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**Information technology — Metadata registries — Part 6: Registration**

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## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>7</b>

## 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.

ISO/IEC 11179-6 was prepared by Technical Committee ISO/IEC/TC JTC 1, , Subcommittee SC 32, .

This second edition cancels and replaces the first edition (ISO/IEC 11179-6:1997), clause(s) / subclause(s) / table(s) / figure(s) and annex(es) of which have been technically revised.

ISO/IEC 11179 consists of the following parts, under the general title *Information technology — Metadata registries*:

- *Part 6: Part 6: Registration*
- *Part [n]:*
- *Part [n+1]:*

## Introduction

This part of ISO/IEC 11179 describes the procedure by which *administered items* required in various application areas are registered and assigned an internationally unique identifier. The uniqueness of a registered *administered item* is determined by a combination of the Registration Authority Identifier (RAI), the unique identifier assigned to a *administered item* within a Registration Authority (RA), and the version under which a *administered item* registration is submitted or updated. The registered *administered items* are included in Registries of Administered Items, maintained by a Registration Authority, to which the administered items logically and functionally belong. Organizations wishing to become Registration Authority may do so in accordance with the procedure prescribed in **Clause 5**.

ISO/IEC 11179 has been revised to address other types of administered items besides data elements: data element concepts, conceptual domains and value domains. Each of these types of administered items, including data elements, is represented within a metadata registry by administration records that document the common administration and identification, naming and definition details together with their administered item-specific details.

Within this standard the use of "Registry" denotes an implementation of a metadata registry that is based upon the ISO/IEC 11179 standard and that is managed by a Registration Authority.

## Information technology — Metadata registries — Part 6: Registration

### 1 Scope

For each administered item to be registered, this part of ISO/IEC 11179 defines the type of information that shall be specified, the conditions that shall be met, and the procedure(s) that shall be followed.

The requirements and procedure contained herein shall apply to all administered items specified in Part 3 -- Registry metamodel -- of this international standard. In addition, administration records that document the common administration and identification, naming and definition details as required by, and associated with, any administered item-specific details shall also be governed by this Part of this international standard.

This part of ISO/IEC 11179 only addresses the metadata that is used to specify all types of administered items. This part of ISO/IEC 11179 does not address the metadata that is used to specify particular types of administered items such as data elements and value domains. This part of ISO/IEC 11179 does NOT specify the registry's system design, file organization techniques, storage media, programming languages, etc. to be used in its implementation.

### 2 Normative references

ISO/IEC 11179-1: YYYY (TBR), Information technology – Metadata Registries (MDR) -- Part 1: Framework.

ISO/IEC 11179-3: 2002, Information technology – Metadata Registries (MDR) -- Part 3: Registry metamodel and basic attributes.

ISO/IEC 6523-1: 1998, Information technology - Structure for the identification of organization and organization parts - Part 1: Identification of organization identification schemes.

### 3 Terms and definitions

For the purposes of this part of ISO/IEC 11179, the following definitions apply.

#### 3.1

##### **administered item**

a registry item for which administrative information is recorded in an Administration Record  
[ISO/IEC 11179-3:2002, definition 3.3.1]

#### 3.2

##### **administrative status**

a designation of the status in the administrative process of a Registration Authority for handling registration requests  
[ISO/IEC 11179-3:2002, definition 3.3.7]

#### 3.3

##### **data identifier**

##### **DI**

the unique identifier for an Administered Item within a Registration Authority

[ISO/IEC 11179-3:2002, definition 3.3.52]

#### 3.4

##### **information interchange**

The process of sending and receiving data in such a manner that the information content, or meaning assigned to the data, is not altered during the transmission.

#### 3.5

##### **International Code Designator**

##### **ICD**

the identifier of an organization identification scheme  
[Based on ISO/IEC 6523-1:1998, definition 3.8]

#### 3.6

##### **International Code Designator value**

##### **ICD value**

The *identifier* allocated to a particular *organization identification scheme*.  
[ISO/IEC 6523:1998, definition 3.9]

#### 3.7

##### **international registration data identifier**

##### **IRDI**

the unique identifier for an Administered Item within a Registration Authority  
[ISO/IEC 11179-3:2002, definition \_\_\_]

#### 3.8

##### **item identifier**

an identifier for an item  
[ISO/IEC 11179-3:2002, definition 3.3.76]

#### 3.9

##### **item registration authority identifier**

the identifier of the Registration Authority registering the item.  
[ISO/IEC 11179-3:2002, definition 3.3.77]

#### 3.10

##### **metadata item**

an instance of a metadata object

NOTE 1 In all parts of ISO/IEC 11179, this term is applied only to instances of metadata objects described by the metamodel in Clause **Error! Reference source not found.** of ISO/IEC 11179-3. Examples include instances of Data Elements, Data Element Concepts, Permissible Values etc.  
[ISO/IEC 11179-3:2002, definition 3.2.19]

#### 3.11

##### **OPI Source Indicator**

##### **OPIS**

The *data element* used to specify the source for the *organization part identifier*.  
[ISO/IEC 6523:1998, definition 3.12]

#### 3.12

##### **OPIS value**

The particular value (digit or capital letter) taken by the *OPIS* to designate the source of an *organization part identifier*.  
[ISO/IEC 6523:1998, definition 3.13]

#### 3.13

##### **organization identifier**

The *identifier* assigned to an *organization* within an *organization identification scheme*, and unique within that scheme.  
[ISO/IEC 6523:1998, definition 3.10]

**3.14**  
**organization part identifier**  
**OPI**

An *identifier* allocated to a particular *organization part*.  
 [ISO/IEC 6523:1998, definition 3.11]

**3.15**  
**Registry**

A set of files (paper, electronic, or a combination) containing the assigned administered items and the associated information.

**3.16**  
**registration**

The assignment of an unambiguous identifier to an administered item in a way that makes the assignment available to interested parties. (Definition adapted after that in Annex E of the ISO/IEC JTC 1 Directives.)

**3.17**  
**registration acting body**  
**RAB**

Type of organizations participating in the registration process of administered items. Note: Currently, there are three RABs: Registration Authorities (RA), Responsible Organizations (RO) and Submitting Organizations (SO).

**3.18**  
**Registration Authority**

an Organization responsible for maintaining a register.  
 [ISO/IEC 11179-3:2002, definition 3.3.121]

**3.19**  
**registration authority identifier**

an identifier assigned to a Registration Authority  
 [ISO/IEC 11179-3:2002, definition 3.3.122]

**3.20**  
**registration status**

a designation of the status in the registration life-cycle of an Administered Item  
 [ISO/IEC 11179-3:2002, definition 3.3.125]

**3.21**  
**responsible organization**  
**RO**

The organization or unit within an organization that is responsible for the contents of the mandatory attributes by which the administered item is specified.

**3.22**  
**submitting organization**  
**SO**

The organization or unit within an organization that has submitted the administered item for addition, change, or cancellation/withdrawal.

**3.23**  
**version**

the unique version identifier of the Administered Item  
 [ISO/IEC 11179-3:2002, definition 3.3.156]

**3.24**  
**version identifier**  
**VI**

An identifier assigned to a Version under which an administered item registration is submitted or updated.

## 4 Concept of operation

### 4.1 Summary

The ISO/IEC 11179 Metadata Registry family of standards and technical reports provide the specifications for establishing systems that support the dissemination and harmonization of administered items (e.g. data elements, data element concepts, value domains) from different stakeholder groups. Most often a stakeholder community is large and diverse. The definition of key data elements and data element concepts as well as other administered items will arise from numerous sources. Moreover different groups will have an interest in the definition of the same administered item, which could lead to the prospect of duplicate or similar definitions being developed.

The Registry is based on the specification of ISO/IEC 11179 Metadata Registry family of standards. In addition, the Registry supports standardization and harmonization processes that facilitate the different working groups and national or regional authorities to share administered item definitions and avoid duplication.

The development of a number of registries in a distributed heterogeneous environment will be very large, both in geographic extent and in the number and diversity of the application areas, inevitably leading to the independent development of sub-systems. In this context, a second major purpose of a Registry is to document and register information at interfaces. This process provides the main foundation for interoperability, by also focusing on those administered items which cross an interface, but which are not necessarily harmonized throughout an environment. The semantics of administered items may be documented by recording the associations of the information models in which they participate.

The operational concept of the data registration is described in the following clauses. See **Annex A** for specific procedural details.

Organizational roles associated with the administered item registration process shall be established. The organizational roles shall include the, the Registration Authority, Registrar, Stewards, Submitters, and Read-only users. A summary of each role is provided in this clause. **Annex A** provides a description of the purpose, specific responsibilities, and membership or selection criteria for each role.

**Figure 1** provides a high level view of how these organizational roles are related within the context of the Registry.

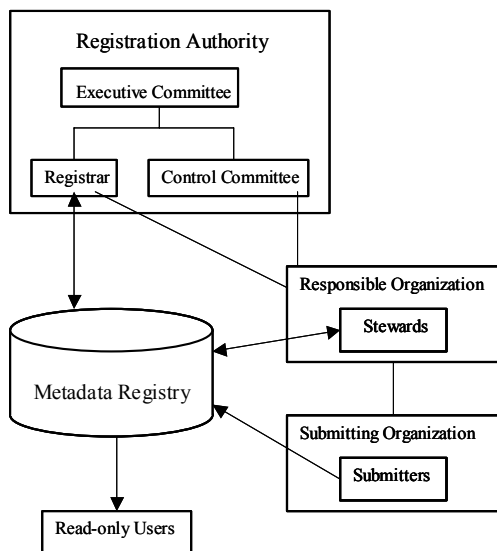


Figure 1 — Organizational roles to the Metadata Registry and their relationships

## 4.2 Designation of Registration Acting Bodies (RAB)

### 4.2.1 Registration Authorities (RA)

The registry Registration Authority shall be an organizational element that desires operate and manage a registry based upon the ISO/IEC 11179 Metadata Registry standard.

While this part of ISO/IEC 11179 provides the procedures for registering administered items, it does not intend to establish organizations to serve as Registration Authorities for this part of ISO/IEC 11179. It is envisioned that any organization wishing to become a Registration Authority and establish a Registry for the purpose of registering administered items may do so.

In order to establish itself as a Registration Authority, an organization shall complete the following:

- Secure a Registration Authority Identifier in accordance with **Clause 4.2.1**.
- Prescribe, amend, and interpret the procedures to be followed for the registration of administered items in accordance with this part of ISO/IEC 11179.
- Determine any additional conditions specifically required by its domain of registration within its Registry.
- Specify the format for each attribute listed in **Annex A** of this part of ISO/IEC 11179 and for any additional attributes that the Registration Authority may deem necessary, and specify the media by which a administered item may be submitted for registration. The registration form and accompanying procedure shall be made available to requesting Submitting Organizations.

- Determine the format and media in which items for administration shall be submitted. The Registration Authority shall also provide Submitting Organizations with guidance on the submission of items for administration.
- Establish and publish the rules by which its registry shall be made available. The Registration Authority shall specify the allowable users, the accessible contents, the frequency of availability, and the language(s), media, and format in which the information is provided for the Registry.

#### 4.2.1.1 Registrar

The registry Registrar shall be an organizational element within the Registration Authority, expert in registration processes, responsible for facilitating the registration of administered items and making those administered items widely accessible and available to the community. The registry registration authority shall appoint the Registrar.

#### 4.2.1.2 Control Committee

The Control Committee shall be the organizational element of the Registration Authority that is constituted to provide technical direction and harmonization of administered items for the Registry. The structure, staffing, procedures, and membership of the Control Committee are determined by the Registration Authority. The membership of the Control Committee may include Registrars and Stewards.

#### 4.2.1.3 Executive Committee

The Executive Committee shall be an organizational element established by the Registration Authority. It shall be responsible for administering responsibilities and authority delegated by the Registration Authority. Responsibilities of the Executive Committee shall include overall metadata registration policies and business direction of the Registry.

## 4.2.2 Submitting Organizations (SO)

All Submitting Organizations wishing to register administered items according to this part of ISO/IEC 11179 shall be able to do so in accordance with the procedures prescribed in this part of ISO/IEC 11179. Each Registration Authority may establish its own criteria for membership eligibility.

### 4.2.2.1 Submitter

A registry submitter shall be an organizational element approved by a process defined by the Registration Authority. A submitter is authorized to identify and report administered items suitable for registration. Such Submitters may be Stewards.

## 4.2.3 Responsible Organizations (RO)

Responsible Organizations are usually designated by a business entity to coordinate the contents of mandatory attributes of related administered items managed by its Submitting Organizations. In the absence of a designated Responsible Organization, a Submitting Organization shall act as a Responsible Organization.

### 4.2.3.1 Steward

A registry Steward shall be an organizational element of the Registry community. Stewards are responsible for the accuracy, reliability, and currency of descriptive metadata for administered items at a registration status level of **Qualified or above** within an assigned area. A process defined by the Registration Authority approves stewards. Stewards are responsible for metadata within specific areas and may have responsibilities that cut across multiple areas (e.g., value domains such as date, time, location, codes of the Countries of the World).

#### 4.2.4 Other Users

A Registration Authority may establish guidelines on the use of their Registry by other users. The general goal should be to provide an open area that anyone may use to obtain and explore the metadata that is managed within the Registry.

##### 4.2.4.1 Read-only user

A registry Read-only User shall be an organizational element or individual that is approved to review the contents of the Registry. A read-only user has access to the contents in the Registry, but is not permitted to submit, alter, or delete contents.

#### 4.3 Administered items

ISO/IEC 11179-3:2002 *Information technology – Metadata Registries (MDR) – Part 3: Registry metamodel and basic attributes* specifies a number of administered items. These are: data element, data element concept, value domain, conceptual domain, classification scheme, context (for administered item), derivation rule, object class, property, and representation class.

This part of the ISO/IEC 11179 standard does not address the specifics of any of the specific types of administered items but only the specifics that are common to all administered items. It is envisioned that an organization may extend their Registry with additional items that are to be administered. It is also envisioned that the standard may be extended at a later time to administer additional items. Others may want to use this part of ISO/IEC 11179 to specify the administration of items in a Registry that does not contain any of the administered items that are specified in Part 3 of ISO/IEC 11179.

##### 4.3.1 Identification of Administered items

Administered items registered under the provisions of this part of ISO/IEC 11179 are each assigned an International Registration Data Identifier (IRDI). This identifier value uniquely identifies the administered item within the framework of this part of ISO/IEC 11179. **Annex B** describes the structure of the International Registration Data Identifier that is used to identify each administered item.

##### 4.3.2 Status categories

There are two types of status categories. The registration status is a designation of the status in the registration life-cycle of an Administered Item. The administration status is a designation of the status in the administrative process of a Registration Authority for handling registration requests.

The Registration Status specifies the state of an administered item that is in the Registry. Registration status categories shall apply to individual administered items that have been entered into the registry.

An Administration Status specifies the process that an administered item is taking within a Registration Status. It documents the process that is taking place in a registration. It is very probable that the permissible administrative status values will be dependent upon the current registration status that an administrative item possesses. A Registration Authority will establish the focus of the use of administrative status. A Registration Authority determines the allowed values of this attribute. It is the responsibility of the Registration Authority to refine, publish, and implement this administrative feature.

##### 4.3.2.1 Summary of registration status categories

Registration status specifies the state of an administered item that is in the Registry. Registration status categories shall apply to individual administered items that have been entered into the registry. Administered item registration status categories shall be of two types, dynamic and static. The dynamic registration status categories address improvement and progression towards levels of perfection of the quality of the metadata of the item and of the preferences of usage of the administered item. The static registration status categories

are used to denote positions at which there will be no more progression in quality of metadata or use of the administered item. The relationships among these status categories, along with the requirements for an administered item to achieve a particular registration status level, are presented in **Table 1**.

**Table 1 —Registration status levels and criteria**

Administered item registration status category	Status criteria
<b>Dynamic levels</b>	
<b>Preferred Standard</b>	The Registration Authority confirms that the administered item is preferred for use in the Registry community.
<b>Standard</b>	The Registration Authority confirms that the administered item is of sufficient quality and of broad interest for use in the Registry community.
<b>Qualified</b>	The Registration Authority has confirmed that the mandatory metadata attributes are complete and conform to applicable quality requirements.
<b>Recorded</b>	All mandatory metadata attributes have been completed.
<b>Candidate</b>	It has been proposed for progression up the Registry registration levels.
<b>Incomplete</b>	Submitter wishes to make the Registry community aware of the existence of an administered item in their local domain.
<b>Static Categories</b>	
<b>Retired</b>	The Registration Authority has approved the administered item as no longer recommended for use in the registry community and should no longer be used.
<b>Superseded</b>	The Registration Authority has approved the administered item as no longer recommended for use in the registry community but the successor administered item is the preference for use.
<b>Historical</b>	The Submitter wishes to make the Registry community aware of the existence of an administered item that was used in the past.
<b>Standardized Elsewhere</b>	The Registration Authority wishes to make the Registry community aware of the existence of an administered item that is a standard in another community.
<b>Legacy</b>	The Registration Authority wishes to make the Registry community aware of the existence of an administered item in their local domain that xxxxxxxxxxxxxxxxx
<b>Application</b>	The Registration Authority wishes to make the Registry community aware of the existence of an administered item in their local domain that xxxxxxxxxxxxxxxxx

While the general intent is to progress as many administered items as possible from Incomplete to the Preferred Standard registration status, progression to a status higher than Recorded or Qualified may not be appropriate. That is, necessary metadata attribute documentation for a administered item may not be available to establish required documentation for the Recorded status, may not be of the quality necessary for the Qualified status, or identification as Preferred Standard administered item may not be appropriate. Such administered items shall be held at their current status level in the Registry to facilitate understanding of and access to these administered items by the Registry community.

The status category of an administered item entry shall be based upon the completeness of the data entered, its accuracy, and its conformance to the established format and syntax. The registration status category shall be as listed below.

- a) Incomplete - An administered item in the Incomplete status shall indicate that the Submitter wishes to make the Registry community aware of the existence of an administered item in their local domain. An administered item in the status of Incomplete in the Registry shall not be maintained under version control.

The Submitter may have an administered item in the status of Incomplete removed from the Registry at any time. The minimum metadata attribute documentation for the Incomplete status in the Registry shall be: administered item identifier, designation, definition, submitter organization name, submitter contact name, and submitter contact information. The registered administered item does not contain all Mandatory Attribute values.

- b) Candidate - An administered item in the Candidate status shall indicate that it has been proposed for progression up the Registry registration levels. Administered items in the Candidate status are maintained under version control. **The Submitter may request the retirement of an administered item in the Candidate status at any time, which will completely remove the administered item from the active Registry.** The minimum metadata attribute documentation for the Candidate status is administered item identifier, designation, definition, submitter organization name, submitter contact name, submitter contact information, stewardship organization name, stewardship contact name, and stewardship contact information. The registered administered item does not contain all Mandatory Attribute values.
- c) Recorded - An administered item in the Recorded status shall indicate that all mandatory metadata attributes have been completed. An administered item in the Recorded status implies that the administered item may be shared across domains. The contents of the mandatory metadata attributes may not conform to quality requirements. **The Submitter may request the retirement of an administered item in the registration status of Recorded at any time may.** Administered items in Recorded registration status or higher are maintained under version control.
- d) Qualified - An administered item in the Qualified status shall indicate that the Control Committee has confirmed that the mandatory metadata attributes are complete and conform to applicable quality requirements. In the event that a administered item is not approved by the Control Committee for the Qualified registration status level, it shall remain at the Recorded registration status level.
- e) Standard - An administered item in the Standard status indicates that the Control Committee confirms that the administered item is of sufficient quality and of broad interest for use in the Registry community. There may be more than one Standard administered item that addresses the same function, concept etc.
- f) Preferred Standard - An administered item in the Preferred Standard status indicates that the Control Committee confirms that the administered item is preferred for use in the Registry community.
- g) Retired - An administered item in the Retired status indicates that the Registrar has approved the administered item as no longer recommended for use in the registry community. A Retired administered item should no longer be used. Such administered items are retained in the Registry archival storage facility for historic reference purposes. Retired administered items should include a reference to replacement administered items when appropriate. Edits of Retired administered items are not permitted.
- h) Superseded - An administered item in the Superseded status indicates that the Control Committee has approved the administered item as no longer recommended for use in the registry community. A Superseded administered item may be used but the successor administered item is the preference for use. Such administered items are retained in the Registry archival storage facility for historic reference purposes. Superseded administered items should include a reference to replacement administered items when appropriate. Edits of Superseded administered items are not permitted.
- i) Standardized Elsewhere - An administered item in the Standardized Elsewhere status shall indicate that the Registrar wishes to make the Registry community aware of the existence of an administered item that is a standard in another community. A Standardized Elsewhere administered item carries its identification and meta-attributes from its originating registry.
- j) Historical - An administered item in the Historical status shall indicate that the Submitter wishes to make the Registry community aware of the existence of an item that was used in the past and has not been used recently but it is important to record. A Historical administered item has not passed through the dynamic registration levels.
- k) Legacy - An administered item in the Legacy status shall indicate that the Registrar wishes to make the Registry community aware of the existence of an administered item in their local domain that **xxxxxxxxxxxxxxxxxx.**

- l) Application - An administered item in the **Application** status shall indicate that the Registrar wishes to make the Registry community aware of the existence of an administered item in their local domain that **xxxxxxxxxxxxxxxxxx.**

#### 4.3.2.2 Description of administration status

An Administration Status specifies the process that an administered item is taking within a Registration Status. It documents the process that is taking place in a registration. It is very probable that the permissible administrative status values will be dependent upon the current registration status that an administrative item possesses. A Registration Authority will establish the focus of the use of administrative status. A Registration Authority determines the allowed values of this attribute. It is the responsibility of the Registration Authority to refine, publish, and implement this administrative feature.

There should be administrative statuses that denote the pending changes that are important to the Registry community. These status levels forewarn the Registry community of changes that may impact their area of interest.

- m) Provisionally Qualified - An administered item in the Provisionally Qualified status indicates that a Steward has confirmed that the mandatory metadata attributes are complete and conform to applicable metadata attribute quality requirements. The Steward is authorized to promote administered items at the Recorded status to the administrative status of Provisionally Qualified at such time as the Steward believes that all quality requirements have been achieved.
- n) Provisionally Standard - An administered item in the Provisionally Standard status indicates that a Steward proposes the administered item as Standard for general use in the registry community; however, certification of Standard status of the administered item by the Control Committee is not yet complete
- o) Provisionally Preferred - An administered item in the Provisionally Preferred status indicates that a Steward proposes the administered item as Preferred Standard for general use in the registry community; however, certification of Preferred Standard status of the administered item by the Control Committee is not yet complete.

There should be administrative statuses that denote the requested changes that are important to the Registrar and Stewards in starting the progression towards Standard.

- a) Request Candidate- An administered item in the Request Candidate status indicates that a Submitter has confirmed that the mandatory metadata attributes are complete and conform to applicable metadata attribute quality requirements. The Steward is authorized to promote administered items at the Incomplete status to the administrative status of Candidate at such time as the Steward believes that requirements have been achieved.
- b) Request Recorded- An administered item in the Request Recorded status indicates that a Submitter has confirmed that the mandatory metadata attributes are complete. The Steward is authorized to promote administered items at the Candidate status to the administrative status of Recorded at such time as the Steward believes that requirements have been achieved.

There should be administrative statuses that denote the processes that are required to progress administered items from one registration status to another. These administrative statuses are developed, maintained, and documented by each registration authority for their Registry.

#### 4.4 Procedures

The Registration Authority shall establish the necessary procedures to accomplish the following functional activities for the Registry:

- a) Submission of administered items for registration - Submitters shall submit administered items for entry into the Registry. These administered items may be recorded as Incomplete or Candidate registration

status, as the Submitter deems appropriate. A registration status of Incomplete implies usage restricted to the Submitter's domain while being posted for informational purposes. The Candidate status implies that the submitter intends to progress the administered item to higher registration status levels. Submitters or Stewards may progress administered items in the Candidate status to the Recorded registration status by completing all mandatory metadata attributes required of that administered item.

- b) Progression of administered items - Submitters shall progress administered items to Recorded status. Progression of administered items to registration status of Qualified or higher shall require the sponsorship of a Steward and approval of the Registration Authority.
- c) Harmonization of administered items - The objective of harmonization is to resolve any potential duplicate or overlapping of administered items and to understand the justifiable differences that may exist among the harmonized items. Procedures shall be established to facilitate administered items harmonization and reuse.
- d) Modification of administered items - Procedures shall be established to change administered items.
- e) Retirement of administered items - Procedures shall be established to retire administered items.
- f) Administrative processing - The Registrar may assign administrative registration statuses in order to track an interim state of an administered item.

NOTE This clause introduces the requirements for procedures associated with the Registry. These procedures require organizational participation of certain roles, as specified in **Clause 6.3**, in dealing with administered items to be registered in the Registry, as identified in **Clause 7**. **Annex A** provides representative procedures to address these functional requirements. **Annex F** provides guidance on the documentation of administered items in preparation for submission to the Registry for registration.

## 5 Registries of Administered Items

[THIS WAS FROM THE ORIGINAL PART 6 as Clause 7]

### 5.1 General

Each Registration Authority shall maintain a Registry for Administered Items that fall under its purview.

### 5.2 Contents

In the context of this Part of ISO/IEC 11179, the views on the contents of the registry may vary based upon of the roles of the participants in the registry and the levels of conformance to which each participant ascribes.

#### 5.2.1 Registry Contents and Levels of Conformance

The principal participants are Registration Authorities and Submitting Organizations. Though Responsible Organizations may impact the content of individual attributes of each administered items, they do not have the purview on the composition of the registry itself, i.e., what specific metadata attributes to include with each administered item. For example, while the Registration Authority determines, in accordance to this Standard, each administered item must include the attribute Definition, the Responsible Organization ensures that the definition of a metadata item is semantically correct.

A Registration Authority may adopt a stricter or less strict level of conformance, levying corresponding requirements on Submitting Organizations. The contents of a registry, therefore, may vary accordingly.

#### 5.2.2 Registry Contents and Types of Administered Items

Not all registries will have the need or the means to support all the types of metadata items specified in the metadata model described in ISO/IEC 11179 Part 3 of this international standard. Some registries may start

with a registry of Data Element Concepts; some may start with Conceptual Domain, then, at a later time, implement Data Element and Value Domain. This part of ISO/IEC 11179 refers the reader to ISO/IEC 11179 Part 3 of this international standard for the registry metadata attributes that are for specific types of administered items. This part has the registry metadata attributes that apply to all administered items.

A registry, however, must not violate the business rules (as specified via relationships and cardinalities) of the Registry Metamodel specified in ISO/IEC 11179 Part 3 of this international standard for administered items that have a registration status of "Registered".

### 5.3 Language(s)

The language(s) to be used for the registry shall be determined by the procedure prescribed by the appropriate Registration Authority.

### 5.4 Availability of the Registry of Administered Items

The availability of the contents of the registry shall be governed in accordance with the procedure prescribed by the appropriate Registration Authority.

### 5.5 Copyright of the Registry of Administered Items

Since the Registration Authorities are self-governing bodies operating voluntarily under the procedures specified by this part of ISO/IEC 11179, the copyright of the Registries shall belong to the founding Registration Authorities.

## 6 Conformance

This part of ISO/IEC 11179 utilizes a conceptual model from ISO/IEC 11179-3:2000, not a physical implementation. Therefore, the metamodel need not be physically implemented exactly as specified. However, it must be possible to unambiguously map between the implementation and the metamodel in both directions.

Conformance claims shall specify a Degree and a Level of Conformance, as described below.

### 6.1 Degree of Conformance

The distinction between "strictly conforming" and "conforming" implementations is necessary to address the simultaneous needs for interoperability and extensions. This part of ISO/IEC 11179 describes specifications that promote interoperability. Extensions are motivated by needs of users, vendors, institutions, and industries, and:

- are not directly specified by this part of ISO/IEC 11179,
- are specified and agreed to outside this part of ISO/IEC 11179, and
- may serve as trial usage for future editions of this part of ISO/IEC 11179.

A strictly conforming implementation may be limited in usefulness but is maximally interoperable with respect to this part of ISO/IEC 11179. A conforming implementation may be more useful, but may be less interoperable with respect to this part of ISO/IEC 11179.

#### 6.1.1 Strictly conforming implementations

A strictly conforming implementation:

- shall support all mandatory, optional and conditional metadata element attributes and relationships;
- shall not use, test, access, or probe for any extension features nor extensions to metadata element attributes;
- shall not recognize, nor act on, nor allow the production of metadata element attributes that are dependent on any unspecified, undefined, or implementation-defined behavior.

NOTE The use of extensions to the metamodel may cause undefined behavior.

#### 6.1.2 Conforming implementations

A conforming implementation:

- shall support all mandatory, optional and conditional metadata element attributes and relationships;
- as permitted by the implementation, may use, test, access, or probe for extension features or extensions to metadata element attributes;
- may recognize, act on, or allow the production of metadata element attributes that are dependent on implementation-defined behavior.

NOTE 1 All strictly conforming implementations are also conforming implementations.

NOTE 2 The use of extensions to the metamodel or the basic attributes may cause undefined behavior.

## 6.2 Metadata elements of Registration Conformance

All metadata elements, relationships and properties specified in ISO/IEC 11179-3:2002 **Clause 4.8** Administration and Identification region and **4.9** Naming and Definition Region are supported and may be used.

### 6.3 Obligation

Properties and relationships specified in this part of ISO/IEC 11179 are stated to be Mandatory, Conditional or Optional.

For the purpose of conformance:

- Mandatory properties and relationships shall exist, and shall conform to the provisions of this part of ISO/IEC 11179.
- Anything specified as Conditional within this part of ISO/IEC 11179 shall be treated as Mandatory if the associated condition is satisfied, and shall otherwise be not present.
- Optional properties and relationships are not required to exist, but if they do exist they shall conform to the provisions of this part of ISO/IEC 11179.

Such obligation is enforced if and only if the Registration Status of the associated metadata items is Recorded or higher.

### 6.4 Implementation Conformance Statement (ICS)

An implementation claiming conformance to this part of ISO/IEC 11179 shall include an Implementation Conformance Statement stating:

- whether it conforms or strictly conforms (**6.1**);
- whether conformance is to Level 1, Level 2 (**6.2**) or both;
- what extensions are supported or used.

## Annex A (normative)

### Functional operating procedures – Roles and Responsibilities

#### A.1 Introduction

This Annex defines the overall concept of operations for the Registry. It identifies specific roles and responsibilities and provides specific functional operating procedures for the use of the Registry. These procedures support standardization and harmonization processes that facilitate different working groups sharing administered items. See 6.3 for organizational roles and responsibilities (and their relationships), and for registration status levels definitions.

#### A.2 Roles associated with the Registry

##### A.2.1 General

There are three types of Registration Acting Bodies (RAB) in the framework of this part of ISO/IEC 11179: Submitting Organizations, Registration Authorities, and Responsible Organizations. Each type of RAB shall, respectively, meet the criteria, fulfil the roles, and assume the responsibilities prescribed in the following clauses of this part of ISO/IEC 11179.

##### A.2.2 Role of Registration Authorities (RA)

A Registration Authority shall receive and process proposals from Submitting Organizations for registration of administered items falling within its registration domain. A Registration Authority is responsible for maintaining the registry of administered items and issuing of international registration data identifiers (IRDIs).

##### A.2.3 Role of Responsible Organizations (RO)

A Responsible Organization is the organization, or part thereof, that is responsible for the integrity and accuracy of the attributes values of the administered item; e.g., the semantics and permissible values of administered items maintained and controlled by a Registration Authority.

The Responsible Organization, at the Registration Authority's request, shall review proposals from Submitting Authorities on relevant attributes, e.g., name, definition, and permissible administered item values. The Responsible Organization shall inform the Registration Authority of any essential modifications in the specification of the assigned administered items.

##### A.2.4 Role of Submitting Organizations (SO)

A Submitting Organization wishing to register an administered item shall follow the procedures and requirements prescribed in this part of ISO/IEC 11179 for submission to the appropriate Registration Authority.

#### A.3 Responsibilities of Registration Acting Bodies (RAB)

##### A.3.1 Responsibilities of Registration Authorities (RA)

Regarding applications for registering administered items, an Registration Authority shall fulfil the following responsibilities:

- Receive and process applications for the registration of administered items, assign international registration data identifier values, and maintain a Administered item Registry in accordance with the following provisions.
- Consult the appropriate Responsible Organizations when requests affect the mandatory attributes of the administered items being registered.
- Handle all aspects of the registration process in accordance with good business practice and, in particular, take all reasonable precautions to safeguard the Registry. Specifically, the responsibilities of a Registration Authority are as follows:
- Receive applications for the registration of administered items from its Submitting Organizations.
- Review and facilitate the progression of the applications through the registration cycle.
- Assign appropriate Registration Status.
- Notify Submitting Organizations of its decisions according to the procedure specified in this part of ISO/IEC 11179.

##### A.3.2 Responsibilities of Responsible Organizations (RO)

A Responsible Organization shall:

- At the Registration Authority's request, advise on the semantics, name, and permissible value of administered items submitted for registration.
- Notify the Registration Authority of any amendments to the administered items assigned to the Responsible Organization.
- Decide, in case of confusion and/or conflict, on the attribute values of the assigned administered items.

##### A.3.3 Responsibilities of Submitting Organizations (SO)

A Submitting Organization is responsible for the following activities:

- Providing the information specified in Annex A in the form required by the Registration Authority.
- Providing any additional information that may reasonably be required by the Registration Authority to enable it to perform its responsibilities.
- Ensuring that when an administered item has been registered, specification of the attribute values of the administered item is not changed without first advising the Registration Authority.

#### A.4 Responsibilities of Organizations within Registration Acting Bodies

##### A.4.1 Registrar

The Registrar provides a single individual point-of-contact responsible for managing and maintaining information about data in the Registry, under the authority of the Registration Authority. The Registrar is responsible for:

- a) Monitoring and managing the Registry contents (Note: The Registry is established, operated, and maintained by the Registration Authority).
- b) Enforcing policies, procedures, and formats for populating and using the Registry.

- c) Proposing procedures and standard formats for the Registry to the Control Committee for consideration.
- d) Recording current registration status for administered items in the Registry.
- e) Ensuring access for authorized users to contents in the Registry.
- f) Assisting in the progression of administered items through the registration status levels.
- g) Assisting in the identification and resolution of duplicate or overlapping administered items in the Registry.
- h) Acting on direction from the Registration Authority.
- i) Effecting registration of administered items in external registries or dictionaries.
- j) Enforcing data registration procedures for submitting administered items to the Registry, e.g.,
  - How to prepare, submit, and process submissions of administered items.
  - How the Registry is used to avoid duplicate administered items submissions to the Registry.
  - How the Registry is used to effect harmonization of data across registries of participating organizations.
  - How external registries are used as a source of administered items for reuse in the Registry.
- k) Maintaining a separate document recording the appropriate contact information for all members of the Control Committee and the Executive Committee.
- l) Adding new users or organizational entities that may become authorized to access the Registry.
- m) Maintaining other controlled word lists of the Registry.

#### A.4.2 Stewards

Stewards provide specific expert points of contact responsible for coordinating the identification, organization, and establishment of registered data for use throughout the enterprise within an assigned area.

Stewards are responsible for:

- a) Co-ordinating the identification and documentation of administered items within their assigned area.
- b) Ensuring that appropriate administered items in their assigned area are properly registered.
- c) Co-ordinating with other Stewards to attempt to prevent or resolve duplicated efforts in defining administered items.
- d) Reviewing all administered items once they are in the Recorded status to identify and attempt to resolve conflicts among administered items with other Stewards' responsible areas.
- e) Ensuring the quality of metadata attributes for administered items they propose for the Qualified registration status level, reusing standardized data from external data registries where applicable.
- f) Proposing Standard registration status level administered items in their assigned area.
- f) Proposing Preferred Standard registration status level administered items in their assigned area.
- g) Ensuring that data registration procedures and formats are followed within their assigned functional area.

- h) Recommending Submitters to the Registration Authority.

#### A.4.3 Submitters

Submitters are organization elements that are familiar with or engaged in development and operational environments. Submitters maintain current administered items and are engaged to describe and submit new administered items following the registration requirements.

A Submitter is responsible for:

- a) Identifying himself to the Registrar.
- b) Identifying and documenting administered items appropriate for registration in the Registry.
- c) Submitting administered items to the Registry.
- d) Ensuring the completeness of mandatory metadata attributes for administered items proposed for the Recorded registration status level.

#### A.4.4 Read-only users

A Read-only User is an organizational element approved by the Registrar to review the contents of the Registry. Read-only Users may not add to, delete from, or otherwise modify the contents of the Registry.

#### A.4.5 Control Committee

The Control Committee provides overall technical direction of, and resolution of technical issues associated with, the Registry, its contents and its technical operations.

The Control Committee is responsible for:

- d) Overall conduct of registration operations.
- e) Promoting the reuse and sharing of data in the Registry within and across functional-areas, and among external interested parties to the enterprise.
- f) Progressing administered items through Registry registration Qualified, Standard, and Preferred Standard status levels.
- g) Resolving technical issues associated with registered administered items, e.g., overlap, duplication, etc.
- h) Approving updates to administered items previously placed in the Registry in the **Qualified, Standard, or Preferred Standard** registration status levels.
- i) Proposing Registry policies to the Executive Committee for approval.
- j) Approving authorized Submitters, Read-only Users, and types of users, of the Registry.
- k) Approving Registry content, procedures, and formats.
- l) Submitting management-related recommendations and issues to the Executive Committee.
- m) Acting on directions from the Executive Committee.
- n) Meeting periodically in face-to-face meetings, with additional meetings and teleconferences held as needed.

The Control Committee will normally fulfil its responsibilities via consensus building in accordance with an established procedure. Intransigent issues may be resolved by an established procedure.

**A.4.6 Executive Committee (ExCom)**

The Executive Committee is responsible for overall policy and business direction for the Registry, to include:

- a) Establishing overall Registry policies.
- b) Resolution of all business management issues pertaining to the Registry, e.g., copyrights, stewardship, Executive Committee membership, etc.
- c) Ensuring the long-term success and performance of the Registry.
- d) Establishing and updating the Registry charter and strategic plans.
- e) Meeting at periodically in face-to-face meetings, with additional meetings and/or teleconferences held as needed.

The Executive Committee will normally fulfil its responsibilities via consensus building. Intransigent issues may be resolved by simple majority vote, one vote per member organization.

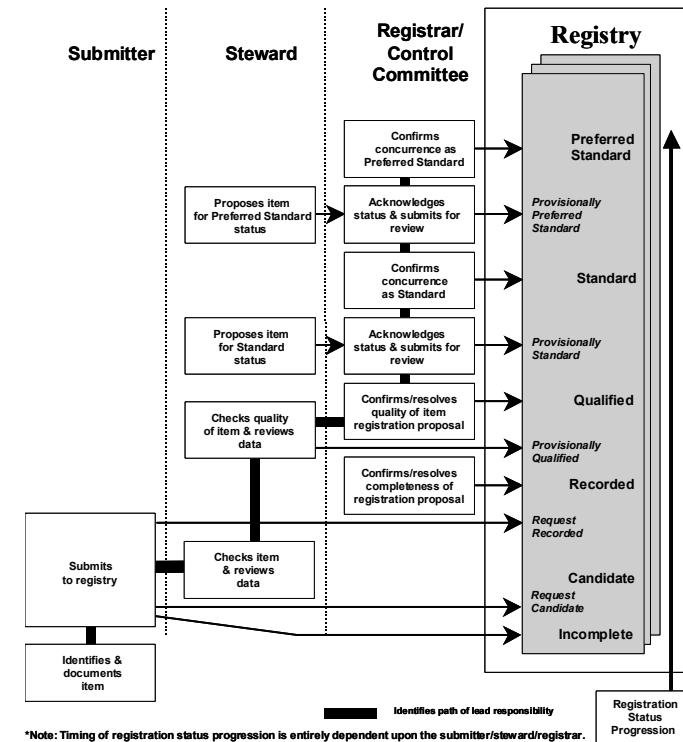
**Annex B**  
(normative)

**Functional operating procedures – Concept of operations**

**B.1 Registration concept of operations**

**B.1.1 Overview**

The operational procedures for the Registry is summarized in this clause. These procedures describe registration and harmonization practices for the Registry. See **Clause 6.3** for organizational roles and responsibilities (and their relationships), and for registration status levels definitions. This clause describes the registration activities associated with Submitters, Stewards, and the registrar and Control Committee roles. **Figure B-1** summarizes these functional activities.



\*Note: Timing of registration status progression is entirely dependent upon the submitter/steward/registrar.

**Figure B.1 — Registration functional activities**

### B.1.2 Registration initiation

All Submitters accomplish the Submitter registration activities in the same way in accordance with these functional operation procedures so that administered items are consistently and accurately registered. The responsibility of the Submitter is to propose and document administered items for registration in the registration status of Incomplete; and, if desired, propose administered items for the registration status of Candidate then Recorded. A Submitter acquires an understanding of administered items, their context and sources, and their significance in the course of accomplishing normal operational, design, development, or management activities.

### B.1.3 Quality review

The responsibility of the Steward, for administered items in an assigned functional area, is to ensure that quality registration candidates are passed to the Registrar for presentation to the Control Committee to be considered as Qualified administered items. Stewards also may recommend administered items for Standard and Preferred Standard registration status.

### B.1.4 Registry administration

The responsibility of the Registrar is to coordinate the Registry environment and manage the Registry, making its contents as widely accessible as feasible. Administrative levels are established to track the progression of an administered item in the transition from one status level to the next.

- a) Provisionally Qualified - An administered item in the Provisionally Qualified status indicates that a Steward has confirmed that the mandatory metadata attributes are complete and conform to applicable metadata attribute quality requirements. The Steward is authorized to promote administered items at the Recorded status to the administrative status of Provisionally Qualified at such time as the Steward believes that all quality requirements have been achieved.
- b) Provisionally Standard - An administered item in the Provisionally Standard status indicates that a Steward proposes the administered item as Standard for general use in the registry community; however, certification of Standard status of the administered item by the Control Committee is not yet complete. The Steward is authorized to promote administered items from the Qualified level to the Provisionally Standard at such time as the Steward believes the administered item should be a Standard administered item.
- c) Provisionally Preferred - An administered item in the Provisionally Preferred status indicates that a Steward proposes the administered item as Preferred Standard for preferred use in the registry community; however, certification of Preferred Standard status of the administered item by the Control Committee is not yet complete. The Steward is authorized to promote administered items from the Standard level to the Provisionally Preferred at such time as the Steward believes the administered item should be a Preferred Standard administered item.

## B.2 Hierarchy of Registration Authorities

The number of potential administered items to be registered in the framework of ISO/IEC 11179 is unlimited and diverse. So is the number of potential Registration Authorities.

It is envisioned that organizations wishing to share information among themselves may want to establish a Registration Authority for that purpose. A Registration Authority and its members may subsequently want to share subsets of administered items with other Registration Authorities and their members. If two or more Registration Authorities believe that they should standardize certain administered items across their areas of interest, they may accomplish this requirement in a couple of ways: Either they will negotiate to complement one another's registries with their already standardized administered items, or they will establish another Registration Authority to register administered items that they want to share, but are not available or agreed upon. Under the latter circumstance, the current Registration Authorities will become Submitting

Organizations and the newly founded Registration Authority will become the Registration Authority for shareable administered items. Conceptually, this hierarchy may be repeated.

## Annex C (normative)

### Functional operating procedures – Procedures

#### C.1 General procedures

##### C.1.1 Review and Response

Applications shall be reviewed according to the following steps:

1. Preliminary review to verify completeness of application
2. Applicant's review to authenticate the applicant's identity and supporting organizational and contact information.
3. Technical review of application, if any.
4. Processing the application in the registry (e.g., making the additions, changes, deletions).
5. Responding to the applicant in writing and/or E-mail.
6. Publishing updates, if applicable.

##### C.1.2 Rejection Criteria

An application may be rejected for any of the following reasons:

1. If the application does not provide the required (mandatory) information
2. If the application provides false or misleading information.
3. If the applicant does not respond to questions about clarifications or ambiguities within the application.
4. If the application is inconsistent with the requirements of the registration.
5. If the registration requires a technical review and the application fails the technical review.

In all cases, the applicant has Registry specific period of time to respond and remedy the issue before the application is formally rejected.

##### C.1.3 Revision and review procedures

Once registered, an administered item may be revised, reviewed, or withdrawn.

##### C.1.4 Revision procedures

Unless specified otherwise, the following revision procedures apply to all administered items.

##### C.1.4.1 Changing registrant contact information

Submitters and Stewards may update their contact information. Updating only contacting information (1) shall not require a technical review, and (2) is not considered a revision or review for the purposes of the systematic review cycle.

##### C.1.4.2 Update procedures

Submitters and Stewards may have update information in their registered item, as permitted by the Registry.

Using the current procedures, if an initially registered item would require a technical review, then a technical review shall be performed on an updated registration.

Note: In other words, the requirement for technical reviews is the same for initial registrations as it is for updated registrations.

##### C.1.4.3 Registrant transfer procedures

A Submitter may reassign a registered item to another Submitter.

A Steward may reassign a registered item to another Steward.

Using the current procedures, if an initially registered item would require a technical review, then a technical review shall be performed on transferred registration.

Note: In other words, the requirement for technical reviews is the same for initial registrations as it is for transferred registrations.

##### C.1.5 Review procedures

Unless specified otherwise, the following review procedures apply to all registered items.

Note: One purpose for reviewing registered items is to update any information associated with the registered item; another purpose is to confirm that the existing registered information is still current and valid.

##### C.1.5.1 Registrant-initiated review procedures

A registrant may have its registered item reviewed.

##### C.1.5.2 Period of validity

The Registration Authority shall establish and publish a period of validity for items that are to be maintained within the Registry.

##### C.1.5.3 Systematic review procedures

All registered items are reviewed on a regular basis. After the initial registration or the last registration update, registered items shall be reviewed within the period of validity.

The Registration Authority shall establish and publish the procedures for systematic review. These procedures should include:

1. The time before that a notification of an anticipated registration review shall be sent to the Steward prior to the review date.
2. The time before that a reminder notice shall be sent again prior to the review date.

3. The means by which reviews are conducted and recorded by the Stewards.
4. The process for handling items that were to be reviewed but were not reviewed.

Note: Changing contact information is not considered a registration update.

### C.1.6 Dispute resolution

The Registration Authority should establish and publish procedures for dispute resolution.

If there is a dispute between an applicant, Submitter and/or Steward, and the Registration Authority, the Registration Authority will make reasonable efforts to resolve the dispute.

The applicant shall (1) identify the problem in writing, (2) identify potential solutions for a favorable outcome, (3) provide additional contact information (e.g., mobile phone), as necessary, and (4) communicate the dispute to the Registration Authority via E-mail (first choice) or fax (second choice).

Upon receipt of the dispute, the Registration Authority will contact the applicant within a time frame specified in the Registry procedures with a potential resolution or a proposed timeline for resolution.

If the applicant and the registration authority are unable to resolve the dispute, the applicant may appeal according to the established procedures for dispute resolution.

## C.2 Progression through registration status categories

Administered items shall have a registration status. For each registration status, the steps for progression are:

### C.2.1 Incomplete status administered items

**Step 1.** Submitter identifies administered items appropriate for this status level in the course of normal activities. Submitter prepares a registration proposal documenting as many metadata attributes as possible described in the standard. Submitter validates the definitions. Submitter initiates this status for administered items they submit to the Registry.

**Step 2.** Submitter reviews administered items to determine whether the administered item should be progressed from an Incomplete registration status. If the administered item is not to be progressed, it is held in the Registry in its current status level.

**Step 3.** Steward also reviews administered items to determine, in co-ordination with an appropriate Submitter whether an administered item should be progressed from an Incomplete registration status. If the administered item is not to be progressed, it is held in the Registry in its current status level.

**Step 4.** Registrar also reviews administered items to determine, in co-ordination with the appropriate Submitter and Steward whether an administered item should be progressed from an Incomplete registration status. An administered item may be progressed into the dynamic registration status categories towards standardization. The administered item may be towards a static registration status category of Legacy, Application, Historical, or Standardized Elsewhere. The Registrar, Submitter, and Steward may determine that the item is not appropriate for the Registry and have it removed from the Registry. If the administered item is not to be progressed or removed, it is held in the Registry in its current status level.

**Possible progression from Incomplete status.** The administered item may be left in the current status or progressed to one the following registration statuses.

- Candidate
- Historical

- Standardized Elsewhere
- Legacy
- Application

### C.2.2 Candidate status administered items

**Step 1.** Submitter determines that an administered item should be progressed from Candidate registration status. The Submitter confirms that mandatory metadata attributes are complete, updating the metadata attributes as necessary. The Submitter then requests Recorded or another status for the administered item.

**Step 2.** The Steward with the Submitter reviews administered items to determine whether the administered item has all the required and desirable metadata attributes and therefore should be progressed from a Candidate registration status.

**Step 3.** Steward determines that an administered item should be progressed to Recorded registration status. For such administered items, the Steward confirms that mandatory metadata attributes are complete, updating the metadata attributes as necessary. The Steward then requests Recorded or another status for the administered item. If the administered item is not to be progressed, it is held in the Registry in its current status level.

**Step 3.** Upon request for Recorded registration status from the Submitter and Steward, the Registry system checks that the mandatory metadata attributes of the administered item are present and requests a change of the registration status to Recorded for administered items with entries containing all mandatory metadata attributes. If any mandatory metadata attribute is missing an entry, the Registry notifies the requester of the missing metadata attribute(s).

**Step 4.** Registrar also reviews administered items to determine, in co-ordination with the appropriate Submitter and Steward whether an administered item should be progressed from an **Candidate** registration status. The Registrar, Submitter, and Steward may determine that the item is not appropriate for the Registry and have it removed from the Registry. If the administered item is not to be progressed, it is held in the Registry in its current status level.

**Possible progression from Candidate status.** The administered item may be left in the current status or progressed to one the following registration statuses.

- Recorded
- Historical
- Standardized Elsewhere
- Legacy
- Application

### C.2.3 Recorded administered items

**Step 1.** The Steward, for those administered items appropriate for progression to the Qualified registration status level, reviews the metadata attributes for conformance to quality requirements of this International Standard and any other requirements as may be agreed to by the Control Committee as published as a registry management policy. If the metadata attributes do not meet these quality requirements, the Steward assists the Submitter in achieving the quality requirements by referring the Submitter to appropriate policies, procedures, and guidelines.

**Step 2.** The Steward checks pertinent external registries or other external data dictionaries to determine if an administered item has already identified in another domain, outside of this community, that fulfils the needs of the this community and is satisfactory to the original Submitter. The extent of this check of external sources of administered items depends upon the Steward's knowledge of potential appropriate external sources. The Steward may consult with the Registrar, who could maintain and publish lists of external registries that have been found useful to the community.

**NOTE** When administered items from foreign registries are reused in the Registry, they may go in as Candidate and be progressed to Standardized Elsewhere registration status in their native form (provided minimum metadata attributes for external administered items are completed). Alternatively, they may be progressed to Recorded registration status with local changes (provided minimum metadata attributes for external administered items are completed).

If an external administered item is so identified, that external administered item may be put forward and reused in lieu of the specific administered item proposed by the Submitter.

**Step 3.** The Registrar reviews all Provisionally Qualified status administered items periodically to re-verify completeness of mandatory metadata attributes and to confirm quality requirements of the metadata attributes for the administered item(s), including uniqueness of its identifier, quality of its definition(s).

If quality requirements are met, the registrar shall progress the administered item to the Qualified status.

If quality requirements are not met, the registrar supports the Steward and the Submitter in taking any actions necessary to bring the metadata attributes of the administered item to quality standards, if possible. If not, the administered item is retained on hold at the Recorded registration status level. Once such quality standards are achieved for appropriate metadata attributes, the Registrar submits a listing of such administered items proposed for Qualified registration status, together with all supporting metadata attributes, to the Control Committee periodically for the Control Committee for approval as Qualified administered items. If administered items are not approved by the Control Committee to the Qualified registration status level, they are reverted to the Recorded registration status.

Final resolution as to Qualified registration status level may result in confirmation of the item as a new Qualified administered item, a new version of a previously Qualified administered item, or recognition of the item as already established in the Qualified status. In this case, or if the registered administered item has been previously established as a Qualified administered item in the Registry, the Steward and Submitter, as well as associated systems developers, will reuse such administered items in their application development efforts. This resolution may also re-assign responsibility for the registered administered item to another Steward.

**Possible progression from Recorded status.** The administered item may be left in the current status or progressed to one the following registration statuses.

- Qualified
- Retired
- Superseded

#### C.2.4 Qualified administered items

**Step 1.** Stewards and Registrar will review Qualified registration status level administered items periodically with the view of possibly progressing an administered item to the registration status level of Standard. For any administered items so identified, the Registrar updates the status level to Provisionally Standard and the Steward provides the Registrar with a short statement as to why such administered items should be progressed to the Standard registration status level.

**Step 2.** The Registrar reviews all administered items in the Provisionally Standard status periodically to confirm it as a viable Standard administered item. The Registrar submits a listing of all administered items proposed for the Standard registration status, together with their metadata attributes and the Steward's

statement, periodically to the Control Committee for approval as Standard data. A key focus of review by the Registrar and the Control Committee is the identification and resolution of overlapping or redundant administered items among the Stewards. The Registrar then changes the registration status level of approved administered items to Standard. If administered items are not approved by the Control Committee to the Standard registration status level, they revert to the Qualified registration status. If quality requirements are met, the registrar shall progress the administered item to the Standard status

**Step 3.** Stewards and Registrar will review Qualified registration status level administered items periodically with the view of possibly progressing an administered item to the registration status level of Retired. For any administered items so identified, the Registrar updates the status level to Provisionally Retired and the Steward provides the Registrar with a short statement as to why such administered items should be progressed to the Retired registration status level. If Provisionally Retired administered items are not approved by the Control Committee to the Retired registration status level, they revert to the Qualified registration status.

**Possible progression from Qualified status.** The administered item may be left in the current status or progressed to one the following registration statuses.

- Standard
- Retired
- Superseded

#### C.2.5 Standard administered items

**Step 1.** Stewards will review Standard registration status level administered items periodically with the view of possibly progressing an administered item to the registration status level of Preferred Standard. For any administered items so identified, the Steward updates the registration status level to Provisionally Preferred and provides the Registrar with a short statement as to why such administered items should be progressed to the Preferred Standard registration status level.

**Step 2.** The Registrar reviews all administered items in the Provisionally Preferred registration status periodically to confirm it as a viable Preferred Standard administered item. The Registrar submits a listing of all administered items proposed for the Preferred Standard registration status, together with their metadata attributes and the Steward's statement, to the Control Committee periodically at the Control Committee for approval as Preferred Standard administered item. A key focus of review by the Registrar and the Control Committee is the identification and resolution of whether an administered item is to be preferred for use within the Registry community. The Registrar then changes the registration status level of approved administered items to Preferred Standard. If administered items are not approved by the Control Committee to the Preferred Standard registration status level, they revert to the Standard registration status. If quality requirements are met, the registrar shall progress the administered item to the Preferred Standard status

**Possible progression from Standard status.** The administered item may be left in the current status or progressed to one the following registration statuses.

- Preferred Standard
- Retired
- Superseded

#### C.2.6 Preferred Standard administered items

**Step 1.** Stewards will review Preferred Standard registration status level administered items periodically with the view of insuring that an administered item is still to remain at the registration status level of Preferred Standard.

**Step 10.** The Registrar submits a listing of all administered items proposed for downgrading to the Standard registration status, together with their metadata attributes and the Steward's statement, to the Control Committee meetings for approval as Standard data. A key focus of review by the Registrar and the Control Committee is the change in the Registry community's preference for the administered item.

**Possible progression from Preferred Standard status.** The administered item may be left in the current status or progressed to one the following registration statuses.

- Standard
- Retired
- Superseded

### C.2.7 Retired administered items

**Possible progression from Retired status.** Administered items in this registration status should not change status.

- There is no progression for this registration status

### C.2.8 Superseded administered items

**Step 9.** Registrars and Stewards will review Superseded registration status level administered items periodically with the view of possibly progressing an administered item to the registration status level of Retired. For any administered items so identified, the Registrar updates the status level to Provisionally Retired and the Steward provides the Registrar with a short statement as to why such administered items should be progressed to the Retired registration status level. If Provisionally Retired administered items are not approved by the Control Committee to the Retired registration status level, they revert to the Superseded registration status.

**Possible progression from Superseded status.** The administered item may be left in the current status or progressed to one the following registration statuses.

- Retired

### C.2.9 Historical administered items

**Possible progression from Historical status.** Administered items in this registration status should not change status.

- There is no progression for this registration status

### C.2.10 Legacy administered items

**Possible progression from Legacy status.** Administered items in this registration status should not change status.

- There is no progression for this registration status

### C.2.11 Application administered items

**Possible progression from Application status.** Administered items in this registration status should not change status.

- There is no progression for this registration status

### C.2.12 Standardized Elsewhere administered items

**Step 1.** Stewards will review Standardized Elsewhere registration status level administered items periodically with the view of possibly progressing an administered item to the registration status level of Retired or Superseded. Additionally there may be a need to bring in an item and modify it with it being progressed to Recorded registration status with local changes (provided minimum metadata attributes for external administered items are completed).

**Possible progression from Standardized Elsewhere status.** The administered item may be left in the current status or progressed to one the following registration statuses.

- Recorded
- Retired
- Superseded

## C.3 Change management procedures

### C.3.1 Change procedures for administered items in the Registry

Procedures for proposing changes to an administered item in the Registry are the same as for new proposals, except that the Steward will involve the original Submitter of the administered item in the event a Submitter other than the original Submitter is proposing changes. Only the original Submitter of an administered item, or responsible Steward for administered items at registration status of Qualified or higher, may edit an administered item. The Registry should automatically notify Stewards recorded in the Relevant Groups metadata attribute of any changes to administered items in a Registration Status of Recorded. Changes to administered items in a Registration Status of Qualified or higher may not be made without Control Committee approval. The Steward mediates any conflicts between Submitters associated with a proposed change. Similarly, when the proposal is forwarded to the Registrar, other relevant Stewards will be involved in review of the proposal and the Registrar will mediate any conflicts between the Stewards. The Registrar reports administered item change proposals for administered item at Qualified and above to the Control Committee with appropriate change of version or a new administered item due to substantive change in semantics or representational form of the administered item. Mere refinement of semantics, change to administrative metadata attributes, or change of registration status do not result in version changes. Stewards will determine whether or not the semantics of an administered item have changed significantly enough to warrant a version change. Additions to code set values should result in version changes.

### C.3.2 Retirement procedures for administered items in the Registry

In the event an administered item in the Registry is proposed for retirement, generally the same procedures are followed as for administered item registration change proposals. Retired administered items are not to be used as compared to superseded administered items which maybe used.

An administered item in the Registry might be proposed for retirement for a number of reasons, for example it might be replaced by entirely new administered item in the Registry or it might have been inappropriately placed in the Registry. Retired administered items will be linked to the superseding administered item, if any, by the Submitter or Steward in such a way that the effective date of superseding data is recorded (with Last Change Date) and a mapping of the old and new administered item in the Registry is preserved.

The status of an administered item proposed for retirement is changed to Retired by the registrar for administered items in the Qualified registration status or higher after presentation to the Control Committee. The Submitter may change the registration status of administered items at the Recorded levels to Retired at any time, without review by the Control Committee.

### C.3.3 Superseding procedures for administered items in the Registry

In the event an administered item in the Registry is proposed to be superseded, generally the same procedures are followed as for administered item registration change proposals. Superseded administered items may be used as compared to retired administered items which may not be used.

An administered item in the Registry might be proposed to be superseded for a number of reasons, for example it might be superseded by a new administered item, it might be replaced by entirely new administered item in the Registry, or it might have been inappropriately placed in the Registry. Superseded administered items will be linked to the superseding administered item, if any, by the Submitter or Steward in such a way that the effective date of superseding data is recorded (with Last Change Date) and a mapping of the old and new administered item in the Registry is preserved.

The status of an administered item proposed for to be superseded is changed to Superseded by the registrar for administered items in the Qualified registration status or higher after presentation to the Control Committee. The Submitter may change the registration status of administered items at the Recorded levels to Superseded at any time, without review by the Control Committee.

### C.3.4 Change management procedures

#### C.3.4.1 Applicability

The change management procedures of this section are applicable to the Registry.

#### C.3.4.2 Identifying configuration items

The purpose of configuration item identification is to explicitly specify what administered items are subject to change management.

Configuration items are administered items of the Registry.

#### C.3.4.3 Administered items

Formal change management of administered items is accomplished only for managing changes to administered items at the Recorded, Qualified, Standard, or Preferred Standard registration quality categories. Changes to administered items in the registration status levels of the Retired, Superseded, Historical status are not permitted. Administered items at the Incomplete and Candidate registration categories are not formally change managed in terms of Control Committee involvement or approval actions.

Administered item configuration items are the administered items documented in the Registry. Configuration identification numbers for these configuration items are their administered item identifier plus version number.

## Annex D (normative)

### Administered Item Identifiers

#### D.1 General

Administered items registered under the provisions of this part of ISO/IEC 11179 are each assigned an International Registration Data Identifier (IRDI). This identifier value uniquely identifies the administered item within the framework of this part of ISO/IEC 11179.

#### D.2 Components of International Registration Data Identifier (IRDI)

As discussed in the Introduction of this part of ISO/IEC 11179, the uniqueness of a registered administered item is determined by the combination of the values of three identifying attributes, as depicted in Figure 1 and defined in Part 3 of ISO/IEC 11179:

- a) An identifier assigned to a Registration Authority, hereafter called Registration Authority Identifier (RAI).
- b) An identifier assigned to an administered item within a Registration Authority, hereafter called Data Identifier (DI).
- c) An Identifier assigned to a Version under which an administered item registration is submitted or updated hereafter called Version Identifier (VI).

- Notes:
1. Although the version may not necessarily be required to make a administered item unique within a Registry, the inclusion of the version in the International Administered item Identifier would provide a unique reference point, should a conflict arise.
  2. OPI and OPIS are optional per ISO/IEC 6523. ISO/IEC 11179-6 uses the entire structure of ISO/IEC 6523 as an Registration Authority Identifier.

#### D.3 Assignment of Values to International Registration Data Identifier (IRDI) Components

An International Registration Data Identifier will be assigned to an administered item submitted for registration. The assignment shall be performed in accordance with the procedures specified in **Clause 6.1**. The values of each component of International Registration Data Identifier are assigned as follows.

##### D.3.1 Assignment of Registration Authority Identifier (RAI)

Every organization wishing to become a Registration Authority shall possess an internationally recognized organization code, assigned in accordance with the procedure prescribed in ISO/IEC 6523. The entire structure for identification of organizations, as described in **Clause 3 of ISO/IEC 6523**, shall be the internationally unique Registration Authority Identifier for the purpose specified in this part of ISO/IEC 11179.

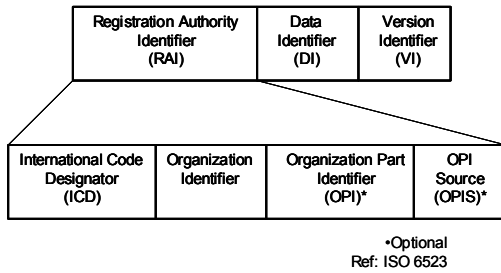


Figure 1 — Structure of International registration Data Identifier (IRDI)

**D.3.2 Assignment of Data Identifier (DI)**

Each new administered item accepted into the registry shall be assigned a new Data Identifier. A new Data Identifier shall also be assigned to an existing administered item when it is modified in such a way as to change the meaning of the administered item or the representation form of the potential values of the administered item. For example, changes to the mandatory attributes, Definition and/or Form of Representation (referenced in **Annex A**) would require the assignment of a new Data Identifier. Editorial changes to the definition, however, would not cause generation of a new administered item, as long as the essential meaning expressed by the definition remains the same. For example, the value of the administrative attributes listed in **Annex A** may change without causing generation of a new Data Identifier.

Based on the requirements of the subject matter included in its registry, each Registration Authority shall establish and publish, as appropriate, specific guidelines for any additional conditions requiring assignment of a new Data Identifier (i.e., generation of a new administered item), due to changes in the values of mandatory attributes established for its registry.

Each Registration Authority shall establish and publish specific guidelines on the format, presentation, and generation of Data Identifiers that are used within the Registry.

**D.3.3 Assignment of Version Identifier (VI)**

In general, a new Version Identifier may be generated when any attribute value (other than one requiring a new Data Identifier) changes. Each administered item, however, may require a different versioning treatment. For example, a change in Permissible Data Element Values for an Employee Name may not require a new version, while a change of Permissible Data Element Values for Account Type will likely require a version change. Each Registration Authority shall establish specific guidelines for the subject matters in which it specializes and for which it is responsible.

Each Registration Authority shall establish and publish specific guidelines on the format, presentation, and generation of Version Identifiers that are used within the Registry.

**D.4 Using ISO/IEC 6523 Organization Codes as Registration Authority Identifier.**

**D.4.1 Organization Code Structure**

The following excerpts from ISO/IEC 6523 are included here for convenience, since this ready reference can facilitate the understanding of the code structure.

"The structure for the identification of organizations and organization parts consists of the following four components:

- a) the International Code Designator (ICD);
- b) the identification of an organization within an identification scheme: a data element containing an organization identifier;
- c) the identification of an organization part: a data element containing an organization part identifier (OPI);
- d) the OPI source indicator (OPIS): a data element containing a code value indicating the source of the OPI.

The third component, identification of an organization part, is optional. It is used when and only when one wants to designate a specific part within an organization.

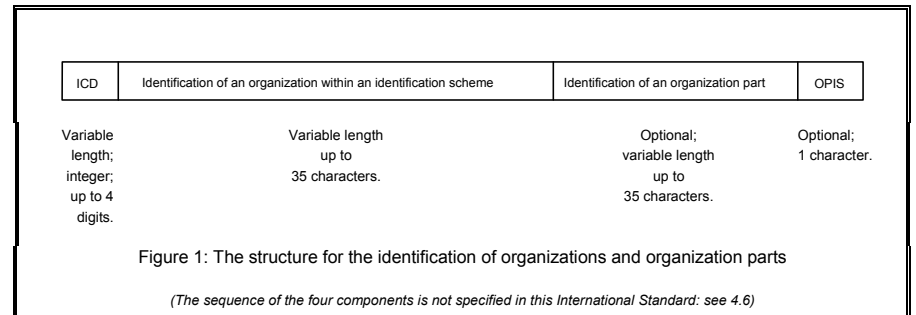
The fourth component, the OPI source indicator (OPIS), shall not be used if the third component is not used; it is optional when the OPI is used.

The format of these data elements is the following:

- ICD: integer, variable length, up to 4 digits;
- Identification of an organization: variable length, up to 35 characters;
- OPI: variable length, up to 35 characters;
- OPIS: 1 character.

No particular sequence of the four components is specified in this International Standard."

The structure is illustrated below:



Source: ISO/IEC 6523-1:1998

**D.4.2 Registration Authority for International Code Designators of ISO/IEC 6523 Registry**

The registration authority (RA) for the above registry, at the date of publication of this standard:

British Standards Institution – DISC  
389 Chiswick High Rd  
London W4 4AL

Tel : +44 020 8996 7448  
Fax : +44 020 8996 7412

The [British Standards Institution](http://www.bsi-global.com)'s (BSI) web site is <http://www.bsi-global.com>

The current contact persons are **Ms. Nicola Harrison and Simone Seeds**. The email address is [Telecoms@bsi-global.com](mailto:Telecoms@bsi-global.com).

**Obtaining an RAI without obtaining an ICD:** The Registration Authority of ISO/IEC 6523 maintains only ICDs. An organization that wants to obtain an organization code might not have to obtain an ICD. It can contact an organization/trade association such as DUNS or SIRENE, which already have their ICDs, and request an organization code under their respective ICDs. The concatenation of ICD and Organization code assigned by the ICD owner will constitute the organization code of the requester.

**Example:** Most organizations already have their international organization codes without realizing that fact. For example, most organizations have a DUNS code that can be concatenated with DUNS's ICD (0060) to form their own organization codes. The organization codes for subscribers of DUNS, under DUNS ICD will have the DUNS format and are assigned by DUNS and Bradstreet. **Below is the detail of DUNS entry in the "Numerical list of all ICDs that have been issued" maintained by BSI.**

<b>ICD</b>	<b>0060</b>
<b>Name of coding system</b>	Data Universal Numbering System (D-U-N-S Number)
<b>Name &amp; address of issuing organisation</b>	Dun and Bradstreet Ltd Holmers Farm Way High Wycombe Bucks HP12 4UL
<b>Structure of code</b>	1) Eight identification digits and a check digit. A two-digit prefix will be added in the future but it will not be used to calculate the check digit. 2) The Organization name is not part of the D-U-N-S number
<b>Display Requirements</b>	IIIIIIIC where all characters are the digits 0 to 9, I = an identification digit and C = the check digit. When the prefix (P) is added the display requirement will be eleven digits, PIIIIIIIC.
<b>Description of organizations covered by the coding system</b>	It is the objective of Dun and Bradstreet to allocate a D-U-N-S number to all businesses and institutions engaged in a specific business activity.
<b>Notes on use of the code</b>	The D-U-N-S Number originated to facilitate the compilation of financial status reports on those involved in business transactions but it is now widely used for other purposes also. The number has world wide recognition as a means of identifying businesses and institutions.
<b>Sponsoring authority</b>	BSI/DISC
<b>Date of issue of ICD</b>	JUNE 1993
<b>Additional comments</b>	A full specification of scheme has been deposited with the Registration Authority

## Annex E (normative)

### Contents of the Registry: Metadata attributes required for administered items

#### E.1 Introduction

This annex presents a table that delineates the requirements for inclusion of metadata attributes in a registry for each administered item. This does not specify any of the metadata attributes that are applicable to specific types of administered items but only those metadata attributes that are applicable to all administered items. Each row is an elementary or a composite metadata attribute. The first column is the metadata attribute name. The indentation of the metadata attribute name denotes the sublevel of the attribute. Elementary metadata attributes that are mandatory are identified in the first column with an "\*" in the far left side of the column. The second column is the definition of the metadata attribute from ISO/IEC 11179-3:2002. The third column identifies the clause in ISO/IEC 11179-3:2002 where the metadata attribute is defined. The fifth column identifies the maximum number of occurrences for the metadata attribute within its composite metadata attribute. The sixth column specifies the datatype of the elementary metadata attributes.

The fourth column specifies the obligation and conditionality for the metadata attribute. The following codes are used in column 4:

- "M" = mandatory. Mandatory metadata attributes are required for the administered item, without exception.
- "O" = optional. Optional metadata attributes may be used if desired by the steward of the administered item to provide additional documentation about the administered item.
- "C" = contingent. Contingent metadata attributes are those that depend upon the implementation of an optional metadata attribute. They are required when the optional metadata attribute upon which they depend is implemented.
- "I" = indicative. Indicative metadata attributes depend upon an "if" condition that is independent of any other metadata attribute. If the "if" condition is applicable, then the "I" coded metadata attribute is mandatory; otherwise it is optional.

The constraints on minimum occurrences are to be enforced when the registration status for the metadata item is "Recorded" or higher. In other words, a registration status of "Recorded" indicates that all mandatory attributes have been documented.

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
Administered Item	a registry item for which administrative information is recorded in an Administration Record	3.3.1			
Administration Record	a collection of administrative information for an Administered Item	3.3.5	M	one	
administered_item_identifier	an identifier for an administered item	3.3.4	M	one	
item_registration_authority_identifier	the identifier of the Registration Authority registering the item	3.3.77	M	one	
* International_Code_Designator	the identifier of an organization identification scheme	3.3.75	M	one	character
* organization_identifier	the identifier assigned to an Organization within an organization identification scheme, and unique within that scheme	3.3.92	M	one	character
OPI_source	the source for the organization part identifier	3.3.97	C / If organization_part_identifier is used	one	character
organization_part_identifier	an identifier allocated to a particular organization part	3.3.96	O	one	character
* data_identifier	the unique identifier for an Administered Item within a Registration Authority	3.3.52	M	one	character

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
* version	the unique version identifier of the Administered Item	3.3.156	M	one	character
* registration_status	a designation of the status in the registration life-cycle of an Administered Item.	3.3.125	M	one	character
* administrative_status	a designation of the status in the administrative process of a Registration Authority for handling registration requests	3.3.7	M	one	character
* creation_date	the date the Administered Item was created	3.3.35	M	one	Date
effective_date	the date an administered item became/becomes available to registry users	3.3.70	O	one	Date
last_change_date	the date the Administered Item was last changed	3.3.82	O	one	Date
until_date	the date an Administered Item is no longer effective in the registry	3.3.138	O	one	Date
administrative_note	any general note about the Administered Item	3.3.6	O	one	character
change_description	the description of what has changed in the Administered Item since the prior version of the Administered Item	3.3.8	O	one	character
explanatory_comment	descriptive comments about the Administered Item	3.3.74	O	one	character
origin	[Administered item] the source (document, project, discipline or model) for the Administered Item	3.3.98	O	one	character

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
unresolved_issue	any problem that remains unresolved regarding proper documentation of the Administered Item	3.3.137	O	one	character
<b>Registration_Authority</b>	<b>an Organization responsible for maintaining a register</b>	<b>3.3.121</b>	<b>M</b>	<b>one</b>	<b>character</b>
Registration_Authority_identifier	an identifier assigned to a Registration Authority	3.3.123	M	one	
* International_Code_Designator	the identifier of an organization identification scheme	3.3.75	M	one	character
* organization_identifier	the identifier assigned to an Organization within an organization identification scheme, and unique within that scheme	3.3.92	M	one	character
organization_part_identifier_source	the source for the organization part identifier	3.3.97	C / If organization_part_identifier is used	one	character
organization_part_identifier	an identifier allocated to a particular organization part	3.3.96	O	one	character
Organization	a unique framework of authority within which a person or persons act, or are designated to act, towards some purpose	3.3.91	M		
* organization_name	a designation for the Organization	3.3.94	M	one	character
organization_mail_address	the physical, postal or delivery address of the Organization	3.3.93	O	one	character
Registrar	a representative of a Registration Authority	3.3.117	M	one	

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
* registrar_identifier	an identifier for the Registrar.	3.3.119	M	one	character
registrar_contact	the contact information associated with a Registrar	3.3.118	M	one	
* contact_name	the name of the Contact	3.3.28	M	one	character
* contact_information	information to enable a Contact to be located or communicated with	3.3.27	M	one	character
contact_title	the name of the position held by the Contact	3.3.29	O	one	character
documentation_language_identifier	the identifier of the language used for documentation by the Registration Authority	3.3.69	M	many	
* language_identifier	information in a Terminological Entry which indicates the name of a language	3.3.79	M	one	character
country_identifier	[Language Identification] a country identifier further specifying the geopolitical area associated with the language	3.3.34	O	one	character
organization_mail_address	the physical, postal or delivery address of the Organization	3.3.93	O	one	character
<b>Submission (of Administered Item)</b>	the relationship of an Administered Item, a Contact, and an Organization involved in a submission of metadata	3.3.131	M	one	

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
Organization	a unique framework of authority within which a person or persons act, or are designated to act, towards some purpose	3.3.91	M		
* organization_name	a designation for the Organization	3.3.94	M	one	character
organization_mail_address	the physical, postal or delivery address of the Organization	3.3.93	O	one	character
submission_contact	the contact information associated with a Submission	3.3.132	M	one	
* contact_name	the name of the Contact	3.3.28	M	one	character
* contact_information	information to enable a Contact to be located or communicated with	3.3.27	M	one	character
contact_title	the name of the position held by the Contact	3.3.29	O	one	character
<b>Stewardship (of Administered Item)</b>	the relationship of an Administered Item, a Contact, and an Organization involved in the stewardship of the metadata	3.3.129	M		
Organization	a unique framework of authority within which a person or persons act, or are designated to act, towards some purpose	3.3.91	M		
* organization_name	a designation for the Organization	3.3.94	M	one	character
organization_mail_address	the physical, postal or delivery address of the Organization	3.3.93	O	one	character

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
stewardship contact	the contact information associated with a Stewardship	3.3.130	M	one	
* contact name	the name of the Contact	3.3.28	M	one	character
* contact information	information to enable a Contact to be located or communicated with	3.3.27	M	one	character
contact title	the name of the position held by the Contact	3.3.29	O	one	character
<b>Context (for administered item)</b>	a universe of discourse in which a name or definition is used	3.3.30	M	many	
context_administration_record	the Administration Record for a Context	3.3.31	M	one	
* context_description	the textual description of the Context	3.3.32	M	one	string
context_description_language_identifier	the identifier of the language used in the context description	3.3.33	O	one	
language_identifier	information in a Terminological Entry which indicates the name of a language	3.3.79	C	one	character
country_identifier	[Language Identification] a country identifier further specifying the geopolitical area associated with the language	3.3.34	O	one	character
Terminological Entry	an entry containing information on terminological units for a specific Administered Item within a Context (subject field)	3.3.133	M	one	

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
Language Section	the part of a Terminological Entry containing information related to one language	3.3.80	M	many	
language section language identifier	the identifier of the language used to group a set of Designations and Definitions	3.3.81	M	one	
* language_identifier	information in a Terminological Entry which indicates the name of a language	3.3.79	M	one	character
country_identifier	[Language Identification] a country identifier further specifying the geopolitical area associated with the language	3.3.34	O	one	character
Designation (of Administered Item)	the designation of an Administered Item within a Context	3.3.67	I / at least one in any Context	many	
* name	[Administered Item] a name by which an Administered Item is designated within a specific Context	3.3.83	M	one	string
preferred designation	an indicator that the name is a preferred term for an Administered Item within a language	3.3.106	O	one	T/F
Term_definition_pairing			O	one	
Definition (of Administered Item)	the definition of an Administered Item within a Context	3.3.58	I / at least one in any Context	many	
* Definition_text	the text of the Definition	3.3.60	M	one	character

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
preferred definition	an indicator that the definition text is a preferred definition for an Administered Item within a language	3.3.105	O	one	T/F
definition source reference [0..1]	a reference to the source from which the Definition is taken	3.3.59	O	one	
reference_document_identifier	an identifier for the Reference Document	3.3.112	C	one	character
reference organization	the relationship between a Reference Document and an Organization	3.3.116	C	one	
organization_name	a designation for the Organization	3.3.94	C	one	character
organization_mail_address	the physical, postal or delivery address of the Organization	3.3.93	O	one	character
reference_document_language_identifier	the identifier of the natural or special language used in the Reference Document	3.3.93	O	many	
language_identifier	information in a Terminological Entry which indicates the name of a language	3.3.79	C	one	character
country_identifier	[Language Identification] a country identifier further specifying the geopolitical area associated with the language	3.3.34	O	one	character
reference_document_title	the title of the Reference Document.	3.3.114	O	one	character
reference_document_type_description	a description of the type of Reference Document	3.3.115	O	one	character

Metadata Attribute Name and Structure	Definition from ISO/IEC 11179:2000	Reference Clause in ISO/IEC 11179:2000	Obligation / Condition	Maximum Occurrence	Datatype
Reference_Document	a document that provides pertinent details for consultation about a subject	3.3.111	O	many	
reference_document_identifier	an identifier for the Reference Document	3.3.112	C	one	character
reference organization	the relationship between a Reference Document and an Organization	3.3.116	C	many	
organization_name	a designation for the Organization	3.3.94	C	one	character
organization_mail_address	the physical, postal or delivery address of the Organization	3.3.93	O	one	character
reference_document_language_identifier	the identifier of the natural or special language used in the Reference Document	3.3.113	O	many	
language_identifier	information in a Terminological Entry which indicates the name of a language	3.3.79	C	one	character
country_identifier	[Language Identification] a country identifier further specifying the geopolitical area associated with the language	3.3.34	O	one	character
reference_document_title	the title of the Reference Document.	3.3.114	O	one	character
reference_document_type_description	a description of the type of Reference Document	3.3.115	O	one	character

\* - A mandatory elementary metadata attribute

M – mandatory  
 O – optional  
 C – contingent  
 I – indicative

Table E-1 — Metadata attributes for administered items

Metadata Attribute Name and Structure	Metamodel Obligation / Condition	Dynamic Status						Static Status					
		Incomplete	Candidate	Recorded	Qualified	Standard	Preferred	Retired	Superseded	Historical	Standardized	Legacy	Application
<b>Administered Item</b>													
<b>Administration_Record</b>	<b>M</b>												
administered_item_identifier	<b>M</b>												
item_registration_authority_identifier	<b>M</b>												
* International_Code_Designator	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
* organization_identifier	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
OPI_source	C / If organization_part_identifier is used	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>
organization_part_identifier	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>
* data_identifier	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
* version	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
* registration_status	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
* administrative_status	<b>M</b>	<b>D</b>	<b>D</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
* creation_date	<b>M</b>	<b>D</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
effective_date	<b>O</b>									<b>M</b>			
last_change_date	<b>O</b>												
until_date	<b>O</b>							<b>M</b>	<b>M</b>	<b>M</b>			
administrative_note	<b>O</b>												
change_description	<b>O</b>												
explanatory_comment	<b>O</b>									<b>M</b>			
origin	<b>O</b>												

Metadata Attribute Name and Structure	Metamodel Obligation / Condition	Dynamic Status						Static Status					
		Incomplete	Candidate	Recorded	Qualified	Standard	Preferred	Retired	Superseded	Historical	Standardized	Legacy	Application
unresolved_issue	O												
<b>Registration_Authority</b>	<b>M</b>												
Registration_Authority_Identifier	M												
* International_Code_Designator	M	D	D	M	M	M	M	M	M	M	D	D	
* organization_identifier	M	D	D	M	M	M	M	M	M	M	D	D	
organization part identifier source	C / If organization_part_identifier is used	D	D	C	C	C	C	C	C	C	D	D	
organization_part_identifier	O	D	D	O	O	O	O	O	O	O	D	D	
Organization	M												
* organization_name	M	D	D	M	M	M	M	M	D	D	M	D	D
organization_mail_address	O												
Registrar	M												
* registrar_identifier	M	D	D	M	M	M	M	M	D	D	M	D	D
registrar contact	M												
* contact name	M	D	D	M	M	M	M	M	D	D	M	D	D
* contact information	M	D	D	M	M	M	M	M	D	D	M	D	D
contact title	O												
documentation_language_identifier	M												
* language_identifier	M	D	D	M	M	M	M	M	D	D	M	D	D
country_identifier	O												
organization_mail_address	O												
<b>Submission (of Administered Item)</b>	<b>M</b>												
Organization	M												
* organization_name	M	M	M	M	M	M	M	M	M	M	M	M	M

Metadata Attribute Name and Structure	Metamodel Obligation / Condition	Dynamic Status						Static Status					
		Incomplete	Candidate	Recorded	Qualified	Standard	Preferred	Retired	Superseded	Historical	Standardized	Legacy	Application
organization_mail_address	O												
submission_contact	M												
* contact name	M	M	M	M	M	M	M	M	M	M	M	M	M
* contact information	M	M	M	M	M	M	M	M	M	M	M	M	M
contact title	O												
<b>Stewardship (of Administered Item)</b>	<b>M</b>												
Organization	M												
* organization_name	M		M	M	M	M	M	M	M	M	M	M	
organization_mail_address	O												
stewardship contact	M												
* contact name	M		M	M	M	M	M	M	M	M	M	M	
* contact information	M		M	M	M	M	M	M	M	M	M	M	
contact title	O												
<b>Context (for administered item)</b>	<b>M</b>												
context_administration_record	M	D	D	M	M	M	M	M	M	M	M	D	D
* context_description	M	D	M	M	M	M	M	M	M	M	M	D	D
context_description_language_identifier	O												
language_identifier	C												
country_identifier	O												
Terminological Entry	M												
Language Section	M												
language section language identifier	M												
* language_identifier	M	D	D	M	M	M	M	M	M	M	M	D	D
country_identifier	O												

Metadata Attribute Name and Structure	Metamodel Obligation / Condition	Dynamic Status						Static Status						
		Incomplete	Candidate	Recorded	Qualified	Standard	Preferred	Retired	Superseded	Historical	Standardized	Legacy	Application	
Designation (of Administered Item)	1 / at least one in any Context													
* name	M	M	M	M	M	M	M	M	M	M	M	M	M	M
preferred designation	O													
Term_definition_pairing	O													
Definition (of Administered Item)	1 / at least one in any Context													
* Definition_text	M	M	M	M	M	M	M	M	M	M	M	M	M	M
preferred definition	O													
definition source reference {0..1}	O													
reference_document_identifier	C													
reference organization	C													
organization_name	C													
organization_mail_address	O													
reference_document_language_identifier	O													
language_identifier	C													
country_identifier	O													
reference_document_title	O													
reference_document_type_description	O													
<b>Reference_Document</b>	O													
reference_document_identifier	C													
reference organization	C													
organization_name	C													

Metadata Attribute Name and Structure	Metamodel Obligation / Condition	Dynamic Status						Static Status						
		Incomplete	Candidate	Recorded	Qualified	Standard	Preferred	Retired	Superseded	Historical	Standardized	Legacy	Application	
organization_mail_address	O													
reference_document_language_identifier	O													
language_identifier	C													
country_identifier	O													
reference_document_title	O													
reference_document_type_description	O													

\* - A mandatory elementary metadata attribute

M - mandatory  
 O - optional  
 C - contingent  
 D - mandatory but using Registry default

Table E-2 — Required elementary metadata attributes at each registration status

Metadata Attribute Structure	Elementary Metadata Attribute	Incomplete
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Incomplete"</b>
* administrative_status	administrative_status	<b>USE DEFAULT</b>
* creation_date	creation_date	<b>USE DEFAULT</b>
<b>Registration_Authority</b>	Registration_Authority_Identifier	<b>USE DEFAULT</b>
Organization	organization_name	<b>USE DEFAULT</b>
Registrar	registrar_identifier	<b>USE DEFAULT</b>
registrar contact	contact name	<b>USE DEFAULT</b>
	contact information	<b>USE DEFAULT</b>
documentation_language_identifier	language_identifier	<b>USE DEFAULT</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>	context_administration_record	<b>USE DEFAULT</b>
	context_description	<b>USE DEFAULT</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>USE DEFAULT</b>
Designation (of Administered Item)	name	<b>M</b>

Table E-3 — Incomplete Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Candidate
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Candidate"</b>
* administrative_status	administrative_status	<b>USE DEFAULT</b>
* creation_date	creation_date	<b>M</b>
<b>Registration_Authority</b>	Registration_Authority_Identifier	<b>USE DEFAULT</b>
Organization	organization_name	<b>USE DEFAULT</b>
Registrar	registrar_identifier	<b>USE DEFAULT</b>
registrar contact	contact name	<b>USE DEFAULT</b>
	contact information	<b>USE DEFAULT</b>
documentation_language_identifier	language_identifier	<b>USE DEFAULT</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>	context_administration_record	<b>USE DEFAULT</b>
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>USE DEFAULT</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-4 — Candidate Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Recorded
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Recorded"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
<b>Registration_Authority</b>	Registration_Authority_Identifier	<b>M</b>
Organization	organization_name	<b>M</b>
Registrar	registrar_identifier	<b>M</b>
registrar contact	contact name	<b>M</b>
	contact information	<b>M</b>
documentation_language_identifier	language_identifier	<b>M</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>	context_administration_record	<b>M</b>
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>M</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-5 — Recorded Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Qualified
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Qualified"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
<b>Registration_Authority</b>	Registration_Authority_Identifier	<b>M</b>
Organization	organization_name	<b>M</b>
Registrar	registrar_identifier	<b>M</b>
registrar contact	contact name	<b>M</b>
	contact information	<b>M</b>
documentation_language_identifier	language_identifier	<b>M</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>	context_administration_record	
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>M</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-6 — Qualified Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Standard
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Standard"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
<b>Registration_Authority</b>		
Registration_Authority_Identifier	Registration_Authority_Identifier	<b>M</b>
Organization	organization_name	<b>M</b>
Registrar	registrar_identifier	<b>M</b>
registrar contact	contact name	<b>M</b>
	contact information	<b>M</b>
documentation_language_identifier	language_identifier	<b>M</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>		
	context_administration_record	
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>M</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-7 — Standard Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Preferred Standard
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Preferred Standard"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
<b>Registration_Authority</b>		
Registration_Authority_Identifier	Registration_Authority_Identifier	<b>M</b>
Organization	organization_name	<b>M</b>
Registrar	registrar_identifier	<b>M</b>
registrar contact	contact name	<b>M</b>
	contact information	<b>M</b>
documentation_language_identifier	language_identifier	<b>M</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>		
	context_administration_record	
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>M</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-8 — Preferred Standard Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Retired
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Retired"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
until_date	until_date	<b>M</b>
<b>Registration_Authority</b>		
	Registration_Authority_Identifier	<b>M</b>
	organization_name	<b>M</b>
Registrar	registrar_identifier	<b>M</b>
registrar contact	contact name	<b>M</b>
	contact information	<b>M</b>
documentation_language_identifier	language_identifier	<b>M</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>		
	context_administration_record	<b>M</b>
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>M</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-9 — Retired Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Superseded
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Superseded"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
until_date	until_date	<b>M</b>
<b>Registration_Authority</b>		
	Registration_Authority_Identifier	<b>M</b>
	organization_name	<b>M</b>
Registrar	registrar_identifier	<b>M</b>
registrar contact	contact name	<b>M</b>
	contact information	<b>M</b>
documentation_language_identifier	language_identifier	<b>M</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>		
	context_administration_record	<b>M</b>
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>M</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-10 — Superseded Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Standardized Elsewhere
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Standardized Elsewhere"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
<b>Registration_Authority</b>	Registration_Authority_Identifier	<b>M</b>
	organization_name	<b>M</b>
Registrar	identifier	<b>M</b>
registrar contact	contact name	<b>M</b>
	contact information	<b>M</b>
documentation_language_identifier	language_identifier	<b>M</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>	context_administration_record	<b>M</b>
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>M</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-11 — Standardized Elsewhere Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Legacy
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Legacy"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
<b>Registration_Authority</b>	Registration_Authority_Identifier	<b>USE DEFAULT</b>
Organization	organization_name	<b>USE DEFAULT</b>
Registrar	registrar_identifier	<b>USE DEFAULT</b>
registrar contact	contact name	<b>USE DEFAULT</b>
	contact information	<b>USE DEFAULT</b>
documentation_language_identifier	language_identifier	<b>USE DEFAULT</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>	context_administration_record	<b>USE DEFAULT</b>
	context_description	<b>USE DEFAULT</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>USE DEFAULT</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-12 — Legacy Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Application
<b>Administration_Record</b>		
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Application"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
<b>Registration_Authority</b>	Registration_Authority_Identifier	<b>USE DEFAULT</b>
Organization	organization_name	<b>USE DEFAULT</b>
Registrar	registrar_identifier	<b>USE DEFAULT</b>
* registrar_identifier		<b>USE DEFAULT</b>
registrar contact	contact name	<b>USE DEFAULT</b>
	contact information	<b>USE DEFAULT</b>
documentation_language_identifier	language_identifier	<b>USE DEFAULT</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>	context_administration_record	<b>USE DEFAULT</b>
	context_description	<b>USE DEFAULT</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>USE DEFAULT</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-13 — Application Status - Required Metadata Attributes

Metadata Attribute Structure	Elementary Metadata Attribute	Historical
administered_item_identifier		
item_registration_authority_identifier	International_Code_Designator	<b>M</b>
	organization_identifier	<b>M</b>
	OPI_source	<b>C</b>
	organization_part_identifier	<b>O</b>
* data_identifier	data_identifier	<b>M</b>
* version	version	<b>M</b>
* registration_status	registration_status	<b>"Historical"</b>
* administrative_status	administrative_status	<b>M</b>
* creation_date	creation_date	<b>M</b>
effective_date	effective_date	<b>M</b>
until_date	until_date	<b>M</b>
explanatory_comment	explanatory_comment	<b>M</b>
<b>Registration_Authority</b>	Registration_Authority_Identifier	<b>M</b>
Organization	organization_name	<b>D</b>
Registrar	registrar_identifier	<b>D</b>
registrar contact	contact name	<b>D</b>
	contact information	<b>D</b>
documentation_language_identifier	language_identifier	<b>D</b>
<b>Submission (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
submission_contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Stewardship (of Administered Item)</b>		
Organization	organization_name	<b>M</b>
stewardship contact	contact name	<b>M</b>
	contact information	<b>M</b>
<b>Context (for administered item)</b>	context_administration_record	<b>M</b>
	context_description	<b>M</b>
Terminological Entry		
Language Section		
language section language identifier	language_identifier	<b>M</b>
Designation (of Administered Item)	name	<b>M</b>
Definition (of Administered Item)	Definition_text	<b>M</b>

Table E-14 — Historical Status - Required Metadata Attributes

## Annex F (informative)

### Harmonization and reuse procedures

#### F.1 Introduction

These procedures detail how the Control Committee and the Stewards may execute their responsibilities as identified in Clause A.2 regarding identification, reconciliation, and documentation of administered item overlaps and duplications across Stewards' cognizant areas (and reuse of administered items among Stewards' cognizant areas).

The Stewards and Data Registry Manager shall bring to the attention of the Registration Authority instances where it appears that duplications of administered items have been proposed.

#### F.2 Identification and Resolution of Metadata Harmonization Issues

Procedures for identification and resolution of administered item issues will begin with a Steward's data elements. As the Registry is populated with other administered items, harmonization of these administered items can be addressed.

Identification of potential administered item issues may be accomplished by Stewards, the Registrar, or as specifically focused by Control Committee directives, as follows:

**Step 0:** The Control Committee may further direct the Registrar to focus analysis efforts within particular domain areas (e.g., location reference or incident management) or administered item (e.g., value domains).

**Step 1:** Stewards may review the Registry contents for potential administered item issues.

**Step 2:** Stewards report any potential administered item issues to the Registrar, specifying the administered item Identifiers of the administered items of concern.

**Step 3:** The Registrar will use the capabilities of the Registry to identify potential overlapping or redundant administered items. Identification of potential administered item issues will result from analysis by the Registrar of names, definitions, and common metadata specifications.

**Step 4:** The Registrar will prepare a summary listing of potential administered item issues together with all documenting metadata attributes for each administered item on the summary listing. The listing will contain any new potential data element issues identified since the last check pointed version as well as any open issues from past months—including the latest harmonization status for previously identified issues. The listing will identify the lead Steward that is expected to lead the resolution efforts as well as any Steward(s) associated with the potential issue. Note that there may be occasions wherein there is no "lead Steward" identified, if it proves useful to have a third party take the lead on the issue. Note, also, that the lead Steward may be changed with the consent of all other Stewards involved in the data issue at hand by notification to the Registrar of the agreed upon new lead Steward.

**Step 5:** The Registrar will post the listing.

**Step 6:** The Registrar will announce availability of the issues listing to the Stewards and other Control Committee members.

**Step 7:** Upon receipt of this periodic listing, each lead Steward will analyse the potential data element issues in their listing, consulting with any other Steward(s) associated with the issue (as appropriate), and determine

an appropriate resolution of the issue. The first step in this process is for each of the Stewards involved in a set of administered items at issue to understand the semantics of the administered items at issue. If the semantics are not equivalent then the administered items should remain separate. If they are equivalent or significantly equivalent, then the Stewards may agree to use one of them, modify one of them for joint use, or mutually agree to a new administered item to supersede those administered items at issue. The intent of this examination is to agree on a mutual solution to these dimensions of the administered items at issue.

Resolution may be that one administered item is selected and other administered items reference the selected administered item as superseding, the administered items at issue are merged into a new administered item and the other administered items at issue reference the new administered item as superseding, or the administered items at issue are kept separate and independent.

Each lead Steward may report to the Registrar the status of administered item resolutions as soon as that resolution is determined, including any interim resolution status (such as how the resolution will be determined or inability to achieve resolution). This report will be accomplished by electronically returning only the entries that have been changed in the summary listing to the Registrar with a resolution status note inserted in the Remarks column for each administered item. The resolution status note will refer to the Administered Item Identifier of each administered item at issue and state the harmonization status associated with that administered item. It will also state the effective date of the harmonization status. These notes will be placed in the beginning of the remarks section of the listing for each administered item at issue. Each lead Steward will make such a report to the Registrar incrementally as issues are resolved.

**Step 8:** Before any Control Committee meeting, the Registrar will distribute a summary listing of all administered items at potential issue together with the current resolution status for each administered item and a complete statement of all metadata attributes for each administered item at issue. This listing will be distributed to all Stewards.

**Step 9:** Stewards may report any issues they have with this listing to the Registrar before the Control Committee meeting in order that a complete packet can be prepared for the Control Committee meeting reflecting the most current status of harmonization issues. The Registrar will forward the master listing and any remarks received from the Stewards to the Control Committee Secretary before the Control Committee meeting.

**Step 10:** The Control Committee Secretary will distribute the harmonization listing to the Control Committee members.

**Step 11:** The Control Committee will review the harmonization results and issue directions to the Registrar. For those administered items at issue for which harmonization has been achieved between the relevant Stewards, the Control Committee will review and approve the Stewards' harmonization status, or require such additional harmonization actions as may be appropriate. The Control Committee will review those administered items at issue that the relevant Stewards have not been able to resolve and propose resolutions, if possible. The Registrar should retain each administered item at issue, together with its current harmonization status, on the harmonization listing until such time as final resolution is accomplished, appropriate standards committees have approved of the resolution, and the Control Committee has approved the final harmonization status. These administered items will be included in the next listing of harmonization issued at Step 4.

## Annex G (informative)

### Frequently Asked Questions

#### G.1 Why don't we have a single international Registration Authority for all Administered Items?

It would be conceptually more attractive to have a single Registration Authority for all administered items. Redundancy would be minimized, and data sharing would be easier thanks to a single point of reference. Actually, this part of ISO/IEC 11179 has evolved from a single global Registration Authority to a predetermined hierarchy similar to that prescribed in the previous **Annex H of JTC 1 Directives**. Although these approaches may be suitable for the registration of a finite number of objects, e.g., Registration of Graphical Items (RE: ISO/IEC 9973), they are, however, neither viable nor practical for the registration of administered items. There will be a very large number of administered items to be registered, and no single organization will have resources and expertise to review and register administered items of varied subject matters.

#### G.2 Is ISO/IEC 6523 a viable vehicle for assigning identifiers to be used as Registration Authority Identifiers (RAI)?

Several options have been contemplated:

- no required Registration Authority Identifier in the case of a single global Registration Authority;
- use a randomly generated number as Registration Authority Identifier, e.g., Object ID (OID) in IRDS models; and
- use ISO/IEC 6523 Registration Authority as a vehicle for distributing organization codes that will be used as Registration Authority Identifiers.

ISO/IEC 6523 Registration Authority has been able to attract organizations like EAN, Dun & Bradstreet, SWIFT, which have hundreds of thousands of registered members. Also, ISO/IEC 6523 has been adopted by EDIRA (Registration Authority for EDI) as a framework for assigning organization codes for EDI purposes.

We feel that ISO/IEC 6523 currently is a viable vehicle for Registration Authority Identifier assignment in the framework of this part of ISO/IEC 11179. An informal Internet survey of ANSI/X3L8 committee members, ISO/IEC JTC 1 committee members, and some Open-EDI participants was conducted on this topic. The feedback seems to confirm our conclusion.

Identifiers for Organizations for Telecommunications Addressing (IOTA) has ICD "0124". It is using the ICD system format defined in ISO/IEC 8348. Any organization requiring an identifier for use in constructing telecommunications addresses, e.g. ATM addresses, in accordance with the ISO 6523 ICD Format as specified in ISO/IEC 8348 may register with IOTA. IOTA identifiers may also be used for other purposes including the creation of object identifier component values using the identified-organization as specified in ISO/IEC 8824-1.

#### G.3 How can a Registration Authority obtain a Registration Authority Identifier?

In general, virtually every organization has already been assigned an organization code that is internationally unique; therefore, by default, they already have an Registration Authority Identifier. Per ISO/IEC 6523, and as illustrated in **Figure 1** of this part of ISO/IEC 11179, the following scenarios will happen:

- Institutions like Dun & Bradstreet or SWIFT have been assigned International Code Designators (ICD) through the maintenance agency of ISO/IEC 6523
- Subsequently, the above institutions assign Organization Identifiers (RE: Identification of Organization) to their subscribing members
- Their members, subsequently, may assign Organization Part Identifiers (RE: Identification of Organization Part) to their internal organizational units if this is allowed for that particular ICD.

The concatenation of International Code Designator, Organization Identifier, and Organization Part Identifier thus creates an internationally unique Registration Authority Identifier.

#### G.4 "Perhaps an automated maintenance system could be used so organizations, particularly those that participate in EDI, could register on line and obtain verification in a few minutes of the registration acceptance."<sup>1</sup>

"...the standard's [i.e., ISO/IEC 11179-6's] scope is to set the framework by which organizations may establish registration authorities dealing with administered items in their domains of interest. Registries/directories set up by those registration authorities may use, in fact are encouraged to take advantage of the available electronic means available to them..."<sup>2</sup>

#### G.5 There is some concern with making Registration Status and Administrative Status two separate pieces of information. "What will happen when a user relies upon a administered item because it is marked 'Standard' in the Registration Status, but the user does not notice that it is marked only 'draft' in the Administrative Status? I think this information belongs in only Registration Status with the following categories:

*incomplete*

*draft*

*recorded*

*certification candidate*

*provisionally certified*

*certified*

*standardization candidate*

*provisionally standardized*

*standardized"*

<sup>1</sup> Excerpts from Internet mail messages regarding ISO/IEC 11179-6

Registration Status is reserved for use as a state and quality indicator for the metadata of an administered item being maintained in a registry. The public users at large, in our opinion, should be able to depend on the Registration Status to automatically take actions related to a certain administered item. Administered items under review, unfortunately, may contain erroneous information and, thus, may not be dependable. *The real issue here is whether those administered items that have not passed the administrative and technical reviews should be allowed in the "official" registry at all.*

Let's assume that there is only one registry, and that the Administrative Status attribute will be subsumed by the Registration Status attribute as suggested above. Under this scenario, the attributes of all administered items applying for registration will be stored in the registry and granted a Registration Status, even before the review is complete. Let's further assume that a specific administered item is currently registered as "certified," and there is a new application, with updated information, to upgrade the same administered item to "standardized." *Should the registrar then override the "certified" administered item with the updated information and change the Registration Status to "standardization candidate"?* The answer, in our opinion, should be negative. Data that have not passed the appropriate reviews should not be allowed to corrupt the "good" data. In other words, any administered items that do not meet the criteria for being granted one of the Registration Statuses, as specified in Clause 4.3.2.1 of this standard, should be logically (e.g., through views) or physically (e.g., in separate databases) separated from those that do. Registrars have to resolve this implementation issue based upon their available resources and technical approaches.

Under the scenario of two (logical or physical) registries, one as an "official" registry and one as a work-in-process registry, there should not be any conflict between the Registration Status and the Administrative Status. If an administered item is still under review, it should be under a "work-in-process" registry and cannot have any Registration Status. Conversely, an administered item that is already assigned a Registration Status shall not have any Administrative Status, since all the administrative steps should have been completed. In real life, information professionals solve similar problems with a good configuration plan, staging the systems from a "development" environment to a "production" environment.