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Information technology — Concepts and usage of metadata —

Part 28: XML and JSON Schema for representation of ISO/IEC 19763-13:2026 content

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Foreword

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This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology,*

Subcommittee *SC 32, Data management and interchange.*

A list of all parts in the ISO/IEC 19583 series can be found on the ISO website.

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.

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Introduction

The ISO/IEC 19763 series address the representation of models, describing their semantics, structure, and, together with ISO/IEC 11179, how those models may be registered in a model registry and related to other models that have similar meaning. ISO/IEC 19763-13:2026 describes the structure of form models within this framework so that the semantics of interfaces capturing human input into information systems can be explained.

ISO/IEC 19763-13:2026 does not define a physical implementation and thus need not be implemented as specified, which makes exchanging content between even compliant registries difficult. A common physical implementation is required if automatic content exchange is to be achieved.

ISO/IEC 19763-13:2026 representation in W3C XML Schema and JSON schema is such a physical representation. It also provides a potential model for its implementation as an XML database focused on units of content that are readily created and maintained – particularly if reasoning over the 'meaning' of that content can be delegated to an accompanying RDF database as described in ISO/IEC TR 19583-24.

As the adoption of 11179/19763 MDRs expands, metadata registries will need to reuse and extend definitions from other MDRs, together with definitions reflecting local information types. The schema allows metadata registry content to be exchanged in a standard format regardless of the kind of registry software in use.

The schema is presented in 'Venetian Blind' style, where each of the components of the model are rendered as reusable types. These types are assembled into discrete documents suitable for creation and exchange. The main body of the document describes the schema together with the principles and conventions that were followed to map classes, attributes, and associations of the conceptual model into an acyclic, directed graph suitable for an unambiguous document-based representation. The XML schema is specified in Annex A, and the JSON Schema in Annex B. Annex C contains a compliant, example message in XML communicating a form design between two registries.

Where direct reference is made to class, attribute and relationship names from models described in parts of ISO/IEC 11179, class names are emboldened with initial capital letters and have spaces replaced by underscore characters, attribute names are enboldened in lower case and have spaces replaced by underscore characters, and relationship names are italicised in lower case with spaces replaced by underscore characters.

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Information technology — Concepts and usage of metadata

Part 28:

XML and JSON Schema for representation of ISO/IEC 19763-13:2026 content

1 Scope

This document specifies the structure of ISO/IEC 19763-13:2026 representation in W3C XML Schema and JSON Schema suitable for communication of content between compliant registries. The schema described in this document will implement a class and attribute vocabulary that matches the conceptual model presented in ISO/IEC 19763-13:2026 in W3C XML Schema and JSON Schema format. The purpose of the schema is for the exchange of compliant metadata, and to support the validation of messages exchanged between registries. It is not intended for the communication of data element metadata alongside the data to which the metadata refers.

The document specifies the schema and the principles and conventions that were followed to map classes, attributes, and associations of the conceptual model into an acyclic, directed graph suitable for an unambiguous document-based representation.

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 19763-13, *Information technology — Metamodel framework for interoperability (MFI) — Part 13: Metamodel for form design registration*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19763-13:2026 and the following 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 General computing terms

3.1.1 extension

feature not defined by this document

3.1.2 namespace

classification scheme that permits a given name to identify multiple objects that are distinguished by context

[SOURCE: ISO/IEC 39075:2024, 3.6.5]

3.1.3 namespace prefix

short name to uniquely identify the namespace

[SOURCE: ISO 24531:2013, 4.40]

3.1.4 schema

formal definition of a model

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[SOURCE: ISO 19101-1:2014, 4.1.34]

3.2 Terms relating to XML Schema and RDF

3.2.1 internationalized resource identifier

IRI

sequence of characters that conforms to the syntax defined in RFC 3987

[SOURCE: ISO/IEC 19788-7:2019, 3.7, modified – domain and Note to entry deleted.]

3.2.2 W3C

World Wide Web Consortium

international community that develops open standards to ensure the long-term growth of the Web

[SOURCE: ISO 8:2019, 3.5.6]

3.2.3 XML schema

language for describing the structure and constraining the contents of XML documents

[SOURCE: ISO 25720:2009, 4.32]

3.2.4 resource

element from a universe of discourse denoted by an IRI (3.2.2)

3.2.5 Resource Description Framework

RDF

W3C (3.2.2) standard defining a formal syntax and semantics for expressing descriptions of resources (3.2.4) that can be represented as a directed data graph

[SOURCE: ISO/IEC TR 19583-24:2025, 3.3.6, modified – references made local to this document and Note to entry deleted.]

4 Conformance

4.1 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.

A strictly conforming implementation can be limited in usefulness but is maximally interoperable with respect to this document. A conforming implementation can be more useful but can be less interoperable with respect to this document.

4.2 Strictly conforming implementations

A strictly conforming registry shall emit XML documents that validate against the schema described in this document without error when using a validator that is fully conformant with the W3C XSD 1.1 Recommendation of 5 April 2013.

4.3 Conforming implementations

A conforming registry shall emit XML documents that use the namespace, document, element and attribute names together with the containment hierarchy described in this document. It need not meet the explicit cardinality requirements of the schema; it may include extra elements and attributes in other namespaces

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