



European
Commission

Workshop

Core data models for public administrations

12 November 2014
ISA Programme Action 1.1



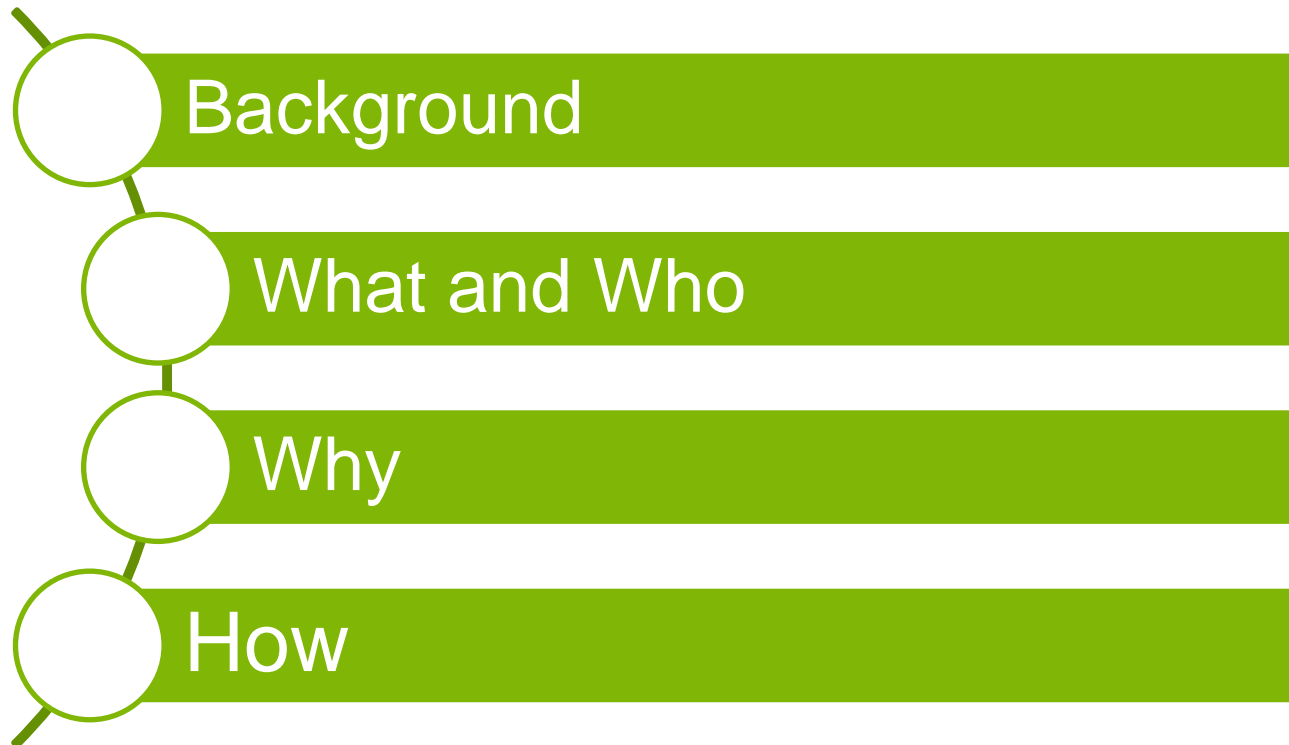
Workshop

Agenda

Start	Topic
09:30	Registration & Coffee
10:00	Welcome to the Workshop <i>Vassilios Peristeras</i>
10:15	Round table
10:45	Creation: Which core data models exist? Why and how are they created?
	coffee break
11:40	Use: How to use? What is the real use? How to measure conformance?
12:30	Lunch break
14:00	Maintenance: How are they maintained? What are the benefits? What are the costs?
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15:05	Coordination: How to coordinate and align? Should we create a community of practice or an observatory on core data models? Should we operate a common metadata register?
16:00	Open discussion



Welcome



“Whole-of-government” approaches

from isolated silos...



...to coordinated networks



Cross Domain Interoperability



Cross Domain Interoperability

- **What is a “Core Data Model”?**
 - A reusable Data Model that is defined, managed, promoted and maintained centrally to facilitate interoperability across different systems, applications and domains
 - “Data Models” can be defined at the semantic and/or technical level using various formats and formalisms
- **There are several countries in EU and beyond investing in Core Data Models (although they may not call them like this)**
- **We thought it is about time to bring this community together...**

International Workshop on Core Data Models

- **What**
 - Government initiatives in the area of core data models
- **Who**
 - Representatives from 13 countries, 11 EU + Japan + USA
 - European Commission services

International Workshop on Core Data Models

- **Why**

- Growing number of relevant initiatives worldwide
- Development in isolation... results in:
 - Reinventing the wheel
 - Increased costs
 - Fragmented “national” solutions
 - Not-aligned, conflicting specifications
 - Low visibility
 - Toolsets tightly-coupled with specific implementations
 - Reduced standardization opportunities
 - Reduced industry adoption



Problems

International Workshop on Core Data Models

- **Workshop goals**



- Understanding the motivation, status and uptake of relevant initiatives
- Sharing experiences, lessons-learned and challenges
- Brainstorming to identify common action/activities
- Providing ideas for coordination
- Establishing a Community of Practice?

- **How**

- Informal
- Interactive
- Thematic sessions
 - Creation
 - Usage
 - Maintenance
 - Coordination

Based on prefilled factsheets



%YOUR CORE DATA MODEL%
%YOUR ORGANISATION%

%Your logo here%

CREATION

What?
How created?
Why?

USE

How to use?
Real use?
Conformance?

MAINTENANCE

How maintained?
Benefits?
Cost? Usage?

COORDINATION

How to coordinate with other initiatives? The

Contact:
%Your name%
%Your organisation%

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Round table

Does your organisation have/use core data models?
What are your expectations for the workshop?



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1. Creation



Which core data models exist? Why and how are they created?

Using sticky notes

We invite you to take part in the interactive session

- Provide answers for using the sticky notes for the core data models of your organisation
- Identify your core data models: put a “country code + data model name” on each sticky note
 - For example: why created?

DEU –XÖV Core Components

**to specify and produce IT
standards for data interchange
between administrations**



1. Creation

Which core data model exist?

- **Representation formalism**
 - Syntax-neutral, XML, RDF
- **Top-3 concepts**
 - Person, Organisation, Location, Vehicle, etc.
- **Context-specific or context-neutral**
- **Relationship with other frameworks**
 - Reference architectures
 - Interoperability frameworks
 - Base registries
 - Legislation
- **Size number of concepts**

Why are they created?

- **Motivation**
 - Digitising administrative processes
 - Data quality
 - Interconnection of base registers
 - Avoid data duplication, etc.
- **Area of application**
 - General
 - Base registers
 - Justice
 - Economy, etc.

How are they created?

- **Initiator**
 - Ministry / agency / ...
- **Time**
 - when created (recent / long-running)
- **Consensus building**
 - how important is consensus building?
- **Problems faced during creation**

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2. Use

 **How to use? What is the real use? How to measure conformance?**

2. Use

How to use?



- **Use cases:**
 - Design new data models
 - Mapping to existing data models / Harmonisation
 - Consultation of base registers (Open Data?)
- **Rules** (e.g. Extension/Restriction), Methodology
- **Syntax binding vs. specific syntax**
- **Tools** for use (e.g. syntax binding)

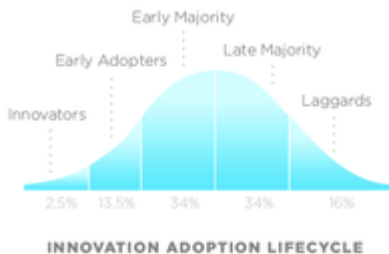
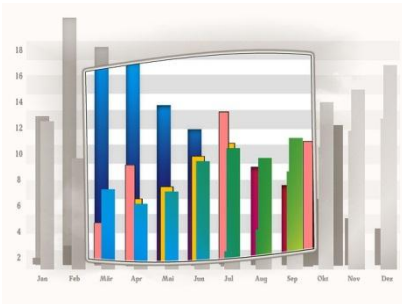
- **Licensing:** explicit licensing policy

- **Training and consulting**
- **Promotion, marketing**



2. Use

What is the real use? Adoption?



- **Number of domains?**
- **Number of systems?**
- **Number of transactions?**

- **Adoption by software vendors?**
- **Status:** pilot – production-grade
- **Obstacles to adoption?**
- **Benefits?**

2. Use

How to attain conformance?



- **Conformance checking**
 - conformance requirements
 - test suites
 - certification mechanism



- **Enforcement:**
 - legal obligation
 - comply-or-explain
 - procurement guidelines

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3. Maintenance



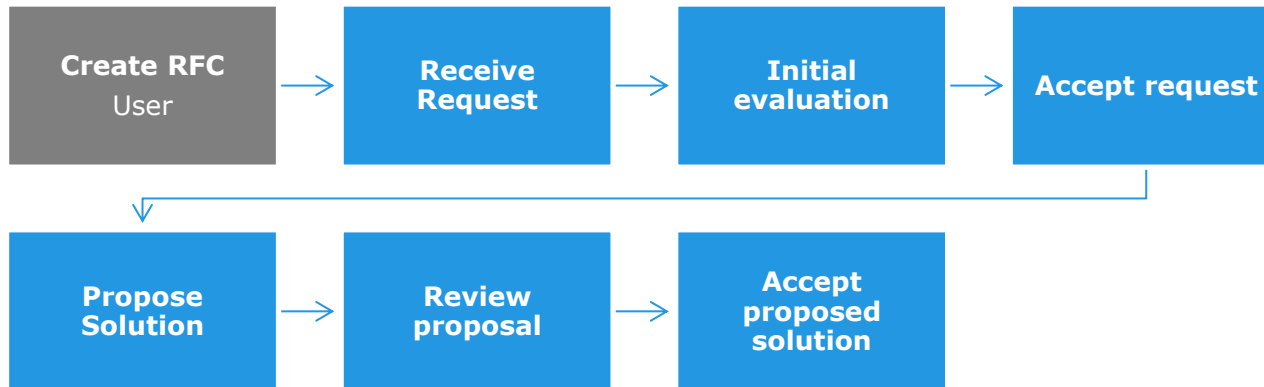
**How are core data models maintained?
What are the benefits? What are the
costs?**

3. Maintenance

Good specifications require maintenance

- A generic change management process:

Change requests



Change releases



3. Maintenance

Learning from the most mature initiatives



- **How are they maintained?**
 - **Duration:** since...
 - **Governance structure:** Who advises? Who decides? Quality controls?
 - **Release:** release cycle? backward compatibility?
 - **Change management process:** Documented? Open? Impact analysis?
- **Benefits?** How measured? Increased interoperability?
- **Maintenance costs?**
- **Maintenance tools**
 - **Design:** editors
 - **Change and release management:** change tracking, wiki, ...
 - **Publication:** namespace document, publication

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4. Coordination



How are they maintained? What are the benefits? What are the costs?

- Why to coordinate
- Ideas for coordination
- Discussion

4. Coordination

Why to coordinate?

- Growing number of relevant initiatives worldwide
- Development in isolation... results in:
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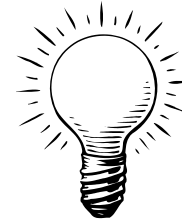
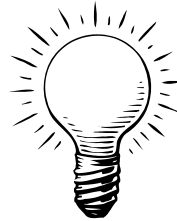


- Reuse existing solutions
- Reduce costs
- Avoid national digital lock-in
- Aligned specs
- Joining forces to increase the visibility/impact internally and internationally
- Reusable tools
- Standardization
- Industry adoption

4. Coordination

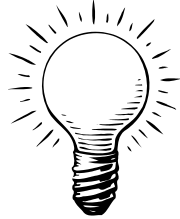
How to coordinate?

- We have three ideas



- You may have more...

- IDEA #1

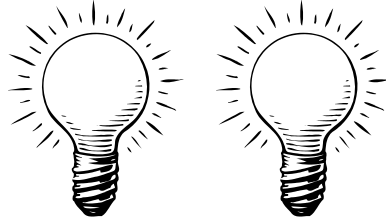


Open and continuous call for ideas:

What could the ISA Programme do to facilitate support and coordination of core data model initiatives?



- IDEA #2



International Community of Practice on Core Data Models

- **IDEA #2**



International Community of Practice on Core Data Models

- **A network of experts with virtual meetings and annual physical meeting organised back-to-back with the SEMIC Conference.**
- **One collaborative work environment collecting good practices, lessons-learned, etc.**
- **Maintain a repository of frameworks, methodologies, tools and services:**
 - **Documenting solutions**
 - **Increasing the visibility of initiatives in the field**
 - **For new initiatives: provide an entry point of expertise and knowledge for new initiatives**
- **Join forces:**
 - **Looking for economies of scale**
 - **Opportunities for alignment to lead to standardisation**



• IDEA #3



Initial cross-model alignment with the Core Vocabularies

- **Core Vocabularies as a meta-language for aligning across different core data models.**
- **Core Vocabularies could be a context-neutral and syntax-neutral approach to document and align existing core data models at the semantic level.**
- **Mappings: identify the differences and similarities that exist between core data models.**
- **We have already created mappings to 6 core data models**
- **All mappings will be available via Joinup using an intuitive interface and export function**
- **Commitment is needed so that mappings remain updated**



- **IDEA #3**

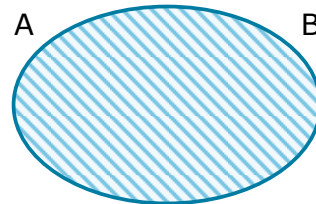


Initial cross-model alignment with the Core Vocabularies

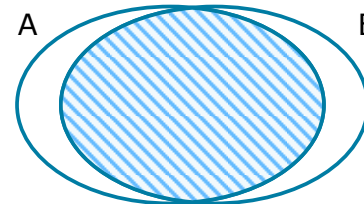
- **Initial mappings have been created for**
 - KoSIT – XOVI, DE
 - NIEM 3.0, USA
 - Stelselcatalogus, NL
 - Swedish Company data model
 - OASIS UBL Common Library 2.1
 - UN/CEFACT CCL

4. Coordination

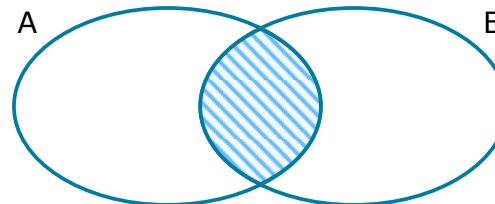
Mapping relations



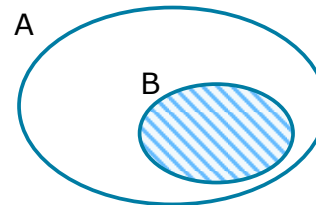
A has an exact match B



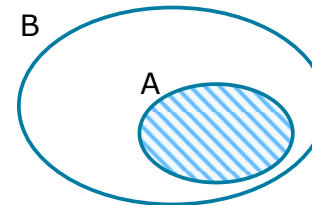
A has a close match B



A has a related match B



A has a narrow match B



A has a broad match B

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Semantic Interoperability Conference 2015

Save the date



SEMIC 2015
Tuesday 5 May 2015
Riga, Latvia



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