

NAT'L INST. OF STAND & TECH R.I.C.



A11105 401390

NIST
PUBLICATIONS

NISTIR 6128

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

Prepared by:

**William H. Dashiell
L. Arnold Johnson
Lynne S. Rosenthal**

Prepared for:

United States Geological Survey
560 National Center
Reston, Virginia 22092

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

QC
100
U56
NO. 6128
1998

NIST

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

Prepared by:

**William H. Dashiell
L. Arnold Johnson
Lynne S. Rosenthal**

Prepared for:

United States Geological Survey
560 National Center
Reston, Virginia 22092

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

May 1998



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.

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 Testing Laboratories which perform the conformance 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 Testing Laboratory 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.

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. Testing Laboratory Activities and Requirements

A Testing Laboratory mission is to actually perform the witness testing of the IUT, collect the results therefrom, write the VSR, recommend to the CIO whether a Validation Certificate should be issued, interact with the Validation Customer, receive payment from the Validation Customer for services performed, and submit Validation Issues to the CIO.

The Petitioning Testing Laboratory shall:

- have an organizational structure, including quality system, to perform satisfactorily the technical functions for which recognition is granted.

- be able to demonstrate, on request from the USGS or the CIO, that it is capable of performing the tests representative of those for which the Testing Laboratory is seeking recognition.
- be organized so as not to subject staff members to undue pressure or inducement that might influence their judgment or results of their work.
- be organized in such a way that each staff member is aware of both the extent and the limitations of her/his area of responsibility.
- have a technical manager (however named) who has overall responsibility for the technical operations of the testing laboratory.
- have adequate security rules and measures for protection of proprietary rights and confidential information.
- be legally identifiable.
- provide a history of its testing experiences in the specific or related areas in which recognition is sought.
- demonstrate that it has the ability to communicate effectively with the USGS or TMECC or CIO and with Validation Customers.
- agree to be an active member of the TMECC (with “active member” being defined by the TMECC) during the life of the USGS recognition.

A recognized Testing Laboratory shall:

- at all times comply with these requirements and with other criteria prescribed by the body granting recognition.
- claim that it is recognized only in respect of testing services for which it has been granted recognition and which are carried out in accordance with these requirements and other criteria prescribed by the body granting recognition.
- not use its recognition in such a manner as to bring the body granting recognition into disrepute and shall not make any statement relevant to its recognition which the body granting such recognition may reasonably consider to be misleading.
- upon the termination of its recognition (however determined) forthwith discontinue its use and all advertising matters which contain any reference thereto.
- make clear in all contracts with its validation customers that the Testing Laboratory’s recognition or any of its test reports by themselves in no way constitutes or implies product approval by the body granting recognition or any other body.
- endeavor to ensure that no Validation Summary Report nor any part thereof shall be used by a Validation Customer for promotional or publicity purposes, if the body granting recognition considers such use to be misleading. In any case, the Validation Summary Report shall not be reproduced except in full without the approval of the body granting recognition.
- provide identification information to facilitate communications between the CIO, TMECC, and Validation Customer as needed. The Testing Laboratory shall identify the following:
 - Testing laboratory name;
 - Testing laboratory mailing address;

- Testing laboratory email address;
 - Testing laboratory voice telephone number;
 - Testing laboratory FAX telephone number; and,
 - Testing laboratory Point of Contact (PoC).
- provide Testing Laboratory staff who are available and able to conduct the conformance testing in a timely manner.
 - provide the name and contact information for:
 - administrative staff; and,
 - technical staff who actually conduct the formal testing.
 - provide for each individual whether an administrative or technical person a written, signed, and dated statement that each person involved in this activity has no unreasonable biases which would unduly influence their judgment or decisions regarding Testing Laboratory services for the USGS SDTS/TVP Certification System. An example of undue influence would be a financial or commercial interest in the stock of a company on whose product the staff is conducting testing. Depending upon the level in such interest, the testing laboratory staff may recuse herself or himself.
 - provide supporting evidence that the person(s) named has/have the up-to-date technical skills to perform the testing service.
 - provide a job description for each staff member which includes a description of the necessary education, training, technical knowledge and experience.
 - provide information on the relevant qualifications, training, and experience of the technical staff. This information shall be available upon request to the USGS or the CIO.
 - maintain records for the duration of the Validation Certificate or for a period of time as required by the TMECC describing the testing environment.
 - agree to follow the TMECC Validation Procedures, to provide a process to be followed for feedback and corrective action whenever testing discrepancies are detected, or departures from documented policies and procedures occur. Where a deviation or discrepancy has occurred, the staff shall fully document the deviation or discrepancy , why the event occurred and any corrective actions taken. This document shall be such that the event may be replicated.
 - agree to NOT transfer CIO recognition to any other entity. Testing Laboratory itself shall perform the testing which they contract to undertake.

Note: The phrase, body granting recognition, is to mean the USGS and CIO at the initiation of the USGS SDTS/TVP Certification System and subsequently solely the CIO.

4. Steps Required for Certificate Issuing Organization Recognition of Testing Laboratory

1. Step 1: Prepare a cover letter requesting CIO recognition. Send the cover letter and Appendices to the CIO from which recognition is being sought.

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

Attachment 1:

Provide the information for the 6 items listed under Testing Laboratory Identification.

Attachment 2:

Procedures for protecting the confidentiality and proprietary rights of the Validation Customer. Include the "no unreasonable bias" statement described under Testing Laboratory Staff for each technical person performing the Validation Testing.

Attachment 3:

Provide the name and contact information for each Testing Service as required under Testing Laboratory Staff.

Attachment 4:

Provide evidence that the technical staff are qualified as required under Testing Laboratory Staff. Also provide a brief description of conformance testing experience for administrative staff.

Attachment 5:

Provide a procedure for determining whether all necessary test hardware and test software and supporting hardware and software are available during the formal witness testing as required under Testing Laboratory Testing Environment Facilities.

Attachment 6:

As part of the application process, the Testing Laboratory is required to 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.

Attachment 7:

Provide Testing Laboratory Operating Procedures document. Appendix A provides a suggested content for this document.

APPENDIX A
of
Criteria for Certificate Issuing Organizations Recognizing
Testing Laboratory/ies
Part of
United States Geological Survey
Recognition of
Spatial Data Transfer Standard (SDTS)
Topological Vector Profile (TVP)
Certification System

SUGGESTED CONTENTS OF TESTING LABORATORY OPERATING PROCEDURES DOCUMENT

- 1.0. Introduction to Validation Service
 - 1.1. Scope of Document
 - 1.2. Definitions and abbreviations
 - 1.3. Relationships with Certificate Issuing Organization
- 2.0. Test Methods and Procedures
 - 2.1. Source of SDTS Profile Test Suite
 - 2.2. Validation Procedures
 - 1) Pre-validation Procedures
 - 2) New Clients Validation Requirements
 - 3) Validation scheduling
 - 4) Validation costs
- 3.0. Staff
 - 3.1. Description of Testing Laboratory Organization
 - 3.2. Organizational Chart
 - 3.3. Points of Contact for Testing Laboratory
- 4.0. Test Records
 - 4.1. Archiving of Test Records
 - 4.2. Confidentiality
- 5.0. Validation Summary Reports
 - 5.1. Recommendation for CIO Issuing of Validation Certificates and Validation Summary Reports
 - 5.2. Archiving of Validation Certificates and Validation Summary Reports
 - 5.3. Availability
- 6.0. Hardware and Software Testing Environment
 - 6.1. Authorization of use of non-Testing Laboratory owned hardware and software
 - 6.2. Maintenance of Testing Laboratory owned hardware and software
- 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



