



THE SWEDISH NATIONAL
FINANCIAL MANAGEMENT
AUTHORITY



How UBL enables eProcurement in Europe

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Stockholm

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About myself



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Professional assignments (current):

- **SIS/ISO:**
 - Chairman **SIS** TK 542, former Co Convenor **ISO ITU-T CT** (Cloud Computing standardization) – Reference Architecture for Cloud Computing – now: cloud expert in ISO/IEC SC38
- **ESV**, The Swedish Financial Management Authority:
 - OpenPEPPOL – Post Award Coordinating Community Leader
 - PEPPOL authority - coordinator
 - Participant – e-SENS

Non-professional assignments:

- Running
- Coaching
- Speaker assignments
- Taking care of the Family (Monica, wife, John & Otto, sons, Chico, dog)
- Enjoying life



PEPPOL

PEPPOL is about...

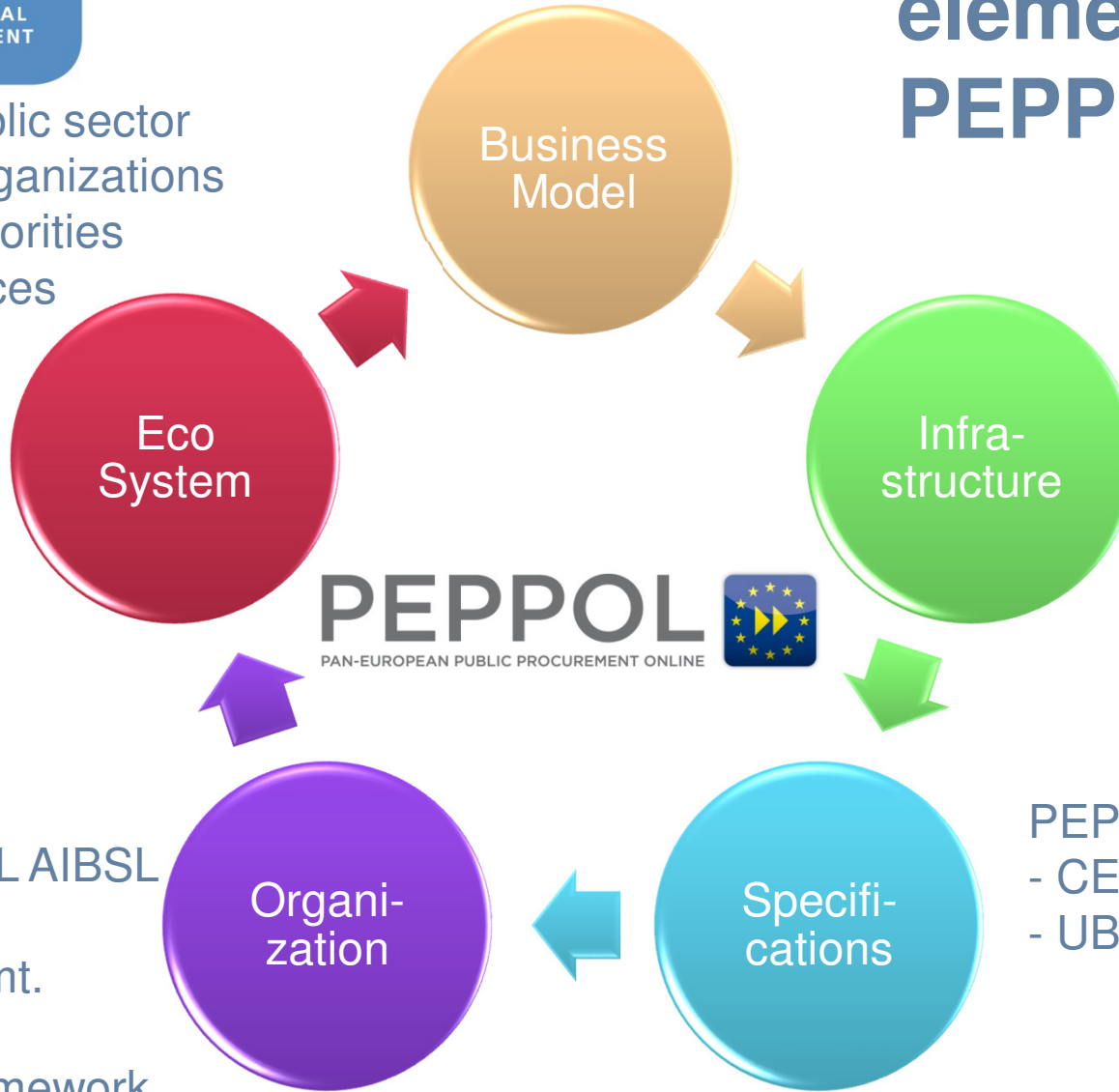
”How openly available specifications, standards, innovative business models, digital services infrastructures and ready-to-use solutions provide cross-border interoperable e-Procurement across Europe.”



Private & Public sector
Standards organizations
EU level authorities
Add-on services

Four corner model
Contract framework

The significant elements of PEPPOL

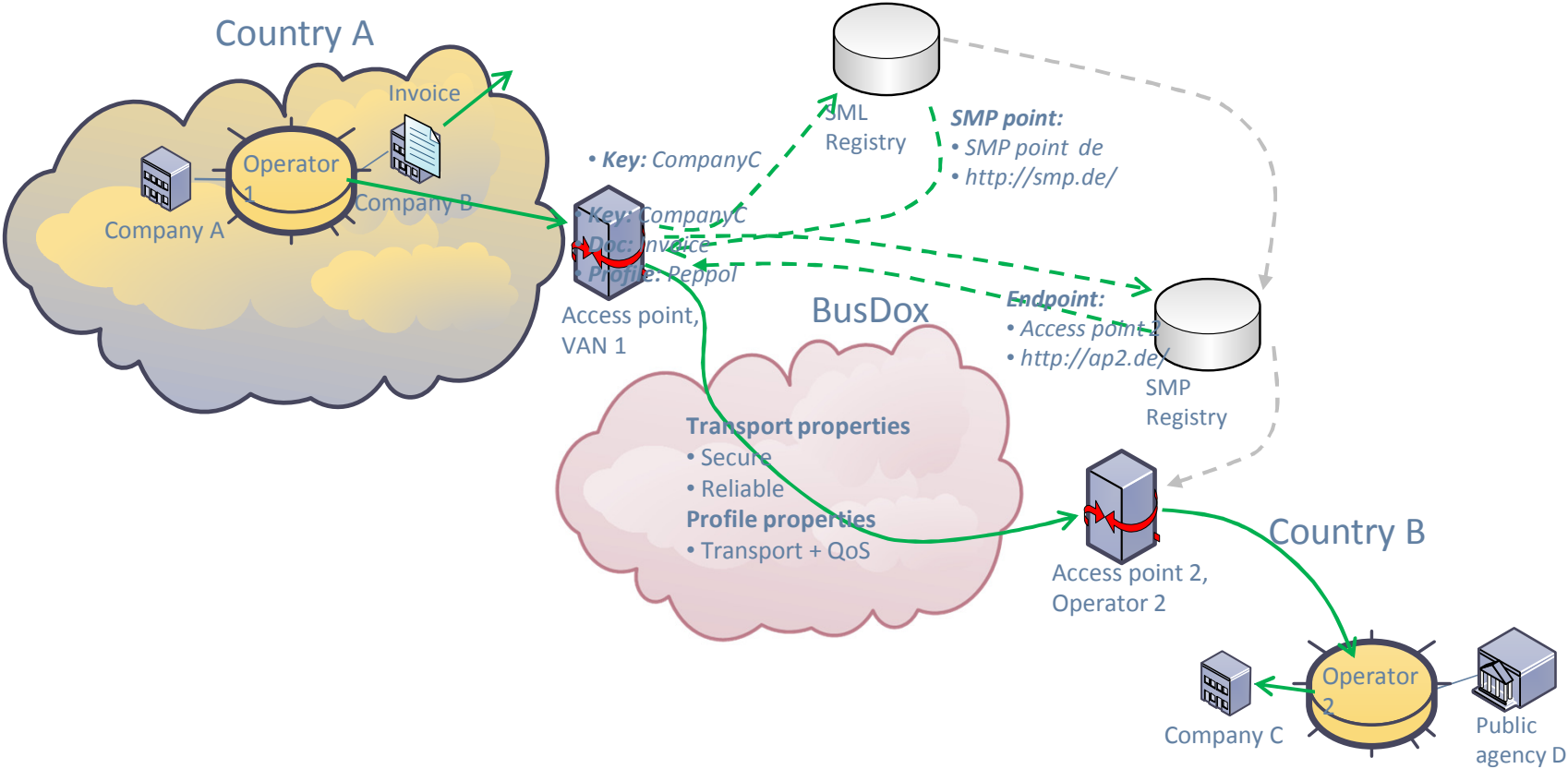


BUSDOX
AS/2
PKI
SMP
AP
SML

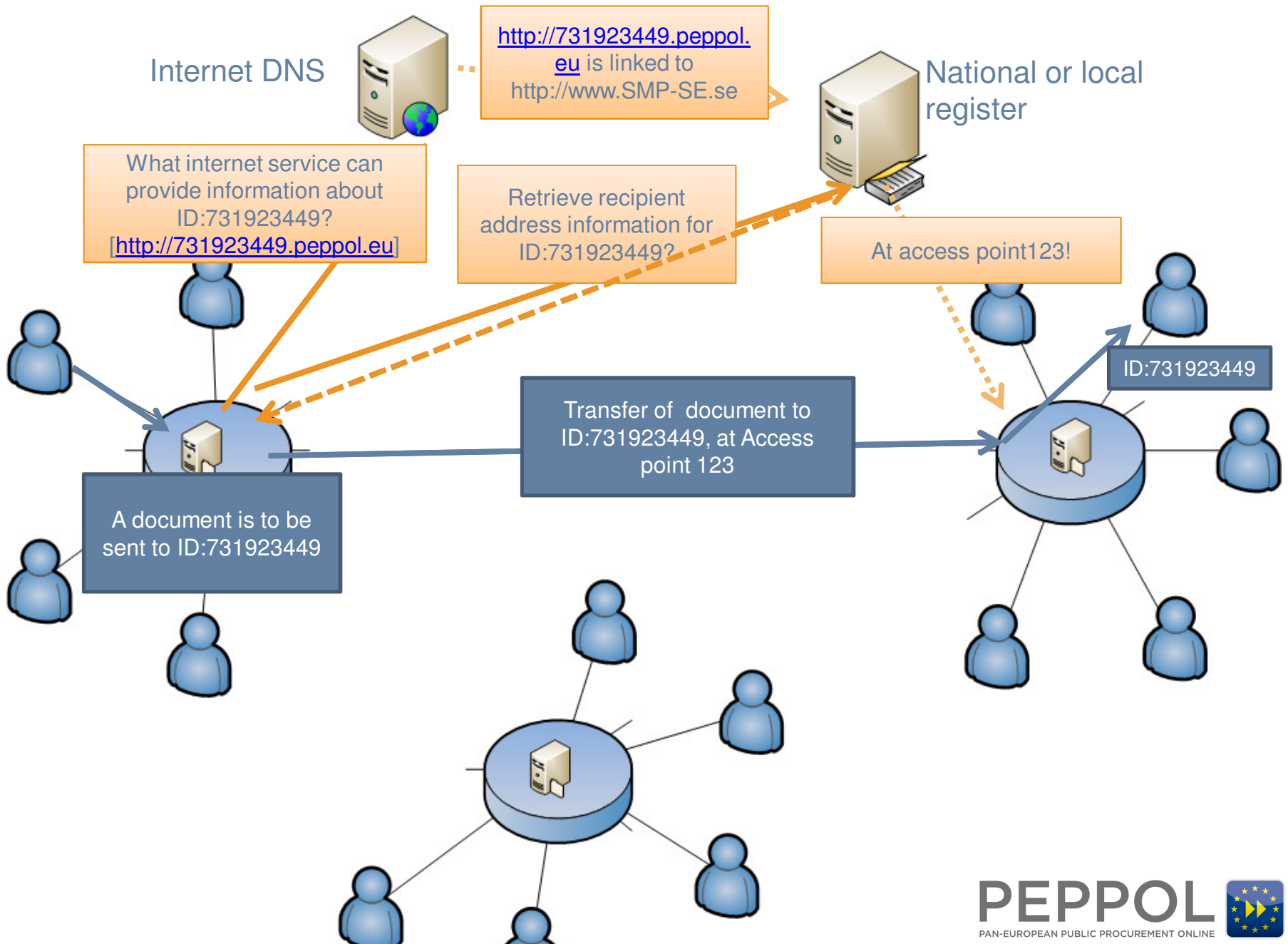
PEPPOL BIS
- CEN BII
- UBL

OpenPEPPOL AIBSL
Governance
Lifecycle mgmt.
Support
Validation framework

The PEPPOL scenario



PEPPOL's infrastructure relies on a **four-corner model**





PEPPOL

PAN-EUROPEAN PUBLIC PROCUREMENT ONLINE



Fast facts – PEPPOL today (as of November 2014):

- > 30 000 registered recipients
- > 1 000 000 transactions monthly
- > 100 service providers
- 4 “PEPPOL Authorities” (NL, NO, DK, SE)
- Four-corner model business model
 - One contract, access all
 - Backbone Based on the BusDox architecture
 - AS2 – SBHD
 - SML (DNS)
 - SMP (Service Metadata Provider; user / capability look up)
 - AP (service provider)
 - Openly available source code (Oxalis - NO, CIPA – EU)
- Governance and Life Cycle management provided by the **OpenPEPPOL AIBSL**, a non-for-profit member based organization

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UBL in PEPPOL

Interoperability

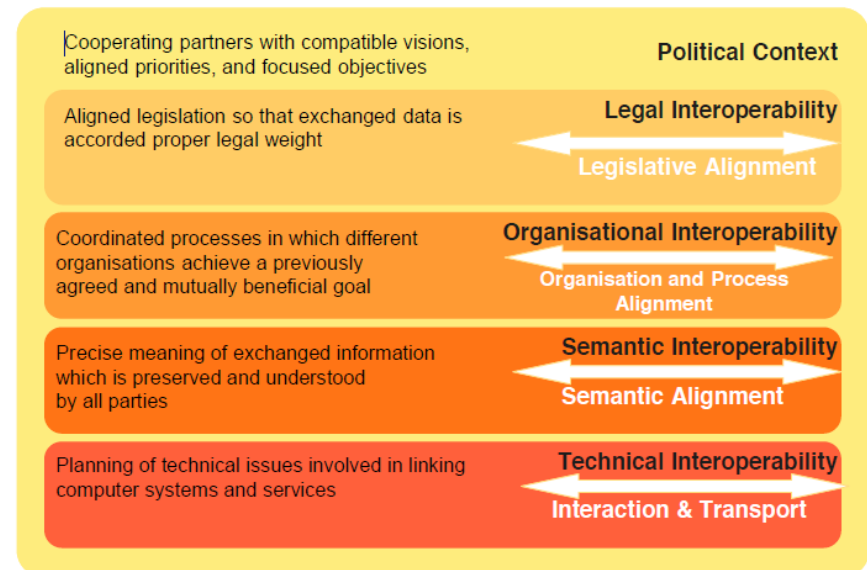
- “*Interoperability is the ability of making systems and organizations to work together (inter-operate)*”
- There are several flavors of interoperability such as:
 - **syntactic interoperability (technical interoperability).**
 - Examples: XML, ANSII, UNICODE all ensure syntax interop.
 - **semantic interoperability**
 - Examples: BII, UBL, UN/CEFACT, HL/7 *)
 - *) These examples also provide guidance for technical interoperability



Interoperability (cont'd)



- Several different interoperability frameworks exist
- In Europe, the IDABC (then ISA) has developed the European Interoperability Framework (EIF).



Interoperability comes in many flavors...

Legal Interoperability

- Taxation laws, security regulations, archiving directives, data protection regulation etc.

Organizational Interoperability

- Processes and business rules

Semantic Interoperability

- Business terms, concepts and definitions

Technical Interoperability

- Exchange of information (structured and non structured)

So we need standards

Legal Interoperability

- Directives, regulations, laws and best practice
- Guidelines and recommendations from CEN e-invoice expert group etc.

Organizational Interoperability

- Standardized processes
- National level standards or
- **CEN/BII Profiles + PEPPOL BIS (customizations)**

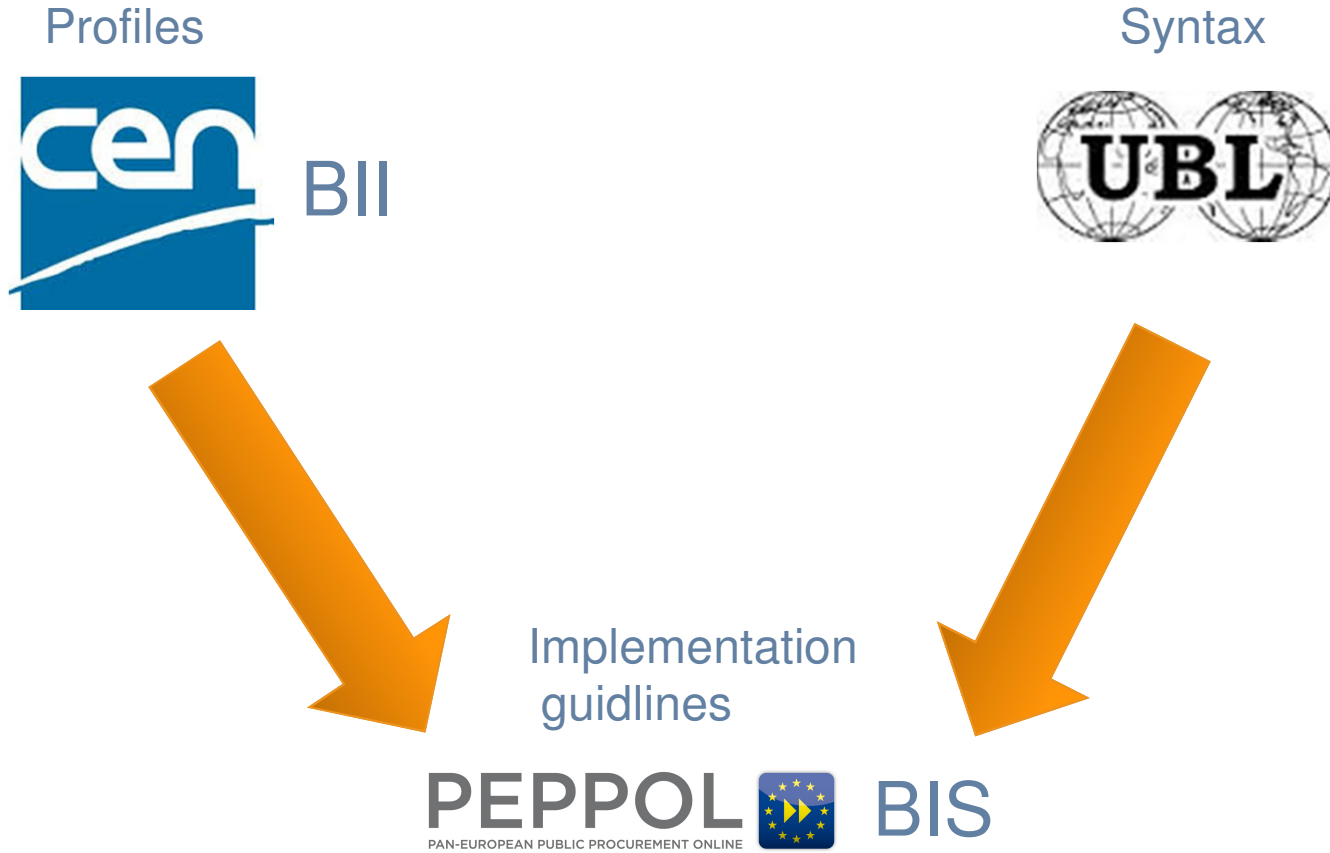
Semantic Interoperability

- Standardized messages
- National level transaction models or
- **CEN/BII Transactions+ PEPPOL BIS (customizations)**

Technical Interoperability

- **PEPPOL → BUSDOX**
- National level e-Delivery
- UBL

How things come together



Example – UBL – BII scheme guideline

From PEPPOL BIS 4A, Invoice Only

1 XML Schema Guideline and information content

Occurrence	Element/Attribute	BII Business Term	Info req.
Invoice			
1 .. 1	—cbc:UBLVersionID		
1 .. 1	—cbc:CustomizationID	Customization identifier	tir10-001
1 .. 1	cbc:ProfileID	Profile identifier	tir10-002
1 .. 1	—cbc:ID	Document identifier	tir10-003
1 .. 1	—cbc:IssueDate	Document issuing date	tir10-004
1 .. 1	—cbc:InvoiceTypeCode	Invoice type code	tir10-080
0 .. 1	—cbc:Note	Document level textual note	tir10-005
0 .. 1	cbc:TaxPointDate	Document issuing date	tir10-006
1 .. 1	—cbc:DocumentCurrencyCode	Invoice currency code	tir10-007
0 .. 1	—cbc:TaxCurrencyCode	Tax Currency Code	OP-T10-015
0 .. 1	—cbc:AccountingCost	Customers accounting string	tir10-008
0 .. 1	cac:InvoicePeriod		
0 .. 1	—cbc:StartDate	Period start date	tir10-009
0 .. 1	—cbc:EndDate	Period end date	tir10-010
0 .. 1	cac:OrderReference		
1 .. 1	—cbc:ID	Order reference identifier	tir10-011
0 .. 1	cac:ContractDocumentReference		
1 .. 1	—cbc:ID	Reference identifier	tir10-012
0 .. 1	—cbc:DocumentTypeCode	Contract type, coded	tir10-084
0 .. 1	—cbc:DocumentType	Reference type	tir10-083
0 .. unbounded	cac:AdditionalDocumentReference		
1 .. 1	—cbc:ID	Document identifier	tir10-089
0 .. 1	—cbc:DocumentType	Document description	tir10-079
0 .. 1	cac:Attachment		
0 .. 1	—cbc:EmbeddedDocumentBinaryObject	Attached binary object	tir10-013
0 .. 1	cac:ExternalReference		

Examples – Customization

BIS Customization of BII specifications

CEN BII provides two important elements that denote:

- The process / profile (ProfileID)
- The business transaction / customization (CustomizationID)

This XML snippet shows a BII profile without any customization:

```
<cbc:UBLVersionID>2.1</cbc:UBLVersionID>  
<cbc:CustomizationID>urn:www.cenbii.eu:transaction:biitrs010:ver2.0</cbc:CustomizationID>  
<cbc:ProfileID>urn:www.cenbii.eu:profile:bii04:ver2.0</cbc:ProfileID>
```

This XML snippet shows the same BII profile with a customization:

```
<cbc:UBLVersionID>2.1</cbc:UBLVersionID>  
<cbc:CustomizationID>urn:www.cenbii.eu:transaction:biitrs010:ver2.0:extended:urn:www.peppol.eu:bis:peppol4a:ver2.0</cbc:CustomizationID>  
<cbc:ProfileID>urn:www.cenbii.eu:profile:bii04:ver2.0</cbc:ProfileID>  
<cbc:ID>TOSL108</cbc:ID>
```

This element identifies the customization (in this case BIS 4a issued by OpenPEPPOL).

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Conclusion

The future looks bright!



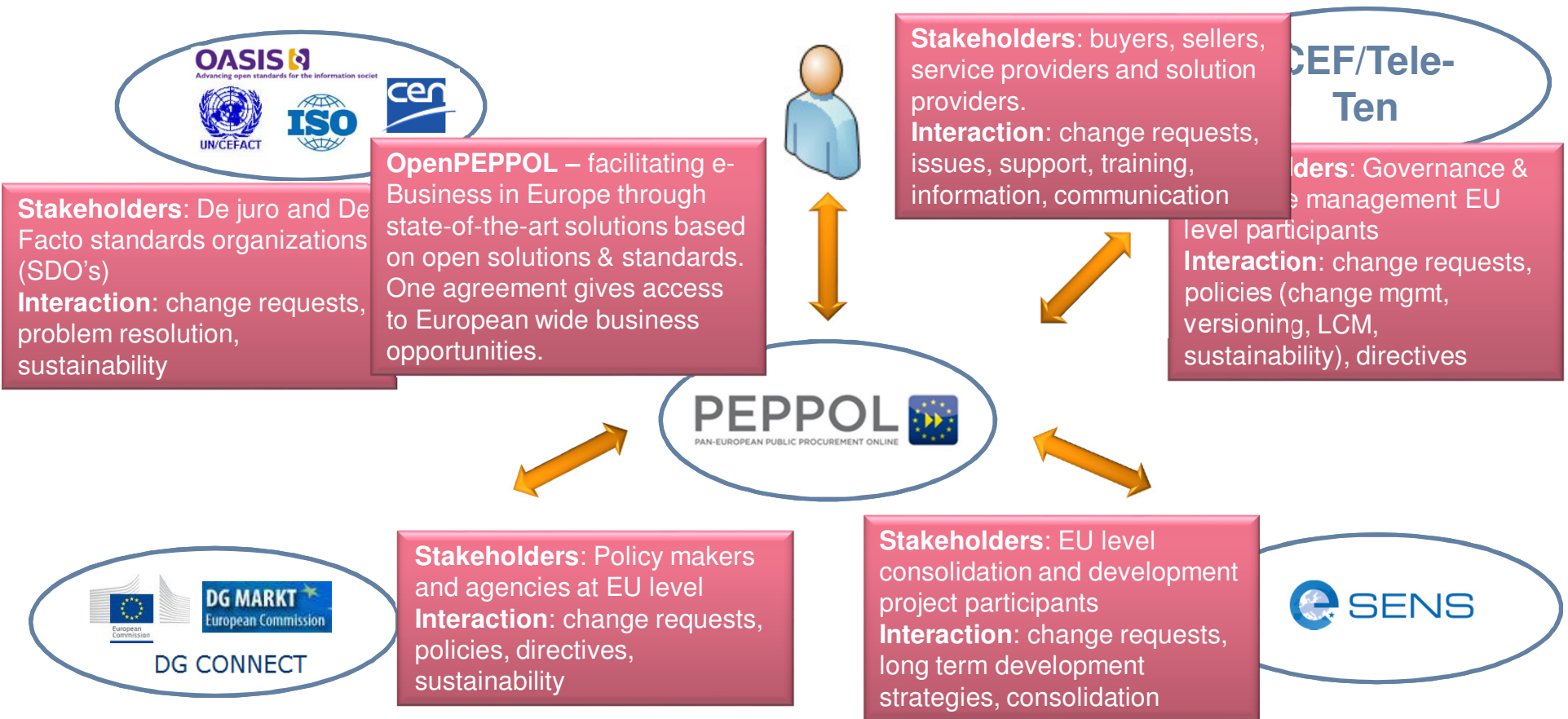
- **UBL...**
 - ...provides the backbone for PEPPOL specifications, manifested in business messages exchanged in the PEPPOL network
 - ...'s future as an international standard adds sanction and credibility
 - ...'s strong community of users mirrors that of PEPPOL
- **PEPPOL ...**
 - ...provides feedback and input to OASIS / ISO to continue evolve UBL as the leading standard supporting the e-Business domain
 - ... offers a member based non-for-profit organization that govern and lifecycle the PEPPOL network of services
 - ...was built with "interoperability-by-design"
 - ...provides a strong eco system of more than 100 service providers throughout Europe!
- Setting up and acknowledging the need for an **Eco Systems** is key to success...
- Using easy-to-use standards and specification lowers the barriers for adoption and innovation



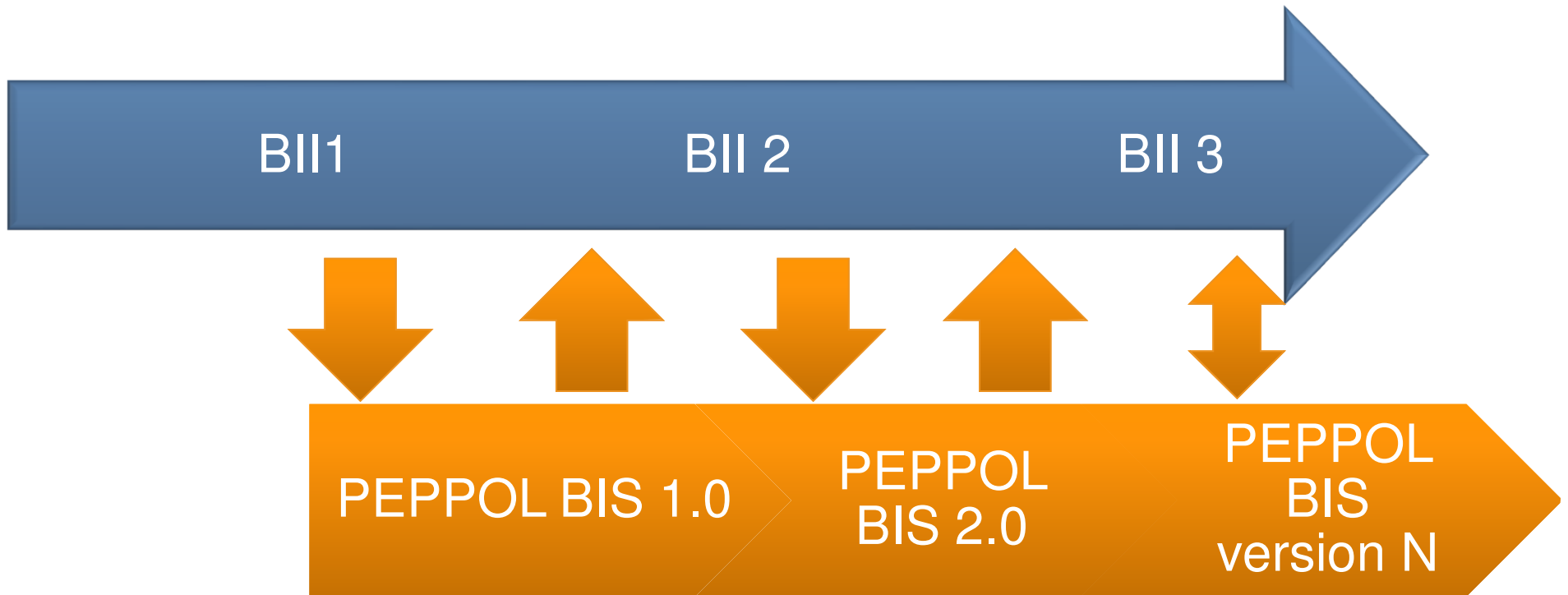
ECO SYSTEMS

PEPPOL – part of an Eco System

- **Making E-Procurement work is a team effort** – working **together** towards the goal of bringing best of breed solutions to our stakeholders based on available technical specifications and standards is key to success.

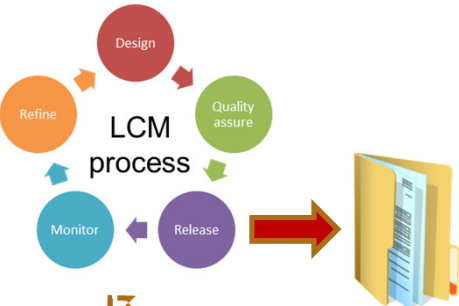


The feed-back loop (PEPPOL – CEN BII)

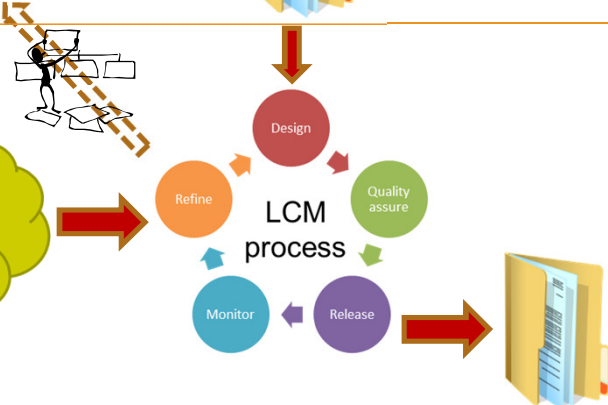


Another view of the Eco System

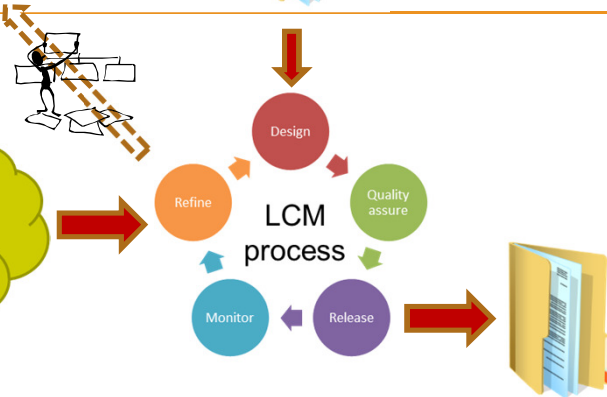
The standards



The implementation guide



The implementation





Join the OpenPEPPOL community!



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