Guide to Schematron Rules and Patterns

IC-GENC Schematron Guide

Version 1

09 May 2014

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Chapter 1 - Introduction

1.1 - Purpose

This is an informative supplement for IC-GENC. This guide is generated from the IC-GENC schematron rules and provides a consolidated reference for the business rules of this specification.

1.2 - Schematron

The business rules for the IC-GENC specification are encoded using ISO Schematron. Schematron is a rule-based validation language that uses XML Path Language to make assertions about an XML document. While the business rules are normative, the use of Schematron to express the rules is informative.

1.3 - Conformance

This guide and the use of Schematron in the IC-GENC specification is informative. Systems may validate documents against the business rules in the specification using any tools or languages that meet the needs of the system. However, to conform to the IC-GENC specification, validation schemes MUST match the behavior of the reference Schematron implementation. That is, a validator MUST find a document valid *if and only if* the reference Schematron implementation would find the document valid according to IC-GENC's Schematron rules.

Chapter 2 - Rules

There are no numbered Rules currently defined for IC-GENC.

Chapter 3 - Abstract Patterns

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

3.1 - .//Lib/AllowableGencValue.sch

Rule Description: AllowableGencValues

Code Description: This abstract pattern checks to see if a value exists in the IC-GENC CVEs. The following parameters are used by this pattern: $context := the context in which the searchValue exists. $searchTerm := the value which you want to verify is in the list. $searchCodespace := the codespace of the value $errMsg := the error message text to display when the assertion fails.

Schematron Code:

```
     <sch:pattern abstract="true" id="AllowableGencValues">

                  <sch:rule context="$context">
                     <sch:assert test="some $term in
document(concat('../../CVE/IC-GENC/CVEnum',upper-
case(substring($searchCodespace,1,1)),translate(substring($searchCodespace,
2),':',''),'.xml'))//cve:CVE/cve:Enumeration/cve:Term/cve:Value
satisfies $term=$searchTerm"
                                    flag="error">
                        <sch:value-of select="$errMsg"/>
                     </sch:assert>
                  </sch:rule>
               </sch:pattern>
```

Chapter 4 - Schematron Schema

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

4.1 - .//IC-GENC_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--
><!-- WARNING:
    Once compiled into an XSLT the result will
    be the aggregate classification of all the CVES
    and included .sch files
-->
<sch:schema xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
queryBinding="xslt2">
                  <sch:ns uri="urn:us:gov:ic:usagency" prefix="usagency"/>
                  <sch:ns uri="urn:us:gov:ic:edh:xsl:util" prefix="util"/>
                  <sch:ns uri="http://www.w3.org/2001/XMLSchema" prefix="xs"/>


                  <!--====================-->
    <!-- (U) Universal Lets -->
    <!--====================-->

    <!-- ********************************** -->
    <!-- * Abstract Rule and Pattern Includes * -->
    <!-- ********************************** -->
    <sch:include href="Lib/AllowableGencValue.sch"/>

                  <!--****************************-->
    <!-- (U) Custom XSLT function   -->
    <!--****************************-->

    <!--****************************-->
    <!-- (U) USAgency ID Rules -->
    <!--****************************-->

</sch:schema>
```

Chapter 5 - Removed Rules

There are no rules that have been removed for IC-GENC.