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# Electronic business eXtensible Markup Language (ebXML) —

## Part 3: Registry and repository

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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.

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 ISO documents 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 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).

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 the OASIS ebXML (Electronic business eXtensible Markup Language) Registry Technical Committee (as the “OASIS ebXML RegRep Version 4.0 specification”) and drafted in accordance with its editorial rules. It was assigned to Technical Committee ISO/TC 154, *Processes, data elements and documents in commerce, industry and administration* and adopted under the "fast-track procedure".

A list of all parts in the ISO 15000 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

ebXML RegRep (registry and repository) is a standard defining service interfaces, protocols and information model for an integrated registry and repository. The repository stores electronic content while the registry stores metadata that describes the content in the repository.

To explain what an ebXML RegRep is we use the following familiar analogy. The ebXML RegRep is to electronic content, what your local library is to books and other published content. To make this analogy clearer one could look at comparisons enumerated in Table 1:

| Your Local Library | ebXML RegRep |
|---|---|
| Manages books and all types of published material | Manages all types of electronic content |
| Has book shelves containing books and other published material | Has a "repository" containing all types of electronic content |
| Has a card catalog that describes the published material that is available in the book shelves | Has a "registry" that describes the electronic content that is available in the repository |
| Multiple libraries can voluntarily participate in a cooperative network and offer a unified service | Multiple ebXML RegRep instances can voluntarily participate in a cooperative network and offer a unified service |

Table 1: ebXML RegRep comparison with your local library

An ebXML RegRep is capable of storing any type of electronic content such as XML documents, text documents, images, sound and video. Instances of such content are classified as “RepositoryItem” instances. Repository items are stored in a content *repository* provided by ebXML RegRep.

In addition to repository items ebXML RegRep also stores standardized metadata. Instances of such metadata are classified as “RegistryObject” instances (or one of its sub-types, as described later in this document). Registry objects are stored in a *registry* provided by ebXML RegRep. A registry object is like a card in the card catalog. All registry objects conform to a standard just like the cards in the card catalog conform to a standard. Every repository item shall have a registry object that describes it, just like every book must have a card in the card catalog. At the same time there are registry objects that do not describe any repository item and serve the purpose of defining capabilities of an ebXML RegRep instance.

This document describes Electronic business eXtensible Markup Language (ebXML) Part 3: Registry and Repository. The main clauses are:

a) The Registry Information Model *(*ebRIM*)* which defines the types of metadata that can be stored in an ebXML RegRep server (Clause 4).
b) The Registry Services and Protocols (ebRS) which define the services provided by an ebXML RegRep server and the protocols used by clients to interact with these services (Clause 5).
c) Conformance to ebXML Registry and Repositry (Clause 6).

This document also includes the following annexes:

a) Annex A lists the standard exceptions that may be returned by various protocols defined in this document.
b) Annex B provides a listing of namespaces that are defined in this document.
c) Annex C provides a listing of namespaces that are referenced in this document.

Separately provided are:

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a) A set of XML schema files at https://standards.iso.org/iso/15000/-3/ed-1/en/xsd/ define XML schema types and elements referenced in the core specification clauses.

b) A set of WSDL files at https://standards.iso.org/iso/15000/-3/ed-1/en/wsdl/ define the WSDL interfaces, bindings and services referenced in the core specification clauses.

c) A set of XML files at https://standards.iso.org/iso/15000/-3/ed-1/en/xml/ that contain the canonical data that shall be supported within every ebXML RegRep server.

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# Electronic business eXtensible Markup Language (ebXML) —Part 3: Registry and Repository

## 1 Scope

This part of ISO 15000 specifies service interfaces, protocols and information model for an integrated registry and repository. The repository stores electronic content while the registry stores metadata that describes the content in the repository.

## 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.

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## 3 Terms and definitions

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**
**access control**
authority definitions and their enforcement for various types of actors regarding access to a *registry object* (3.21)

**3.2**
**association**
*registry object* (3.21) that represents directional relationship between two *registry objects* (3.21)

**3.3**
**auditable event**
long-term record of what actions caused changes in the state of a *registry object* (3.21)

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**3.4**
**canonical artefact**
set of *registry object* (3.21) values defined by the standard

**3.5**
**cataloging**
*registry service* (3.23) that creates and stores additional metadata related to a *registry object* (3.21)

**3.6**
**classification**
*registry object* (3.21) that classifies another *registry object* (3.21) by assigning a *classification node* (3.7) to it

**3.7**
**classification node**
*registry object* (3.21) that represents a specific value that is part of a *classification scheme* (3.8)

**3.8**
**classification scheme**
*registry object* (3.21) formed as a parent-child hierarchy of *classification nodes* (3.7)

**3.9**
**external identity**
identity of a *registry object* (3.21) as per known identification scheme

**3.10**
**federation**
set of *registry server* (3.22) instances that form a loosely coupled union

**3.11**
**governance**
process of controlling the lifecycle of *registry objects* (3.21)

**3.12**
**identity**
globally unique identity that is different between different versions of a *registry object* (3.21)

**3.13**
**logical identity**
globally unique identity of a *registry object* (3.21) that does not change during its lifetime

**3.14**
**messaging**
secure and reliable exchange of messages between a *registry client* (3.20) and a *registry server* (3.22)

**3.15**
**native language support**
support to express properties of a *registry object* (3.21) in different languages

**3.16**
**notification**
*registry object* (3.21) sent to a *registry client* (3.20) as an effect of registry events matching a relevant *subscription* (3.28)

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**3.17**
**object types classification scheme**
canonical classification scheme that represents types of objects that a *registry server* (3.22) supports

**3.18**
**provenance**
set of data and processes that represents ownership and history of custodianship of a *registry object* (3.21)

**3.19**
**query definition**
*registry objec*t (3.21) that represents query that could be invoked by a *registry client* (3.20)

**3.20**
**registry client**
client that communicates with a *registry server* (3.22) via ebXML RegRep protocols

**3.21**
**registry object**
metadata stored in a *registry server* (3.22)

**3.22**
**registry server**
server that provides *registry services* (3.23)

**3.23**
**registry service**
service that provides storage and discovery of electronic artefacts (repository) and their metadata (registry)

**3.24**
**replication**
*registry service* (3.23) where a copy of a *registry object* (3.21) is stored and maintained in another *registry server* (3.22)

**3.25**
**repository item**
electronic artefact stored in a repository

**3.26**
**service**
*registry objec*t (3.21) that represents services offered by an actor

**3.27**
**slot**
typed name-value property that provides extensibility of a *registry objec*t (3.21)

**3.28**
**subscription**
*registry objec*t (3.21) that represents the interest of a *registry client* (3.20) interest in receiving *notifications* (3.16) when certain events happen in a *registry server* (3.22).

**3.28**
**validation**
*registry service* (3.23) that checks whether a *registry object* (3.21) is valid or not

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**3.30**
**version**
distinct state of a *registry objec*t (3.21)

# 4 Registry information model

## 4.1 Introduction

### 4.1.1 Overview

This clause defines the ebXML RegRep registry information model (ebRIM).

### 4.1.2 XML Schema

The ebXML Registry Information Model is defined as an XML Schema in https://standards.iso.org/iso/15000/-3/ed-1/en/xsd/rim.xsd. It defines the metadata types and their relationships within this specification.

### 4.1.3 Information model types: inheritance view

The central type in the model is the RegistryObjectType. An instance of RegistryObjectType represents an ebRIM metadata object.

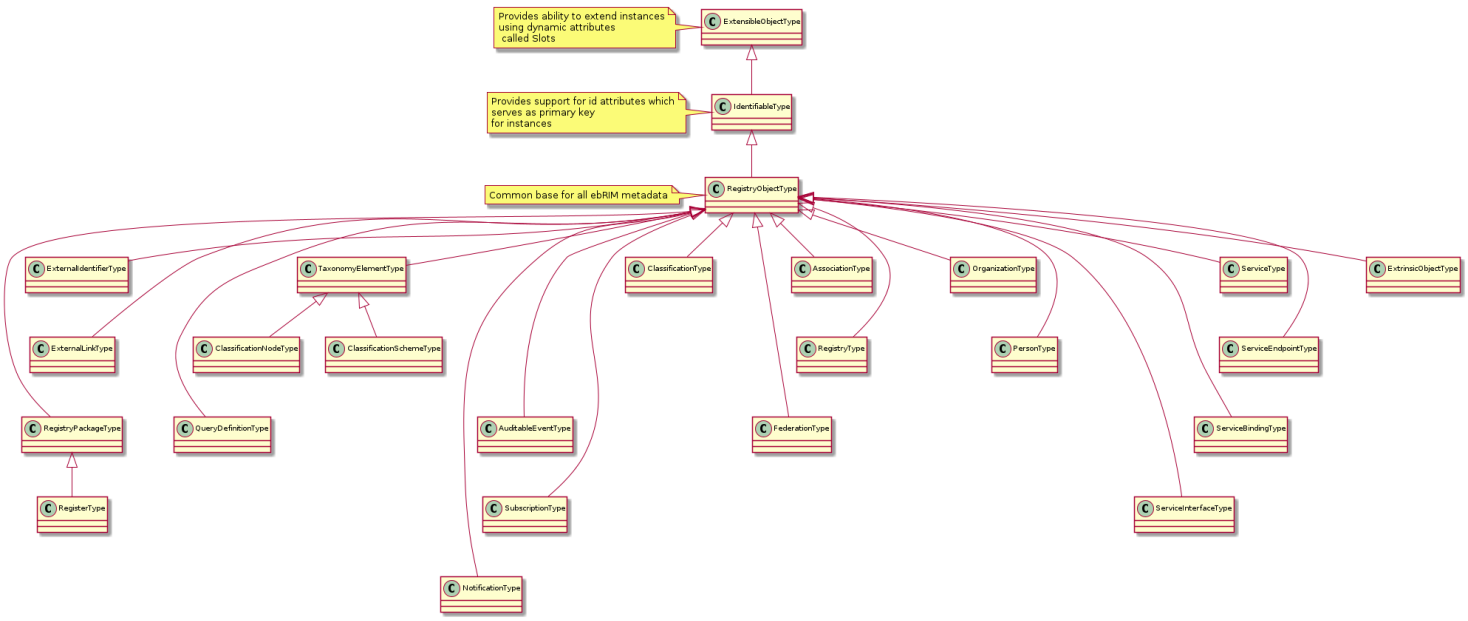



Figure 1 Information model inheritance view

Figure 1 shows the inheritance or “Is-A” relationships between the various types derived from RegistryObjectType in the information model. Note that it does not show the other types of relationships, such as “Has-A” relationships, as they will be presented in subsequent diagrams. The attributes and elements of each type are also not shown to conserve page space. Detailed description of attributes and elements of each type will be displayed in tabular form within the detailed description of each type.

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