ISA: Interoperability Solutions for European public Administrations

Working Session on Government Information and Government Libraries

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"Interoperability, within the context of European public service delivery, is the ability of disparate and diverse organisations to interact towards mutually beneficial and agreed common goals, involving the sharing of information and knowledge between the organisations, through the business processes they support, by means of the exchange of data between their respective ICT systems."

(*) as defined in the European Interoperability Framework - EIF
What we can do with interoperability

... towards an interconnected government model

- Develop synergies among institutions
- Unlock data across sectors
- Share services and solutions
- Optimize and simplify across ministerial boundaries

Enabler = Interoperability

- Extract from Council Conclusions, October 2013:

"The modernisation of public administrations should continue ... Open data is an untapped resource with a huge potential ... Interoperability and the re-use of public sector information shall be promoted actively. "

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... and effective electronic cross-border and cross-sector interaction between European public administrations.

... share and re-use existing successful or new Interoperability solutions, common services and generic tools.

...IT systems allow smooth implementation of Community policies and activities.
The interoperability puzzle

- European and national interoperability activities are aligned and complementary
- Regularly map and update the current and future EU interoperability environment
- Identify missing cross-sector services and solutions and promote their implementation
- Reusable solutions are described and their conditions of use are fully established
- Disseminate information about currently existing interoperability solutions
- Public administrations develop services and solutions with interoperability in mind ('interoperability by design')
- Assess and develop the means to facilitate the sharing of components of public services
- IT services and solutions support new policies and are included in legislative proposals
- Public Administrations have access to base registry data and a catalogue of services
- Domain-related specifications are identified and have a sector leader assigned to them
- Adopt a ‘business case’ approach to new PA services and including to cross-sector services
- Public services building blocks and common infrastructure services are available
- Support development and implementation of cross-sector solutions
- Appropriate governance models are in place covering the life span of the PA services and interoperability solutions
- Public Sector Information is available in common formats
Achieving Interoperability requires an holistic approach be it at EU, national or local level

- Structuring & strategic activities
- Collection & assessment of interoperability solutions
- Mapping solutions into cartography
- Identifying missing parts
- Setting the IOP agenda
- Assess. of ICT implications of EU legislation

- Sharing of solutions
  - Motivating and monitoring re-use
- Support the development & operation of ICT solutions
- Community building
  - Raising awareness

The ISA programme approach
Putting the puzzle together
Digital Agenda:

“A key action to promote interoperability between public administrations will be the Commission's adoption of an ambitious **European Interoperability Strategy** and the **European Interoperability Framework** to be drawn up under the ISA programme”

Adopted by the Commission in December 2010 in the Communication “Towards interoperability for European public services”
The European Interoperability Framework identifies different layers of interoperability:

- **Political Context**
  - Legal Interoperability
    - Legislative Alignment
  - Organisational Interoperability
    - Organisation and Process Alignment
  - Semantic Interoperability
    - Semantic Alignment
  - Technical Interoperability
    - Interaction & Transport

- **Cooperating partners with compatible visions, aligned priorities, and focused objectives**
- **Aligned legislation so that exchanged data is accorded proper legal weight**
- **Coordinated processes in which different organisations achieve a previously agreed and mutually beneficial goal**
- **Precise meaning of exchanged information which is preserved and understood by all parties**
- **Planning of technical issues involved in linking computer systems and services**

**EIF provides specific recommendations for every layer**
EIF recommendations on organizational interoperability

“Whole of Government” approach:

- Setting up effective governance structures
- Breaking down organisational silos and aligning business processes and related data exchange across different public administration bodies
- Delivering IT solutions is not sufficient, but needs to come together with process improvement and change
- Governance structures should assure interoperability and sustainability (technical, operational and financial) over time when operating and delivering a European Public Service
Creating a sharing and re-use framework

Business and governance models
MoUs and SLAs
Collaborative templates
Contractual templates
Guidelines for public procurement of ICT solutions
EUPL

Development and re-use of shared tools

Shared development of solutions

Development and use of shared services
EIF recommendations on base registers

**RECOMMENDATION 11**
“Public administrations should make their authentic sources of information available to others while implementing the appropriate access and control mechanisms to ensure security and privacy as foreseen in the relevant legislation.”

*Source: European Interoperability Framework 2.0*

**RECOMMENDATION 12**
“Public administrations, when working to establish European public services, should develop interfaces to authentic sources and align them at semantic and technical level.”

*Source: European Interoperability Framework 2.0*

“…registries are under the legal control of public administrations and are maintained by them, but the information should be made available for wider reuse with the appropriate security and privacy measures.”

*Source: European Interoperability Framework 2.0*
When designing a solution take into account all interoperability layers

We have a representative example when interconnecting base registries.
Catalogue of good practices for base registers
(Some selected best practices)

Organisational layer

Good practice #6: Cross-organisational committees, with decision-making power, coordinate the interconnection between base registries

Good practice #7: Collaborative processes are put in place to design interoperable interfaces used for interconnecting base registries

Good practice #8: The conditions for exchanging data between base registries are formalised in interoperability agreements which are respected

Semantic layer

Good practice #12: Base registries are slowly moving towards the re-use of semantic assets

Technical layer

Good practice #17: A set of security principles is guaranteed via the appropriate trust-based mechanisms
Common Assessment Method for Standards and Specifications (CAMSS)

- CAMSS process
- CAMSS criteria
- CAMSS library

Proposed regulation on European standardisation

Digital Agenda - Action 23: Provide guidance on ICT standardisation and public procurement

Best practice assessment method, including:
- a reference assessment process, and
- set of quality criteria

Member States
- Assessment method in Member State A
- Assessment method in Member State B
- Assessment method in Member State C
- Assessment method in ...

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Interoperability maturity model

The model assesses the interoperability maturity of a service. It addresses four areas of interoperability:

- Re-usable by any organisation to assess the maturity of its services and detect areas needing further improvement.
The European Interoperability Reference architecture and EU cartography

| Designing | Accelerate the design of systems that support the delivery of interoperable digital public services (across borders and sectors). |
| Assessing | Provide a reference model for comparing existing architectures in different policy domains and thematic areas, to identify focal points for convergence and reuse. |
| Communicating and Sharing | Help documenting the most salient interoperability elements of complex systems and facilitate the sharing of reusable solutions. |
| Discovering and Reusing | Ease the discovery and reuse of interoperability solutions through the European Interoperability Cartography – EICart in Joinup website. |

Supporting instruments to EU public administrations
A four-view reference architecture for delivering digital public services (across borders and sectors)

EIRA
European Interoperability Reference Architecture

A mapping of existing solutions to the Building Blocks of the EIRA

EICart
European Interoperability Cartography
Joinup

- A multi-purpose platform:
  - Interoperability observatory
  - Communities of interest around interoperability
  - Collaborative work environment
  - Catalogue of interoperability solutions

- Aims to facilitate the **sharing and re-use** of interoperability solutions made for public administrations
### Joinup in numbers

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<td>Registered users</td>
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<td>Library items, news items and events</td>
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<td>Availability</td>
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Collects and disseminates information on national interoperability frameworks (NIFs)

The NIFO factsheets provide an analysis of the MS’ main activities on interoperability; a summary of the NIF; the NIF/EIF alignment and other initiatives on interoperability.

In preparation:
- observatory of the implementation of the Malmo and Granada declarations (eGovernment, Public Sector Information, Standards...)
- Link with Country Specific Reports and Country Position Papers

Assists European public administrations in aligning the national interoperability initiatives to the EIF

NIFO analytical model: to perform comparative analysis of the NIFs and between the NIFs and the EIF, measuring the alignment, identifying the gaps with the EIF and learning from the experience of the other NIFs on how to improve the alignment to the EIF.
Interoperability enablers and support to EU legislation

- Secure exchange of documents between the EU Institutions and with the MS
- "Open" version exists
- Supported capabilities:
  - Large documents handling
  - Documents bundling
  - Multicasts
  - Time stamping

- Automatic Machine Translation in 23 EU languages - available to the Commission staff as of Jun 2013 + opening to the MS:
  - Automatic machine translation – statistical based
  - 24 EU languages – 58 pairs – 552 combinations
  - Built on EU documents for EU documents
  - Translated documents maintain their original format
  - Translates many documents in many languages in one go

- Secure IP based private network interconnecting Public Administrations

- 2 European Citizens initiatives on "Right2Water" and "One of Us" hit more than 1,000,000 signatures
- 17 other initiatives are still on-going

- IMI counts 7000 registered authorities and +14,000 users (status in Apr 2013)
- Possible re-use by other policy domains

- "Open" version exists
- The Belgian Federal Government has opted for reusing e-Prior for e-invoicing:
  - Rapid
  - Savings (7,5€ for PA and 2€ the suppliers) /annum

- s-TESTA

- MT@EC
**eSignature, eIdentification & validation**

- **Stork sustainability**
  Aimed to the provision of electronic identification services related to citizen’s accessing to eGovernment applications in cross-borders set-ups.

- **Digital Signature Software**
  Development of a software tool that creates and verifies legally binding electronic signatures.
  Makes use of the MS Trust Status Lists (TSLs) to check the trustworthiness of the signing certificates.

- **ECAS STORK integration**
  MS officials and civil servants need to access EC corporate applications
  ECAS-STORK integration already in production mode
  In use already by CIRCABC and the eJustice Portal

- **Federated authorisation across public administrations**
  - Extend ECAS multi factor authentication to a federated authorisation solution
  - Access to EC Applications using the national model for authorisation and ECAS-STORK.
Semantics

- 25 repositories federated
- 4,000 semantic assets already available
- Common description language ADMS (Asset Description Metada Schema)

Some pilots:
- Core Location to interconnect Belgian National and Regional Address Registers
- Pilot of core location and core business vocabularies in Greece
- Core Public Service Pilot: service descriptions from the e-CODEX large-scale pilot, the Flemish Intergovernmental Product and Service Catalogue and the Irish Citizens Information portal

Core Vocabulary: a simplified, reusable and extensible data model that captures the fundamental characteristics of an entity in a context-neutral fashion

ADMS & RegOrg become W3C notes
Making visible existing solutions

Establishing agreements on basic semantics

Improving interoperability of open data

Raising awareness on semantic interoperability and metadata management

Interoperability enablers

Semantics

ADMS & Catalogue of semantic standards

Core Vocabularies

DCAT-AP

Communities

Studies

Visits
An overview of ISA outputs

Support the effective Implementation of EU legislations (L)
- ICT Impact Assessments
- CISE
- EULF
- ECI
- ePrior
- PSI
- State Aid
- IMI
- INSPIRE
- ELI

Key Interoperability Enablers (I)
- Networks
- Semantics
- Information exchange
- Sources of trusted information (access to base registers)
- eSignature & eIdentification
- Catalogues of services

Supporting Instruments to European Public Administrations (PA)
- EIS/EIF
- Sharing & reuse
- IMM
- CAMMS
- Decision Support Enablers
- EIA (EIrA and EU cartography)
- EFIR
- CIRCABC
- ICT Impact Assessments

Accompanying Measures (A)
- Community building
- Communication Activities

Monitoring activities (M)
- Programme
- TES
- NIFO
The economic impact of interoperability
one model (from a citizen's perspective)

According to this model, for citizens that have to execute 10 transactions with the state when each transaction lasts 30 minutes each, the impact in the GDP is approximately:

- in Belgium: €1,1 billion a year,
- in Germany: €7,9 billion a year,
- in Italy: €4,9 billion a year, etc.

And in Greece €1,74 Billion a year (calculation with 2013 GDP)

These figures can vary with the number of transactions and the time spend on them.

From a Microsoft Research study
Join ISA initiatives at:
http://ec.europa.eu/isa/index_en.htm
and @ http://joinup.ec.europa.eu

Get involved
Interoperability Solutions for European public Administrations

ISA a key enabler for Public Administrations to join forces, bring down e-barriers and overcome financial constraints