# INTERNATIONAL STANDARD

ISO/IEC 11179-6

Third edition 2015-08-01

# Information technology — Metadata registries (MDR) —

Part 6: **Registration** 

Technologies de l'information — Registres de métadonnées (RM) —

iTeh STPartie 6: Enregistrement des données (standards.iteh.ai)

ISO/IEC 11179-6:2015 https://standards.iteh.ai/catalog/standards/sist/181860c6-46de-4dda-889bb630a7c6b206/iso-iec-11179-6-2015



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#### **Foreword**

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see <a href="www.iso.org/directives">www.iso.org/directives</a>).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see <a href="https://www.iso.org/patents">www.iso.org/patents</a>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

This third edition cancels and replaces the second edition (ISO/IEC 11179-6:2005), which has been technically revised.

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

- Part 1: Framework
- Part 2: Classification
- Part 3: Registry metamodel and basic attributes
- Part 4: Formulation of data definitions
- Part 5: Naming principles
- Part 6: Registration

#### Introduction

This part of ISO/IEC 11179 describes the procedure by which *metadata items* required in various application areas could be assigned an internationally unique identifier and registered in a metadata registry maintained by one or more Registration Authorities. This edition of this part of ISO/IEC 11179 supports multiple schemes for ensuring the uniqueness of the identification.

The metamodel of a metadata registry defined in ISO/IEC 11179-3 allows a metadata item to simply be *identified* or to be both *identified* and *registered*. A *registered item* may either be an *administered item*, meaning it has its own *registration state*, or it may be an *attached item*, which means it is attached to an *administered item* and shares the latter's registration state. The registered items are included in Metadata Registries maintained by one or more Registration Authorities, to which the registered items logically and functionally belong. An organization wishing to become a Registration Authority may do so in accordance with the procedure prescribed in <u>Annex A</u>.

The registration process described in this part of ISO/IEC 11179 may be applied to any type of metadata item, such as those specified by ISO/IEC 11179-3: data elements, data element concepts, conceptual domains, value meanings, value domains, classification schemes, and concept systems; those specified by ISO/IEC 19763: ontologies, process models, service models, role and goal models, information models, mappings between models, and form designs; and/or custom types not specified by these standards. Each registered item is represented within a metadata registry by a registration record that documents the common administration and identification, naming and definition details together with their metadata item-specific details.

Within this part of ISO/IEC11179, the use of 'Metadata Registry' denotes an implementation of a metadata registry that is based upon ISO/IEC 11179 and that is managed by one or more Registration Authorities.

(Standards.iten.al)

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## Information technology — Metadata registries (MDR) —

#### Part 6:

## Registration

#### 1 Scope

#### 1.1 Statement of scope

This part of ISO/IEC 11179 defines the type of information to be specified, the conditions to be met, and the procedure(s) to be followed for each metadata item to be registered in a metadata registry. The requirements and procedures contained herein apply to all metadata items specified in ISO/IEC 11179-3 and those specified in ISO/IEC 19763. Some Registration Authorities may want to use this part of ISO/IEC 11179 to register and manage locally defined metadata item types that are not defined in ISO/IEC 11179-3 or ISO/IEC 19763.

This part of ISO/IEC 11179 addresses the common metadata that is used to document the common facilities of a metadata registry: administration, identification, naming and definition, details that can apply to any and all types of metadata items. ARD PREVIEW

## 1.2 Exclusions (standards.iteh.ai)

This part of ISO/IEC 11179 does not address the metadata that is specific to particular types of metadata 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

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 11179-1, Information technology — Metadata registries (MDR) — Part 1: Framework

ISO/IEC 11179-3, Information technology — Metadata registries (MDR) — Part 3: Registry metamodel and basic attributes

#### 3 Terms and definitions

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

#### 3.1

#### administered item

registered item (3.38) for which administrative information (3.2) is recorded

[SOURCE: ISO/IEC 11179-3:2013, 3.2.2]

#### 3.2

#### administrative information

<metadata registry> information about the administration of an item in a metadata registry (3.26)

EXAMPLE Creation date, last change date, origin, change description, and explanatory comment.

[SOURCE: ISO/IEC 11179-3:2013, 3.2.3]

3 3

#### administrative status

designation (3.10) of the status in the administrative process of a Registration Authority (3.42)

[SOURCE: ISO/IEC 11179-3:2013, 8.1.2.6.2.6]

Note 1 to entry: Administrative status is described in 4.4.3. Examples are provided in E.3.

3.4

#### attached item

registered item (3.38) for which administrative information (3.2) is recorded in another registered item

Note 1 to entry: This is often a member of a group of registered items that is managed as a whole.

[SOURCE: ISO/IEC 11179-3:2013, 3.2.6]

3.5

#### classifiable item

metadata item (3.23) of a type for which classification is supported in a given metadata registry (3.26)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.15]

3.6

#### classification scheme

descriptive information for an arrangement or division of objects into groups based on criteria such as characteristics, which the objects have in common

EXAMPLE Origin, composition, structure, application, function, etc.

[SOURCE: ISO/IEC 11179-3:2013, 3.2.16] <u>ISO/IEC 11179-6:2015</u>

3.7 contact

https://standards.iteh.ai/catalog/standards/sist/181860c6-46de-4dda-889b-

b630a7c6b206/iso-iec-11179-6-2015

instance of a role (3.49) of an individual (3.16) or organization (3.30) or organization part (3.33) or organization Person (3.35) to or from whom an information item(s), a material object(s) and/or person(s) can be sent in a specified context

[SOURCE: ISO/IEC 11179-3:2013, 3.2.23]

3.8

#### data

re-interpretable representation of information in a formalized manner suitable for communication, interpretation, or processing

Note 1 to entry: Data can be processed by human or automatic means.

[SOURCE: ISO/IEC 2382-1:1993, 01.01.02]

3.9

#### data element

<organization of data> unit of data (3.8) that is considered in context to be indivisible

EXAMPLE The data element "age of a person" with values consisting of all combinations of three decimal digits.

[SOURCE: ISO/IEC 2382-4:1999, 04.07.01]

Note 1 to entry: The definition states that a data element is "indivisible" in some context. This means that it is possible that a data element considered indivisible in one context (e.g., telephone number) might be divisible in another context (e.g., country code, area code, local number).

#### 3.10

#### designation

representation of a concept by a sign which denotes it

[SOURCE: ISO 1087-1:2000, 3.4.1]

#### designatable item

*identified item* (3.12) which can have designations and/or definitions

[SOURCE: ISO/IEC 11179-3:2013, 3.2.50]

#### 3.12

#### identified item

metadata item (3.23) identified in a metadata registry (3.26)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.64]

#### 3.13

#### identifier

<metadata registry> string used to unambiguously denote an identified item (3.12) within the scope of a specified *namespace* (3.27)

[SOURCE: ISO/IEC 11179-3:2013, 7.2.2.2.2.1]

#### 3.14

#### iTeh STANDARD PREVIEW identification

assignment of an unambiguous identifier (3.13) to an identified item (3.12) in a way that makes the assignment available to interested parties ards. Iten. al)

#### 3.15

#### ISO/IEC 11179-6:2015

identification scheme system allocating *identifiers* (3.13) to registered objects, 6-2015 /sist/181860c6-46de-4dda-889b-

[SOURCE: ISO/IEC 6523:1998, 3.6]

#### 3.16

#### individual

single human being

[SOURCE: ISO/IEC 11179-3:2013, 3.2.65]

#### 3.17

#### **International Code Designator**

identifier (3.13) of an organization identification scheme (3.31)

[SOURCE: ISO/IEC 6523-1:1998, 3.8 — modified]

#### 3.18

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

#### **ICD** value

identifier (3.13) allocated to a particular organization identification scheme (3.31)

[SOURCE: ISO/IEC 6523:1998, 3.9]

#### 3.19

### international registration data identifier

internationally unique identifier (3.13) for a identified item (3.12) as defined in the framework of ISO/IEC 11179

#### 3.20

#### item identifier

identifier (3.13) for an item

Note 1 to entry: ISO/IEC 11179-3:2013 uses the term *scoped identifier* (3.50) because each identifier is defined within the scope of a *namespace* (3.27).

#### 3.21

#### item registration authority identifier

identifier (3.13) of the Registration Authority (3.42) registering the item

#### 3.22

#### metadata

data (3.8) that defines and describes other data

[SOURCE: ISO/IEC 11179-3:2013, 3.2.74]

#### 3.23

#### metadata item

instance of a metadata object (3.24)

Note 1 to entry: In all parts of ISO/IEC 11179, this term is applied only to instances of metadata objects described by the metamodel in ISO/IEC 11179-3:2013, Clause 5 to Clause 11. Examples include instances of data elements, data element concepts, permissible values, etc.

 $Note\ 2\ to\ entry: A\ metadata\ item\ has\ associated\ attributes, as\ appropriate\ for\ the\ metadata\ object\ it\ instantiates.$ 

[SOURCE: ISO/IEC 11179-3:2013, 3.2.75]

#### 3.24

### (standards.iteh.ai)

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#### metadata object

object type defined by a metamodel

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Note 1 to entry: In all parts of ISO/IEC 11179 this term is applied to metadata objects described by the metamodel in ISO/IEC 11179-3:2013, Clause 5 to Clause 11. Examples include Data Elements, Data Element Concepts, Permissible Values, etc.

[SOURCE: ISO/IEC 11179-3:2013, 3.2.76]

Note 2 to entry: The term also applies to instances of metadata objects described by the metamodels in the various parts of ISO/IEC 19763, which build upon the metamodel in ISO/IEC 11179-3:2013.

#### 3.25

#### metadata register

information store or database maintained by a *metadata registry* (3.26)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.77]

#### 3.26

#### metadata registry

#### **MDR**

information system for registering *metadata* (3.22)

Note 1 to entry: The associated information store or database is known as a metadata register (3.25).

[SOURCE: ISO/IEC 11179-3:2013, 3.2.78]

#### 3.27

#### namespace

set of designations (3.10) and/or scoped identifiers (3.50) for a particular business need

Note 1 to entry: The term namespace is used in this International Standard because it is in common use even though the concept is being applied to identifiers, as well as names.

#### 3.28

#### **OPI Source Indicator**

#### **OPIS**

*data element* (3.9) used to specify the source for the *organization part identifier* (3.34)

[SOURCE: ISO/IEC 6523:1998, 3.12]

#### 3.29

#### **OPIS** value

particular value (digit or capital letter) taken by the OPIS (3.28) to designate the source of an *organization* part identifier (3.34)

[SOURCE: ISO/IEC 6523:1998, 3.13]

#### 3.30

#### organization

unique framework of authority within which *individuals* (3.16) act, or are designated to act, towards some purpose

Note 1 to entry: The kinds of organizations covered by ISO/IEC 6523-1 include the following examples:

- a) an organization incorporated under law;
- b) an unincorporated organization or activity providing goods and/or services including the following:
  - 1) partnerships;
  - 2) social or other non-profit organizations or similar bodies in which ownership or control is vested in a group of individuals; dards.iteh.ai)
  - 3) sole proprietorships;

#### ISO/IEC 11179-6:2015

- 4) governmental bodies: ds. iteh. ai/catalog/standards/sist/181860c6-46de-4dda-889b-
- c) groupings of the above types of organizations where there is a need to identify these in information interchange.

[SOURCE: ISO/IEC 6523-1:1998, 3.1 — modified]

#### 3.31

#### organization identification scheme

identification scheme (3.15) dedicated to the unique identification of organizations (3.30)

#### 3.32

#### organization identifier

identifier (3.13) assigned to an organization within an organization identification scheme (3.31) and unique within that scheme

[SOURCE: ISO/IEC 6523:1998, 3.10]

#### 3.33

#### organization part

any department, service, or other entity within an *organization* (3.30) which needs to be identified for information exchange

[SOURCE: ISO/IEC 6523-1:1998, 3.2]

#### 3.34

#### organization part identifier

#### OPI

*identifier* (3.13) allocated to a particular *organization part* (3.33)

[SOURCE: ISO/IEC 6523:1998, 3.11]

#### 3.35

#### organization Person

organization part (3.33) which has the properties of a *Person* (3.36) and thus is able to make commitments on behalf of that organization (3.30)

Note 1 to entry: An organization can have one or more organization Persons.

Note 2 to entry: An organization Person is deemed to represent and act on behalf of the organization and to do so in a specified capacity.

Note 3 to entry: An organization Person can be a "natural person" such as an employee or officer of the organization.

Note 4 to entry: An organization Person can be a "legal person", i.e., another organization.

[SOURCE: ISO/IEC 15944-1:2002, 3.46]

#### 3.36

#### Person

entity, i.e. a natural or legal person, recognized by law as having legal rights and duties, able to make commitment(s), assume and fulfil resulting obligation(s), and able of being held accountable for its action(s)

Note 1 to entry: Synonyms for "legal person" include "artificial person", "body corporate", etc., depending on the terminology used in competent jurisdictions.

Note 2 to entry: Person is capitalized to indicate that it is being utilized as formally defined in the standards and to differentiate it from its day-to-day use.  $STANDARD\ PREVIEW$ 

Note 3 to entry: Minimum and common external constraints applicable to a business transaction often require one to differentiate among three common subtypes of Person, namely "individual", "organization", and "public administration".

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[SOURCE: ISO/IEC 15944-1;2002;13147].iteh.ai/catalog/standards/sist/181860c6-46de-4dda-889bb630a7c6b206/iso-jec-11179-6-2015

#### 3.37

#### register

information store or database maintained by a *registry* (3.46)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.104]

#### 3.38

#### registered item

metadata item (3.23) that is recorded and managed in a metadata registry (3.26)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.105]

#### 3.39

#### registrar

representative of a Registration Authority (3.42)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.106]

#### 3.40

#### registration

<metadata registry> inclusion of a metadata item (3.23) in a metadata registry (3.26)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.108]

Note 1 to entry: In this part of ISO/IEC 11179, registration also requires that a minimum set of administrative information about the metadata item be specified, such that it becomes a *registered item* (3.38).

#### 3.41

#### registration acting body

#### **RAB**

type of organization (3.30) participating in the registration (3.40) process of administered items (3.1)

Note 1 to entry: Currently, there are three RABs: Registration Authority (RA) (3.42), Stewardship Organization (St0) (3.53), and Submitting Organization (Su0) (3.56).

#### **Registration Authority**

organization (3.30) responsible for maintaining a register (3.37)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.109]

#### 3.43

#### registration authority identifier

identifier (3.11) assigned to a Registration Authority (3.8)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.110]

#### 3.44

#### registration state

information about the registration (3.40) of an administered item (3.1)

# [SOURCE: ISO/IEC 11179-3:2013, 3.2.111] IT CH STANDARD PREVIEW

#### 3.45

#### registration status

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designation (3.10) of the status in the registration life-cycle of an administered item (3.1)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.1 SQ/IEC 11179-6:2015 https://standards.iten.avcatalog/standards/sist/181860c6-46de-4dda-889b-

Note 1 to entry: Registration status is described in 4.4.2.11179-6-2015

#### 3.46

#### registry

information system for registration (3.40)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.113]

#### 3.47

#### registry item

<general> item recorded in a registry (3.46)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.115]

#### 3.48

#### registry item

<metadata registry> metadata item (3.23) recorded in a metadata registry (3.26)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.115]

### 3.49

#### role

specified responsibilities

[SOURCE: ISO/IEC 11179-3:2013, 3.2.121]

#### 3.50

#### scoped identifier

identifier (3.13) of an identified item (3.12) within a specified namespace (3.27)

Note 1 to entry: A namespace (3.27) provides the scope within which the scoped identifier uniquely identifies the identified item.

[SOURCE: ISO/IEC 11179-3:2013, 3.2.122]

#### 3.51

#### stewardship

<metadata> responsibility for the maintenance of administrative information (3.2) applicable to one or more administered items (3.1)

Note 1 to entry: The responsibility for the registration (3.40) of metadata (3.22) can be different from the responsibility for **stewardship** of **metadata**.

[SOURCE: ISO/IEC 11179-3:2013, 3.2.125]

#### 3.52

#### stewardship contact

#### steward

contact (3.7) information associated with a stewardship (3.51)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.126]

#### 3.53

### iTeh STANDARD PREVIEW

### stewardship organization

StO

### (standards.iteh.ai)

organization (3.30) that maintains stewardship (3.51) of an administered item (3.1)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.127] ISO/IEC 11179-0.2013 https://standards.iten.ai/catalog/standards/sist/181860c6-46de-4dda-889b-

Note 1 to entry: In edition 2, this was called responsible organization. 6-2015

#### 3.54

#### submission

act of submitting a metadata item (3.23) for registration (3.40) in a metadata registry (3.26)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.130]

#### 3.55

#### submission contact

#### submitter

contact (3.7) information associated with a submission (3.54)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.131]

#### 3.56

#### submission organization

#### submitting organization

organization (3.30) that submits a metadata item (3.23) for registration (3.40)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.132]

Note 1 to entry: In edition 2, the abbreviation used was SO. It has been changed in this edition because responsible organization was renamed to stewardship organization (StO).

## 3.57 version

unique version identifier (3.11) of the scoped identifier (3.50)

[SOURCE: ISO/IEC 11179-3:2013, 3.2.142]

#### 4 Concept of operation

#### 4.1 Metamodel of a Metadata Registry

ISO/IEC 11179-3 provides a conceptual metamodel of a Metadata Registry for describing data. The metamodel specifies a number of metadata items, including: data element, data element concept, value domain, conceptual domain, concept system and others. ISO/IEC 11179-1 provides the means for understanding and associating the individual parts and is the foundation for a conceptual understanding of metadata and metadata registries.

This part of the ISO/IEC 11179 standard addresses the specifics that are common to registration of any metadata item. It is envisioned that an organization may extend its Metadata Registry with additional items that are to be registered. It is also envisioned that the standard may be extended at a later time to specify additional metadata items. Others may want to use this part of ISO/IEC 11179 to register and manage locally defined metadata item types that are not defined in Part 3. This part of ISO/IEC 11179 also applies to the registration of items specified in ISO/IEC 19763, such as models, model elements, and mappings.

# iTeh STANDARD PREVIEW Metadata Items

Figure 1 shows the types of items specified by ISO/IEC 11179-3:2013, 5.5. In the Figure, the notation <<type>> indicates the use of the <<type>> stereotype as specified in ISO/IEC 19505-2:2012 OMG UML Part 2: Superstructure Annex C.1 Standard Profile L2. The names in parentheses below the item names are the names of the region of the metamodel in which the items are defined in ISO/IEC 11179-3.

Any **metadata item** (3.23) entered into a **metadata registry** (3.26) may be extended by one or more of the types shown in Figure 1, and described in 4.3, Common facilities.

A **Registration Authority (RA)** (3.42) responsible for the registry shall determine which metadata items should become identified items, administered items, attached items, designatable items and/or classifiable items, within the constraints of any conformance claim that is made for the registry.

NOTE The precise mechanism by which metadata items are extended by the above types is implementation-defined.