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# SCAP 1.4 Component Specification Version Updates

*An Annex to NIST SP 800-126r4*

Initial Public Draft

Dragos Prisaca
Stephen Quinn

This publication is available free of charge from:
https://doi.org/10.6028/NIST.SP.800-126Ar4.ipd

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# SCAP 1.4 Component Specification Version Updates

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*Information Technology Laboratory*

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December 2025

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## Abstract

The Security Content Automation Protocol (SCAP) is a multi-purpose framework of component specifications that support automated configuration, vulnerability, patch checking, security measurement, and technical control compliance activities. The SCAP version 1.4 specification is defined by the combination of NIST SP 800-126r4, a set of schemas, and this document. This document allows the use of particular minor version updates to SCAP 1.4 component specifications and particular Open Vulnerability and Assessment Language (OVAL) schema versions to provide additional functionality for SCAP 1.4 without causing any loss of existing functionality.

## Keywords

Open Vulnerability and Assessment Language (OVAL); security automation; security configuration; Security Content Automation Protocol (SCAP).

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# 1. Introduction

*Specification versioning* is the process of denoting a revision to a specification by changing its version number. For example, the Security Content Automation Protocol (SCAP) specification documents are occasionally updated, and these updates trigger an increase in the SCAP version number (e.g., 1.2, 1.3, 1.4). This specification versioning is challenging because there is no standard convention or terminology for it; each specification imparts different meanings into its version numbers. For example, moving from version 3.4 to version 3.5 might break backward compatibility for one specification, add new functionality for another specification, and simply correct an error in a third specification.

This document defines two key terms for SCAP 1.4 component specification versioning: major and minor version updates. A *major version update* is a revision of a specification that breaks backward compatibility with the previous revision of the specification in numerous significant ways. A *minor version update* is a revision of a specification that may add or enhance functionality, fix bugs, and make other changes from the previous revision, but the changes have minimal impact, if any, on backward compatibility.

## 1.1. Purpose and Scope

The purpose of this document is to extend the contents of NIST Special Publication (SP) 800-126r4 (Revision 4) so that SCAP 1.4 is defined by the combination of the two documents and the set of schemas. Readers should be familiar with SP 800-126r4 before reading this document.

This document can only be used to make minor version updates of component specifications that are already included in SCAP 1.4 by SP 800-126r4. Major version updates to SCAP 1.4 component specifications and new component specifications that are not included in SP 800-126r4 can only be added to a future version of SCAP as documented in a future revision of SP 800-126.

Each SCAP 1.4 extension specified in this document takes one of two forms. First, it may allow the use of particular minor version updates to SCAP 1.4 component specifications or particular Open Vulnerability and Assessment Language (OVAL) versions included in SCAP 1.4. Second, it may specify one or more requirements for using these updates or OVAL schemas in an SCAP 1.4-conformant manner.

This document specifies exactly which component specification minor version updates and OVAL platform schema versions may be used as part of SCAP 1.4 for several reasons, including:

- To support the interoperability of SCAP 1.4 tools and content
- To provide a basis for testing tools to ensure that they comply with SCAP 1.4
- To reduce the burden on SCAP 1.4 tool and content developers by clearly defining all SCAP 1.4 extensions in a single place

While organizations are free to use SCAP 1.4 with any schema or specification that they choose in any manner they choose, such usage is not considered to be SCAP 1.4-conformant unless defined as such in this document or in SP 800-126r4.

The scope of this document is versioning for SCAP 1.4 component specifications only.

### 1.2. Document Structure

The rest of this document consists of the following sections and appendices:

- Section 2 presents all minor version updates in SCAP 1.4 component specifications that have been approved for inclusion in SCAP 1.4 along with any corresponding requirements to be added to SCAP 1.4. This section also lists the criteria used to evaluate a minor version update for potential inclusion in SCAP 1.4.
- Section 3 describes the management processes for the document.
- Appendix A lists the acronyms and abbreviations used in the document.
- Appendix B provides a glossary of selected terms in this document.
- Appendix C lists key changes made in this revision.

## 2. Minor Version Updates in SCAP 1.4-Component Specifications

This section defines the criteria used to evaluate minor version updates in SCAP 1.4 component specifications for potential inclusion in SCAP 1.4 and lists all such updates that have been approved for inclusion in SCAP 1.4 along with any additional corresponding requirements. It also provides the current XML schema (XSD) and Schematron schema locations that correspond to all SCAP 1.4 component specifications.

### 2.1. Criteria for Potential Inclusion

The following defines the criteria that a minor version update to an SCAP 1.4 component specification and associated requirements must meet before being considered for potential inclusion in this document:

1. One or more of the following must be true:
    a. The component specification is being revised strictly for bug fixes or errata purposes. In other words, the update does not add new functionality or enhance existing functionality.
    b. The new minor version of the component specification is already being used by tools and/or content.
    c. The platform schema revision or component specification revision provides significant benefits, such as a solution for an important use case that previously had no solution.
2. The minor version update and associated requirements must not conflict with any existing SCAP 1.4 requirements, including minimizing any negative impact on backward compatibility.

### 2.2. Approved Minor Version Updates and SCAP 1.4 Requirements

The following SCAP 1.4 component specification minor version updates have been approved for inclusion in SCAP 1.4:

- OVAL 5.12.x[1]

For all other component specifications, the versions listed in SP 800-126r4 are the approved versions. As of this writing, no requirements need to be added to SCAP 1.4 to support the approved component specification minor version updates.

### 2.3. XML Schema and Schematron Schema Locations

Table 1 lists the XML schema (XSD) locations (and Schematron schema locations, when applicable) for the SCAP component specifications.

[1] For more information on the changes from OVAL 5.11.2 to OVAL 5.12.2, see the changelogs at https://github.com/OVAL-Community/OVAL/releases/tag/v5.12, https://github.com/OVAL-Community/OVAL/releases/tag/v5.12.1, and https://github.com/OVAL-Community/OVAL/releases/tag/v5.12.2.

153 **Table 1. SCAP XML schema and Schematron schema locations**

| Prefix | XML Schema Location | Schematron Schema Location (if applicable)[2] |
|---|---|---|
| AI | https://csrc.nist.gov/schema/asset-identification/1.1/asset-identification_1.1.0.xsd | |
| ARF | https://csrc.nist.gov/schema/asset-reporting-format/1.1/asset-reporting-format_1.1.0.xsd | Embedded in the schema |
| CPE Applicability Language | https://csrc.nist.gov/schema/cpe/2.3/cpe-language_2.3.xsd | |
| CPE Dictionary | https://csrc.nist.gov/schema/cpe/2.3/cpe-dictionary_2.3.xsd | |
| CPE Dictionary Extension | https://csrc.nist.gov/schema/cpe/2.3/cpe-dictionary-extension_2.3.xsd | |
| CPE Naming | https://csrc.nist.gov/schema/cpe/2.3/cpe-naming_2.3.xsd | |
| OCIL | https://csrc.nist.gov/schema/ocil/2.0/ocil-2.0.xsd | Embedded in the schema |
| OVAL 5.12.2 Schemas | http://github.com/OVAL-Community/OVAL/tree/5.11.2_release/oval-schemas | Embedded in the schema |
| SCAP constructs | https://csrc.nist.gov/schema/scap/1.4/scap-constructs_1.4.xsd | https://scap.nist.gov/revision/1.3/scap-schematron-rules.zip |
| SCAP source data stream | https://csrc.nist.gov/schema/scap/1.4/scap-source-data-stream_1.4.xsd | |
| TMSAD | https://csrc.nist.gov/schema/tmsad/1.0/tmsad_1.0.xsd | https://csrc.nist.gov/schema/tmsad/1.0/tmsad_1.0.sch |
| XCCDF | https://csrc.nist.gov/schema/xccdf/1.2/xccdf_1.2.xsd (XSD 1.0, where xsd:import statements use absolute URLs), https://csrc.nist.gov/schema/xccdf/1.2/xccdf_1.2.zip (complete schema bundle, where xsd:import statements use relative URLs) | https://csrc.nist.gov/schema/xccdf/1.2/xccdf_1.2.sch |

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[2] A complete bundle of Schematron schemas for SCAP 1.3 can be found on the SCAP website at https://scap.nist.gov/revision/1.3/#schematron.

# 3. Document Management

## 3.1. Composition

As stated in Sec. 1, the SCAP 1.4 specification comprises (a) SP 800-126r4 (i.e., the core specification), (b) this annex (i.e., the extensions document), and (c) the normative component schemas referenced by these documents.

## 3.2. Rationale

Maintaining this extensions document separate from the core specification enables extensions to be published or revised without republishing SP 800-126r4 and provides a single, consolidated catalogue of extensions for tool developers and content authors.

## 3.3. Update Cadence

The SCAP community's adoption of extensions will be driven by community needs, feedback, major platform changes, and related trends. The extensions document MAY be updated more frequently than SP 800-126r4, but the overall update cadence for both documents is expected to be infrequent.

## 3.4. Conformance and Assessment

NIST no longer operates the SCAP Validation Program. The National Voluntary Laboratory Accreditation Program (NVLAP) has terminated SCAP testing accreditation effective September 2, 2025. Accordingly, this specification does not anticipate revisions to NIST Interagency Report (IR) 7511 for SCAP 1.4. Organizations that develop independent conformance or interoperability assessments that are derived from this specification SHOULD cite the specific versions of SP 800-126r4, this extensions document, and the referenced component schemas from which their test requirements are derived.

# Appendix A. List of Symbols, Abbreviations, and Acronyms

Selected acronyms and abbreviations used in this document are defined below.

**DTR**
Derived Test Requirements

**FOIA**
Freedom of Information Act

**IETF**
Internet Engineering Task Force

**IR**
Interagency Report

**ITL**
Information Technology Laboratory

**NIST**
National Institute of Standards and Technology

**OVAL**
Open Vulnerability and Assessment Language

**SCAP**
Security Content Automation Protocol

**SP**
Special Publication

# Appendix B. Glossary

Selected terms used in this document are defined below. See the glossary in SP 800-126r4 for additional definitions.

**major version update**
A revision of a specification that breaks backward compatibility with the previous revision of the specification in numerous significant ways.

**minor version update**
A revision of a specification that may add or enhance functionality, fix bugs, and make other changes from the previous revision, but the changes have minimal impact, if any, on backward compatibility.

**specification versioning**
The process of denoting a revision to a specification by changing its version number.

## Appendix C. Change Log

**Revision 4 Release 1 – TBD**

- Updated all references of SCAP 1.3 to SCAP 1.4
- Updated OVAL version to 5.12.2
- Removed OVAL ‘core’ and ‘platform’ schema version information
- Removed SWID requirements