

# Agreements around API's as a guarantee for interoperability

Event: Unlocking the digital economy with API

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# Interoperability: Context

For the purpose of the EIF, **interoperability** is the ability of organisations<sup>2</sup> to interact towards mutually beneficial goals, involving the sharing of information and knowledge between these organisations, through the business processes they support, by means of the exchange of data between their ICT systems.

<sup>2</sup> 'Organisations' here means public administration units or any entity acting on their behalf, or EU institutions or bodies.

EU: 28 member states

BELGIE

DE FEDERALE STAAT

## Overzicht van de federale organisaties

FOD's en Ministerie    POD's    Wetenschappelijke instellingen    ION's    OISZ

<a href="#">FOD Kanselarij van de Eerste Minister</a>
<a href="#">FOD Beleid en Ondersteuning</a>
<a href="#">FOD Buitenlandse Zaken, Buitenlandse Handel en Ontwikkelingssamenwerking</a>
<a href="#">FOD Binnenlandse Zaken</a>
<a href="#">FOD Financiën</a>
<a href="#">FOD Mobiliteit en Vervoer</a>
<a href="#">FOD Werkgelegenheid, Arbeid en Sociaal Overleg</a>
<a href="#">FOD Sociale Zekerheid</a>
<a href="#">FOD Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu</a>
<a href="#">FOD Justitie</a>
<a href="#">FOD Economie, KMO, Middenstand en Energie</a>
<a href="#">Ministerie van Defensie</a>

DE GEMEENSCHAPPEN

DE VLAAMSE  
GEMEENSCHAP



DE FRANSE  
GEMEENSCHAP



DE DUITSTALIGE  
GEMEENSCHAP



DE GEWESTEN

HET VLAAMSE GEWEST



HET BRUSSELSE HOOFD-  
STEDELIJKE GEWEST



HET WAAELSE GEWEST



⇒ The number of potentially communicating parties is very high !  
Do they all understand each other ?

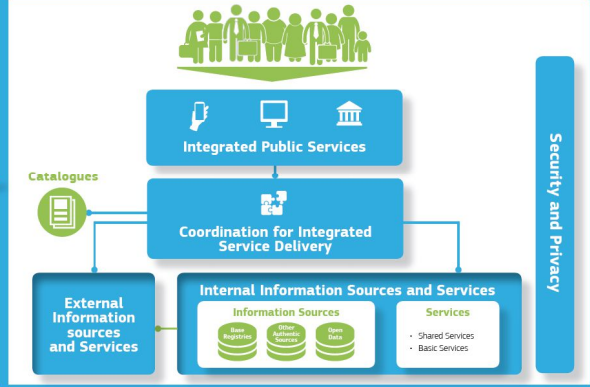
# Interoperability : EIF (European Interoperability Framework)

## EIF Conceptual Model

### Interoperability Governance



### Integrated Public Service Governance



### Interoperability Principles



EIF

# Interoperability Levels (EIF European Interoperability Framework)



- Legal interoperability
  - EU directives, Federal laws, Decrees
- Organisational interoperability
  - SLA's – Flanders' holiday 11/7, included in SLA with Flanders ?
  - Business hours
  - Uptime
- Semantic interoperability
  - Salary data – gross, net, meal vouchers included ?
  - Farming – foal, calf till what age ?
  - Height – above sea level, above NAP (Normaal Amsterdams Peil) ?
- Technical interoperability
  - SOAP, REST, json, xml, ...

# Interoperability initiatives

- Semantic Interoperability

- Functional workgroup of the G-Cloud Federal Service Platform
  - Mission: define data vocabulary standard for interoperability – focus: European/Federal level
  - Members from Finance, KSZ, eHealth, Smals, BOSA
  - Regular meetings since Oct 2017 ; now rather ad hoc, due to the new ICEG initiative
- Flanders – OSLO2 (Open Standaarden voor Linkende Organisaties)
- OSLO2 + Functional workgroup of the G-Cloud Federal Service Platform ⇒ **Data standard workgroups under ICEG**
  - ICEG – collaboration agreement wrt e-government between parties at Belgian federal , regional and community level
  - Mission: define semantic data standards at Belgian level

- Technical Interoperability

- REST Design workgroup of the G-Cloud Federal Service Platform
  - Mission: develop a REST styleguide
  - Members from KSZ, Smals, BOSA

# Semantic interoperability: Functional wg G-Cloud FSP

## • Deliverable

- >100 vocabulary terms (classes , properties , concepts and concept schemes)
  - URI
  - Technical name (E) + labels (D, F)
  - Definitions (E,F,D)
- Domains:
  - Generic,
  - Person,
  - Organization,
  - Location,
- Published on belgif

## • Reuse of existing vocabularies where possible

1. European
2. International
3. Self-defined at federal level

priority	prefix	URI	comment
5	person	<a href="http://www.w3.org/ns/person#">http://www.w3.org/ns/person#</a>	ISA Programme Core Vocabulary Person
10	org	<a href="http://www.w3.org/ns/org#">http://www.w3.org/ns/org#</a>	ISA Programme Core Vocabulary Organization
15	rov	<a href="http://www.w3.org/ns/regorg#">http://www.w3.org/ns/regorg#</a>	ISA Programme Core Vocabulary Registered Organization
20	locn	<a href="http://www.w3.org/ns/locn#">http://www.w3.org/ns/locn#</a>	ISA Programme Core Vocabulary Location
25	cpsv	<a href="http://purl.org/vocab/cpsv#">http://purl.org/vocab/cpsv#</a>	ISA Programme Core Vocabulary Public Service
30	eli	<a href="http://data.europa.eu/eli/ontology#">http://data.europa.eu/eli/ontology#</a>	European Legislation Identifier
35	cv	<a href="http://data.europa.eu/m&amp;g/">http://data.europa.eu/m&amp;g/</a>	ISA Programme Core Vocabulary
100	dcat	<a href="http://www.w3.org/ns/dcat#">http://www.w3.org/ns/dcat#</a>	Data Catalog Vocabulary
105	adms	<a href="http://www.w3.org/ns/adms#">http://www.w3.org/ns/adms#</a>	Asset Description Metadata Schema
110	dc	<a href="http://purl.org/dc/elements/1.1/">http://purl.org/dc/elements/1.1/</a>	Dublin Core Metadata Element Set, Version 1.1
115	dcterms of dct	<a href="http://purl.org/dc/terms/">http://purl.org/dc/terms/</a>	DCMI Metadata Terms
120	dctype	<a href="http://purl.org/dc/dcmitype/">http://purl.org/dc/dcmitype/</a>	DCMI Type Vocabulary
125	rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>	Resource Description Framework (RDF): Concepts and Abstract Syntax
130	rdfs	<a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#</a>	RDF Vocabulary Description Language 1.0: RDF Schema
135	skos	<a href="http://www.w3.org/2004/02/skos/core#">http://www.w3.org/2004/02/skos/core#</a>	SKOS Simple Knowledge Organization System - Reference
140	foaf	<a href="http://xmlns.com/foaf/0.1/">http://xmlns.com/foaf/0.1/</a>	FOAF Vocabulary
145	schema	<a href="http://schema.org/">http://schema.org/</a>	schema.org
150	vcard	<a href="http://www.w3.org/2006/vcard/ns#">http://www.w3.org/2006/vcard/ns#</a>	vCard Ontology
155	prov	<a href="http://www.w3.org/ns/prov#">http://www.w3.org/ns/prov#</a>	PROV-O: The PROV Ontology
300	fed-bus	<a href="http://vocab.belgif.be/ns/business#">http://vocab.belgif.be/ns/business#</a>	Federal gov. vocabulary extending domain "Business"
305	fed-gen	<a href="http://vocab.belgif.be/ns/generic#">http://vocab.belgif.be/ns/generic#</a>	Federal gov. vocabulary extending domain "Generic"
310	fed-loc	<a href="http://vocab.belgif.be/ns/location#">http://vocab.belgif.be/ns/location#</a>	Federal gov. vocabulary extending domain "Location"
315	fed-per	<a href="http://vocab.belgif.be/ns/person#">http://vocab.belgif.be/ns/person#</a>	Federal gov. vocabulary extending domain "Person"
320	fed-temp	<a href="http://vocab.belgif.be/ns/temporal#">http://vocab.belgif.be/ns/temporal#</a>	Federal gov. vocabulary extending domain "Temporal"

# Semantic interoperability: ICEG

## Kickoff on 2019-09-13



### Participants:

Flemish Community+Region Flanders:	Buyle Raf
French Community	Brouwer Thierry
German Community	Aussems Thomas
FPS Finance	Janssens Raf
Region Brussels	Hof Alexander
Region Wallonia + SI Wallonia	Bakasanda Olivier-Pascal
SI BOSA	Bruylant Marc
SI BOSA	D'hondt Liesbet
SI BOSA	Hanssens Bart
SI Brussels (Fidus)	Le Grelle Dominique
SI e-Health	Bosman Robin
SI Flanders	Vanderstraete Tony
SI Wallonia	Willems Jérôme





# Technical interoperability: REST styleguide

- REST = REpresentational State Transfer
  - REST is the de facto standard to communicate with web services from JavaScript and native mobile applications.
  - REST has become the industry standard for developing APIs on the web (Google, Facebook, Amazon, Twitter, etc).
  - Main characteristics:
    - Focus on data exchange – Stateless
    - No focus on user interface
- Goal REST styleguide:
  - Improve compatibility between RESTful services offered by government institutions or any other organization adopting the guidelines.
- Remarks re the scope of the guide – not included:
  - how to secure REST APIs (see REST Security Working Group)
  - how to represent common business data (e.g. social security number, address, ...) (see Functional Working Group)
- Published on G-Cloud

# Technical interoperability: REST styleguide

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# Interesting links

Topic	Link
European Interoperability Framework	<a href="https://ec.europa.eu/isa2/sites/isa/files/eif_brochure_final.pdf">https://ec.europa.eu/isa2/sites/isa/files/eif_brochure_final.pdf</a>
Federale datastandaard	<a href="https://github.com/belgif/fedvoc">https://github.com/belgif/fedvoc</a>
ICEG collaboration agreement	<a href="http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?cn=2013082605&amp;la=N&amp;language=nl&amp;table_name=wet">http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?cn=2013082605&amp;la=N&amp;language=nl&amp;table_name=wet</a>
ICEG review committee	<a href="https://github.com/belgif/review">https://github.com/belgif/review</a>
ICEG thematic workgroups	<a href="https://github.com/belgif/thematic">https://github.com/belgif/thematic</a>
OSLO2	<a href="https://data.vlaanderen.be/">https://data.vlaanderen.be/</a>
REST styleguide	<a href="https://www.belgif.be/en/specifications">https://www.belgif.be/en/specifications</a>
REST styleguide	<a href="https://www.gcloud.belgium.be/rest/">https://www.gcloud.belgium.be/rest/</a>

Thanks for your  
attention!

Questions ?

2019-12-12

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