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EIRA semantic interoperabiblity specifications based on standards

SEMIC 2016 Rome, Italy

Dr. Raul Abril, European Commission

DG DIGIT , ISA

12th May 2016

AGENDA

- EIRA v1.0.0 introduction
- Why EIRA uses interoperability specifications?
- EIRA Interoperability specifications use-cases
- What is an EIRA interoperability specification?
- Examples

EIRA v1.0.0 Introduction -The EIRA JoinUp community

European Commission

EIRA

European Interoperability Reference Architecture (EIRA)

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EIRA v1.0.0

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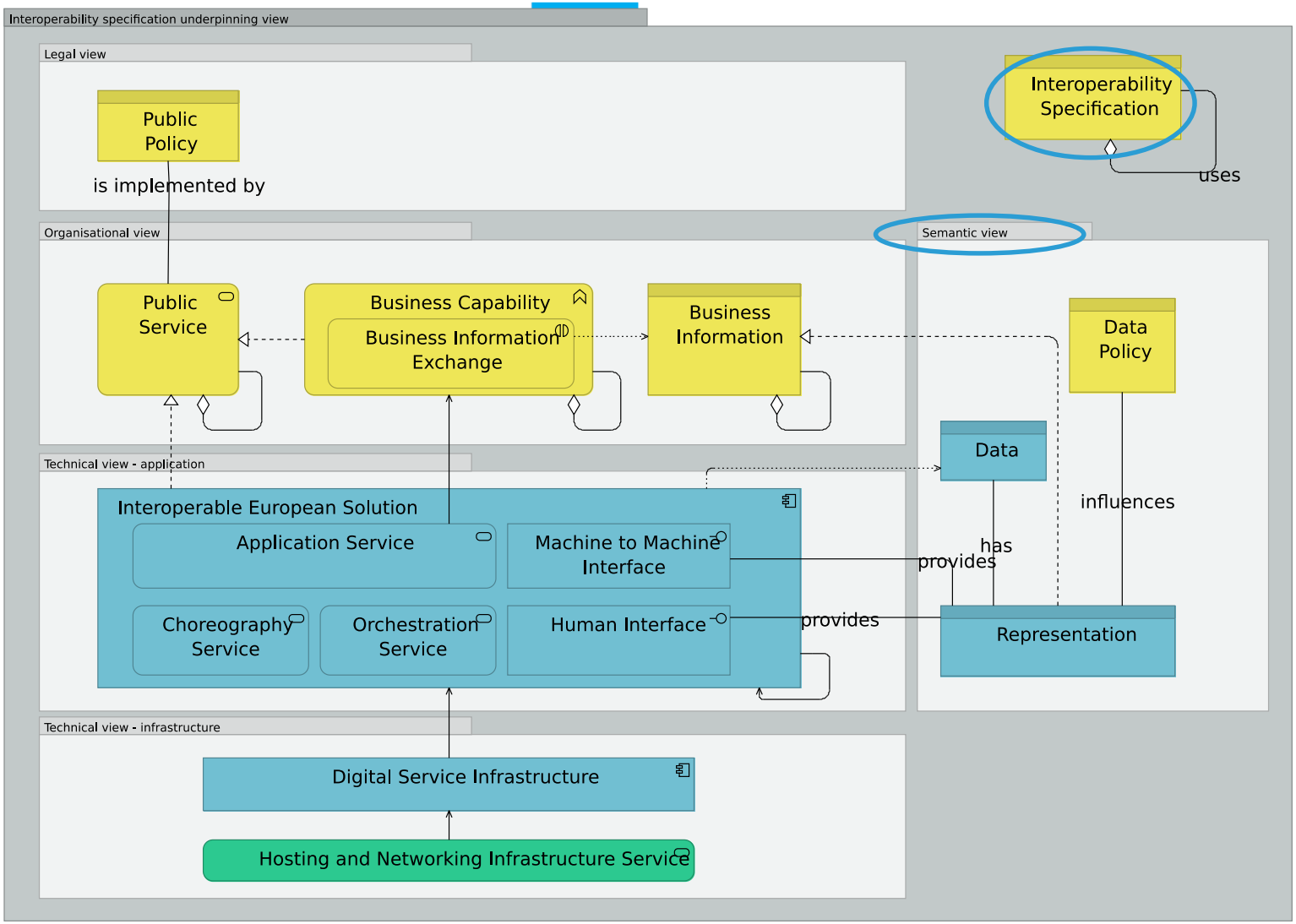
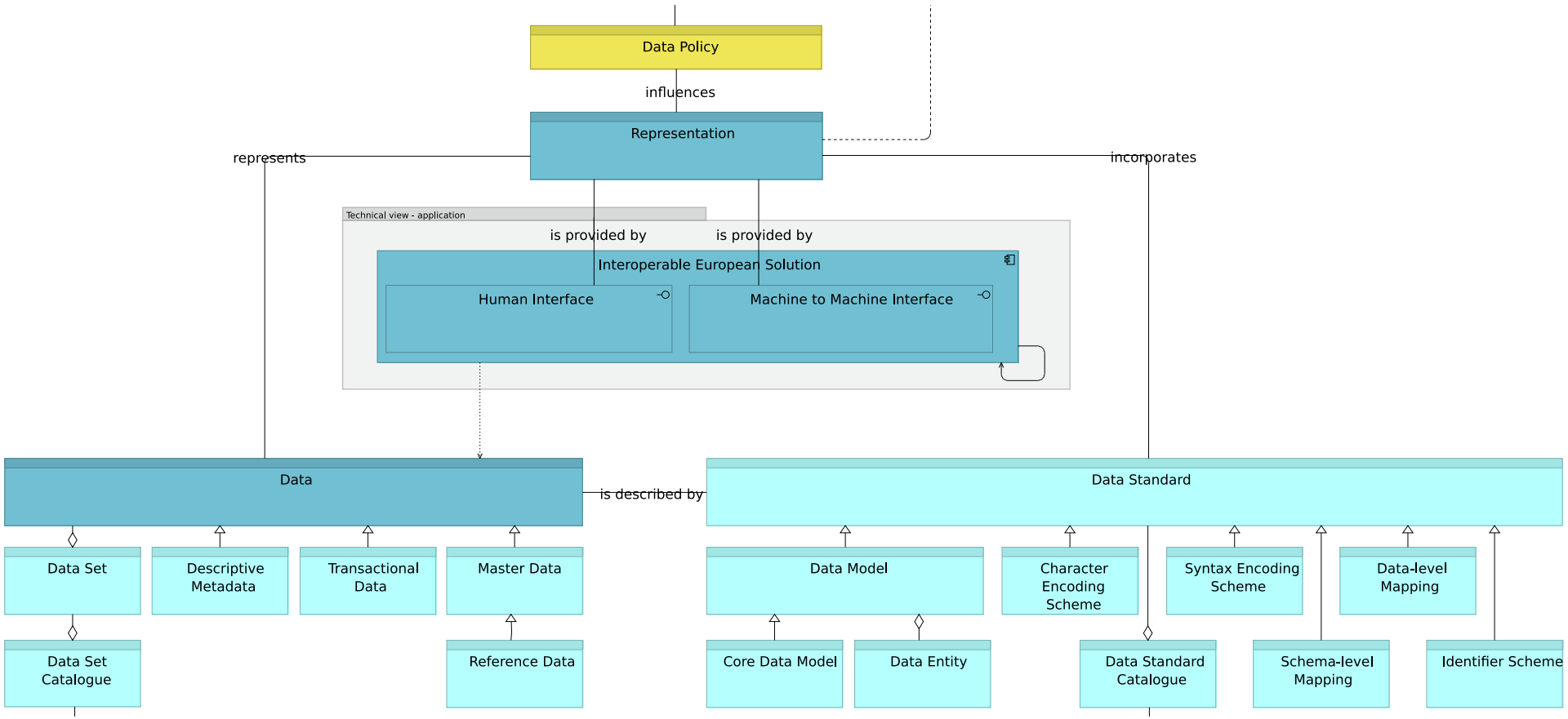
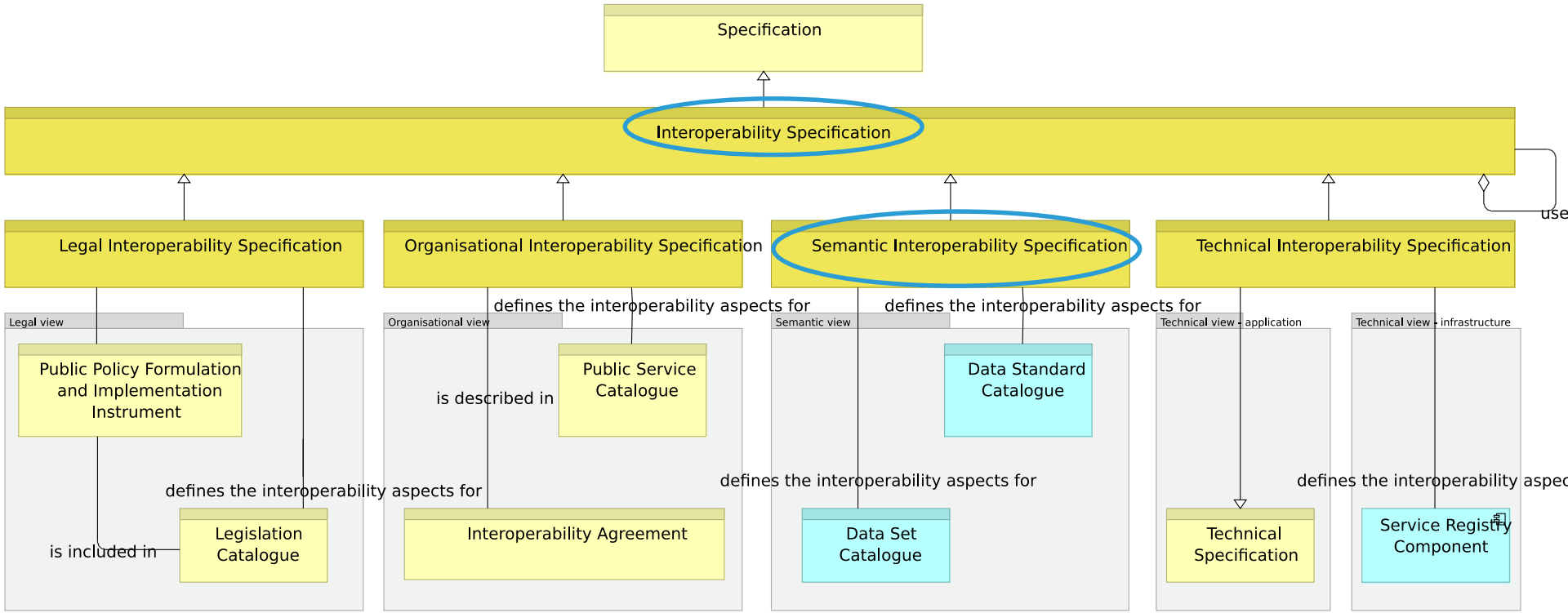
EIRA v1.0.0 Introduction – High Level Overview



EIRA v1.0.0 Introduction– Semantic view



EIRA v1.0.0 Introduction– IOP specification underpinning view



Why EIRA uses IOP specifications?

KEY MESSAGE

- ✓ To prescribe interoperability in ABBs and to document interoperability in SBBs.

- ✓ In EIRA to prescribe interoperability for an ABB means

to provide the set of the most salient cross-domain (not related to any public-policy domain) and public policy domain-specific IOP specifications to which any SBB implementing the ABB should be compliant to.

- ✓ In EIRA to document interoperability for an SBB means

to provide the set of the most salient cross-domain (not related to any public-policy domain) and public policy domain-specific IOP specifications to which the SBB is compliant to.

EIRA IOP specifications uses-cases

- ✓ Design solution architectures: IoP specifications provide a valuable source of information to formulate requirements during architecture development and solution development.
- ✓ Write tender terms of reference for public procurement: referral to IoP specifications in tenderterms of references ensures that procurement contains clear requirements. In addition, conformance to standards can help avoid vendor lock-in.
- ✓ Test and certify conformance: test, certify and document that SBBs conforms to particular interoperability standards and specifications, and tests.

What is an EIRA IOP specification?

European Commission

An Interoperability Specification (IoP spec) is a **document** with the following logical components **<Identifier> <title> <domain>** <interface> <scope> <modality> and <body> whereas

I. The <identifier> is unique . It identifies univocally the IoP spec in the Cartography
II. The <title> is a short text. It describes the IoP spec.
III. The <domain> can be either **domain-neutral** (not related to any public policy domain) or **domain-specific** to a given set of public policy domains. It informs on the public policy domain of application of the IoP spec.

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What is an EIRA IOP specification? Cont.

KEY MESSAGE

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An Interoperability Specification (IoP spec) is a **document** with the following logical components <Identifier> <title> <domain> **<interface> <scope>** <modality> and <body> whereas

IV. The interface identifies the type of business information exchange to which the IoP spec is applicable. It informs on the constituents involved in the association **agent-to-agent** exchanging business information whereas:
   - An agent is described by the tuple <agent_type&principal_type>
   - The agent belongs to an agent_type {human, machine}
   - The agent acts on behalf of a principal who belongs to a principal_type {citizen, business, PA}

V. The scope is either a **set of EIRA ABBs** (on the endorsed mode) or a **set of SBBs supporting EIRA ABBs** (on the descriptive mode). ABBs/SBBs might be in different EIF views. It informs on the scope of the IOP spec

What is an EIRA IOP specification? Cont.

An Interoperability Specification (IoP spec) is a **document** with the following logical components <Identifier> <title> <domain> <interface> <scope> **<modality>** and **<body>** whereas

VI. The modality can be either **endorsing** (i.e. to be used) or **describing** (i.e. actually used). It informs on the mode of the IOP spec.

VII. The body contains statements on one or several Solution Building Blocks (SBBs). It informs either (i.e. endorsed mode) on the endorsed specification at the Architectural Building Block (ABB) level to achieve interoperability for its SBBs or (i.e. in solution descriptive mode) on a specification to which an SBB is actually compliant to achieve interoperability.

What is an EIRA IOP specification? Cont.

KEY MESSAGE

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An Interoperability Specification (IoP spec) is a **document** with the following logical components <Identifier> <title> <domain> <interface> <scope> **<**modality**>** and **<body>** whereas

- ✓ EIRA **endorses** IOP specifications maintained by either a governance body and based on open standards or EC ISA specifications.
- ✓ The EIRA allows the possibility to **document** solutions that uses IOP specifications that are not EIRA endorsed.
- ✓ The CarTool will reference the European Catalogue of Standards as well as non-endorsed standards.
- ✓ An IOP specification is modelled as an SBB.
- ✓ **No competing endorsed** standards or specifications.
- ✓ One IOP specification may reference another IOP specification.

Example semantic IOP spec for the Data Model ABB

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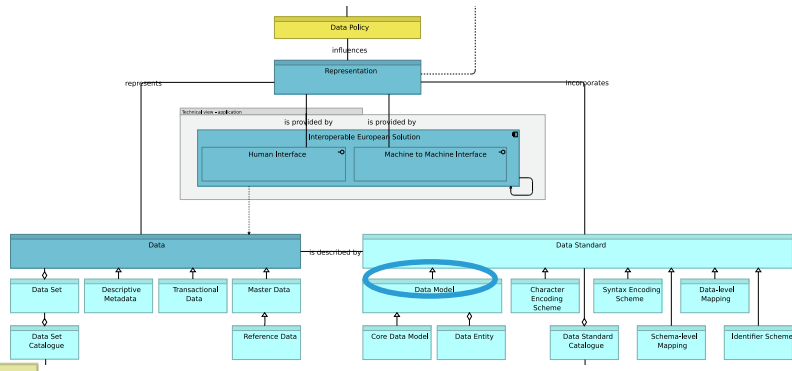

Semantic Interoperability Specification

<<Semantic Interoperability Specification>>
Health Level Seven (HL7)

Data Model

Attributes
* ID: xyz_123
* title: Health Level 7
* domain: Environment consumers and
* modality: endorsed (derived attribute
* scenario: machine&PA, machine&bus
* scope: semantic iop spec, representat
* source: http://www.hl7.org
* body: <<body text here>>

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Example semantic IOP spec for the Core Data Model ABB

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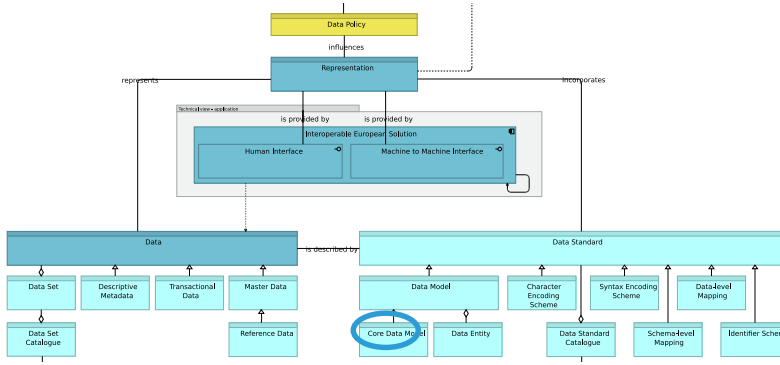

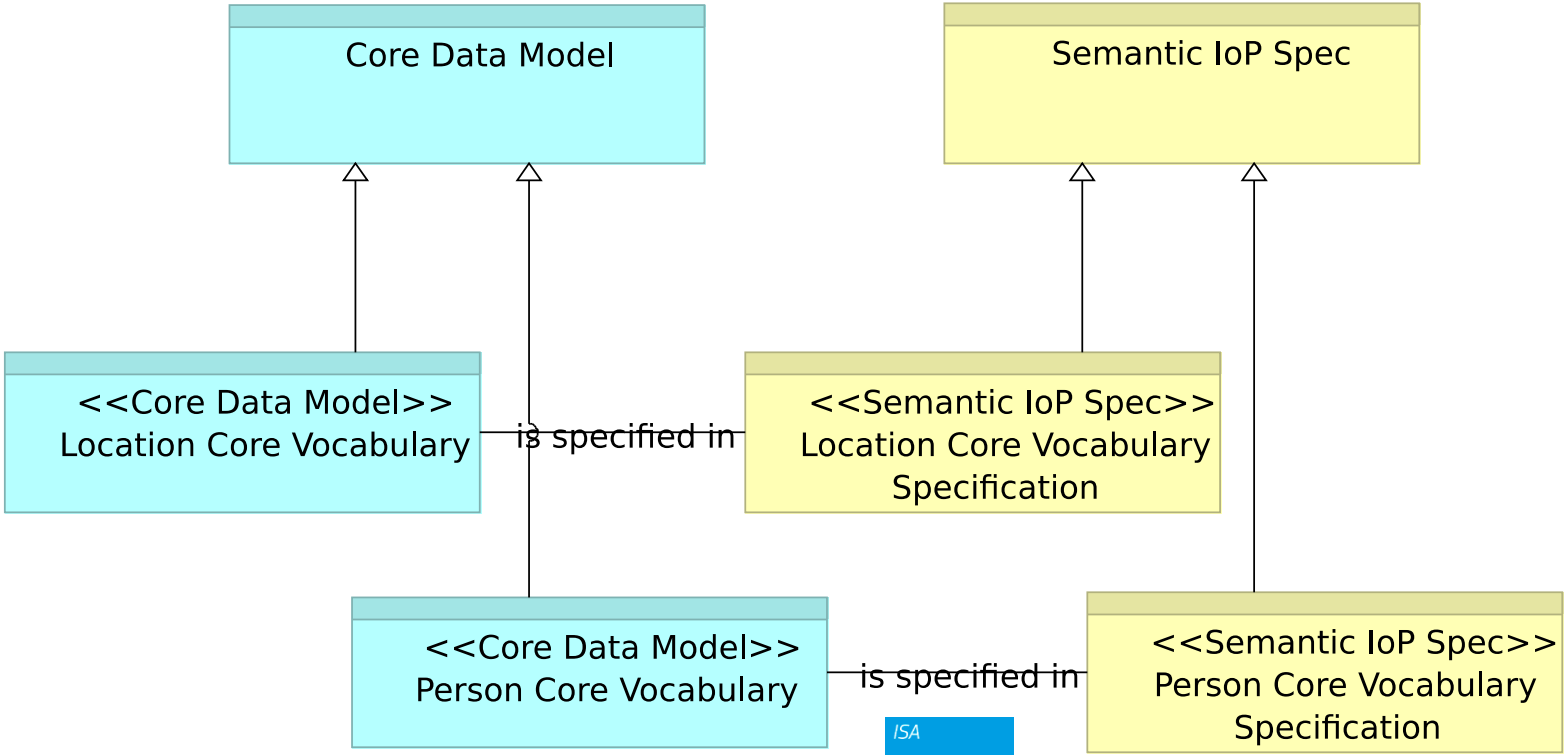

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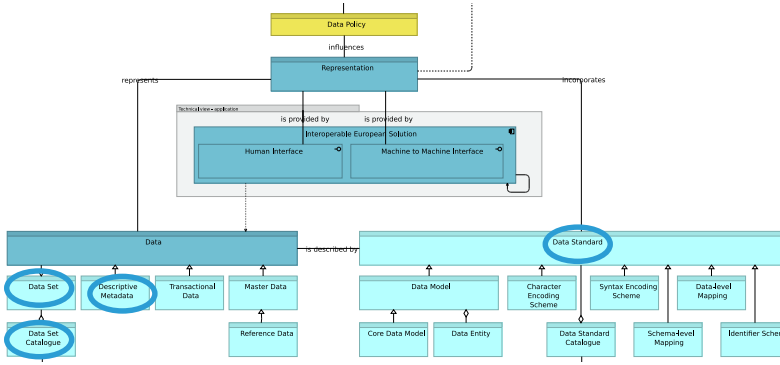
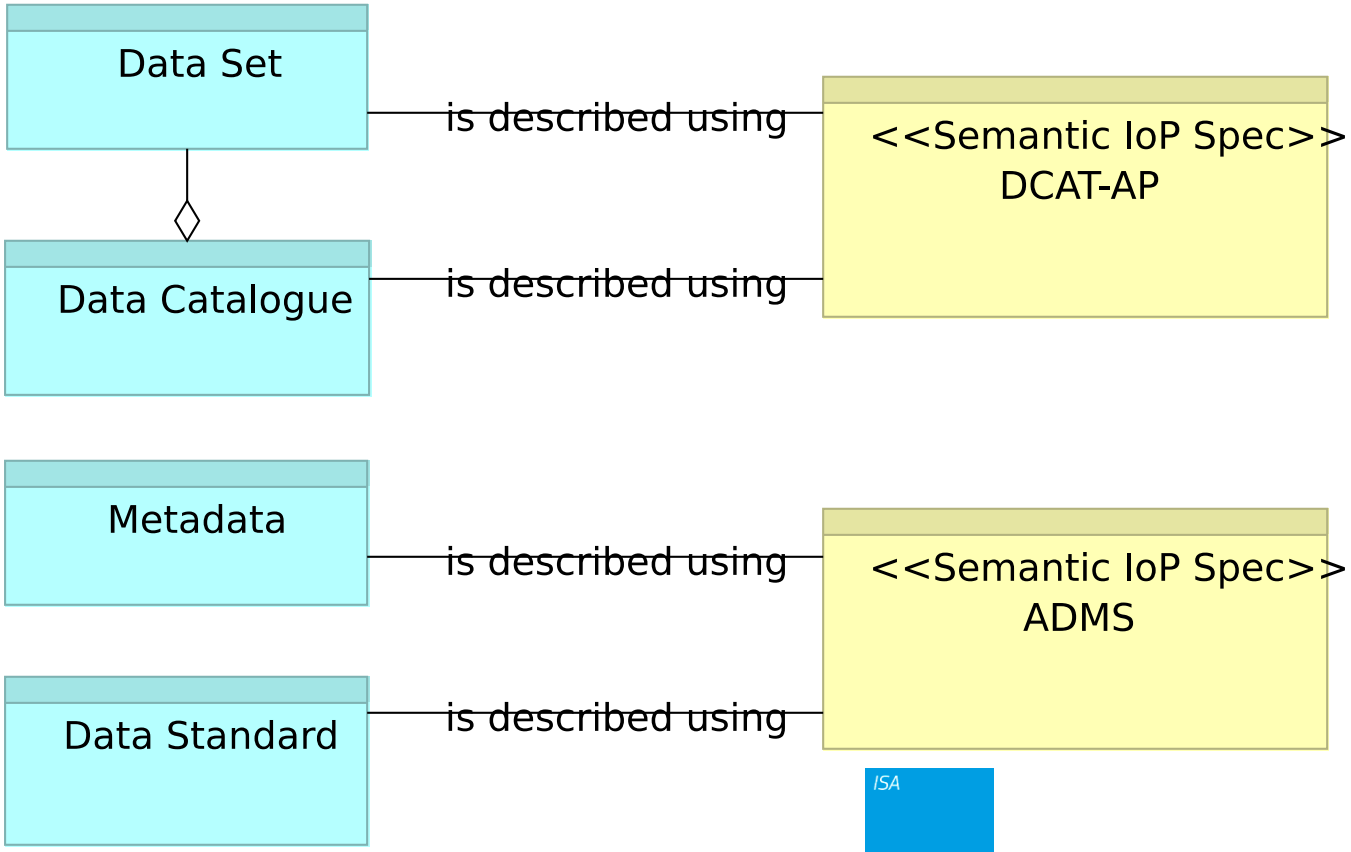
Example semantic IOP spec for the Data Set, Data Catalogue, Descriptive Metadata and Data Standard ABBs





Contact us

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EIRA

European Interoperability Reference Architecture

Cartography tool

European Interoperability Cartography

For more information

EIA Joinup community	https://joinup.ec.europa.eu/asset/eia/description
EIA project collaborative space	https://webgate.ec.europa.eu/CITnet/confluence/display/EIA/EIA+Home
ISA website	http://ec.europa.eu/isa/index_en.htm
ISA FAQ	http://ec.europa.eu/isa/faq/faq_en.htm