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Dr. Timothy Schoechle, Secretary, ISO/IEC JTC 1/SC 32
Farance Inc *, 3066 Sixth Street, Boulder, CO, United States of America
Telephone: +1 303-443-5490; E-mail: Timothy@Schoechle.org
available from the JTC 1/SC 32 WebSite <http://www.jtc1sc32.org/>
*Farance Inc. administers the ISO/IEC JTC 1/SC 32 Secretariat on behalf of ANSI

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**Information technology —
Metadata for technical standards and specification documents**

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Foreword

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

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

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

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

ISO/IEC 24706 was prepared by Technical Committee ISO/IEC JTC1, *Information Technology*, Subcommittee SC32, *Data Management and Interchange*.

Introduction

This International Standard, ISO/IEC 24706 - *Metadata for technical standards and specification documents* - addresses the metadata needed to describe standards and other technical documents.

Metadata is often defined as data that describes other data, i.e., descriptions of other data. Here, we take a different approach to the concept by saying that metadata is defined as data for the description of documents and the related aspects concerning their management.

The purpose of ISO/IEC 24706 is to provide standards developers and users interested in finding relevant standards a tool that provides an overview of those standards. Overviews are required since many standards are not freely available to the public. ISO/IEC 24706 specifies data elements that include the scope, normative references, and terms and definitions in technical documents.

Another potential problem is that proposed standards are reinventions of previously published work. ISO/IEC 24706 provides the means for standards developers to search for relevant standards before embarking on new projects. If a project exists that answers many of the technical questions before a committee, then they should develop a new project building on the provisions that exist in the older one. Time, redundancy, and overhead are thus reduced.

ISO/IEC 24706 contains a list of relevant data elements for describing standards. It does not specify any implementation details. This is intentional. For interoperability, an implementation of this standard must conform to it. However, there are many ways to implement this, and the standard is agnostic in this regard.

This International Standard also specifies data elements for registering descriptions of standards and technical documents. A standards registry is a system that implements those data elements plus those for the descriptions. A conforming standards registry conforms to this International Standard.

Maintenance of a registry serves two purposes: the first to manage the provenance, quality, and identification of the descriptions, and second to provide a means for discovery of them. ISO/IEC 24706 describes the data elements needed for registration. It does not describe the procedure for doing it.

Information technology — Metadata for technical standards and specification documents

1 Scope

This International Standard specifies a set of data elements needed to describe and register technical standards or other specification documents. The set of data elements and relationships is known as a Standards Registry.

The data elements are divided into two main categories: those needed to describe the contents of a standard or document; and those needed to register a standard or document in a standards registry. The data elements are described via provisions rather than in some information technology modeling paradigm. As a consequence of this, no implementation details are implied.

ISO/IEC 24706 is an ISO/IEC JTC1 standard; however, the data elements described are applicable to describing all technical standards and specification documents. They also apply to all standards, technical reports, specification documents, and their drafts. All Standards Development Organizations (SDO) should adopt this International Standard.

2 Normative references

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

ISO/IEC Guide 2, *Standardization and related activities — General vocabulary*

ISO/IEC Directives, *Part 2: Rules for the structure and drafting of international standards (Ed. 5)*

ISO 704:1999 *Terminology work — Principles and methods*

ISO 1087-1:2000, *Terminology work – Vocabulary – Part 1: Theory and application*

ISO/IEC 11179 (all parts), *Information technology — Metadata registries (MDR)*

ISO/IEC 19773:—, *Information technology — Metadata modules (MM)*

IEC 82045-1, *Document management — Part 1: Principles and methods*

3 Terms and definitions

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

3.1

concept

unit of knowledge created by a unique combination of characteristics

[ISO 1087-1:2000, 3.2.1]

3.2

designation

representation of a **concept** by a sign which denotes it

[ISO 1087-1:2000, 3.4.1]

3.3

data element

DE

unit of data for which the definition, identification, representation and permissible values are specified by means of a set of attributes

[ISO/IEC 11179-1:2009, 3.3.8]

3.4

metadata

data for the description of documents and the related aspects concerning their management

[ISO/IEC 82045-1:2001]

3.5

standards development organization

SDO

organization responsible for developing a standard

3.6

standards issuing organization

SIO

organization responsible for issuing a standard

4 Metadata

For the purposes of this International Standard, metadata is defined as data for the description of documents and the related aspects concerning their management. An essential characteristic is that metadata are data, and data become metadata when they are used in the way defined above. This happens under particular circumstances, for particular purposes, and with certain perspectives, as no data are always metadata. The set of circumstances, purposes, or perspectives for which some data are used as metadata is called the context. So, metadata are data about documents or their management in some context.

Since metadata are data, then metadata are stored and managed in any way data can and organized through the use of a model. Some models are very application specific, and others are more general. The model presented and described here is general. It is presented as a set of provisions, as defined in ISO/IEC Guide 2. A conformant implementation (see Clause 8) satisfies these provisions.

5 Usage

All standards, technical reports, specification documents, and their official drafts shall be described and registered using this International Standard.

Clause 6 contains descriptive elements on the content of a normative document.

Clause 7 contains descriptive elements for the administration of the recording of the descriptive elements in Clause 6.

6 Data elements for standards content

This clause contains a series of sub-clauses. Each contains a description of a data element used for describing the content of a standard or technical specification. Some are grouped into records (in the datatyping sense).

The attributes are described via: datatype, obligation (mandatory, optional, conditional), and multiplicity (number of occurrences permitted), examples.

6.1 Identification

The sub-clauses under this clause are one record (in the datatyping sense).

6.1.1 Designation

An unambiguous identifier for the standard determined by the SDO or SIO for use by the public.

Datatype: multistring

Obligation: mandatory

Occurrence: one or more

Example: ISO/IEC 24706

Note: Some standards are known by more than one designation, because they fall under the purview of more than one SDO.

6.1.2 Title

Name by which the standard is formally known.

Datatype: multistring

Obligation: mandatory

Occurrence: one or more

Example: Metadata for technical standards and specification documents

Note: Some standards have more than one title, often because they are in more than one language.

6.1.3 SDO name

Name of the SDO under which the standard is being developed.

Note: Sometimes there are more than one relevant SDO.

Datatype: multistring

Obligation: mandatory

Occurrence: one or more

Example: ISO and IEC

6.1.4 SDO committee

Name of the SDO technical committee under which the standard is being developed.

Note: Even though there might be more than one relevant SDO, there is one technical committee responsible for the standard.

Datatype: multistring

Obligation: optional

Occurrence: one

Example: ISO/IEC JTC1 / SC32 / WG2

6.1.5 SDO contact

Contact information for the technical committee under the SDO responsible for the standard.

Datatype: See contact information in CD ISO/IEC 19773:2007

Obligation: optional

Occurrence: one or more

Example: See CD 19773:2007, clause 19.

6.1.6 SIO name

Name of the SIO under which the standard is being issued.

Note: Sometimes there are more than one relevant SIO.

Datatype: multistring

Obligation: optional

Occurrence: zero or more

Example: ISO and IEC

6.1.7 SIO committee

Name of the SIO technical committee under which the standard is being issued.

Note: Even there might be more than one relevant SIO, there is one technical committee responsible for the standard.

Datatype: multistring

Obligation: optional

Occurrence: zero or more

Example: ISO/IEC JTC1 / SC32 / WG2

6.1.8 SIO contact

Contact information for the technical committee under the SIO issuing the standard.

Datatype: See contact information CD ISO/IEC 19773:2007

Obligation: mandatory if different from SDO contact

Occurrence: optional

Example: See CD 19773:2007, clause 19.

6.2 Content

The sub-clauses under this clause are one recording (in the datatyping sense).

NOTE SDOs and SIOs have their own business rules that determine within elements are mandatory or optional.

6.2.1 Abstract

Short overview of scope and purpose of the standard.

Datatype: multistring

Obligation: optional

Occurrence: zero or one

Note: ISO requires an abstract for each published standard.

6.2.2 Introduction

The Introduction contained in the standard.

Datatype: multitext

ISO/IEC FCD 24706

Note: The reference might be a URL (Uniform Resource Locator) to a document containing the relevant text.

Obligation: optional

Occurrence: zero or one

Example: See the Introduction in this document.

6.2.3 Table of contents

The table of contents contained in the standard.

Datatype: multitext

Note: The reference might be a URL (Uniform Resource Locator) to a document containing the relevant text.

Obligation: mandatory

Occurrence: one

Example: See the Table of Contents in this document.

6.2.4 Scope

The scope contained in the standard usually clause 1.

Datatype: multitext

Obligation: mandatory

Occurrence: one

Example: See the Scope in this document.

6.2.5 Normative references

References to other standards, usually clause 2.

Datatype: multitext

Note: The reference is to another standard.

Obligation: optional

Occurrence: one or more

Example: See the Normative References in this document.

6.2.6 Informative references

References to other resources.

Datatype: multitext

Note: The reference is to another resource, such as books, periodicals, documents, or other standards – usually the bibliography.

Obligation: optional

Occurrence: one or more

Example: See the Bibliography in this document.

6.2.7 Terminology

The sub-clauses under this clause are one record (in the datatyping sense). Terminology refers to the definition and designations of a concept (ISO 704 and ISO 1087-1). The designations are called terms here. See Terms and Definitions (Clause 3) in this document for examples.

NOTE This subclause describes a tuple of: definition, term, and term reference.

6.2.7.1 Definition

Definition of a term used in the standard.

Note 1: Sometimes this definition already exists, i.e., it is the definition of the same or another term used in another standard.

Note 2: This data element corresponds to a concept in the terminological sense. One represents a concept through its definition.

Datatype: multistring

Obligation: optional

Occurrence: one or more

Example: <definition of data element> unit of data for which the definition, identification, representation and permissible values are specified by means of a set of attributes (see clause 3.4)

6.2.7.2 Terms

Term and synonyms used and defined in a standard.

Note: Sometimes this term already exists, though it may not have the same definition as this occurrence.

Datatype: multistring

Obligation: optional

Occurrence: one or more

Example: data element or DE

6.2.7.3 Term reference

Reference to the definition in another document.

Datatype: multistring

Note: This reference takes two forms:

1) reference to term and definition in another standard as described in ISO/IEC Directives – Part 2 (see subclause 3.1 in this International Standard for example)

2) reference to books, periodicals, reports, proceedings, and other scholarly works described in Publication Manual of the American Psychological Association – 5th Edition (see Bibliography for example)

Obligation: optional

Occurrence: one

6.3 Management

The sub-clauses under this clause are one record (in the datatyping sense).

6.3.1 Project editors

Contact information for the editors of the project.

Datatype: See contact information CD ISO/IEC 19773:2007

Obligation: mandatory

Occurrence: one or more

Example: See CD 19773:2007, clause 19.

6.3.2 Status

The sub-clauses under this clause are one record (in the datatyping sense).

6.3.2.1 Life-cycle status

Current status of the standard with respect to its development or maintenance.

NOTE The values for life-cycle status are specified by the SDO.

Datatype: multistring

Obligation: mandatory

Occurrence: one or more

Example: Preparatory stage

6.3.2.2 Life-cycle status date

Date the document achieved the Life-cycle Status.

Datatype: date

Obligation: mandatory

Occurrence: one or more

Example: 2007-04-19

6.3.3 Replaces

Standard this standard replaces.

Datatype: reference to another Identifier (clause 7.1)

Note: This is a reference to other described standards the current standard replaces.

Obligation: optional

Occurrence: one or more

6.3.4 Format

Formats the standard is available in as MIME types.

Datatype: multistring

Obligation: optional

Occurrence: one or more

Example: Paper, MS-Word, PDF, HTML, or others

6.3.5 Available language

Languages the standard is written in as per ISO 639.

Datatype: multistring

Obligation: optional

Occurrence: one or more

Example: English, French, Russian, or other

6.3.6 Rights management

Information on rights held in and over the standard.

Datatype: multistring

Note: This is a rights statement. If absent, no rights may be assumed.

Obligation: optional

Occurrence: one or more

Example: The Foreword at the beginning of this document

7 Data elements for registration

The sub-clauses under this clause are one record (in the datatyping sense). Each contains a description of a data element used for describing the registration of a standard or technical specification.

7.1 Identifier

An identifier for the standard determined by the registration authority.

Datatype: multistring

Obligation: mandatory

Occurrence: one

Example: ISO/IEC 11179 registration identifier for data elements

7.2 Identifier convention

Documentation of the rules used by the registration authority for specifying identifiers.

Note: This is applicable to describing how to form the content for the elements described in sub-clauses 6.1 and 7.1.

Datatype: document

Obligation: optional

Occurrence: one or more

Example: Format given in ISO/IEC 11179-5 (Ed 3) draft proposal for designation conventions

7.3 Submitter

Contact information for the individual or organization responsible for submitting the standard or technical specification to the registry.

Datatype: See contact information CD ISO/IEC 19773:2007

Obligation: mandatory

Occurrence: one or more

Example: See CD 19773:2007, clause 19.

7.4 Date of submission

Date the standard or technical specification was submitted to the registration authority for registration.

Datatype: Date

Obligation: mandatory

Occurrence: one

7.5 Date of registration

Date the standard or technical specification was registered by the registration authority.

Datatype: Date

Obligation: mandatory

Occurrence: one

7.6 Registration status

Status associated with the registration - one of the following values: Submitted, Under review, Established.

Note: The statuses shall be interpreted in the following way: Submitted means information about the document was received; Under review means the information is being evaluated; Established means the information is complete.

Datatype: multistring

Obligation: mandatory

Occurrence: one

8 Conformance

A conforming implementation of this International Standard shall satisfy all the requirements herein.

Bibliography

IEC 82045-2 Document management: Part 2 – Metadata elements and information reference model

Annex A

Mapping FCD 24706 to ISO 15836 Dublin Core Metadata Element set

ISO 15836 Metadata element	DCMI non-core elements	OASIS Standards Registry	FCD 24706 Metadata element	Comments
Title (5.1)		Title	Title (6.1.2)	
Creator (5.2)		SDO name	SDO name (6.1.3)	
		SDO committee	SDO committee (6.1.4)	includes SC and WG.
Subject (5.3)		Subject		
Description (5.4)		Description	Introduction (6.2.2)	
	abstract			
	tableOfContents		Contents (6.2.3)	
			Scope (6.2.4)	
Publisher (5.5)		(SDO name)		
		(SDO committee)		
Contributor (5.6)				
Date (5.7)		Date of most recent action	Date – most recent action (6.3.2.2)	
	available			
	created			
	dateAccepted			
	dateCopyrighted			
	date submitted		Date of submission (7.4)	

ISO 15836 Metadata element	DCMI non-core elements	OASIS Standards Registry	FCD 24706 Metadata element	Comments
	issued			
	modified			
	valid			
			Date of registration (7.5)	
Type (5.8)		current status	registration status (7.6)	
Format (5.9)		Format	Format (6.3.4)	
	extent			
	medium			
Identifier (5.10)		Designation	Designation (6.1.1)	
		Identifier		
	bibliographicCitation			
Source (5.11)				
Language (5.12)		Language	Language (6.3.5)	
Relation (5.13)				
	conformsTo			
	hasFormat			
	hasPart			
	hasVersion			
	isFormatOf			
	isPartOf			
	isReferencedBy			
	isReplacedBy			
	isRequiredBy			

ISO 15836 Metadata element	DCMI elements non-core	OASIS Standards Registry	FCD 24706 Metadata element	Comments
	isVersionOf			
	references	Referenced standards	Normative references (6.2.5)	
			Informative references (6.2.6)	
	replaces	Replaces	Replaces (6.3.3)	
	requires			
Coverage (5.14)			Scope (6.2.4)	
	spatial			
	temporal			
Rights (5.15)		Rights management	Rights management (6.3.6)	
	accessRights			
	license			
			Definitions (6.2.7.1)	
			Terms (6.2.7.2)	
			Term reference (6.2.7.3)	
		SDO information	SDO contact (6.1.5)	
			Project editors (6.3.1)	
			Life-cycle status (6.3.2.1)	
			Identifier (7.1)	
			Identifier convention (7.2)	
			Submitter (7.3)	

ISO 15836 Metadata element	DCMI non-core elements	OASIS Standards Registry	FCD 24706 Metadata element	Comments
	accrualMethod			Probably not applicable
	accrualPeriodicity			Probably not applicable
	accrualPolicy			Probably not applicable
	alternative			refers to alternative title
	audience			
	educationLevel			
	instructionalMethod			
	mediator			
	provenance			
	rightsHolder			