMsg"
value="" [OC-NTK-ID-00003][Error] The
value in the @ntk:vocabulary attribute must exist in
CVEnumOcNtkVocab.xml. Human Readable: The value specified
for the vocabulary must exist in the OC-NTK vocab CVE.
      "/>
      </sch:pattern>
```


2.4 - ../Rules/OC-NTK_ID_00004.sch

Rule Description: OC-NTK-ID-00004 [OC-NTK-ID-00004][Error] It is not valid to have urn:us:gov:ic:orcon:usa as there is a defined list of values for US Agencies. The namespace for that list is urn:us:gov:ic:cvenum:usagency:agencyacronym. Human Readable: urn:us:gov:ic:orncon:[a-z]{3} is for use in cases where agencies are not defined. USA has a defined list of agencies and the namespace urn:us:gov:ic:cvenum:us:agency:agencyacronym must be used for USA agencies.

Code Description: Fail on any vocabulary in the OC-NTK Access Profile that has urn:us:gov:ic:orcon:usa.

Schematron Code:

```
<?ICEA pattern?><!-- Notices - Distribution Notice:
    This document is being made available by the Intelligence
Community Chief Information Officer
    to Federal, State, Local, Tribal, and Foreign Partners and
associated contractors. Approval for
    any further distribution must be coordinated via the Intelligence
Community Chief Information
    Officer, Mission Engagement Division at standardssupport@dni.gov--
>
<sch:pattern id="OC-NTK-ID-00004">

    <sch:rule
context="ntk:AccessProfile[ntk:AccessPolicy='guide://2020/oc-ntk.aces']/
ntk:AccessProfileValue[@ntk:vocabulary='urn:us:gov:ic:orcon:usa']">
        <sch:assert test="false()">
            [OC-NTK-ID-00004][Error] It is not valid to have
urn:us:gov:ic:orcon:usa as there is a defined
            list of values for US Agencies. The namespace for that list is
urn:us:gov:ic:cvenum:usagency:agencyacronym.

            Human Readable: urn:us:gov:ic:orncon:[a-z]{3} is for use in
cases where agencies are not defined. USA has
            a defined list of agencies and the namespace
urn:us:gov:ic:cvenum:us:agency:agencyacronym must be used
            for USA agencies.
        </sch:assert>
    </sch:rule>
</sch:pattern>
```

2.5 - ./Rules/OC-NTK_ID_00005.sch

Rule Description: OC-NTK-ID-00005 [OC-NTK-ID-00005][Error] If the Access Profile has a value with a vocab specified as [urn:us:gov:ic:cenum:usagency:agencyacronym], then the value of the authorized disseminator must be a term from the USAgency CES. Human Readable: If the Access Profile specifies agency values as being of the namespace urn:us:gov:ic:cenum:usagency:agencyacronym, the authorized disseminator specified must be defined in the USAgency CES.

Code Description:

Schematron Code:

```
<?ICEA pattern?><!-- Notices - Distribution Notice:
    This document has been approved for Public Release and is
    available for use without restriction.
-->
<sch:pattern is-a="AllowableUSAgencyValues" id="OC-NTK-ID-00005">

    <sch:param name="context"

value="ntk:AccessProfile[ntk:AccessPolicy='guide://2020/oc-ntk.aces']
[ntk:AccessProfileValue[matches(@ntk:vocabulary, '^urn:us:gov:ic:cenum:usagenc
y:agencyacronym$')]]/
ntk:AccessProfileValue[matches(@ntk:vocabulary, '^urn:us:gov:ic:ntk:profile:oc:
authorizedDissem$')]]"/>
        <sch:param name="searchTerm" value="."/>
        <sch:param name="errMsg"
            value="" [OC-NTK-ID-00005]
[Error]        If the Access Profile has a value with a vocab specified as
[urn:us:gov:ic:cenum:usagency:agencyacronym],        then the value of the
authorized disseminator must be a term from the USAgency
CES.        Human Readable: If the Access Profile specifies agency
values as being of the namespace
urn:us:gov:ic:cenum:usagency:agencyacronym, the authorized disseminator
specified must be defined        in the USAgency CES.        '"/>
    </sch:pattern>
```

2.6 - ../Rules/OC-NTK_ID_00006.sch

Rule Description: OC-NTK-ID-00006 [OC-NTK-ID-00006][Error] The OC-NTK Profile DES must have one and only one Access Profile Value with a vocabulary of urn:us:gov:ic:ntk:profile:oc:originator.

Code Description: Every ntk:AccessProfile with an ntk:AccessPolicy of [guide://2020/oc-ntk.aces], we verify that it has one and only one ntk:AccessProfileValue element with an @ntk:vocabulary of [urn:us:gov:ic:ntk:profile:oc:originator].

Schematron Code:

```
<?ICEA pattern?><!-- Notices - Distribution Notice:
      This document has been approved for Public Release and is
      available for use without restriction.
-->
<sch:pattern id="OC-NTK-ID-00006">

      <sch:rule
context="ntk:AccessProfile[ntk:AccessPolicy='guide://2020/oc-ntk.aces']">
      <sch:assert
test="count(ntk:AccessProfileValue[matches(@ntk:vocabulary,
'^urn:us:gov:ic:ntk:profile:oc:originator$'])) = 1">
      [OC-NTK-ID-00006][Error] The OC-NTK Profile DES must have one and
only one
      Access Profile Value with a vocabulary of
urn:us:gov:ic:ntk:profile:oc:originator.
      </sch:assert>
      </sch:rule>
    </sch:pattern>
```

Chapter 3 - Abstract Patterns

All of the Abstract Patterns for OC-NTK are listed in this section. These patterns may depend strongly on variables defined in the Schematron Schema section.

3.1 - ../Lib/ValidateTokenValuesExistenceInList.sch

Rule Description: ValidateTokenValuesExistenceInList

Code Description:

Schematron Code:

```

<!--
  This abstract pattern checks to see if an attribute of an element exists
  in a list or matches the pattern defined by the list.

  $context          := the context in which the searchValue exists
  $searchTermList    := the set of values which you want to verify is in the
list
  $list              := the list in which to search for the searchValue
  $errMsg            := the error message text to display when the assertion
fails

  Example usage:
  <sch:pattern is-a="ValidateValueExistenceInList" id="IRM_ID_00027"
xmlns:sch="http://purl.oclc.org/dsdl/schematron">
    <sch:param name="context" value="@ism:releasableTo"/>
    <sch:param name="searchTermList" value="."/>
    <sch:param name="list" value="$releasableToList"/>
    <sch:param name="errMsg" value="
      [ISM-ID-00265][Error] Any @ism:releasableTo must
      be a value in CVENumISMRelTo.xml.
    "/>
  </sch:pattern>

  Note: $iso4217TrigraphList is defined in the main document, IRM_XML.xml.
-->
<sch:pattern abstract="true" id="ValidateTokenValuesExistenceInList">

    <sch:rule context="$context">
      <sch:assert test="every $searchTerm in
tokenize(normalize-space(string($searchTermList)), ' ')
satisfies
      $searchTerm = $list or
(some $listTerm in $list satisfies (matches(normalize-space($searchTerm),
concat('^',$listTerm,$'))))
      "
      flag="error">
        <sch:value-of select="$errMsg"/>
      </sch:assert>
    </sch:rule>
  </sch:pattern>

```

Chapter 4 - Schematron Schema

The top level Schematron file for OC-NTK is in this section. This file imports all of the others and also defines many global variables they are all dependent on.

4.1 - ../OC-NTK_XML.sch

Rule Description:

Code Description:

Schematron Code:

```

<?ICEA master?><!-- Notices - Distribution Notice:
    This document is being made available by the Intelligence
Community Chief Information Officer
    to Federal, State, Local, Tribal, and Foreign Partners and
associated contractors. Approval for
    any further distribution must be coordinated via the Intelligence
Community Chief Information
    Officer, Mission Engagement Division at standardssupport@dni.gov--
>
<sch:schema queryBinding="xslt2">
    <sch:ns uri="urn:us:gov:ic:cve" prefix="cve"/>
    <sch:ns uri="http://www.w3.org/1999/xlink" prefix="xlink"/>
    <sch:ns uri="urn:us:gov:ic:ism" prefix="ism"/>
    <sch:ns uri="urn:us:gov:ic:ntk" prefix="ntk"/>
    <sch:ns uri="http://www.w3.org/2001/XMLSchema" prefix="xs"/>

    <!-- ***** -->
    <!-- * Abstract Rule and Pattern Includes * -->
    <!-- ***** -->
    <sch:include href="../../USAgency/Lib/AllowableUSAgencyValue.sch"/>
    <sch:include href="Lib/
ValidateTokenValuesExistenceInList.sch"/>
    <sch:include href="../../IC-ID/Lib/
ICIdentifierRestrictions.sch"/>

    <!-- (U) Resources -->
    <sch:let name="vocabList"
        value="document(' ../../CVE/OC-NTK/
CVEnumOcNtkVocab.xml')//cve:CVE/cve:Enumeration/cve:Term/cve:Value"/>

    <!-- ***** -->
    <!-- (U) OC-NTK ID Rules -->
    <!-- ***** -->

    <!-- (U) -->
    <sch:include href="../../Rules/OC-NTK_ID_00001.sch"/>
    <sch:include href="../../Rules/OC-NTK_ID_00002.sch"/>
    <sch:include href="../../Rules/OC-NTK_ID_00003.sch"/>
    <sch:include href="../../Rules/OC-NTK_ID_00004.sch"/>
    <sch:include href="../../Rules/OC-NTK_ID_00005.sch"/>
    <sch:include href="../../Rules/OC-NTK_ID_00006.sch"/>
</sch:schema>

```

Chapter 5 - Removed Rules

There are no rules that have been removed for OC-NTK.