Realising a Federation of Repositories of Reusable Metadata

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ISA undertakes initiatives to foster interoperability of information exchanges by public administrations.

What is interoperability?
Ability of disparate organisations to interact towards mutually beneficial and agreed goals, involving the sharing of information and knowledge.
ISA Programme Action 1.1: Semantic interoperability

1. **Raise awareness:**
   - Organise conferences, workshops, news items, events, etc.

2. **Encourage reuse:**
   - Make collections of re-usable assets searchable.

3. **Exploit opportunities for semantic alignment:**
   - Build consensus on core vocabularies.

4. **Provide insight into frameworks and methodologies:**
   - Conduct case studies and pilot implementations.
ISA drives the cycle

Interoperability Solutions for European Public Administrations

hosts

facilitates development

contributes descriptions

is basis for

ADMS
ASSET
DESCRIPTION
METADATA
SCHEMA

CESAR
COMMUNITY OF EUROPEAN SEMANTIC ASSETS REPOSITORIES
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ADMS objectives

Provide a standardised vocabulary to describe (semantic) interoperability assets

- reusable metadata (e.g. schemas, data models) and reference data (e.g. code lists, taxonomies, dictionaries, vocabularies) used for eGovernment

Facilitate publication of descriptions of such assets

- Descriptions can be shared and aggregated in federated repositories
- The assets themselves remain where they are published and maintained

Build ADMS re-using existing vocabularies

- ADMS Asset is a subclass of DCAT Dataset
- Vocabularies re-used: DCAT, Dublin Core, FOAF, SKOS
ADMS development process

ADMS Working and Review Groups established in late 2011 with participation of 58 experts from 24 countries and EU institutions (W3C-inspired) process and methodology, developed for the programme and available on the Web

ADMS version 1.00 was endorsed in May 2012 by the Member State representatives in the ISA Coordination Group

ADMS submitted as a Work Item in the W3C Government Linked Data Working Group

ADMS published as a W3C Working Group Note on 1 August 2013

https://joinup.ec.europa.eu/asset/adms/description
http://www.w3.org/TR/vocab-adms/
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The ADMS-based federation of semantic asset repositories was launched by the European Commission in January 2013.

Objective: increase visibility and stimulate re-use of these assets by national and pan-European initiatives leading to cost savings.

https://joinup.ec.europa.eu/catalogue/all
1. Enter a search keyword to find interoperability assets available on different websites.

2. Refine the search results via the faceted search filters.

3. The search results contain a relevant description of the assets and the link from where they can be downloaded.

https://joinup.ec.europa.eu/catalogue/all
**Contributors**

**W3C Standards and Technical Reports**
Submitted by Phil Archer on January 16, 2013
Rating: 5/5 (based on 2 votes) | 1327 reads

Description
All standards and drafts published by the World Wide Web Consortium (W3C).

**Dublin Core Metadata Initiative**
Submitted by Joanio Pedersen on January 04, 2013
Rating: 4/5 (based on 2 votes) | 160 reads

Description
As part of its mission, the Dublin Core Metadata Initiative develops and maintains specifications in support of resource description. Specifications developed and reviewed in the context of DCMI's formal approval process are assigned a status (in accordance with metadata and standards) of 'DCMI Working Draft' or 'DCMI Approved Document'.

**ICCS-CIEC Civil Status Forms**
Submitted by Anna Fehrman on January 04, 2013
Rating: 5/5 (based on 2 votes) | 109 reads

Description
The aim of the International Commission on Civil Status (ICCS) is to facilitate international cooperation in the fields of civil status matters and to further the exchange of information between civil registrars. To this end, it carries out studies and work, in particular by drawing up recommendations or draft conventions, aimed at harmonizing the provisions in force in the member States on matters relating to the registration of vital events.

**Digitalis.dvi**
Submitted by Lidia Kaipers on January 03, 2013
Rating: 4/5 (based on 2 votes) | 258 reads

Description
Digitalis.dvi is a single repository that supports digitization in Germany. It brings together various existing digitization projects and enables access to digitized content. The main goal of the repository is to strengthen cooperation between public and private actors.

**RIHA - Estonian catalogue of public sector information systems**
Submitted by Ivon Soos on January 03, 2013
Rating: 4/5 (based on 2 votes) | 200 reads

Description
RIHA is the Estonian catalogue of public sector information systems. It serves as the national registry of public sector informatics. Its main goal is to improve the transparency, maintainability, interoperability, and availability of information systems.

**Linked Open Vocabularies**
Submitted by Aripe Orm on January 01, 2013
Rating: 5/5 (based on 2 votes) | 70 reads

Description
Linked Open Vocabularies are collections of terms that provide easy access metadata to the ecosystem of vocabularies, and in particular by making the data they link to other datasets and promoting the use of these vocabularies in the Linked Data cloud, thereby improving their understandability, usability, and overall quality.

**ExLibrary**
Submitted by Andreas Schirf on November 30, 2012
Rating: 5/5 (based on 2 votes) | 406 reads

Description
ExLibrary is a library for data exchange standards and standards that are modelled in order to ease interoperability between eGovernment applications of Germany and other countries.

**ListPoint - the open platform for code list standards**
Submitted by Madeep Majot on December 11, 2012
Rating: 5/5 (based on 2 votes) | 1500 reads

Description
ListPoint is the open platform for all developers, data publishers and integrators who use code lists in order to build, maintain data standards or to build interoperability between multiple data sources. This is the platform that helps you find, collaborate, contribute and join together code lists in order to make sense of them. ListPoint is a community-driven project and is open to contribute and extend.

**Ontologies**
Submitted by Wolfgang Huet on November 27, 2012
Rating: 4/5 (based on 2 votes) | 338 reads

Description
Ontologies provide standardized definitions and a lexicon used for data exchange and integration. They facilitate the discovery and selection of suitable terms and significantly improve the efficiency and quality of data exchange and integration.

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**Description**

**ETSIs European Telecommunications Standards Institute**
Submitted by Joan Merozky on May 29, 2013
Rating: 5/5 (based on 1 vote) | 133 reads

Description
ETSI, the European Telecommunications Standards Institute, produces globally applicable standards for information and communication technologies (ICT), including mobile, radio, converged, broadcast and internet technologies.

**Eurosat RAMON: Standard Code Lists**
Submitted by Joiao Faciolo on June 27, 2013
Rating: 5/5 (based on 3 votes) | 196 reads

Description
RAMON (Reference Architecture for Metadata Online) is the server used by Eurostat to make public all available metadata of statistical databases in a structured and easy to read format.

**European Committee for Standardization**
Submitted by Joiasr Fadila on June 27, 2013
Rating: 5/5 (based on 2 votes) | 713 reads

Description
The European Committee for Standardization (CEN) is an association of national standards bodies in Europe, representing trade interests for European industry and commerce.

**OSLO - Open Standards for Local Administrations in Flanders**
Submitted by Borkowski Bas on May 28, 2013
Rating: 5/5 (based on 4 votes) | 204 reads

Description
The OSLO specification is the result of a public-private initiative based on eICU, the Flemish Network for ICT in Local Government, and funded by Flemish ICT service providers (e.g., ICT, Regionalia, Netjoy, Policy, Standaard, Flanders, Flemish, and Public Administrations) and public administrations (e.g., OSLO, Flanders).

**Open Metadata Registry**
Submitted by Quay Johnson on April 02, 2013
Rating: 5/5 (based on 1 vote) | 596 reads

Description
The Metadata Registry provides services to developers and consumers of standardized vocabularies and is one of the first production deployments of the Open Semantic Web Community Standards Organisation (OSW).

**CENATIC - National Reference Centre of ICT applications based on open source**
Submitted by Quaini Felip on March 14, 2013
Rating: 5/5 (based on 3 votes) | 392 reads

Description
CENATIC is the National Centre for the Application of Information Technologies and Communication based on open source, a strategic project of the Government of Spain to promote the awareness and use of free software and Linux open source in all areas of the society, with a focus on government, businesses, the technology sector provider and / or user of free technologies, and development community.
1. Use the spreadsheet template to describe your semantic standard

The spreadsheet template contains all concepts and fields in the ADMS v1.00 conceptual model. To describe your semantic asset you must fill in the repository, semantic asset*, semantic distribution, contact information, publisher*, licence*, documentation, and item sheets. Sheets marked with a * symbol are mandatory. The spreadsheet also contains a number of sheets with pre-defined controlled vocabularies, such as asset type, licence type, representation technique, file format, etc. These sheets help you to select the right codes to use, but you should not update them.
2. Import your spreadsheet in Google Refine;

Install [Google Refine](https://refineapp.com) and the [RDF extension](https://developers.google.com/refine/extensions/rdf) on your system following the [installation guide](https://refineapp.com/docs/). Create a new project in Google Refine and import the spreadsheet you created in step 1. The screenshot below indicates which parameters to fill in.
3. Add the pre-defined mappings using the **Google Refine RDF extension**.

The **Google Refine RDF extension** allows you to determine the intended structure of the RDF data by drawing a template graph. You can manually edit the RDF Skeleton by clicking “RDF” > “Edit RDF Skeleton…” in Refine.

To save you the trouble of adding a mapping from the spreadsheet to the ADMS RDF vocabulary, you can re-apply the operation history. The operation history contains all operations previously carried out to build the RDF Skeleton for the spreadsheet template.
Workflow

4. Export to RDF using the **Google Refine RDF extension**

Now everything is in place to generate and ADMS RDF file, containing your semantic asset descriptions. Click “Export” > “RDF in RDF/OWL” or “RDF in Turtle”.

![Image of Google Refine interface](image)
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Social challenges

- Reaching out to and identifying potential partner repositories in Europe and beyond.
- Coordinating with the partner organisations and getting their buy-in.
- Understanding asset licensing, sharing and reuse conditions.
- Deciding on and managing the lifecycle of the metadata in the federation.
Technical challenges

- Technical capacity building in the partner organisations so that they can create the metadata descriptions of their assets.
- Cleansing, modelling and harmonising the metadata, e.g.:
  - harmonising data types
  - replacing free text values with terms from controlled vocabularies
  - completing missing mandatory attributes
  - assigning Uniform Resource Identifiers (URIs)
  - transforming the metadata into RDF.
Future outlook

Continuing to promote adoption of ADMS
Reaching out to contributors to the Federation
Extending the Federation beyond semantic level:
  • Legal: legislation, licensing frameworks
  • Organisational: business requirements and processes
  • Technical: software tools, digital signature

European Federated Interoperability Repository (EFIR)
Visit our initiatives

- CESAR
- ADMS
- DCAT
- SOFTWARE FORGES COMMUNITY
- ADMS SW
- eGOVERNMENT
- CORE Vocabularies
- CORE PUBLIC SERVICE Vocabularies
- CORE LOCATION Vocabularies
- CORE BUSINESS Vocabularies
- CORE PERSON Vocabularies

Get involved

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