

DIN EN ISO 19135-1

ICS 35.240.70

Einsprüche bis 2013-11-13
Vorgesehen als Ersatz für
DIN EN ISO 19135:2007-06

Entwurf

**Geoinformation –
Registrierungsverfahren für geographische Informationseinheiten –
Teil 1: Grundsätze (ISO/DIS 19135-1:2013);
Englische Fassung prEN ISO 19135-1:2013**

Geographic information –
Procedures for item registration –
Part 1: Fundamentals (ISO/DIS 19135-1:2013);
English version prEN ISO 19135-1:2013

Information géographique –
Procédures pour l'enregistrement d'éléments –
Partie 1: Principes de base (ISO/DIS 19135-1:2013);
Version anglaise prEN ISO 19135-1:2013

Anwendungswarnvermerk

Dieser Norm-Entwurf mit Erscheinungsdatum 2013-09-13 wird der Öffentlichkeit zur Prüfung und Stellungnahme vorgelegt.

Weil die beabsichtigte Norm von der vorliegenden Fassung abweichen kann, ist die Anwendung dieses Entwurfes besonders zu vereinbaren.

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Gesamtumfang 84 Seiten

Normenausschuss Bauwesen (NABau) im DIN

Nationales Vorwort

Dieses Dokument (prEN ISO 19135-1:2013) wurde vom Technischen Komitee ISO/TC 211 „Geographic information/Geomatics“ in Zusammenarbeit mit dem Technischen Komitee CEN/TC 287 „Geoinformation“, dessen Sekretariat von BSI (Vereinigtes Königreich) gehalten wird, erarbeitet.

Der für die deutsche Mitarbeit zuständige Arbeitsausschuss im DIN Deutsches Institut für Normung e. V. ist der als Spiegelausschuss zum CEN/TC 287 und ISO/TC 211 eingesetzte Arbeitsausschuss NA 005-03-03 AA „Kartographie und Geoinformation“ des Normenausschusses Bauwesen (NABau).

Dieses Dokument ist derzeit zur Umfrage vorgelegt.

Das Ausgabedatum des europäischen Norm-Entwurfs stand zum Zeitpunkt der Veröffentlichung dieses DIN EN ISO-Entwurfs noch nicht fest; der prEN ISO wird jedoch vom CCMC unter der angegebenen prEN-Nummer demnächst zur CEN-Umfrage verteilt. Um der deutschen Öffentlichkeit eine möglichst lange Einspruchsfrist einzuräumen, wurde dieser Norm-Entwurf bereits vorab veröffentlicht.

Das Präsidium des DIN hat mit seinem Beschluss 1/2004 festgelegt, dass von dem in den Regeln der europäischen Normungsarbeit von CEN/CENELEC verankerten Grundsatz, wonach Europäische Normen in den drei offiziellen Sprachen Deutsch, Englisch und Französisch veröffentlicht werden, in begründeten Ausnahmefällen abgewichen und auf die deutsche Sprachfassung verzichtet werden kann.

Die Genehmigung dafür hat die DIN-Geschäftsleitung entsprechend den festgelegten Kriterien für die vorliegende Norm auf Antrag des Normenausschusses Bauwesen (NABau), Fachbereich 03 „Vermessungswesen; Geoinformation“ erteilt.

Änderungen

Gegenüber DIN EN ISO 19135:2007-06 wurden folgende Änderungen vorgenommen:

- a) Bei der Überarbeitung der ISO 19135 wurden die Inhalte in einen Teil 1 „Fundamentals“ überführt. An einem 2. Teil „XML Schema Implementations“ dieser Normreihe wird derzeit gearbeitet.
- b) In diesem Teil 1 werden drei „conformance classes“ beschrieben: Die „extended conformance class“ wurde ergänzt.
- c) Die Abschnitte zu „approval process“ und zu „appeal process“ wurde in einen informativen Anhang verschoben.
- d) Anhang B „UML Notation“ und 7.4 „Cultural and linguistic adaptability“ wurden entfernt und werden in anderen Dokumenten aufgenommen.
- e) Die Norm wurde redaktionell überarbeitet.

Nationaler Anhang NA (informativ)

Begriffe

4.1 Begriffe

Für die Anwendung dieses Dokuments gelten die folgenden Begriffe.

4.1.1

Klarstellung

(en: clarification)

Präzisierung der Beschreibung eines Registereintrags

4.1.2

Koordinierungsgremium

(en: control body)

Expertengruppe, welche über den Inhalt eines Registers entscheidet

4.1.3

geographische Information

Geoinformation

(en: geographic information)

Informationen über Objekte und Sachverhalte mit einem Bezug zur Erde

4.1.4

hierarchisches Register

(en: hierarchical register)

strukturierte Menge von Registern für eine Domäne von Registereinträgen, die sich aus einem Hauptregister und seinen Unterregistern zusammensetzt

4.1.5

Indentifikator

(en: identifier)

sprachlich unabhängige Zeichenkombination zur eindeutigen und permanenten Identifizierung

4.1.6

Ungültigmachung

(en: invalidation)

Maßnahme zur Korrektur eines wesentlichen Fehlers in einem Registereintrag

4.1.7

Elementklasse

(en: item class)

Menge von Elementen mit gemeinsamen Eigenschaften

4.1.8

Hauptregister

(en: principal register)

Register, das die Beschreibungen der jeweiligen Unterregister eines hierarchischen Registers enthält

4.1.9**Register**

(en: register)

Menge an Dateien, welche die Identifikatoren von und die Beschreibungen zu Einträgen enthalten

4.1.10**Registermanager**

(en: register manager)

Organisation, der die Verwaltung eines Registers vom Registereigentümer übertragen wurde

4.1.11**Registereigentümer**

(en: register owner)

Organisation, die ein Register erstellt

4.1.12**Registrierung**

(en: registration)

Zuordnung eines permanenten, eindeutigen und unmissverständlichen Identifikators zu einem Eintrag

4.1.13**Registry**

(en: registry)

Informationssystem, mit dem ein Register gepflegt wird

4.1.14**Stilllegung**

(en: retirement)

Erklärung, dass ein Registereintrag nicht länger für die Datenproduktion geeignet ist

4.1.15**vorschlagende Organisation**

(en: submitting organization)

Organisation, die vom Registereigentümer befugt ist, Änderungen am Inhalt des Registers vorzuschlagen

4.1.16**Unterregister**

Subregister

(en: subregister)

Teil eines hierarchischen Registers, der eine Untermenge der Einträge (einer Informationsdomäne) enthält

4.1.17**Ersatz**

(en: supersession)

Austausch eines Registereintrags durch einen oder mehrere neue Einträge

4.1.18**Fachstandard**

(en: technical standard)

Standard, der Definitionen für Elementklassen enthält, die registrierungspflichtig sind

Geographic information — Procedures for item registration — Part 1: Fundamentals (ISO/DIS 19135-1:2013)

Geoinformation — Procédures pour l'enregistrement d'éléments — Teil 1: Principes de base (ISO/DIS 19135-1:2013)

Information géographique —

ICS:

Descriptors:

Document type: European Standard
Document subtype:
Document stage: CEN Enquiry
Document language: E

STD Version 2.5a

Foreword

This document (prEN ISO 19135-1:2013) has been prepared by Technical Committee ISO/TC 211 "Geographic information/Geomatics" in collaboration with Technical Committee CEN/TC 287 "Geographic Information" the secretariat of which is held by BSI.

This document is currently submitted to the parallel Enquiry.

Endorsement notice

The text of ISO/DIS 19135-1:2013 has been approved by CEN as a prEN ISO 19135-1:2013 without any modification.

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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 19135-1 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

This second edition cancels and replaces the first edition (ISO 19135:2005), which has been technically revised.

ISO 19135 consists of the following parts, under the general title *Geographic information — Procedures for item registration*:

- *Part 1: Fundamentals*
- *Part 2: XML Schema Implementation*

Introduction

This part of ISO 19135 specifies procedures for the registration of items of geographic information. ISO/IEC JTC 1 defines registration as the assignment of an unambiguous name to an object in a way that makes the assignment available to interested parties. Items of geographic information that may be registered are members of object classes specified in technical standards such as those developed by ISO/TC 211.

NOTE 1 In this International Standard, the definition of registration has been changed so that registration is the assignment of linguistically independent identifiers, rather than names, to items of geographic information.

Registration of items of geographic information offers several benefits to the geographic information community. Registration:

- a) supports wider use of registered items both by providing international recognition to the fact that such items conform to an ISO International Standard and by making them publicly available to potential users;
- b) provides both immediate recognition to extensions of an International Standard and a source for updates to that International Standard during the regular maintenance cycle;
- c) may provide a single mechanism to access information concerning items that are specified in different standards;
- d) provides a mechanism for managing temporal change;

NOTE 2 Items specified in a standard or in a register may change over time either due to changes in technology or for other reasons. Published standards do not clearly document what changes may have occurred, and do not include information about earlier versions of specified items. Such information can be maintained in a register.

- e) may be used to make sets of standardized tags available for encoding of registered items in data sets; and
- f) supports cultural and linguistic adaptability by providing both a means for recording equivalent names of items used in different languages, cultures, application areas and professions, and a means for making those equivalent names publicly available.

This part of ISO 19135 specifies procedures to be followed in preparing and maintaining registers of items of geographic information. Any organization may choose to establish registers of items of geographic information that conform to this part of ISO 19135. Informative Annex C is particularly applicable to registers established under the auspices of ISO/TC 211.

A goal of this part of ISO 19135 is to achieve a balance between minimizing the number of registers for items of geographic information and minimizing the burden on the registration authorities.

Following experience of setting up registers in user communities, there are fewer requirements in this version than previously. Because of this, implementations of the previous edition of ISO 19135 should be conformant to this part of ISO 19135. A log of changes from the previous version (ISO 19135:2005) is provided in Annex F.

Geographic information — Procedures for item registration — Part 1: Fundamentals

1 Scope

This part of ISO 19135 specifies procedures to be followed in establishing, maintaining and publishing registers of unique, unambiguous and permanent identifiers and meanings that are assigned to items of geographic information. In order to accomplish this purpose, this part of ISO 19135 specifies elements that are necessary to manage the registration of these items.

2 Conformance

2.1 Introduction

This part of ISO 19135 defines three conformance classes for registers:

- Core schema – the minimum requirements for establishing, maintaining and publishing registers
- Extended schema – additional requirements to be conformant to the most frequently used model elements in the previous edition (ISO 19135:2005)
- Hierarchical register

To conform to this part of ISO 19135, a register of items of geographic information shall satisfy all of the requirements specified in one of the three conformance levels described below, with the corresponding abstract test suite given in Annex A.

2.2 Core conformance class

Table 1 defines the characteristics of the core conformance class.

Table 1 — Core conformance class

Conformance class identifier	core
Standardization target	registers
Dependency	ISO 19103: Conformance classes UML 2, Model documentation ISO 19115-1: Clause 2 Conformance requirements
Requirements	All requirements in Clauses 5 to 7
Tests	All tests in A.1

2.3 Extended Conformance class

Table 2 defines the characteristics for the extended conformance class.

Table 2 — Extended conformance class

Conformance class identifier	extended-schema
Standardization target	registers
Dependency	hierarchical
Requirements	All requirements in Annex B
Tests	All tests in A.2

2.4 Hierarchical register conformance class

Table 3 defines the characteristics of the conformance class for hierarchical registers.

Table 3 — Hierarchical register conformance class

Conformance class identifier	hierarchical
Standardization target	registers
Dependency	core
Requirements	All requirements in Clause 8
Tests	All tests in A.3

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 any amendments) applies.

ISO/TS 19103:2005¹⁾, *Geographic information — Conceptual schema language*

ISO 19115-1:2013: *Geographic information — Metadata — Part 1: Fundamentals*

4 Terms, definitions and abbreviations

4.1 Terms and definitions

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

4.1.1 clarification

<register> non-substantive change to a register item

Note 1 to entry: A non-substantive change does not change the semantics or technical meaning of the item. Clarification does not result in a change to the registration status of the register item.

1) ISO 19103 is a revision of ISO/TS 19103:2003, currently a Committee Draft.

4.1.2

control body

<register> group of technical experts that makes decisions regarding the content of a *register* (4.1.9)

4.1.3

geographic information

information concerning phenomena implicitly or explicitly associated with a location relative to the Earth

[SOURCE: ISO 19101:2002, 4,16]

4.1.4

hierarchical register

structured set of *registers* (4.1.9) for a domain of register items, composed of a *principal register* (4.1.8) and a set of *subregisters* (4.1.16)

EXAMPLE ISO 6523 is associated with a hierarchical register. The principal register contains organization identifier schemes and each subregister contains a set of organization identifiers that comply with a single organization identifier scheme.

4.1.5

identifier

linguistically independent sequence of characters capable of uniquely and permanently identifying that with which it is associated

4.1.6

invalidation

<register> action taken to correct a substantive error in a register item

4.1.7

item class

set of items with common properties

Note 1 to entry: Class is used in this context to refer to a set of instances, not the concept abstracted from that set of instances.

4.1.8

principal register

register (4.1.9) that contains a description of each of the *subregisters* (4.1.16) in a *hierarchical register* (4.1.4)

4.1.9

register

set of files containing *identifiers* (4.1.5) assigned to items with descriptions of the associated items

4.1.10

register manager

organization to which management of a *register* (4.1.9) has been delegated by the *register owner* (4.1.11)

Note 1 to entry: In the case of an ISO register, the register manager performs the functions of the registration authority specified in the ISO/IEC Directives.

4.1.11

register owner

organization that establishes a *register* (4.1.9)

4.1.12

registration

assignment of a permanent, unique and unambiguous *identifier* (4.1.5) to an item

4.1.13

registry

information system on which a *register* (4.1.9) is maintained

4.1.14

retirement

<register> declaration that a register item is no longer suitable for use in the production of new data

Note 1 to entry: The status of the retired item changes from “valid” to “retired”. A retired item is kept in the register to support the interpretation of data produced before its retirement, and has not been superseded by another item.

4.1.15

submitting organization

organization authorized by a *register owner* (4.1.11) to propose changes to the content of a *register* (4.1.9)

4.1.16

subregister

part of a *hierarchical register* (4.1.4) that contains items from a partition of a domain of information

4.1.17

supersession

<register> declaration that a register item has been retired and replaced by one or more new items

Note 1 to entry: The status of the replaced item changes from “valid” to “superseded”.

4.1.18

technical standard

<register> standard containing the definitions of *item classes* (4.1.7) requiring *registration* (4.1.12)

4.2 Abbreviations

JTC 1 Joint Technical Committee 1

TMB Technical Management Board

UML Unified Modeling Language

4.3 Notation

The conceptual schema specified in this part of ISO 19135 is described using the Unified Modeling Language (UML) (ISO/IEC 19505), following the guidance of ISO/TS 19103.

By convention within ISO/TC 211, in earlier versions of standards the names of UML classes, with the exception of basic data type classes, include a two-letter prefix that identifies the standard and the UML package in which the class is specified. For newer versions of ISO/TC 211 standards, this convention is no longer applied. In this part of ISO 19135 the two letter prefix of “RE” applies for classes that are continued from the previous edition. Classes and packages new to this edition do not use an abbreviation.

Several model elements used in this schema are specified in packages specified in other ISO/TC 211 standards, as shown in Table 4.

Table 4 — UML packages from ISO 19115-1

Prefix	Package
CI	Citation and responsible party information
MD	Metadata

5 Roles and responsibilities in the management of registers

5.1 Introduction

Several organizations play a role in the management of a register (Figure 1). The roles and their relationships are illustrated as a conceptual model using UML notation.

NOTE Although they are not organizations, register and registry are included in Figure 1 because they are the basis of the roles played by the organizations included.

For some simple registers, several roles may be handled by the same organization. For example, the role of the control body could be handled by the register manager. It is up to each register to give a more detailed description of the management of roles.

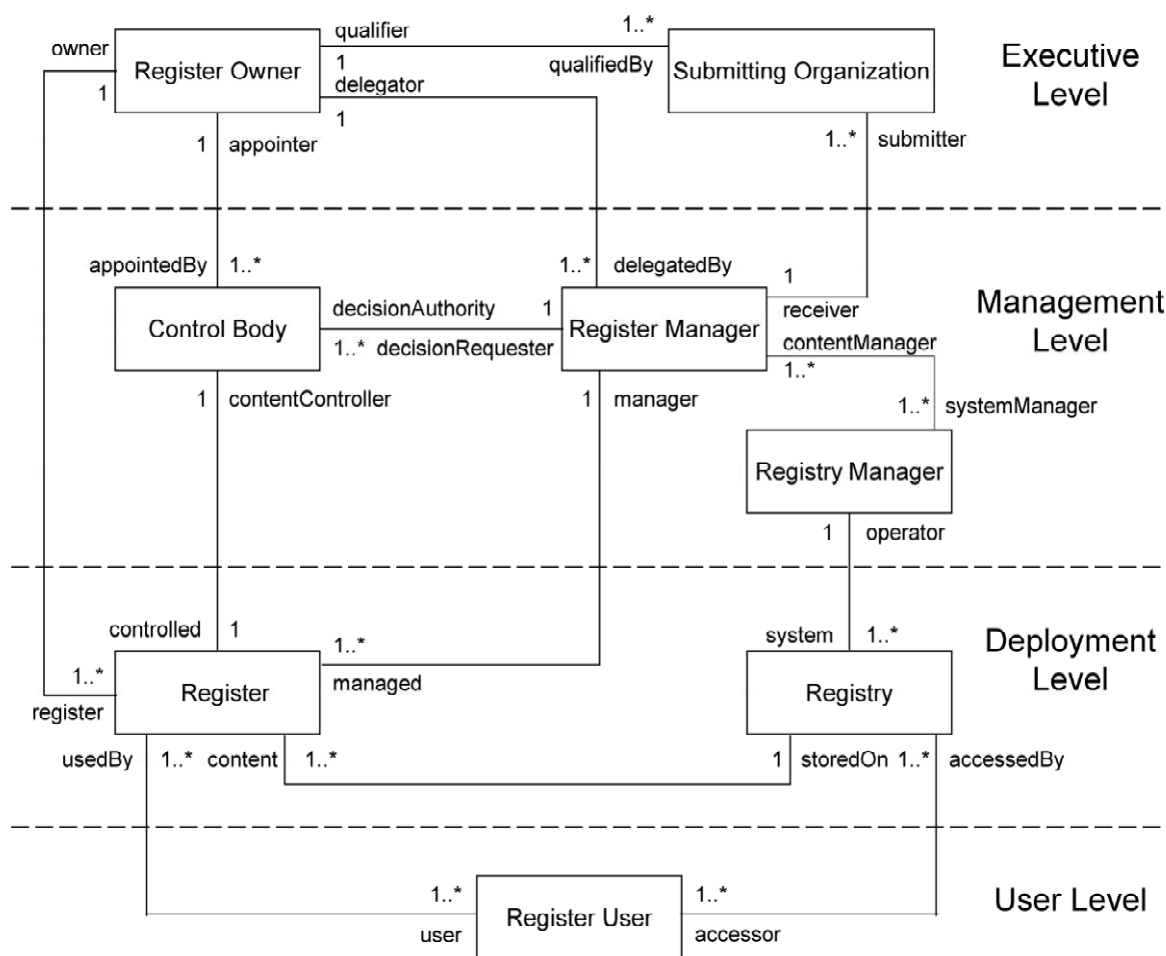


Figure 1 — Organizational relationships

5.2 Register owner

A register owner is an organization that:

- a) has established one or more registers; and
- b) has primary responsibility for the management, dissemination and intellectual content of those registers.

Requirement 1. The register owner shall set terms and conditions regarding different levels of access to the register and making the contents available to the public. In addition, the register owner shall specify the time period in which the approval process shall be completed.

Requirement 2. The register owner shall appoint a register manager (5.3). A register owner may serve as the register manager for any register that it has established, or it may appoint another organization to serve as the register manager.

Requirement 3. The register owner shall decide whether a control body (5.5) is required for the register and if so appoint the control body. The register owner may serve as the control body for any register that it has established, or it may delegate that role to a subgroup within the organization or to the register manager.

Requirement 4. A register owner shall specify the criteria that determine which organizations may act as submitting organizations (5.4).

Requirement 5. The register owner shall clarify the process for a submitting organization to appeal decisions of the control body (if such a body is appointed). The register owner may establish a procedure for such a process. The specification of this procedure shall include appropriate time limits for completion of the process. An alternative solution may be for a submitting organization to resubmit a new proposal with changes or a better justification.

5.3 Register manager

5.3.1 Appointment of a register manager

A register owner may delegate the role of register manager to another organization. This is the usual case for registers established by ISO or IEC Technical Committees. A register manager may manage multiple registers.

5.3.2 Responsibilities of a register manager

Requirement 6. A register manager shall manage a register in conformance with Clause 6.

Requirement 7. Upon request, the register manager shall distribute an information package containing a description of the register and how to submit proposals for changes to the content of the register. The information package shall describe what proposed changes to the content may be considered to be substantive (6.3.1).

Requirement 8. The register manager shall accept proposals from submitting organizations and manage the proposals as specified in 6.4. The register manager shall pass proposals to the control body (5.5) for decisions as to acceptability, and shall serve as the point of contact between the control body and the submitting organization for negotiations regarding changes to the proposal.

Requirement 9. The register manager shall determine whether a submitting organization is qualified in accordance with the criteria established by the register owner.

5.4 Submitting organizations

A submitting organization is an organization that is qualified under criteria determined by the register owner to propose changes to the content of a register.

5.5 Control body

A control body is a group of technical experts appointed by a register owner to decide on the acceptability of proposals for changes to the content of a register (7, 8 and Annex B). A control body may not be required for simple registers.

Requirement 10. If a control body is appointed, it shall accept proposals from the register manager and render a decision regarding each proposal within the time limits specified by the register owner.

5.6 Registry manager

A registry manager is a person or an organization responsible for the day-to-day management of a registry. A register manager may engage a third-party service provider to perform this service.

Requirement 11. A registry manager shall ensure the integrity of any register held in the registry (6.8) and shall provide means for electronic access to the registry for register managers, control body members and register users.

5.7 Register user

Register users access a registry in order to use one or more of the registers held in that registry. Register users include any person or organization interested in accessing or influencing the content of a register. Users have a variety of requirements from registered data:

- Developers of standards and specifications want to re-use items specified in a register;
- Data producers want to use in their products items specified in a register;
- Data users want to understand the meaning of register items; and
- System developers want to provide a capability to use register items in data production, interchange or consumption.

Register users may have different levels of access to the register as defined by the register manager.

Register users vary in the frequency of access they need, from the occasional data user who may need to determine the meaning of a register item on a very infrequent basis, to the data producer who may need to use values from a register many times a day.

Requirement 12. Register managers shall consider the requirements of different categories of users in selecting methods for publishing the content of a register (7, 8 and B.2).

6 Management of registers

6.1 Establishment of registers

Any organization may establish a register. A register established by an ISO Technical Committee (TC) or Subcommittee is an ISO register. In establishing registers, ISO Technical Committees are required to follow the general rules specified in the ISO/IEC Directives, but may develop detailed rules and procedures to satisfy their own requirements.

Establishment of ISO/TC 211 registers is described in informative Annex C.

Requirement 13. Every register shall have a technical document describing the item classes to be registered.

6.2 Status of register items

Requirement 14. Items shall be individually managed, moving through a set of well-defined states. Information about the temporal history of each item shall be maintained.

Normally only the valid, superseded and retired items are exposed when the contents of a register are made available to the public. Invalid items may also be exposed. Proposed and unaccepted items are part of the approval mechanism and are only required for management of the register.

An item in a register has a period of validity that begins on the date on which the proposal to register the item was accepted, and ends on the date on which a decision to supersede, retire or invalidate the item has been made. Although retired, superseded and invalid items are no longer valid for use in the production of new data, they are kept in the register to support the interpretation of data produced before their retirement, supersession or invalidation.

NOTE This does not imply that use of an unregistered item specified in a standard is somehow “invalid” until the item is registered. However, a reference using an item identifier can apply only to the specification of a register item.

Geographic information concepts represented in a register may change over time due to changes in requirements or technology, or for other reasons. By defining a series of items of the same item class, each with associated dates of validity, a register can identify how a particular concept has changed over a period of time.

Requirement 15. If an item is superseded by another item, the date the succession occurred shall be captured, along with references to and from the item that superseded it. At any given time, only one item in the series shall be “valid” (7.5.2).

6.3 Change of status of register items

6.3.1 Introduction

Submitting organizations may make requests to add or modify register items. Modifications are of two kinds: simple clarifications that cause no substantive change to an item (6.3.3), and substantive changes.

6.3.2 Addition

Addition is the insertion into a register of an item that describes a concept not described by an item already in the register.

6.3.3 Clarification

Clarifications correct errors in spelling, punctuation or grammar.

Requirement 16. A clarification shall not cause any substantive semantic or technical change to a registered item.

Requirement 17. Clarification shall be accomplished by updating the existing item in the register. The clarification shall be recorded with a justification of the change and the date on which the register transaction was made.

6.3.4 Invalidation

Requirement 18. If an item in a register is found to have substantive error, it shall be removed from the register entirely or it shall be left in the register, have its status changed to invalid, have a reference to the item(s) that replaced it and have the date when the register transaction was made.

6.3.5 Retirement

Submitting organizations may submit requests for retirement of registered items that are no longer useful for producing data.

Requirement 19. Retirement shall be accomplished by leaving the item in the register, having its status changed to retired, and including the date on which the register transaction was made.

6.3.6 Supersession

Requirement 20. If a register item is deemed to be no longer suitable for the use in the production of new data and has been superseded by a new register item, either (a) it shall be removed from the register or (b) the original item shall remain in the register, shall have its status changed to superseded, have a reference to the item(s) that superseded it, including the date on which the register transaction was made.

6.4 Submission of proposals

6.4.1 Process of submitting

Figure 2 describes the process of submitting proposals. An example of the process for submitting proposals for registration of items of geographic information including the appeal process is illustrated in informative Annex D.

The internal process for submitting proposals may vary from register to register; however, the requirements stated below shall be fulfilled.

6.4.2 Submitting organizations

The submitting organization is responsible for:

- a) ensuring that proposals are complete;
- b) coordinating proposals with other submitting organizations, if desired;
- c) forwarding the proposal to the appropriate register manager; and
- d) explaining proposals to the register manager or register owner, if necessary

6.4.3 Register manager

The register manager

- a) shall receive proposals from qualified submitting organizations;
- b) shall review proposals for completeness, and return proposals to the submitting organization if the proposal is incomplete or if the submitting organization is not qualified;
- c) shall initiate the approval process (6.5)
- d) if necessary, generate a proposal management record.

Requirement 21. The register manager shall review proposals received from third parties for completeness and return proposals to the submitting organization if the proposal is incomplete or if the submitting organization is not qualified, else initiate the approval process.

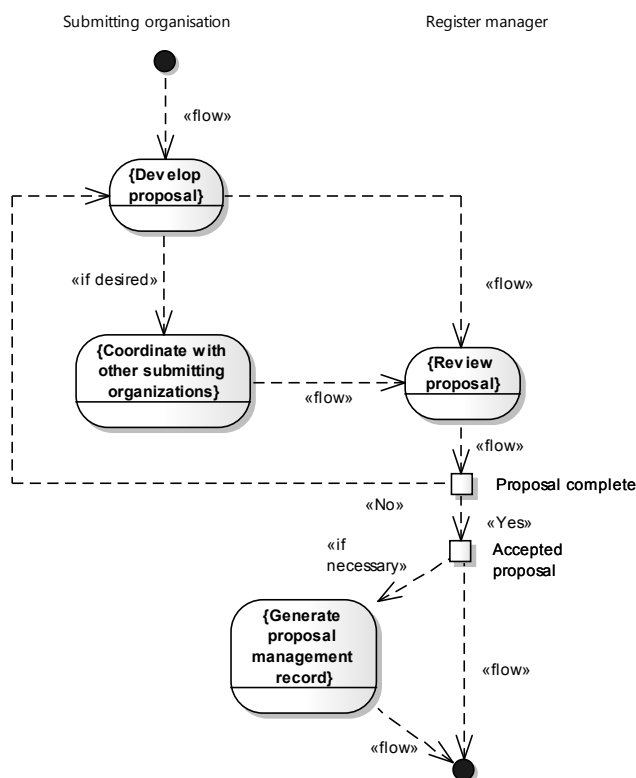


Figure 2 — Submission of proposals

6.5 Approval process

The process for determining the acceptability of proposals may vary between registers. An example of the approval process is described in Figure D.1.

Requirement 22. The approval process shall be completed within the time period specified by the register owner.

6.6 State of a register

It is necessary to be able to specify a unique state in the evolution of the contents of a register since those contents will evolve over time. This part of ISO 19135 specifies two alternative mechanisms, distinguished by the rate of change of the contents of a register, for specifying such a unique state.

- a) For slowly changing registers, e.g. those disseminated as published hard copy documents, a version may be specified.
- b) For rapidly changing registers, e.g. those made available as online interactive databases, a date of latest change may be specified.

6.7 Publication

Requirement 23. A registry manager shall ensure that information about valid, invalidated, superseded or retired items in the register is readily available to users.

The method for providing this information may depend upon the requirements of the members of the user community (5.7).

A transactional approach is recommended to support users with occasional requirements for information about specific register items. The register should be accessible to users through an internet web site or other electronically processable form, within appropriate access constraints. Register services should support queries based on item identifiers or searches based on keywords occurring in definitions or other elements of information about the register item.

A transfer approach is recommended to support users with requirements for frequent access to many of the items in a register. The register manager should be prepared to provide copies of the set of valid items contained in the register as digital data on a physical distribution medium, or on paper. The register manager may also support a means for updating distributed copies. The register manager may charge for the cost of reproduction and distribution of such copies.

6.8 Integrity

A register manager should ensure, for each register that it manages, that:

- a) all aspects of the registration process are handled in accordance with good business practice;
- b) the content of the register is accurate;
- c) only authorized persons can make changes to the register.

6.9 Registration proposals

Clause 6.4 and Annex B specifies information that is significant to submit a proposal to a register manager. Additional information requirements may be specified for an item class by the technical documents that specifies that item class. Details may be obtained from the relevant register manager.

An example of a detailed proposal is described in informative Annex E.

7 Register schema

7.1 Introduction

The schema specified in this clause describes the core structure of a register. The schema consists of a single package comprised of 4 classes that represent information held in the register, together with interfaces and enumerations used by attributes of these classes. The schema is shown in Figure 3.

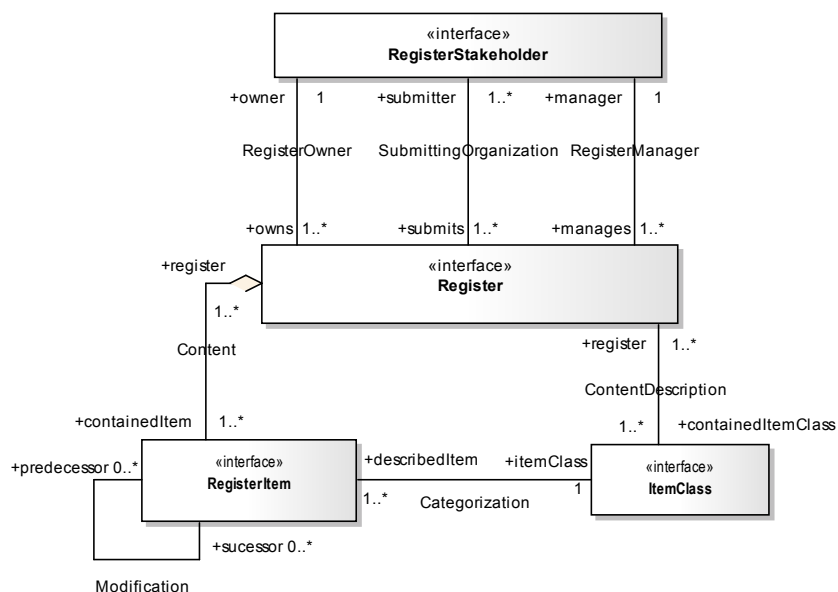


Figure 3 — Core register schema

Requirement 24. The core register shall conform to the register schema as specified in UML in this Clause.

7.2 Register

7.2.1 Register schema

The model elements for the schema are shown in figure 4.

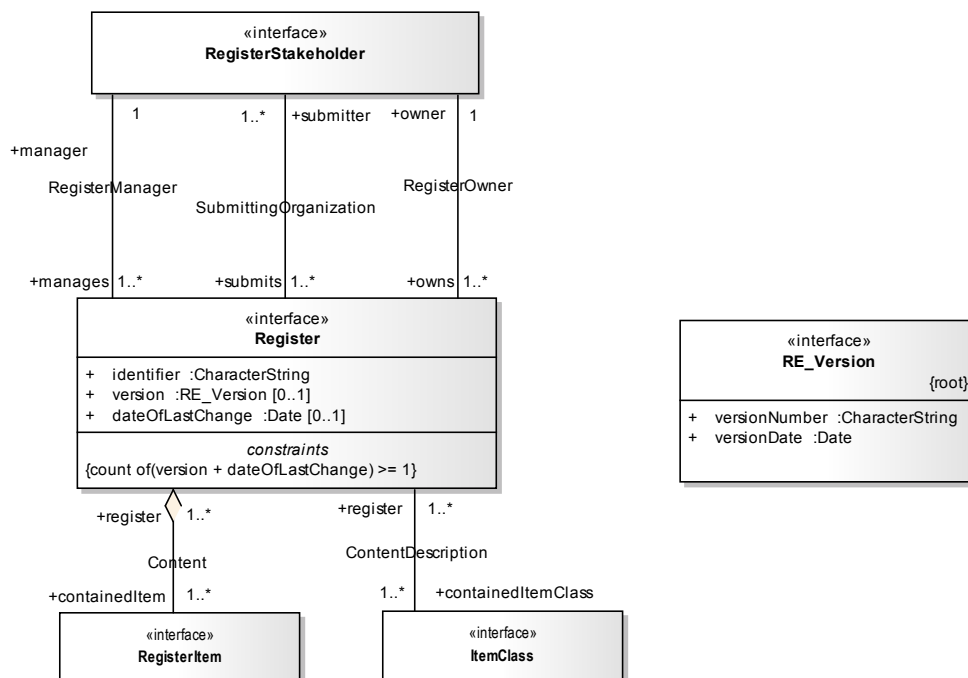


Figure 4 — Register

7.2.2 Object Type: Register

Register	
Definition:	
The class Register specifies information about the register itself.	
Supertype of:	
RE_Register	
Type:	
Object Type	
Attribute:	
Name:	identifier
Definition:	The attribute "identifier" represents a designator that is used to uniquely denote that register within the set of registers maintained by the register owner. It is represented as a <code>CharacterString</code> containing a compact and human-readable designator.
	EXAMPLE "ISO/TC 211 Register of Feature Data Dictionaries and Feature Catalogues" might be the identifier of the principal register of a hierarchical register. "DGIWG FACC Data Dictionary" and "IHO S-57 Object Dictionary" might be the identifiers of subregisters within the hierarchy.
Multiplicity:	1
Value type:	<code>CharacterString</code>
Attribute:	
Name:	version
Definition:	The conditional attribute "version" is represented as an instance of class <code>RE_Version</code> that specifies a unique state in the life of the register.
Multiplicity:	0..1
Value type:	<code>RE_Version</code>
Attribute:	
Name:	dateOfLastChange
Definition:	The conditional attribute "dateOfLastChange" is be represented as an instance of the class <code><></code> [ISO 19103] and specify the (full precision) date of the most recent change to the status of an item in the register was made.
Multiplicity:	0..1
Value type:	<code>Date</code>

Association role:

Name: containedItemClass

Definition: The role "containedItemClass" describes that the "ItemClass" for the association "ContentDescription" contains the item classes in the register.

Multiplicity: 1..*

Value type: ItemClass (feature type)

Association role:

Name: manager

Definition: The role name "manager" identifies the RegisterStakeholder as the manager of the register.

Multiplicity: 1

Value type: RegisterStakeholder (feature type)

Association role:

Name: owner

Definition: The role name "owner" identifies the RegisterStakeholder as the owner of the register.

Multiplicity: 1

Value type: RegisterStakeholder (feature type)

Association role:

Name: submitter

Definition: The role name "submitter" identifies the RegisterStakeholder as the submitting organization for the register.

Multiplicity: 1..*

Value type: RegisterStakeholder (feature type)

Association role:

Name: containedItem

Definition: The role "register" connects a register item to one or more registers.

Multiplicity: 1..*

Value type: RegisterItem (feature type)