



**Criteria for United States Geological Survey  
(USGS) Recognizing Certificate Issuing Organizations  
Functions and Requirements  
Part of United States Geological Survey  
Recognition of Spatial Data Transfer Standard (SDTS)  
Topological Vector Profile (TVP)  
Certification System**

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Prepared for:  
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Reston, Virginia 22092

U.S. DEPARTMENT OF COMMERCE  
Technology Administration  
National Institute of Standards  
and Technology  
Gaithersburg, MD 20899-0001



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U.S. DEPARTMENT OF COMMERCE  
William M. Daley, Secretary

TECHNOLOGY ADMINISTRATION  
Gary R. Bachula, Acting Under Secretary  
for Technology

NATIONAL INSTITUTE OF STANDARDS  
AND TECHNOLOGY  
Raymond G. Kammer, Director



## United States Geological Survey Certification System Documents

The Model for United States Geological Survey Recognition of Spatial Data Transfer Standard (SDTS) Topological Vector Profile (TVP) Certification System includes a total of five (5) documents which are enumerated below:

1. Overview of Model for United States Geological Survey Recognition of Spatial Data Transfer Standard (SDTS) Topological Vector Profile (TVP) Certification System.
2. Model for Test Method Executive Control Committee (TMECC) Organization and Procedures Part of United States Geological Survey Recognition of Spatial Data Transfer Standard (SDTS) Topological Vector Profile (TVP) Certification System.
3. Criteria for United States Geological Survey (USGS) Recognizing Certificate Issuing Organizations Activities and Requirements Part of United States Geological Survey Recognition of Spatial Data Transfer Standard (SDTS) Topological Vector Profile (TVP) Certification System.
4. Criteria for United States Geological Survey (USGS) Recognizing Testing Laboratory/ies Activities and Requirements Part of United States Geological Survey Recognition of Spatial Data Transfer Standard (SDTS) Topological Vector Profile (TVP) Certification System.
5. Spatial Data Transfer Standard (SDTS) Topological Vector Profile (TVP) Validation Procedures Part of United States Geological Survey Recognition of Spatial Data Transfer Standard (SDTS) Topological Vector Profile (TVP) Certification System

### 1. Purpose

This document describes the requirements for the United State Geological Survey (USGS) recognition of private sector Certification Issuing Organizations which provide conformity assessment of SDTS/TVP implementations to the SDTS/TVP standard. The Sponsoring Organization Model (SOM) for Recognition of Information Technology Certification System upon which this USGS Certificate Issuing Organization (CIO) Recognition is built provides a practical approach to conformity assessment where:

- (1) minimal resources or expertise are available from the Sponsoring Organization for supporting such activities,
- (2) the software community needs such a validation program, and/or
- (3) the software community resources (costs, time, effort) are insufficient to seek accreditation from a formal accreditation organization.

The operating structure for SDTS/TVP standard conformance testing program consists of the USGS, the Test Method Executive Control Committee (TMECC), the USGS recognized Certificate Issuing Organization(s), and the CIO recognized Testing Laboratory/ies. Note that the Testing Laboratory/ies are to be initially recognized by the USGS. Subsequent recognition is to be by the USGS recognized CIO(s).

### 2. Definition of Terms

See Model for United States Geological Survey Recognition of Spatial Data Transfer Standard (SDTS) Topological Vector Profile (TVP) Certification System for definition of terms.

### 3. CIO Functions and Requirements

A CIO mission is to coordinate the activities of the Testing Laboratory/ies actually performing conformance testing, issue certificates, and serve as a centralized source of information to the CIO recognized Testing Laboratory/ies and to the Validation Customers.



The CIO shall:

- identify only those products as being validated for the Sponsoring Organization for that period of time that the CIO has the Sponsoring Organization recognition.
- provide an Operating Procedures Document. . This document shall be available to the public. For an example of the suggested contents of a CIO operating procedures document, see Appendix A
- provide evidence that one or more staff have significant knowledge of the SDTS/TVP or in the development or use of the test suite.
- submit yearly (or as required by the USGS) to the USGS a letter certifying that the CIO desires to continue to be a recognized CIO, that the CIO continues to follow all USGS requirements and that all CIO recognized Testing Laboratory/ies follow all USGS requirements. This letter is required for continued USGS recognition. The request shall certify that the CIO:
  1. will follow all TMECC and USGS requirements; and
  2. agrees to be an active member of the TMECC (with “active member” being defined by the TMECC) during the life of the USGS recognition.

The CIO shall have:

- a published\* means for the public to obtain a copy of the Validation Certificate and its associated VSR, unless forbidden by contract or law.
- a published\* procedure for maintaining testing records and for destruction of those records per the requirements of the TMECC.
- a process for publishing the Criteria for Recognizing Testing Laboratories.
- a published process for issuing Validation Certificates and VSRs.
- procedures for reviewing VSRs produced by the Testing Laboratory/ies.
- procedures for protecting the confidentiality and proprietary rights of the Validation Customer.
- a system for control of documentation relating to the Certification System to ensure that current issues and amendments of the documentation are available to the public, and that all users or participants in the Certification System scheme are notified of changes.
- a job description for each staff member including a description of the necessary education, training, technical knowledge and experience.
- information on the relevant qualifications, training, and experience of the technical staff; this information shall be available upon request to the USGS.
- the ability to communicate effectively with the USGS or TMECC or Testing Laboratory/ies.

(\*meaning available to the public at either zero cost or the cost of reproduction; these documents may be published via an electronic means.)

NOTE:

- (1) A CIO may recognize itself as a Testing Laboratory, but a Testing Laboratory may never function as a CIO.
- (2) When a CIO operates its own testing activities, these activities shall also meet the criteria for recognition of the Testing Laboratories.
- (3) The USGS may itself conduct or direct an impartial body to conduct an audit at any time to assess whether a CIO satisfies USGS CIO Recognition Criteria. Audits are conducted in accordance with procedures established below or with specific procedures established at the time of the audit and tailored to reflect the purpose of the audit.

#### 4. Sponsoring Organization Recognition of a CIO

The CIO is considered recognized when the Sponsoring Organization issues a letter to the CIO designated contact notifying her/him of the Sponsor's recognition of the CIO, and listing of that CIO in the Sponsor's public list of recognized CIO(s). The notification will identify the specific standard and testing program for which the CIO is recognized.

The CIO shall:

- lose the Sponsor's recognition when the Sponsoring Organization issues a letter to the CIO designated contact notifying her/him that the CIO is no longer recognized by the Sponsoring Organization. The CIO shall lose the Sponsor's recognition whenever the CIO no longer adheres to the criteria for recognition.
- immediately notify in writing the Sponsoring Organization whenever the CIO no longer wishes to serve as a recognized CIO.
- issue a Validation Certificate and a VSR when the validation evidence indicate zero non-conformities using the latest release of the test suite and test procedures. A VSR only (without a Validation Certificate) may be issued at the request of the Validation Customer when non-conformities are identified, or when a superseded version of the test suite is used (see separate document, SDTS/TVP Validation Procedures).

#### 5. Steps Required For USGS Recognition of Certificate Issuing Organization:

Step 1: Prepare a cover letter requesting USGS recognition. Send the cover letter and Attachments to the USGS.

Step 2: Complete the information required for each of the following Attachments:

Attachment 1:

This Attachment is the required detailed description of the means for publishing a list of CIO validated products which should include identification of the Validation Certificate and VSR; this list is usually called a Validated Products List or VPL.

Attachment 2:

- a. This Attachment is the required description of procedures for reviewing VSRs and issuing a Validation Certificate and/or VSR;
- b. procedures for protecting the confidentiality and proprietary rights of the Validation Customer.

Attachment 3:

This Attachment is the request on a yearly basis (or as required by the USGS) to the USGS to be a USGS recognized CIO. This request is required for continued USGS recognition.

Attachment 4:

This Attachment is the written description of:

- a. how the public may obtain a copy of the Validation Certificate and its associated VSR, unless forbidden by contract or law.
- b. how the public may obtain the CIO procedures for maintaining testing records and for destruction of those records per the requirements of the TMECC.
- c. how the public may obtain a copy of the CIO and USGS Criteria for Recognizing Testing Laboratories.

Attachment 5:

This Attachment is the written CIO Operating Procedures Document. Appendix A provides a suggested outline of the contents for the CIO Operating Procedures Document. While order and exact words are suggested, the basic content as outlined is required.

Attachment 6:

This Attachment is a brief description of conformance testing experience for both administrative and technical staff.

EITHER Attachment 7 or Attachment 8 is required (the CIO may submit both)

Attachment 7:

This Attachment provides evidence that one or more CIO staff have significant knowledge of the Sponsoring Organization Standard. Such evidence may be the participation in the development of the formal Standard; significant participation in the development of the Test Suite for the Standard; or significant participation in the development of software implementing the Standard.

Attachment 8:

As part of the application process, the CIO may run the SDTS/TVP Test Suite and write a VSR. This Attachment includes:

- a. The steps taken to process the SDTS/TVP Test Suite from loading the Test Suite onto the test platform, to writing of scripts for execution of the Test Suite (as needed), to collecting the Test Suite test results, etc.
- b. the VSR resulting from step a above.



APPENDIX A  
of  
Criteria for Recognizing Certificate Issuing Organizations  
Requirements and Activities

Part of  
United States Geological Survey  
Recognition of  
Spatial Data Transfer Standard (SDTS)  
Topological Vector Profile (TVP)  
Certification System

SUGGESTED CONTENTS OF CIO OPERATING PROCEDURES DOCUMENT

- 1.0. Introduction to Validation Service
  - 1.1. Scope of Document
  - 1.2. Definitions and abbreviations
  - 1.3. Relationships with Testing Laboratory/ies
- 2.0. Test Methods and Procedures
  - 2.1. Sources of SDTS Profile Test Suite
  - 2.2. Validation Procedures
- 3.0. Staff
  - 3.1. Description of CIO Organization
  - 3.2. Organizational Chart
  - 3.3. Points of Contact for CIO
  - 3.4. Points of Contact for CIO Recognized Testing Laboratory/ies
- 4.0. Test Records
  - 4.1. Archiving of Test Records
  - 4.2. Confidentiality
- 5.0. Validation Summary Reports
  - 5.1. Issuing of Validation Certificates
  - 5.2. Issuing of Validation Summary Reports
  - 5.3. Archiving of Validation Certificates and Validation Summary Reports
  - 5.4. Availability
- 6.0. Validated Products List
  - 6.1. Description of Validated Products List
  - 6.2. Public access to Validated Products List
- 7.0. Communications with the CIO
  - 7.1. Mailing address
  - 7.2. Voice telephone number for Point of Contact
  - 7.3. FAX telephone number for Point of Contact





