TECHNICAL SPECIFICATION

ISO/TS 13582

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Health informatics — Sharing of OID registry information

Informatique de santé — Partage des informations de registre des identifiants d'objets (OID)

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Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 215, *Health informatics*.

This second edition cancels and replaces the first edition (ISO/TS 13582:2013), of which it constitutes a minor revision.

Introduction

OID (Object Identifiers) are unique identifiers for any kind of objects. A globally unique identifier for each of these concepts will help to ensure international exchangeability of objects within different applications (e.g. healthcare information systems).

In the exchange of healthcare information, additional information about the object being identified is generally very beneficial but typically not contained in a transaction of data between systems. Such information (responsible organizations, a human readable name, a description of the object, etc.) is referred to as the OID metadata and is housed in an OID Registry.

Today, due to lack of standardization of the set of metadata (both content and structure), existing OID registries are not compatible.

Health informatics — Sharing of OID registry information

1 Scope

This Technical Specification specifies the mandatory and optional information to be recorded in any registry of OIDs, using an information model.

It specifies which parts of that information are to be regarded as public and which parts are to be subject to security and privacy requirements.

All registries support the recording of mandatory information, but the recording of any specific object identifier in one or more repositories is always optional. In some cases, security and privacy requirements are more stringent for e-health applications.

In detail, this Technical Specification:

— specifies an information model and a corresponding XML format for the export of the contents of an OID registry, suitable e.g. for import to a different OID registry;

— references common Use Cases for OID registries/repositories;

— references an Object Identifier Resolution System (ORS) which provides a look-up mechanism for information related to an object identifier, with guidance on the use of that facility.

2 Normative references

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

ISO 639-1, *Codes for the representation of names of languages — Part 1: Alpha-2 code*

ISO 3166, *Codes for the representation of names of countries — The International Organization for Standardization, 3rd edition, part 1 ISO 3166-1*

ISO 21090, *Health informatics — Harmonized data types for information interchange*

ISO/HL7 21731, *Health informatics — HL7 version 3 — Reference information model — Release 4*

ITU-T X.660 | ISO/IEC 9834-1, *Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities: General procedures and top arcs of the ASN.1 Object Identifier tree*

IETF RFC 3066, *Tags for the Identification of Languages*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21090 and the following apply.

3.1.1
property
inherent state- or process-descriptive feature of a system including any pertinent to a component being determined or set of data elements (systems, component, kind-of-property) common to a set of particular properties

3.2 Abbreviated terms

The following abbreviated terms are used for the terms defined in this Technical Specification and its annexes.

HL7 Health Level Seven Inc

IETF Internet Engineering Task Force

OID Object Identifier

OMG Object Management Group

W3C World Wide Web Consortium

XML Extensible Markup Language

ITU International Telecommunication Union

IEC International Electrotechnical Commission

4 Explanation of terms

4.1 OID registry and OID repository

An OID registry maintains a list of OIDs. Typically additional information (metadata, such as responsible organizations, a human readable name, a description of the object, and other information that is needed for any meaningful use of the object identified) associated with the OID is stored also. With that, a registry is then an OID repository at the same time.

Maintaining the list (and associated metadata) happens regardless whether it is an official register for allocations of new OIDs under a given OID arc, or just a copy of information from other registries.

Official OID registries/repositories responsible for allocations of new OIDs under a given OID arc are Registration Authorities.

4.2 Registration Authority (RA)

An RA is responsible for allocating child arcs to the OID that it manages (issuing authority). It ensures that an integer is used once among the subsequent arcs (child OIDs). As much as possible, it avoids the same identifier (beginning with a lowercase letter) being used for multiple sub-arcs. Such information is typically stored in the OID registry/repository but it is important to understand that an OID first needs to be officially allocated by an RA before it can be described in an OID repository

For each child OID, the RA also keeps a record of additional information (like the name of a contact person, postal address, telephone and fax numbers, email address, etc.) about the Responsible Authority for that child OID. A responsible authority for a child OID must formally become an RA for the child OID in order to allocate sub-arcs under it.

4.3 Responsible (Managing) Authority (MA)

An MA is used to indicate the person (if known) and organization who is currently in charge of managing the OID. Once a responsible authority is allocating sub-arcs and registering information on these sub-arcs, it also becomes the Registration Authority for these sub-arcs.

Discussion: simply managing an OID (for example, for a code system) is the task of a Responsible Authority MA. Potentially, a responsible authority may become a Registration Authority (RA) for a sub-arc if it allocates sub-arcs.

4.4 Submitting Authority (SA)

This information is optional and reflects the person or organization that submitted the original OID allocation request.

4.5 Current Registrant

In some OID registries, Current Registrants are stored. The Current Registrant is used to indicate the person (if known) who is currently in charge of managing the OID, allocating sub-arcs and registering information on these sub-arcs.

4.6 First Registrant

In some OID registries, First Registrants are stored. The First Registrant is used to indicate the very first person (if known) who was responsible for managing the OID and who created it in the first instance.

This Technical Specification strongly suggests distinguishing between:

— a *Registration Authority (RA)* (person, if known, and organization) who issued (=allocated the instance of) an OID and

— a *Submitting Authority (SA)* who submitted the OID allocation request (which may be the same instance).

In this sense, the First Registrant is the Registration Authority (RA).

4.7 First Registration Authority

The first Registration Authority of an OID is the very first person or company to whom the OID was allocated by the RA of the superior OID. According to Rec. ITU-T X.660 | ISO/IEC 9834-1, the first RA cannot be changed (if the responsibility is transferred to someone else, the information is recorded in the "Current Registration Authority" section, without changing the "First Registration Authority" section).

Discussion: this is the Registration Authority (RA) that allocated the OID.

4.8 Rec. ITU-T X.660 | ISO/IEC 9834-1

In ITU-T Recommendation X.660, the following definitions are given.

— *3.6.8 registration authority: An entity such as an organization, a standard or an automated facility that performs registration of one or more types of objects (see also International Registration Authority).*

— *3.6.2 administrative role (of a registration authority): Assigning and making available unambiguous names according to the Recommendation | International Standard defining the procedures for the authority.*

— *3.6.14 technical role (of a registration authority): Recording definitions of the objects to which names are assigned and verifying that these definitions are in accordance with the Recommendation| International Standard defining the form of the definition.*

This Technical Specification does not use administrative or technical roles.