

# VAT scheme for SME partial solution v.1.0

*Interoperability/EIRA*

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EUROPEAN COMMISSION DIGIT D2

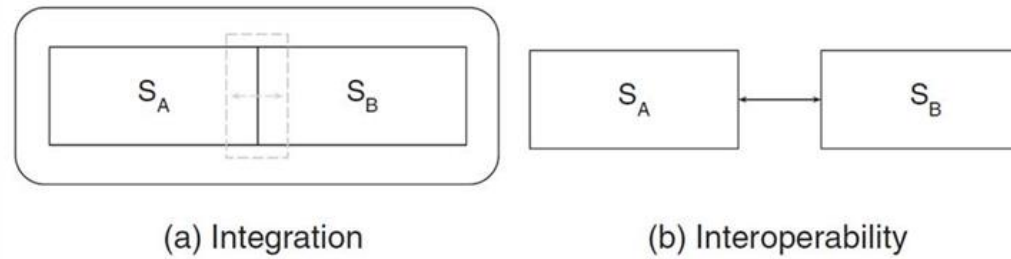
Directorate-General for Informatics (DIGIT)

Project Officer: Dr. Raul Abril

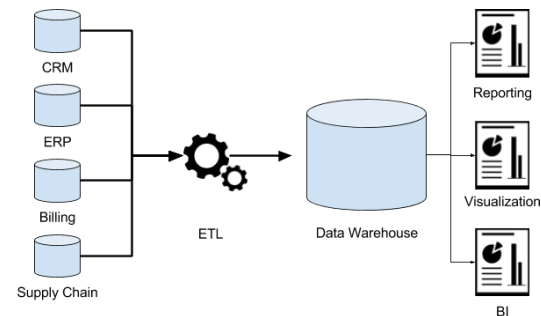
**interoperable**  
europe

# Interoperability

*C. Stary, D. Wachholder / Data & Knowledge Engineering 00 (2015) xxx-xxx*

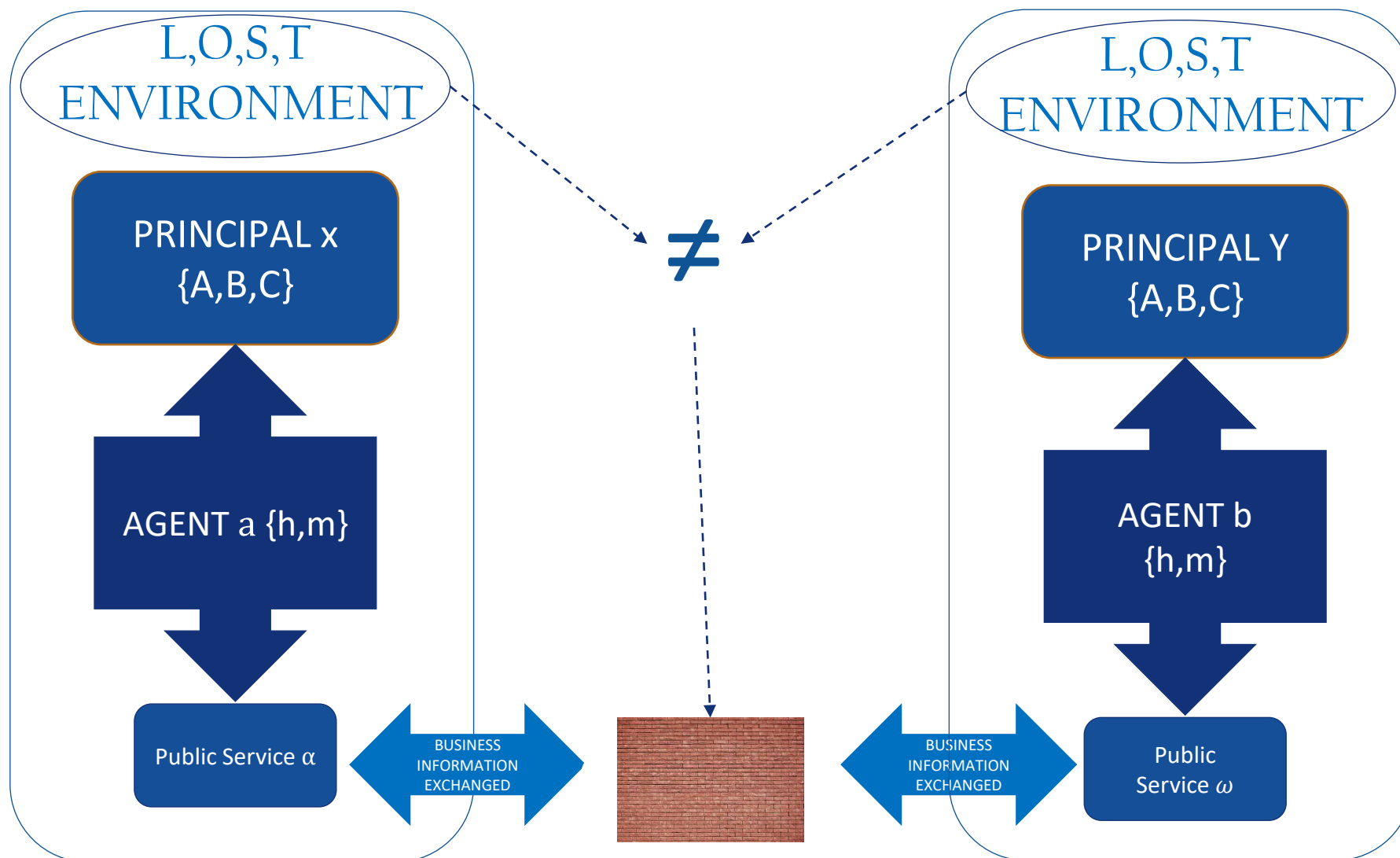


**Fig. 1.** System integration vs. interoperability





# The IOP challenge: LOST environments



**A:** Public Administration  
(local, regional, national,  
European)  
**B:** Business  
**C:** Citizen



Adobe Acrobat  
Document



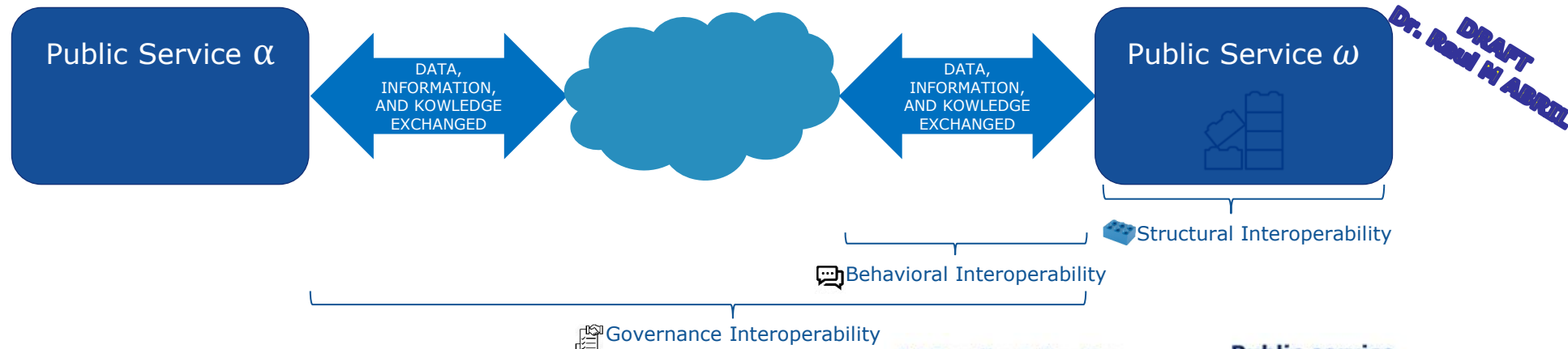
European  
Commission

# Interoperability: definition

“Interoperability is the attribution of actors or components in an organisation value chain enabling peer-to-peer collaboration of agents or [public] services towards mutually beneficial goals, involving the exchange of data, information and knowledge between them regardless their legal, organisational, semantical and technical environment.”.

**Interoperability is of multidimensional nature involving structural interoperability, behavioural interoperability and governance interoperability:**

- The structural interoperability is “the extent its structure has been developed reusing and/or sharing components in support of a peer-to-peer collaboration”
- The behavioural interoperability is “the extent its manifested behaviour exchanges data, information or knowledge with its environment in support of a peer-to-peer collaboration”
- The governance interoperability is “the extent its agreed choreography rules support a peer-to-peer collaboration”



**Structural Interoperability: Interoperability by design.**  
Reuse interoperable decoupled components  $n! = n \cdot (n - 1)!$



**Behavioral Interoperability: Information exchange**



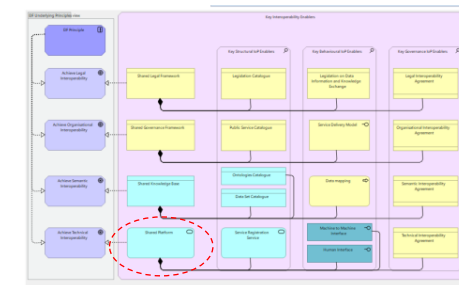
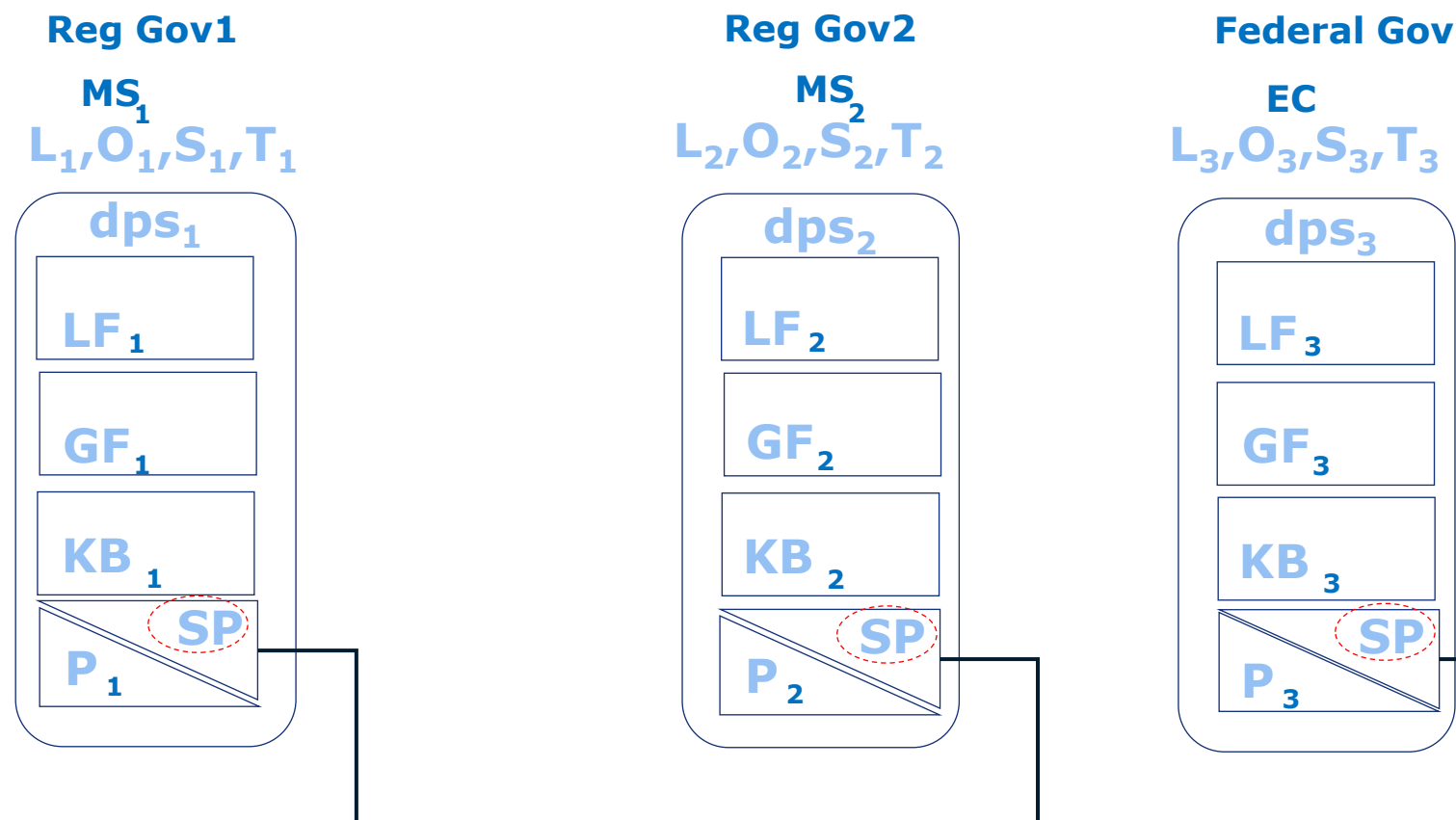
**Governance Interoperability: Collaboration with other public services**

**ABB salient for the interoperability**

**Public service interoperable**



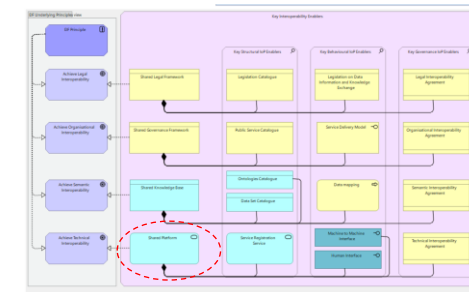
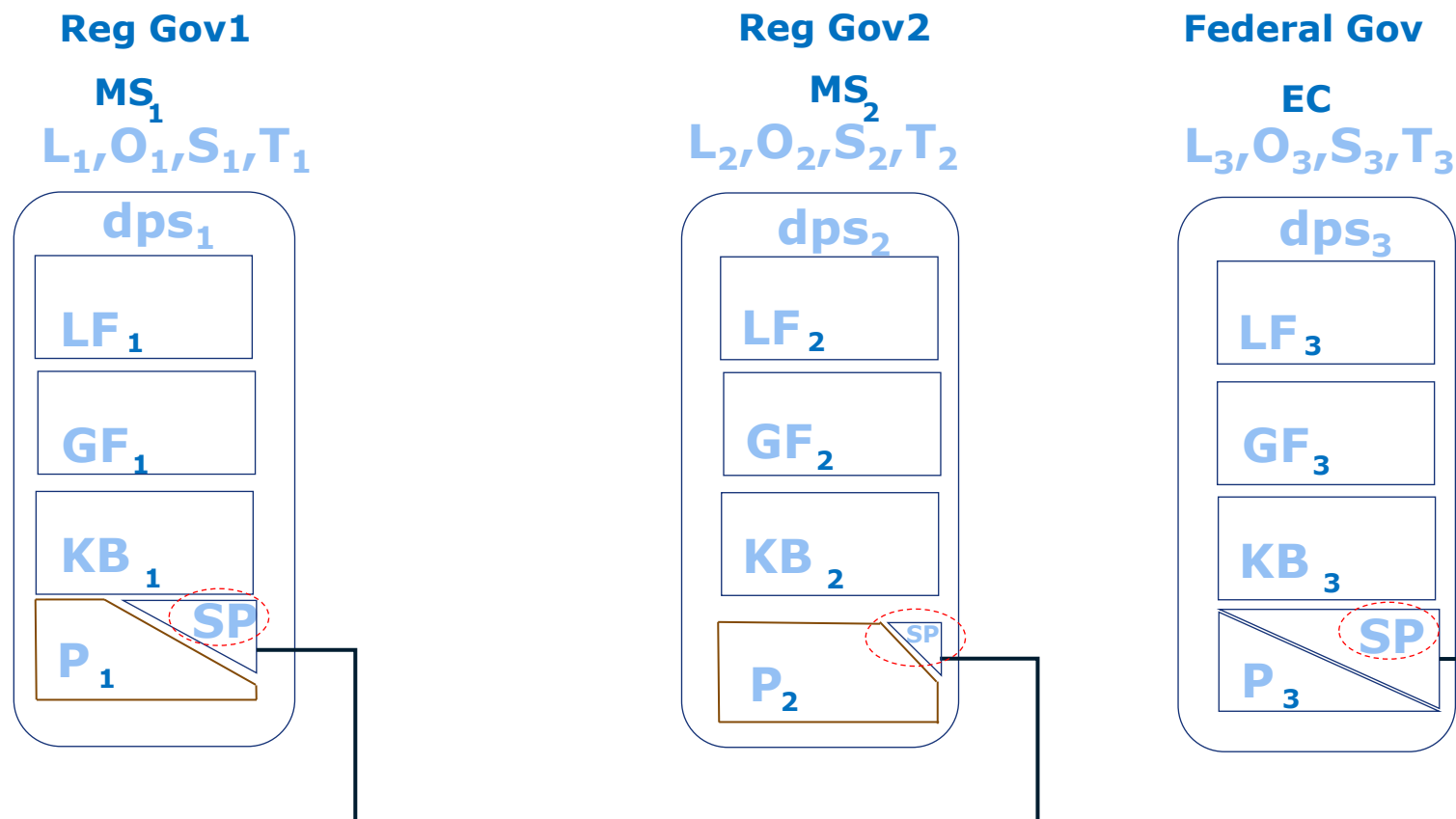
# Technology implementation orientation



[http:// data.europa.eu/dr8/<EIRA\\_ABB>](http://data.europa.eu/dr8/<EIRA_ABB>)  
<http:// data.europa.eu/dr8/SharedPlatform>

Tech. iop degree: **PERFECT SHARE TECHNOLOGY**. CROSS-BORDER IOP (i.e. no iop barriers) from the Technical perspective

# Technology implementation orientation

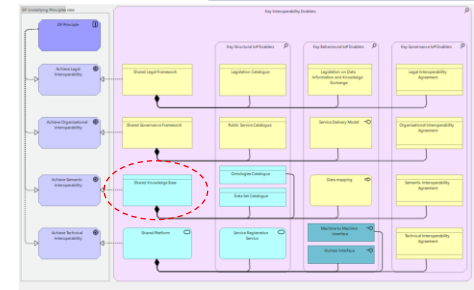
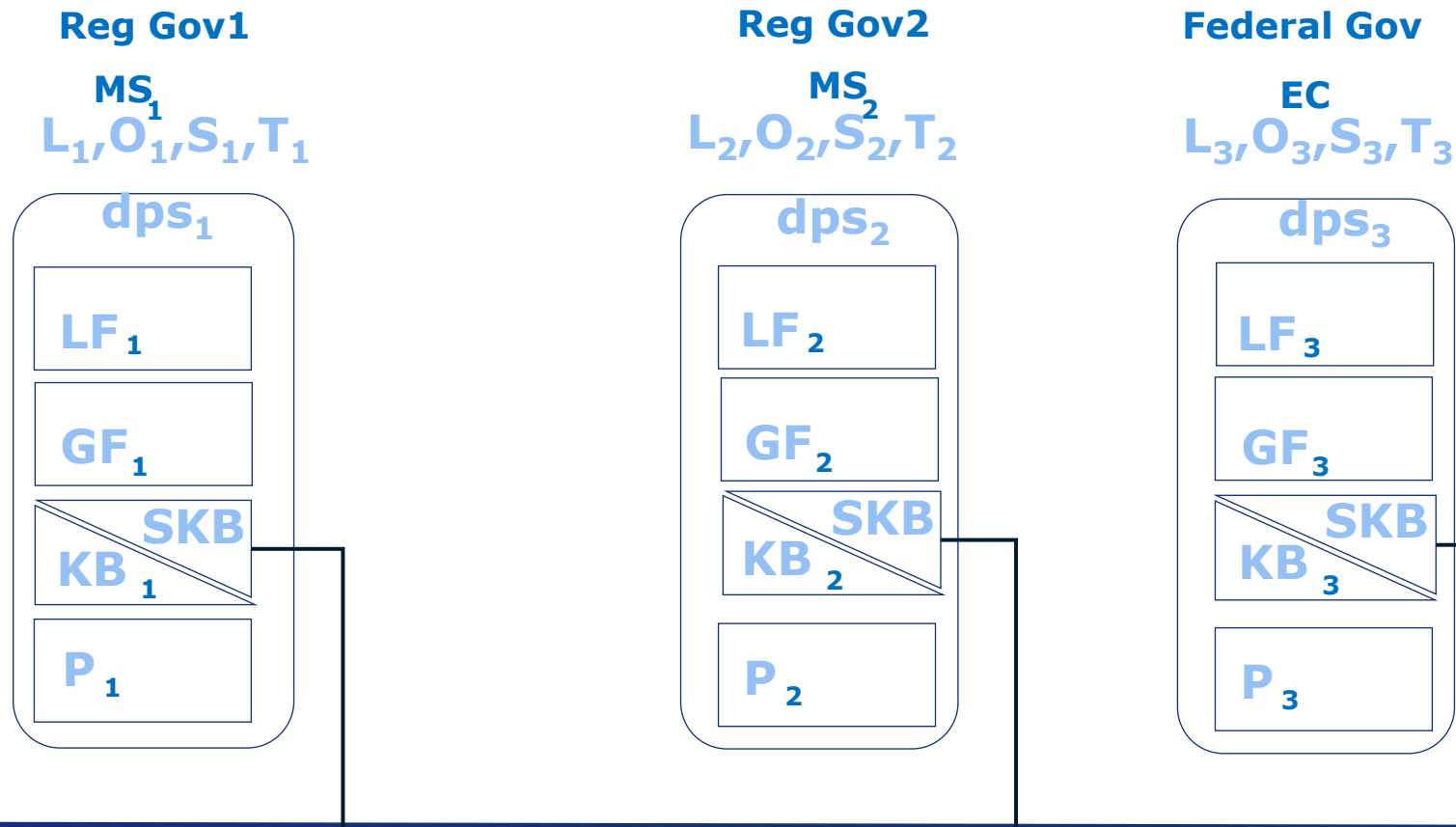


➔ [http:// data.europa.eu/dr8/<EIRA\\_ABB>](http://data.europa.eu/dr8/<EIRA_ABB>)  
<http:// data.europa.eu/dr8/SharedPlatform>

Tech iop degree: **IMPERFECT SHARE TECHNOLOGY**. Some CROSS-BORDER IOP barriers from the Technical perspective



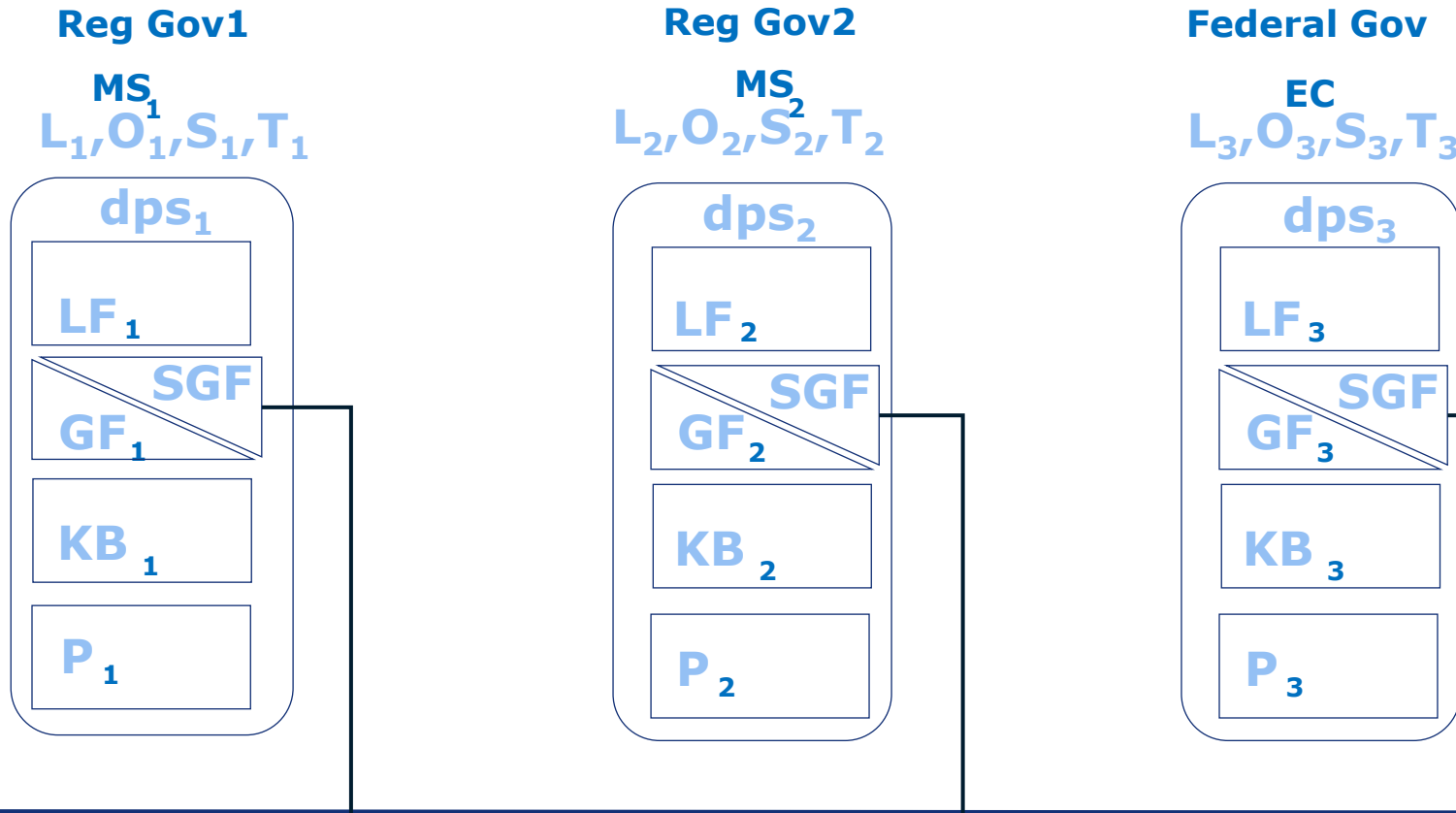
# Integration implementation orientation



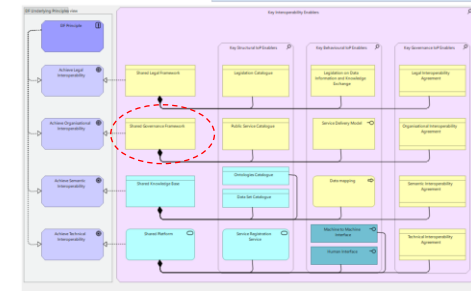
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Semantic iop degree: **PERFECT SHARE INTEGRATION**. CROSS-BORDER IOP (i.e. no iop barriers) from the Semantic perspective

# Governance implementation orientation



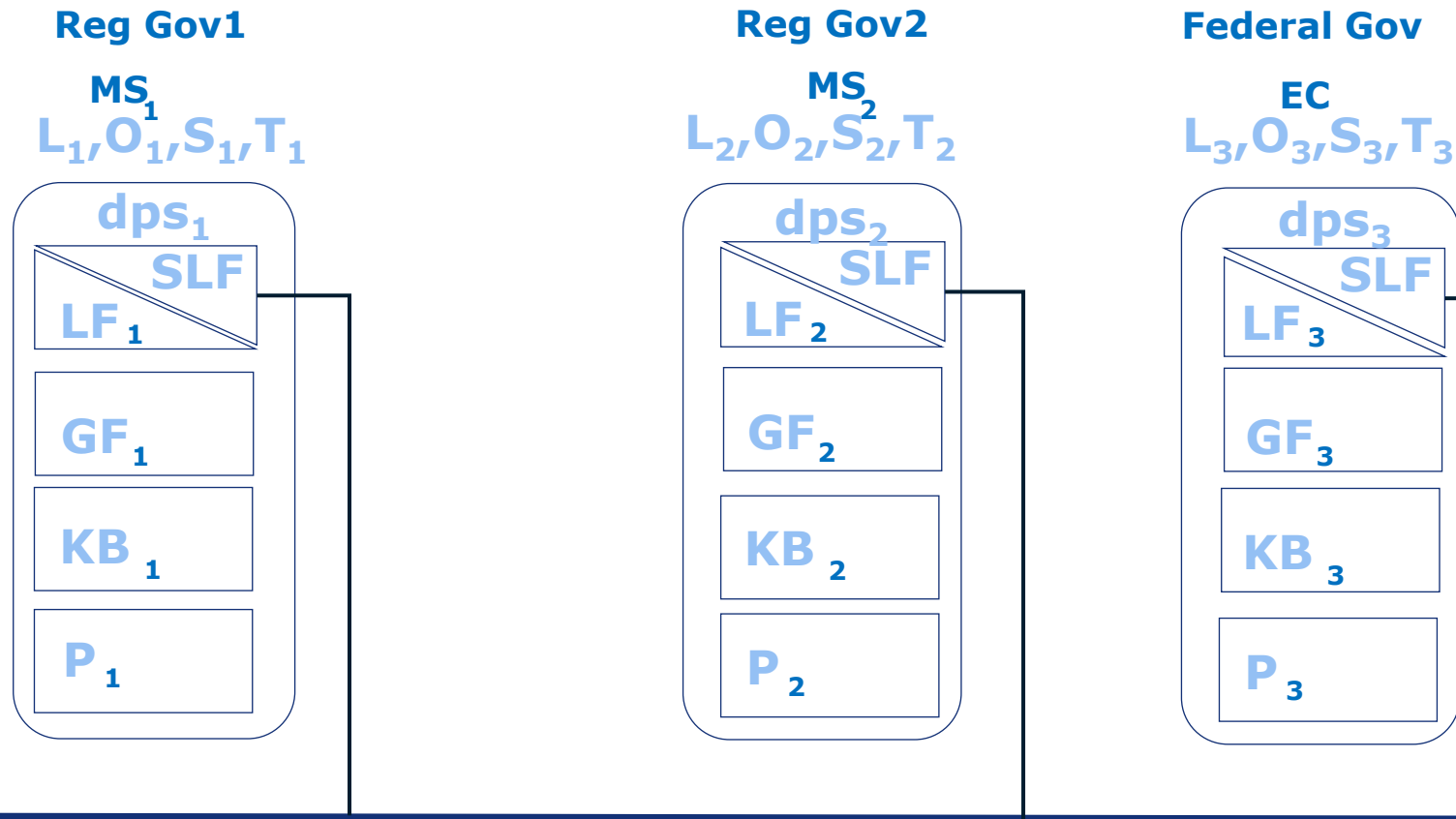
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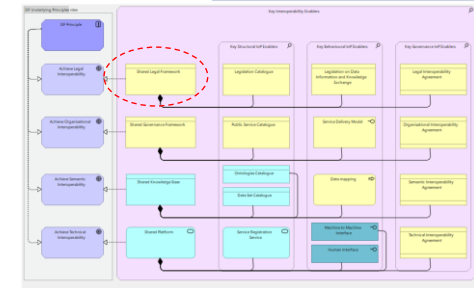
Organisational iop degree: **PERFECT SHARE GOVERNANCE. CROSS-BORDER IOP**  
(i.e. no iop barriers) from the Organizational perspective



# Legal implementation orientation

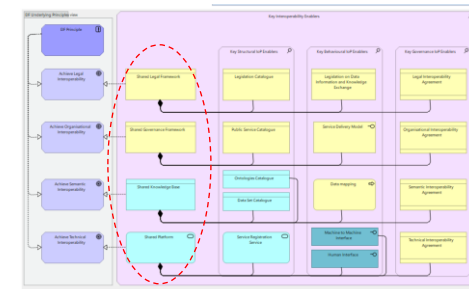
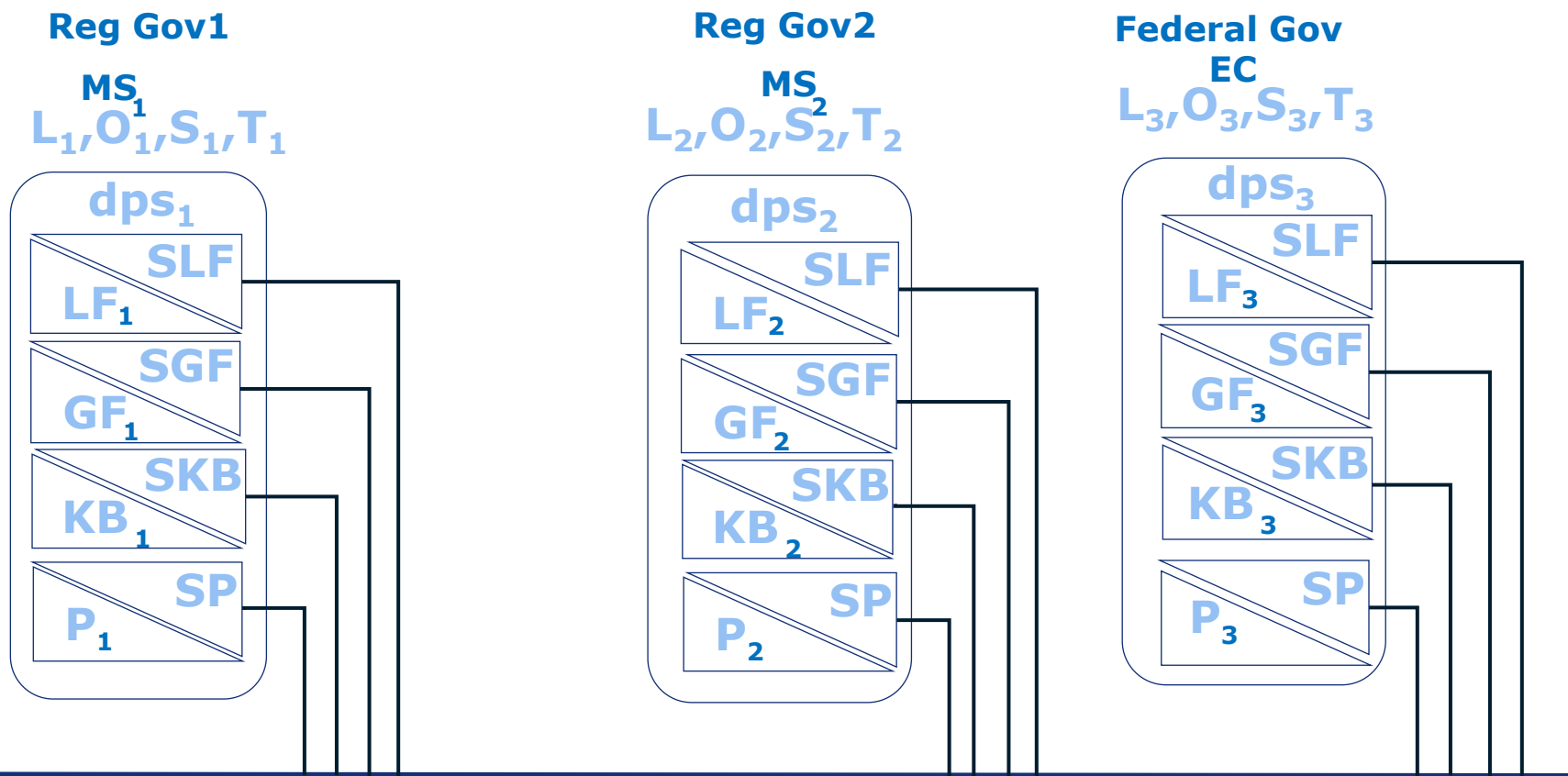


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Legal iop degree: **PERFECT SHARE LEGAL. CROSS-BORDER IOP** (i.e. no iop barriers) from the Legal perspective

# Target



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<http:// data.europa.eu/dr8/SharedPlatform>

lop degree: **PERFECT SHARE EVERYTHING**. CROSS-BORDER IOP (i.e. no iop barriers) from the Technical, Semantic, and Organizational Legal perspectives

# interoperable europe

innovation ∞ govtech ∞ community

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