



Sharing of OI D Registry Information

Open Forum on Metadata Registries
Berlin, May 30th, 2012

Dr. Christof Gessner (TMF e.V., Berlin)
Sylvia Thun (Hochschule Niederrhein, Krefeld)
Stefan Sabutsch (ELGA GmbH, Wien)
Kai Heitmann (Heitmann Consulting and Services, Hürth)

TMF – Technologie- und Methodenplattform
für die vernetzte medizinische Forschung e.V.
Berlin



- ↪ Problem space & scope
- ↪ Standardization project ISO 13582
- ↪ Concepts, Structures
- ↪ Early Adopters
- ↪ Perspective



Task:

to reference terminologies, ontologies,
identifier namespaces and other information objects
in data exchange processes,
often across institutional or even national boundaries.

↳ Unique Object Identifiers (OIDs)

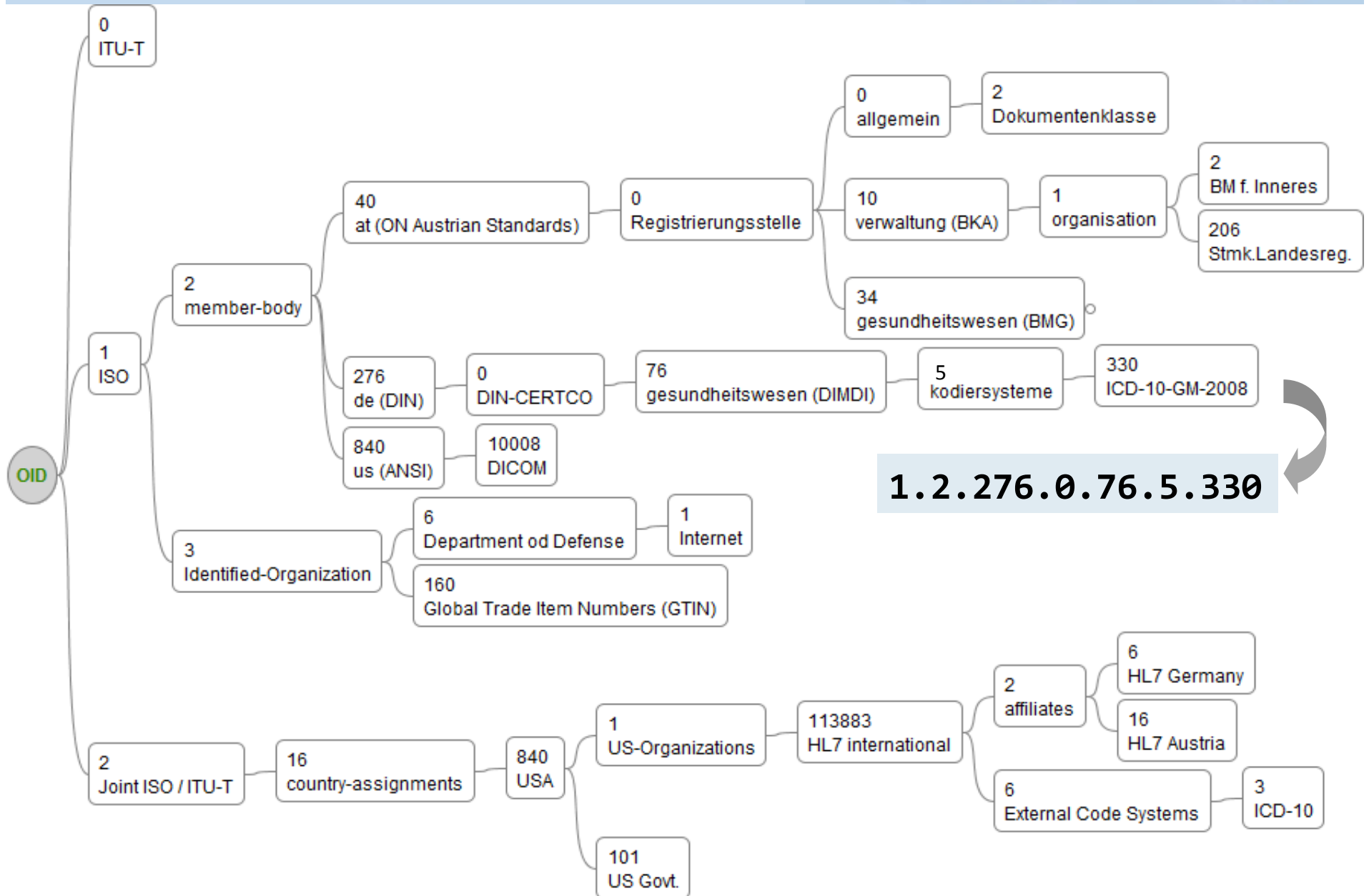


An OID (Object Identifier) is a globally unique identifier for an information object as defined by ISO/IEC 9834-1 and ITU-T X.660.

- ↳ The OID tree forms a hierarchical structure.
- ↳ Each branch under the root corresponds to an assigning authority.
- ↳ The authorities assign OIDs within their sub-tree.
- ↳ These assigning authorities may in turn designate their own set of assigning authorities that work under its auspices.
- ↳ The leaf nodes on the tree represent the information objects.



OIDs are organized in a tree structure



1.2.276.0.76.5.330



Purpose of an OID registry:

- ↳ to maintain and provide information about an OID, its definition and additional information that is needed for any meaningful use of the object identified.

- ↳ The process of registering an OID includes its descriptive data.
 - ↳ OID registries are metadata repositories

- ↳ Implementers can search the registry for a given concept:
 - ↳ encourages re-use of concepts already defined and in use.
 - ↳ discourages the assignment of multiple OIDs to identical or similar information objects.



- ↪ no standardization of metadata content and structure
- ↪ Contents, attributes and rules of the assignment of OIDs of existing registries are incompatible and often dissimilar.
- ↪ No interoperability between existing OID registries.



The national affiliates of HL7 in Austria, Switzerland and Germany work together in

- ↪ setting up interoperable OID registries and in
- ↪ establishing the infrastructure for the exchange and use of common terminologies and identifiers.



- ↳ ISO/TC 215 Health Informatics, WG 3 Semantic Content
- ↳ ISO/TS 13582 - Sharing of OID registry information
 - ↳ developed since 2009 (HL7 D / A / CH)
 - ↳ multiple public comment phases (started in April 2010)
 - ↳ submission and reconciliation of about 80 comments
 - ↳ proof-of-concept phase in OID registry/repository projects in several European countries.
 - ↳ DTS ballot in 2012
 - ↳ contributing:
 - ↳ ISO/TC 215 WG3,
 - ↳ HL7 International,
 - ↳ ISO/IEC JTC 1/SC 6,
 - ↳ ITU-T SG 17
- ↳ ISO/TS 13581 - Guidance for maintenance of Object Identifiers
 - ↳ content to be merged into 13582?



- ↪ required minimum set of metadata
- ↪ standardized representation as an XML structure
- ↪ associated checks of underlying constraints and business rules



↳ Requirements Analysis

- ↳ extensive analysis of the currently available international OID register for health care systems
- ↳ Use cases: registering and exchanging OID-related data
- ↳ required:
 - ↳ basic data set
 - ↳ corresponding XML representation as an exchange format

↳ Information Model

↳ Exchange Format Specification

- ↳ Uses XML representation of ISO 21090 datatypes

↳ Informative Annexes:

- ↳ A: OID categories for e-health, recommendations for tree structure
- ↳ B: Object Identifier Resolution System (ORS) based on RESTful Web Services.
- ↳ C: W3C schema with embedded ISO schematron (ISO/IEC 19757-3)



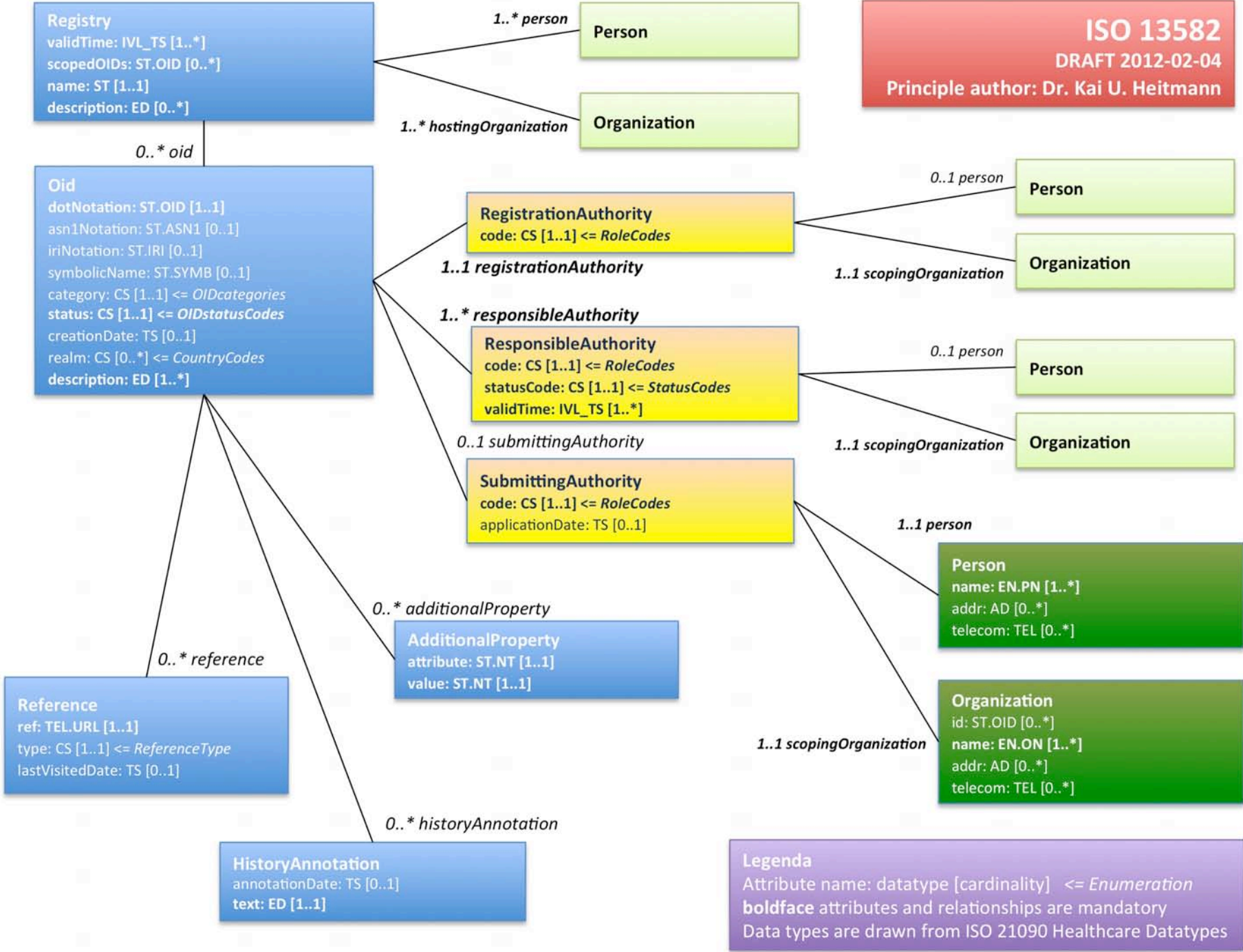
A list of OID Registry Use Cases has been defined in order to drive metadata model requirements, and functional requirements for Registry interoperability.

OID Registration and Maintenance

- ↪ OID Creation where the registry owner is the RA
- ↪ OID Registration
- ↪ OID Withdrawal/Replacement
- ↪ OID Metadata Update/Editing

OID Publishing

- ↪ OID Information Publication
- ↪ OID Information Request





Zoom in: Reference

| 0..* reference

Reference

ref: TEL.URL [1..1]

type: CS [1..1] <= *ReferenceType*

lastVisitedDate: TS [0..1]

typed reference (URI)

Reference types:

other OIDs (within or outside this OID registry) in order to be able to express that an OID has been superseded/replaced or that there is a preferred OID.

RPLC replaced by OID

PREF preferred OID

other data sources, code tables, value sets, descriptions etc; typically this is a URL and always points to an object with different semantics than the OID itself.

LINK link access (to code and value set tables)

IDSD identification scheme documentation

also stored: optional lastVisitedDate



Zoom in: Additional Property

0..* *additionalProperty*

AdditionalProperty
attribute: ST.NT [1..1]
value: ST.NT [1..1]

key-value-pair

This class reflects additional properties of an OID that might be used to fit business rules that cannot (or should not) be standardized. This includes:

- ↳ additional categories
- ↳ additional status information
- ↳ tags, simple text
- ↳ coded properties

It is made of

- ↳ attribute, describing the type of the additional property
- ↳ value, the value of the additional property.



- ↳ organizational bodies and groups
 - ↳ group functioning as a Registration Authority

- ↳ identifier systems and namespaces
 - ↳ code systems

- ↳ specifications
 - ↳ conformance profiles
 - ↳ templates
 - ↳ value sets, "tables"

- ↳ documents, artefacts
 - ↳ domain models



OID-Register eHealth Schweiz

<http://oid.refdata.ch/>

REFDATA SWISS-RX-LOGIN

HOME DE FR EN HILFE?

OID-Register eHealth Schweiz

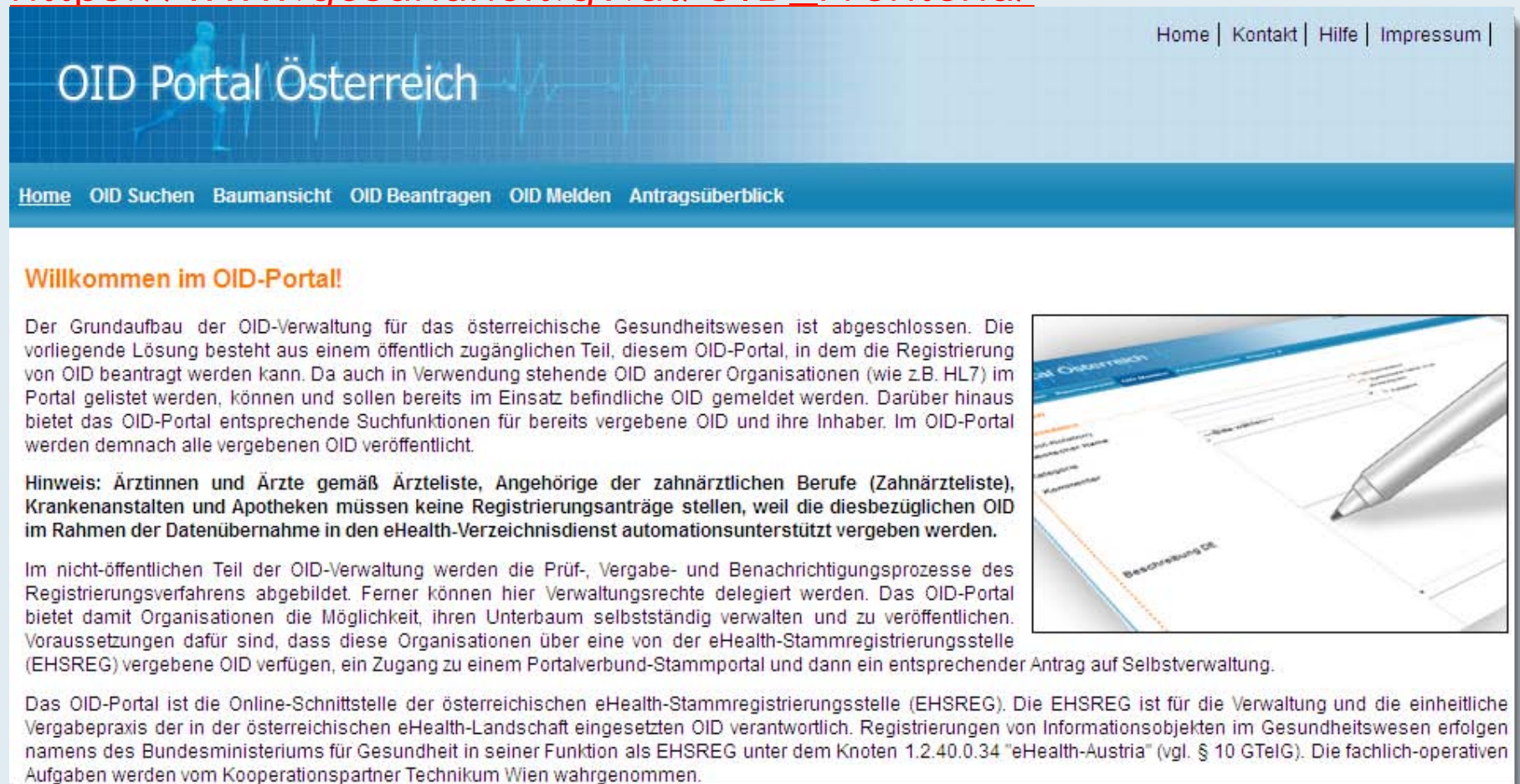
OID Suche	Suche nach einer OID, z.B. nach Nummer, Beschreibung oder Inhaber
OID Antrag	OID beantragen
Neue OID	Zum Erstellen einer neuen OID
OID erweitern	Zum Anfügen einer untergeordneten OID zu einem bereits registrierten Knoten
Mutation Metadaten	Bei Änderungen von einzelnen Metadaten zu einer OID (z.B. neue Beschreibung, ergänzende Dokumente etc.)
Mutation Kontakt	Bei Änderungen von Kontaktpersonen, Verantwortlichen Stellen oder von Adressen, Telefonnummern etc.
GLN Antrag	Formulare zum Beantragen einer GLN, welche für einen OID Antrag erforderlich ist
Gebührenordnung	Kosten für zusätzliche Dienstleistungen

© RefData 30.05.2012 11:50 1.0.3.23808



OID Portal Österreich

https://www.gesundheit.gv.at/OID_Frontend/



The screenshot shows the homepage of the OID Portal Österreich. At the top right, there are navigation links: Home | Kontakt | Hilfe | Impressum. Below the header, there is a blue navigation bar with links: Home, OID Suchen, Baumansicht, OID Beantragen, OID Melden, Antragsüberblick. The main content area features a heading "Willkommen im OID-Portal!" followed by a paragraph of introductory text. To the right of the text is an image of a document with a pen, representing a registration form. Below the text, there is a "Hinweis" section and a paragraph about the non-public part of the portal. At the bottom, there is a paragraph explaining the portal's role as the online interface for the EHSREG.

Willkommen im OID-Portal!

Der Grundaufbau der OID-Verwaltung für das österreichische Gesundheitswesen ist abgeschlossen. Die vorliegende Lösung besteht aus einem öffentlich zugänglichen Teil, diesem OID-Portal, in dem die Registrierung von OID beantragt werden kann. Da auch in Verwendung stehende OID anderer Organisationen (wie z.B. HL7) im Portal gelistet werden, können und sollen bereits im Einsatz befindliche OID gemeldet werden. Darüber hinaus bietet das OID-Portal entsprechende Suchfunktionen für bereits vergebene OID und ihre Inhaber. Im OID-Portal werden demnach alle vergebenen OID veröffentlicht.

Hinweis: Ärztinnen und Ärzte gemäß Ärzteliste, Angehörige der zahnärztlichen Berufe (Zahnärzteliste), Krankenanstalten und Apotheken müssen keine Registrierungsanträge stellen, weil die diesbezüglichen OID im Rahmen der Datenübernahme in den eHealth-Verzeichnisdienst automationsunterstützt vergeben werden.

Im nicht-öffentlichen Teil der OID-Verwaltung werden die Prüf-, Vergabe- und Benachrichtigungsprozesse des Registrierungsverfahrens abgebildet. Ferner können hier Verwaltungsrechte delegiert werden. Das OID-Portal bietet damit Organisationen die Möglichkeit, ihren Unterbaum selbstständig verwalten und zu veröffentlichen. Voraussetzungen dafür sind, dass diese Organisationen über eine von der eHealth-Stammregistrierungsstelle (EHSREG) vergebene OID verfügen, ein Zugang zu einem Portalverbund-Stammportal und dann ein entsprechender Antrag auf Selbstverwaltung.

Das OID-Portal ist die Online-Schnittstelle der österreichischen eHealth-Stammregistrierungsstelle (EHSREG). Die EHSREG ist für die Verwaltung und die einheitliche Vergabepraxis der in der österreichischen eHealth-Landschaft eingesetzten OID verantwortlich. Registrierungen von Informationsobjekten im Gesundheitswesen erfolgen namens des Bundesministeriums für Gesundheit in seiner Funktion als EHSREG unter dem Knoten 1.2.40.0.34 "eHealth-Austria" (vgl. § 10 GTeIG). Die fachlich-operativen Aufgaben werden vom Kooperationspartner Technikum Wien wahrgenommen.



The Nictiz OID registry

<http://decor.nictiz.nl/services/OIDIndex>


ART / DECOR

Advanced Requirements Tooling for Data Elements, Codes, OIDs & Rules

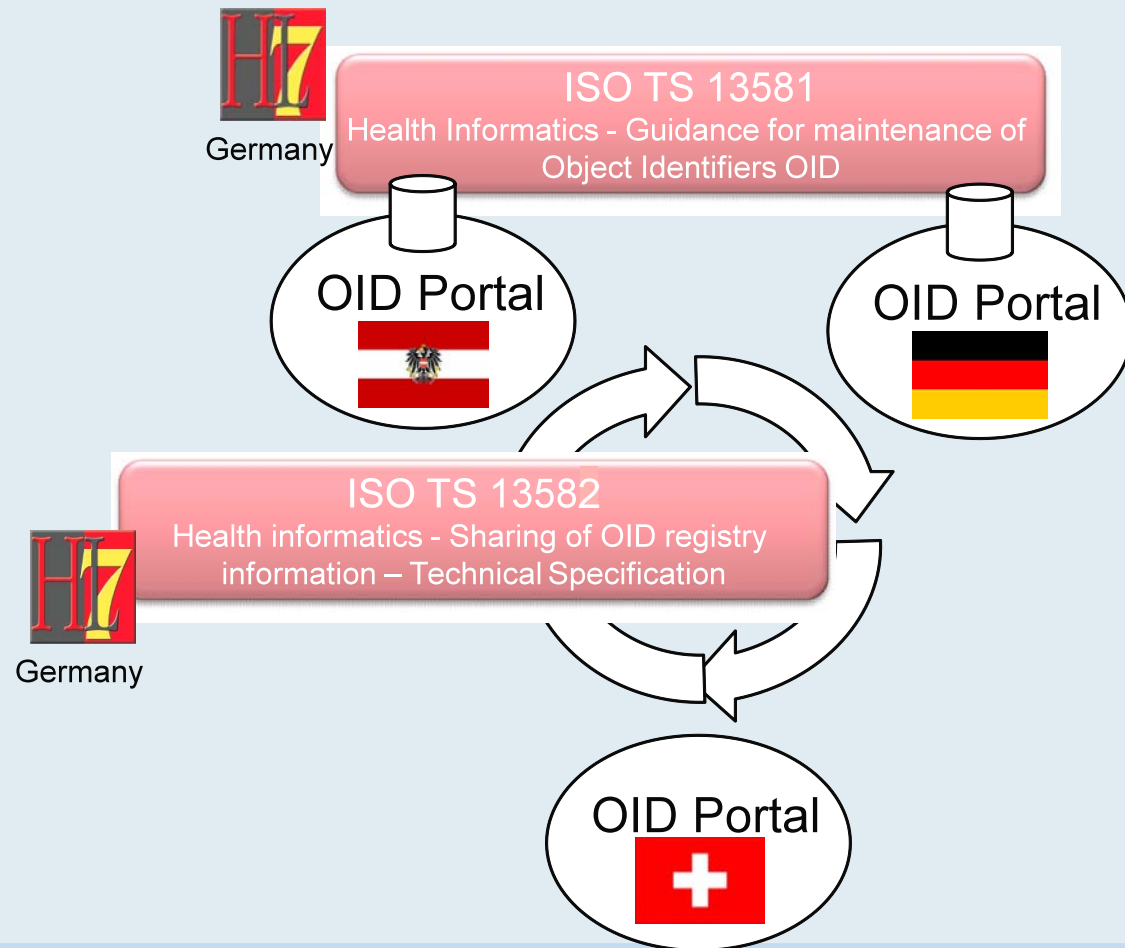
DECOR is een methodologie om de gegevensbehoefte van zorgverleners vast te leggen en deze te gebruiken om diverse artefacten te genereren: documentatie, XML- en test-hulpmiddelen et cetera. DECOR biedt de mogelijkheid vastgelegde gegevens iteratief te verbeteren door commentaar per item vast te leggen. DECOR registreert (op hoofdlijnen) datasets, datatypes, toegestane waardebereiken, identificaties, coderingen, bedrijfsregels. Het onderliggende data-formaat is XML, en transformaties met stylesheets kunnen gebruikt worden om HTML-documentatie en XML materialen te genereren.

ART is de user interface voor DECOR om DECOR bestanden te maken, te bewerken en de benodigde artefacten er uit te genereren. ART is gebaseerd op de eXist XML database, XQuery en Orbeon XForms.

Daarnaast bestaan Web Service Calls die verschillende DECOR gegevens ter beschikking stellen.

Concept	Scenario	Rules	Identifiers	Codes	Issues
					
<ul style="list-style-type: none">• Concept Group / Item• Data type• Concept list• Properties	<ul style="list-style-type: none">• Actor• Transaction• Cardinality• Conformance	<ul style="list-style-type: none">• Templates• Elements• Attributes• Constraints	<ul style="list-style-type: none">• OID registry	<ul style="list-style-type: none">• Value Sets• Terminology Associations• Coded Concepts	<ul style="list-style-type: none">• Change Management• Status• Assignment

In 2011, Switzerland and Austria implemented an OID portal based on the ISO/TS 13582 which enables a cross repository search of OIDs.





Metadata of Object Identifier:

↳ OID registry / OID repository

Content:

↳ Terminology Services, Identification Mgmt. Systems

Metadata of Codesystems, Organizations and Identifier Systems:

↳ OID registry? MDR?



Thank you

Weitere Informationen:

www.tmf-ev.de

www.hl7.de



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 a repository at the same time.



Which Information Objects?



Basically: Namespaces for Identifiers and Coded Concepts

↳ Entity Identification systems

↳ Organizations

↳ Persons

↳ Documents

↳ Roles, Certificates

↳ ...

↳ Codesystems

↳ Constraints, Specifications

↳ Profiles, Implementation Guides, Interfaces

↳ Value Sets