SLOVENSKI STANDARD
SIST EN ISO 19106:2006

01-junij-2006

Geografske informacije - Profili (ISO 19106:2004)

Geographic information - Profiles (ISO 19106:2004)

Geoinformation - Profile (ISO 19106:2004)

Information géographique - Profils (ISO 19106:2004)

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Geographic information - Profiles (ISO 19106:2004)

Information géographique - Profils (ISO 19106:2004)

Geoinformation - Profile (ISO 19106:2004)

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Foreword

The text of ISO 19106:2004 has been prepared by Technical Committee ISO/TC 211 "Geographic information/Geomatics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 19106:2006 by Technical Committee CEN/TC 287 "Geographic Information", the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

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Endorsement notice

The text of ISO 19106:2004 has been approved by CEN as EN ISO 19106:2006 without any modifications.

INTERNATIONAL STANDARD

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Geographic information — Profiles

Information géographique — Profiles

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 19106 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

Introduction

The ISO geographic information standards define a variety of models for describing, managing, and processing of geospatial data. Some of these standards are creating elements, others are introducing structures and rules. Different user communities have different requirements for the extent they want to use or implement these elements and rules. Clearly identification and documentation of specific subsets of the ISO geographic information standards in a prescribed manner in conformance with these standards profiles are needed.

Some of the ISO geographic information standards are abstract and hence will not be implemented directly. To implement them, a specification must be created, which may consist of a choice from the options defined in one or more of the standards, or instances of the rules defined in one or more of the standards or a combination thereof. Not all of the components of the specification for an implementation of the ISO geographic information standards will be derived entirely from the ISO standards. This document focuses on the definition and creation of those components that are derived entirely from the ISO geographic information standards.

An ISO geographic information profile is a subset of one or several of the ISO geographic information standards. For example, there may be a profile from ISO 19115 developed to serve a particular application area such as cadastral mapping. The profile would consist of a choice of the metadata elements available in ISO 19115. ISO 19115 would serve as a base standard for the development of the profile. An example for a base standard only introducing a methodology is given by ISO 19110. It contains methods for creating feature and attribute definitions. A profile of ISO 19110 would not contain instances of feature definitions, since there are no instances in the base standard from which to choose. A profile of ISO 19110 would contain only a subset of the rules and methods found in that standard.

The management of specifications or components of specifications that do not meet the definition of a profile is outside the scope of this International Standard. Each national standardization body or standards-setting organization, such as DGIWG[1)] or IHO[2)] can develop profiles for its own purposes. These organizations may follow this International Standard in creating such profiles, but those profiles do not become ISO geographic information profiles. If feature catalogues are considered, it is easy to see that there could be any number of catalogues developed using the ISO 19110 methodology. By applying the mechanisms of this International Standard to define a profile of ISO 19110 will guarantee that the resulting feature definitions contain the same components and are catalogued in a like manner, but it will not guarantee that the definitions of features and attributes within the catalogue are not conflicting. The catalogues will be consistent, but the definitions they contain will not. Each standards-setting organization or national body that develops a feature catalogue could define ‘roads’ or ‘rivers’ or ‘administrative boundaries’ differently. For this reason, specifications for implementing ISO geographic information standards, which are or contain specific instances of rules or methodologies and which are not derived entirely from the ISO geographic information standards, are treated differently from profiles. This document does not focus on those implementations that are not profiles.

Geographic information systems and software developers are expected to create implementations for specific purposes that make use of a limited set of concepts from the ISO geographic information standards. These sets of concepts will be implemented in a specific technical implementation environment, for example, one of the distributed computing platforms, such as CORBA, or the World Wide Web environment. Since the standardization of specific computing environments is outside the scope of ISO/TC 211, specifications that address the implementation of ISO geographic standards in those environments will not be considered as ISO geographic information profiles of ISO/TC 211, but as independent specifications.

1) DGIWG - Digital Geographic Information Working Group - Category A liaison organization to ISO/TC 211.

2) IHO - International Hydrographic Organization - Category A liaison organization to ISO/TC 211.

This International Standard does not address the creation of specifications for implementing ISO geographic standards in specific technical implementation environments.

ISO 19109 defines the rules for the development of an application schema, including how the elements of conceptual schemas defined in other ISO geographic information standards are combined in an application schema. ISO 19109 guides the creation of application schemas, which is outside the scope of ISO 19106. An application schema by definition is not a profile but may integrate subsets of standardized schemas that are profiles.

Two classes of conformance are defined in this International Standard (see Clause 2).

Geographic information — Profiles

1 Scope

This International Standard is intended to define the concept of a profile of the ISO geographic information standards developed by ISO/TC 211 and to provide guidance for the creation of such profiles. Only those components of specifications that meet the definition of a profile contained herein can be established and managed through the mechanisms described in this International Standard. These profiles can be standardized internationally using the ISO standardization process. This document also provides guidance for establishing, managing, and standardizing at the national level (or in some other forum).

2 Conformance

Two classes of conformance are defined in this International Standard.

Conformance class 1 is satisfied when a profile is established as a pure subset of the ISO geographic information standards, possibly together with other ISO standards. Such a profile may be processed in accordance with the rules defined in this International Standard as an ISO geographic information standard in its own right.

Conformance class 2 allows profiles to include extensions within the context permitted in the base standard and permits the profiling of non-ISO geographic information standards as parts of profiles. When such a profile adds any information that is not covered in a base ISO geographic information standard or other ISO standard, then the profile will not be processed as an ISO geographic information standard but may be established under the authority of the standards organization, member body or liaison organization making the profile.

Any profile claiming conformance to this International Standard shall satisfy all the requirements found in the abstract test suite found in Annex A in accordance with the conformance class chosen.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including amendments) applies.

ISO 19101:2002, *Geographic information — Reference model*

ISO 19105:2000, *Geographic information — Conformance and testing*

ISO/IEC TR 10000-1:1998, *Information technology — Framework and taxonomy of International Standardized Profiles — Part 1: General principles and documentation framework*

ISO/IEC TR 10000-3:1998, *Information technology — Framework and taxonomy of International Standardized Profiles — Part 3: Principles and Taxonomy for Open System Environment Profiles*

ISO/IEC *Directives, Part 2: Rules for the structure and drafting of International Standards*

NOTE 1 ISO/IEC TR 10000-1:1998 describes the methodology for profiles used in ISO/IEC JTC 1. Much of this Technical Report is applicable to the work in ISO/TC 211 and sections of this document have been adapted to apply to the requirements of ISO/TC 211 under the context of the ISO/IEC Directives.

NOTE 2 ISO/IEC TR 10000-1:1998 has a special status in ISO and may be referenced normatively, even though it is a Technical Report.

4 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

4.1
abstract test suite
ATS
abstract test module specifying all the requirements to be satisfied for conformance

[ISO 19105]

4.2
base standard
ISO geographic information standard or other information technology standard that isused as a source from which a profile may be constructed

4.3
Implementation Conformance Statement
ICS
statement of specification options that have been implemented

[ISO 19105]

4.4
open systems environment
OSE
comprehensive set of interfaces, services and supporting formats, plus user aspects, for interoperability and/or portability of applications, data, or people, as specified by information technology standards and profiles

[ISO/IEC TR 10000-1:1998]

4.5
profile
set of one or more base standards or subsets of base standards, and, where applicable, the identification of chosen clauses, classes, options and parameters of those base standards, that are necessary for accomplishing a particular function

[adapted from ISO/IEC TR 10000-1:1998]

NOTE A profile is derived from base standards so that by definition, conformance to a profile is conformance to the base standards from which it is derived.

5 Abbreviated term

ISP International Standardized Profile

NOTE ISP is an ISO/IEC JTC 1 abbreviation used here to refer to an ISP in ISO/IEC JTC 1.

6 Context of profiles

ISO is developing a series of geographic information standards, the ISO 19100 series, that address the entire field of geographic information. These International Standards may be used singularly or together to address the needs of specific applications. The ISO geographic information series of standards is flexible in allowing a large number of options that may be tailored to suit any application.

Flexible standards are important because they allow many different situations to be modelled. Essentially the ISO geographic information series of standards provides rules and the components that can be applied and assembled to address virtually any application related to geographic information. Most of the ISO geographic information standards define rules for modelling certain aspects of geographic information. Some of the standards define explicit components, such as metadata elements for geographic information. Others of the standards give support that provides consistency across the series of standards. Several of the standards define the way that these components or the results of the application of the rules can be assembled. ISO 19109 defines the rules for the development of an application schema, which may include reference to elements from other of the ISO 19100 series of standards.

A profile may consist of a choice from the clauses, classes, options and parameters of base standards, or other profiles. This International Standard describes the procedures for the development of profiles. Registration is outside the scope of this International Standard. Examples of profiles are given in Annex B.

Clause 7 describes the purpose of profiles. Clause 8 describes how profiles reference base standards. Clause 9 describes the content of a profile and Clause 10 describes conformance requirements. Clause 11 describes the method for identifying profiles. Clause 12 describes the structure of documentation for profiles. Clause 13 describes the procedures for the preparation and adoption of profiles. Annex A describes the abstract test suite for conformance to ISO 19106. Annex B presents examples of profiles, Annex C describes the conformance methodology.

7 Purpose of profiles

Profiles define combinations of elements derived from a set of one or more base standards for the following purposes:

— identifying those base standards, together with appropriate classes, conforming subsets, options and parameters, which are necessary to accomplish identified functions for purposes such as interoperability;

— providing a means to enhance the availability of consistent implementations of functionally defined groups of base standards, which are expected to be the major components of real application systems;

— promoting uniformity in the development of conformance tests for systems that implement the functionality of profiles.

A profile shall provide a clear identification of the specific user requirements that are satisfied by that profile.

8 How profiles reference base standards

8.1 Relationship to base standards

Some base standards provide options allowing for a variety of applications. Base standards may also be combined in various ways in different applications. Profiles promote integration of base standards by defining how to use a combination of base standards for a given functional environment.

Profiles shall not contradict base standards, but may make choices where options and ranges of values are available.