INTERNATIONAL STANDARD

ISO/IEC 19763-3

Third edition
2020-10

Information technology — Metamodel framework for interoperability (MFI) —

Part 3: Metamodel for ontology registration

Technologies de l'information — Cadre du métamodèle pour l'interopérabilité (MFI) —

Partie 3: Métamodèle pour l'enregistrement de l'ontologie

Reference number
ISO/IEC 19763-3:2020(E)

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Published in Switzerland

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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).

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 www.iso.org/patents) or the IEC list of patent declarations received (see http://patents.iec.ch).

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.

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

This third edition cancels and replaces the second edition (ISO/IEC 19763-3:2010), which has been technically revised.

The main changes compared to the previous edition are as follows:

— no direct inheritance from Administered Item of ISO/IEC 11179-3 in 5.2 and 5.4 to align with ISO/IEC 19763-10;

— clarification in 5.4 that "Ontology_Language", "Ontology_Whole", "Ontology_Component" and "Ontology_Atomic_Construct" are inherited from "Modelling_Language", "Model" or "Model_Element" of ISO/IEC 19763-10;

— changes of attribute and reference names in 5.4 and 5.5 to align with ISO/IEC 19763-10 (see Annex D);

— editorial changes throughout the document to fully align with ISO/IEC Directives Part 2.

A list of all parts in the ISO/IEC 19763 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

Interoperability among heterogeneous application systems serves to improve business performance. To promote it, unambiguous and formal specifications of the systems, especially of their inputs and outputs, are indispensable. Ontologies have a key role for that.

Several efforts to establish standards associated with ontologies have been made. But, most of them specify languages or are based on some particular language. To promote ontology-based interoperability, in addition to them, a generic framework for registering administrative and evolution information related to ontologies, independent of languages, is necessary.

This document provides a generic framework for registering administrative and evolution information related to ontologies.

The metamodels of ontologies expressed in specific languages and the mappings among them are specified in other specifications such as Reference [1].

Figure 1 illustrates the MFI ontology registration specified in this document.

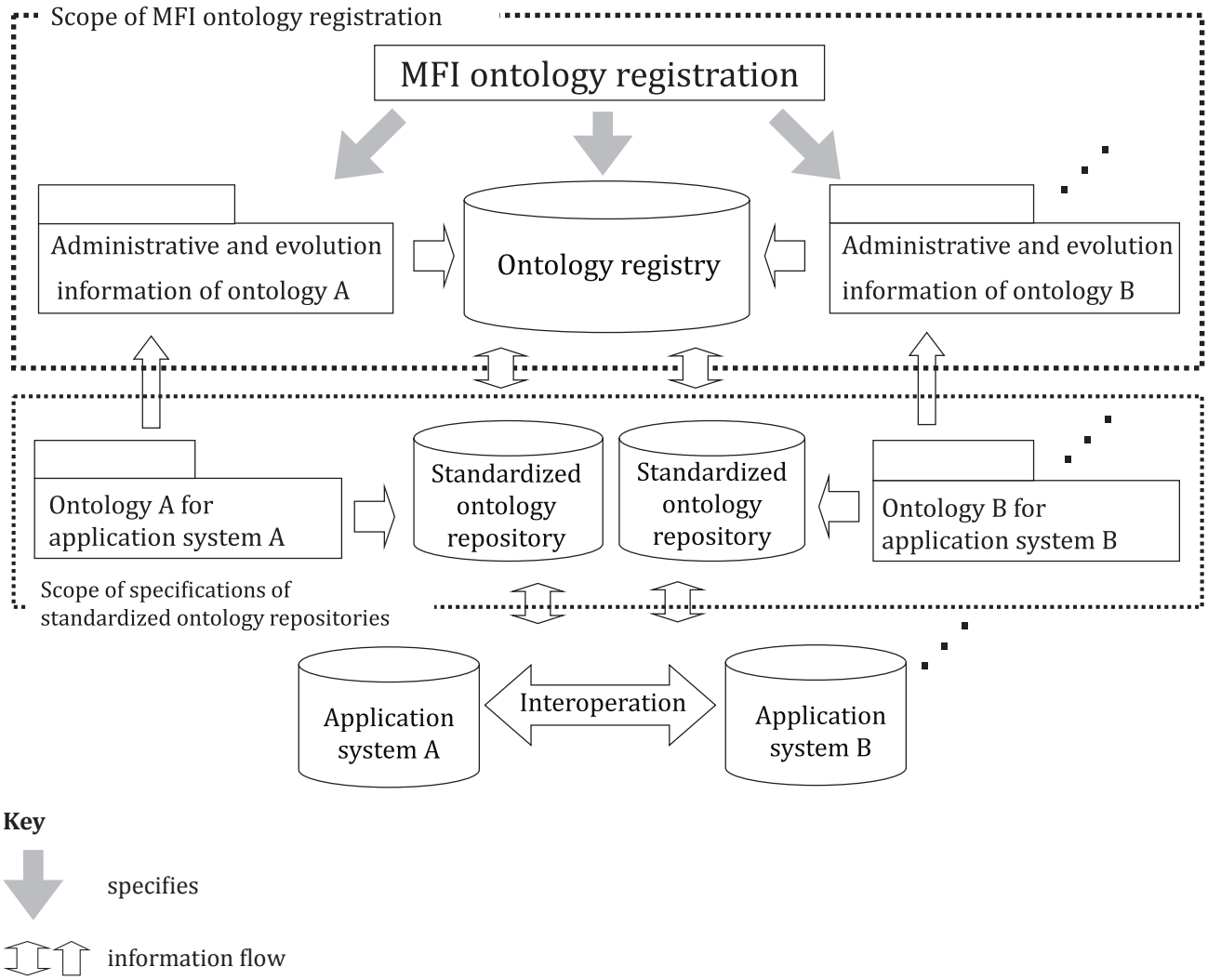

Figure 1 — MFI ontology registration

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Information technology — Metamodel framework for interoperability (MFI) —

Part 3: Metamodel for ontology registration

1 Scope

This document specifies the metamodel that provides a facility to register administrative and evolution information related to ontologies.

The metamodel is intended to promote interoperability among application systems, by providing administrative and evolution information related to ontologies, accompanied with standardized ontology repositories that register ontologies themselves in specific languages.

This document does not specify the metamodels of ontologies expressed in specific languages and the mappings among them.

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

ISO/IEC 19763-1, *Information technology — Metamodel framework for interoperability (MFI) — Part 1: Framework*

ISO/IEC 19763-10, *Information technology — Metamodel framework for interoperability (MFI) — Part 10: Core model and basic mapping*

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