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Information technology — Metamodel framework for interoperability (MFI) —

Part 16: Metamodel for document model registration

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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.

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 www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

A list of all parts in the ISO/IEC 19763 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

There is an increasing demand for systems to interoperate by exchanging information and data. These exchanges are sometimes performed using 'documents' such as XML documents and JSON documents. The business information requirements conveyed by these documents are often specified in supporting document models, for example, in XML schemas for XML documents and in JSON schemas for JSON documents.

The information contained in these models – the metadata – can be registered using the facilities specified by this document. Most of the metaclasses specified in this document are subclasses of the metaclasses specified in ISO/IEC 19763-10:2014, 7.1, 7.2 and 7.3.

Where there is an overlap of the universe of discourse of the business information requirements specified in the registered models, the mappings between registered models can then be registered using the facilities specified in ISO/IEC 19763-10:2014, Clause 8, thus enabling further interoperation.

A model registry, as specified using any of the metamodels described in ISO/IEC 19763, uses the common facilities specified in ISO/IEC 11179-3:2013, Clauses 6, 7 and 8. A model registry is, therefore, a part of a metadata registry.

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Information technology — Metamodel framework for interoperability (MFI) —

Part 16: Metamodel for document model registration

1 Scope

The primary purpose of the ISO/IEC 19763 series is to specify a metamodel framework for interoperability. This document specifies a metamodel for registering document models (or schemata). Examples of such document models include:

— specifications for XML documents (using XML schema[3]);

— specifications for JSON documents (using JSON schema[2]).

This metamodel was developed taking into account the requirements for both XML schema and JSON schema, but is applicable to all current specifications for document models.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 19763-10:2014, *Information technology — Metamodel framework for interoperability (MFI) — Part 10: Core model and basic mapping*

ISO/IEC 11179-3:2013, *Information technology — Metadata registries (MDR) — Part 3: Registry metamodel and basic attributes*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1.1
document
unit of data that is well-formed according to some agreed specification

Note 1 to entry: In this document, examples of a unit of data that is referred to as a document include, but are not restricted to, XML documents and JSON documents.

[SOURCE: ISO/IEC TR 24716:2007, 4.4, modified — Note 1 has been added.]

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3.1.2
document schema
formal specification of the structure of a *document* (3.1.1)

Note 1 to entry: The same schema can be used for multiple documents.

3.1.3
document schema language
language used to specify document schemata

3.1.4
namespace
set of character strings available for naming entities of specific classes within a specific scope

3.1.5
node
elements, comments, processing instructions, and text in a document

[SOURCE: ISO 24531:2013, 4.35 modified — The definition in the source document specifically referred to XML documents but is applicable to all documents; the references to XML and Note 1 have been removed.]

3.1.6
node enumeration
list of named values used as the range of a particular *node* (3.1.5)

3.2 Abbreviated terms

Abbreviated terms	Definition
JSON	JavaScript Object Notation
MFI Core and mapping	Metamodel Framework for Interoperability Core and mapping
MFI Document model registration [a]	Metamodel Framework for Interoperability document model registration
MDR Metamodel	Metadata registries metamodel
URL	Uniform Resource Locator
XML	eXtensible Markup Language
[a] Whenever this abbreviation is used, this document is referring to itself.	

4 Conformance

4.1 General

Any claim of conformance to this document shall support the metamodel specified in Clause 5, depending on a degree of conformance as described below.

4.2 Degree of conformance

4.2.1 General

The distinction between “strictly conforming” and “conforming” implementations is necessary to address the simultaneous needs for interoperability and extensions. This document describes specifications that promote interoperability. Extensions are motivated by needs of users, vendors, institutions and industries, but are not specified by this document.

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