CEF Digital and eInvoicing – Our services and how to get started

Christian Vindinge Rasmussen

Georg Birgisson

DIGIT

Today's speakers

Christian Rasmussen

Christian is an experienced eProcurement Expert specialized in the execution of large scale ICT projects with past experience from the Nordic region including Denmark, Norway and Sweden. Christian has also been involved in the past EU-funded large scale pilots PEPPOL.eu and eSENS.eu as Work packager leader including focus on new eProcurement and eDelivery development.

Georg Birgisson

Georg works as an expert in the area of electronic business, customs and financial processes. Georg is one of EU's key subject matter experts on the EN and he is deeply involved in the OpenPEPPOL and was part of the PEPPOL project. He is active in standardization committees such as CEN TC434 and OASIS UBL.
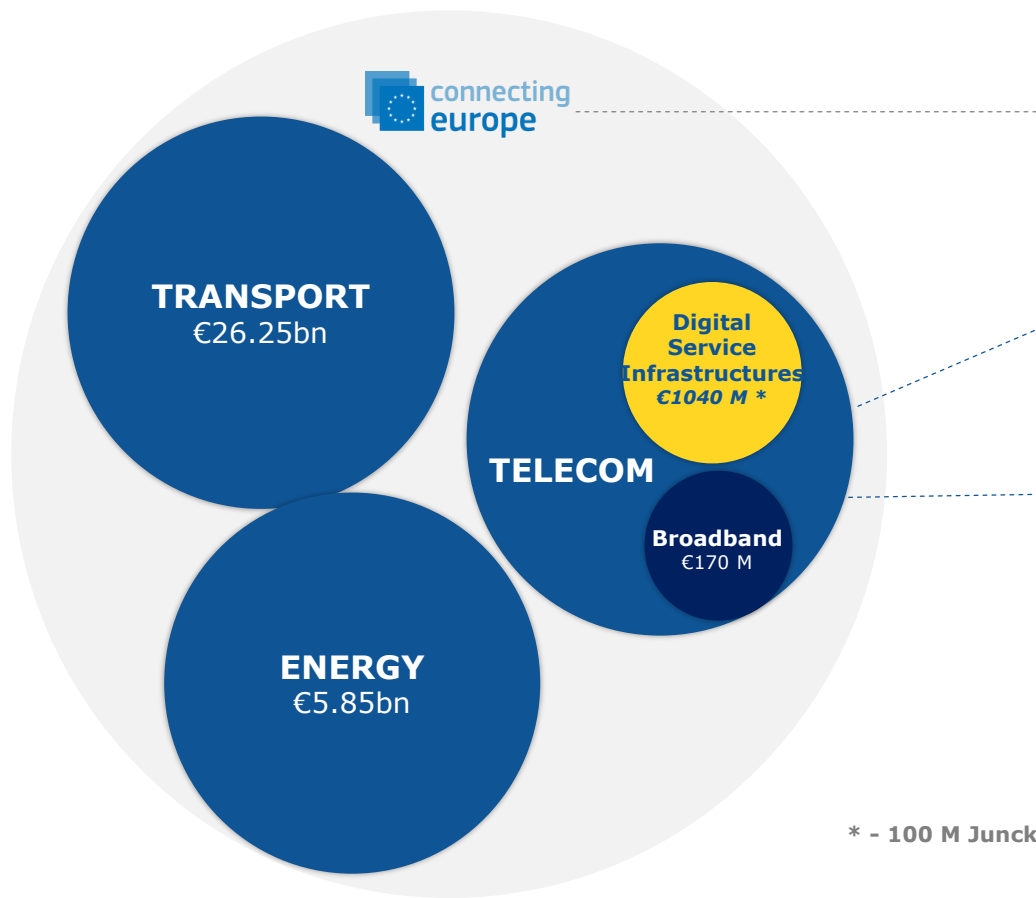
🐦 **#ConnectingEurope**

What are
the CEF building blocks?

Who are you?

What is most important for you?

What is CEF?

connecting **europe**

TRANSPORT
€26.25bn

TELECOM

Digital Service Infrastructures
*€1040 M ***

Broadband
€170 M

ENERGY
€5.85bn

* - 100 M Juncker Package

European Commission

HOW IS IT REGULATED?

CEF Regulation
The Connecting Europe Facility (CEF) is a regulation that defines how the Commission can finance support for the establishment of trans-European networks to reinforce an interconnected Europe.

CEF Telecom Guidelines
The CEF Telecom guidelines cover the specific objectives and priorities as well as eligibility criteria for funding of broadband networks and Digital Service Infrastructures (DSIs).

CEF Work Programmes
Translates the CEF Telecom Guidelines in general objectives and actions planned on a yearly basis.

CEF Funding
From 2014-2020 1.040M Euro will be re-invested into adoption of the core building blocks in the DSIs.

Budget indications from 2020-2024 gives additional 1.600M Euro for further funding of implementation

CEF Building Blocks

The **building blocks of the Connecting Europe Facility** promote the adoption of the same **open standards and technical specifications**, by the **different sectors** of the Union, for the most basic & common functionalities of any sectorial project/platform.
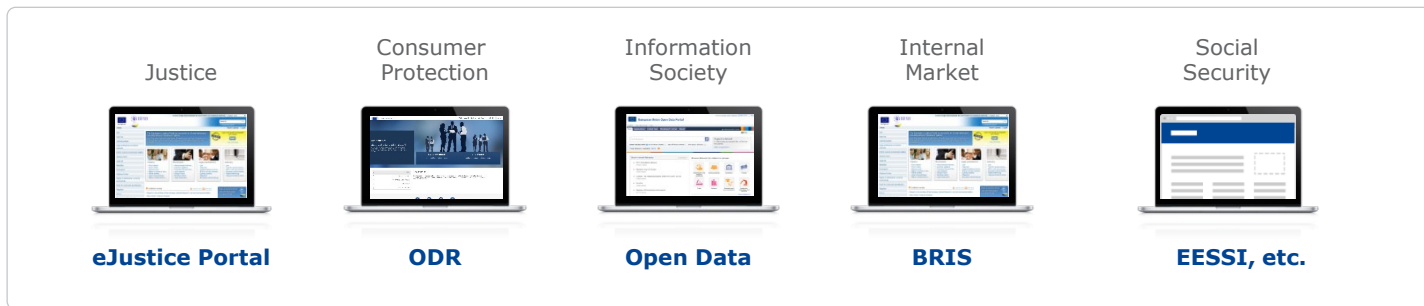
These core commonalities will enable interoperability across borders and sectors.

IDENTIFY *with*
eID

SIGN *with*
eSignature

EXCHANGE *with*
eDelivery

INVOICE *with*
eInvoicing

TRANSLATE *with*
eTranslation

The CEF 'Big Picture'

Services offered by the European Commission

Justice	Consumer Protection	Information Society	Internal Market	Social Security
eJustice Portal	**ODR**	**Open Data**	**BRIS**	**EESSI, etc.**

Building Blocks

IDENTIFY
with eID

SIGN
with eSignature

INVOICE
with eInvoicing

EXCHANGE
with eDelivery

TRANSLATE
with eTranslation

Grants - Projects in the Member States

Typically 'deployment' projects at national level (up to 75% of eligible cost)
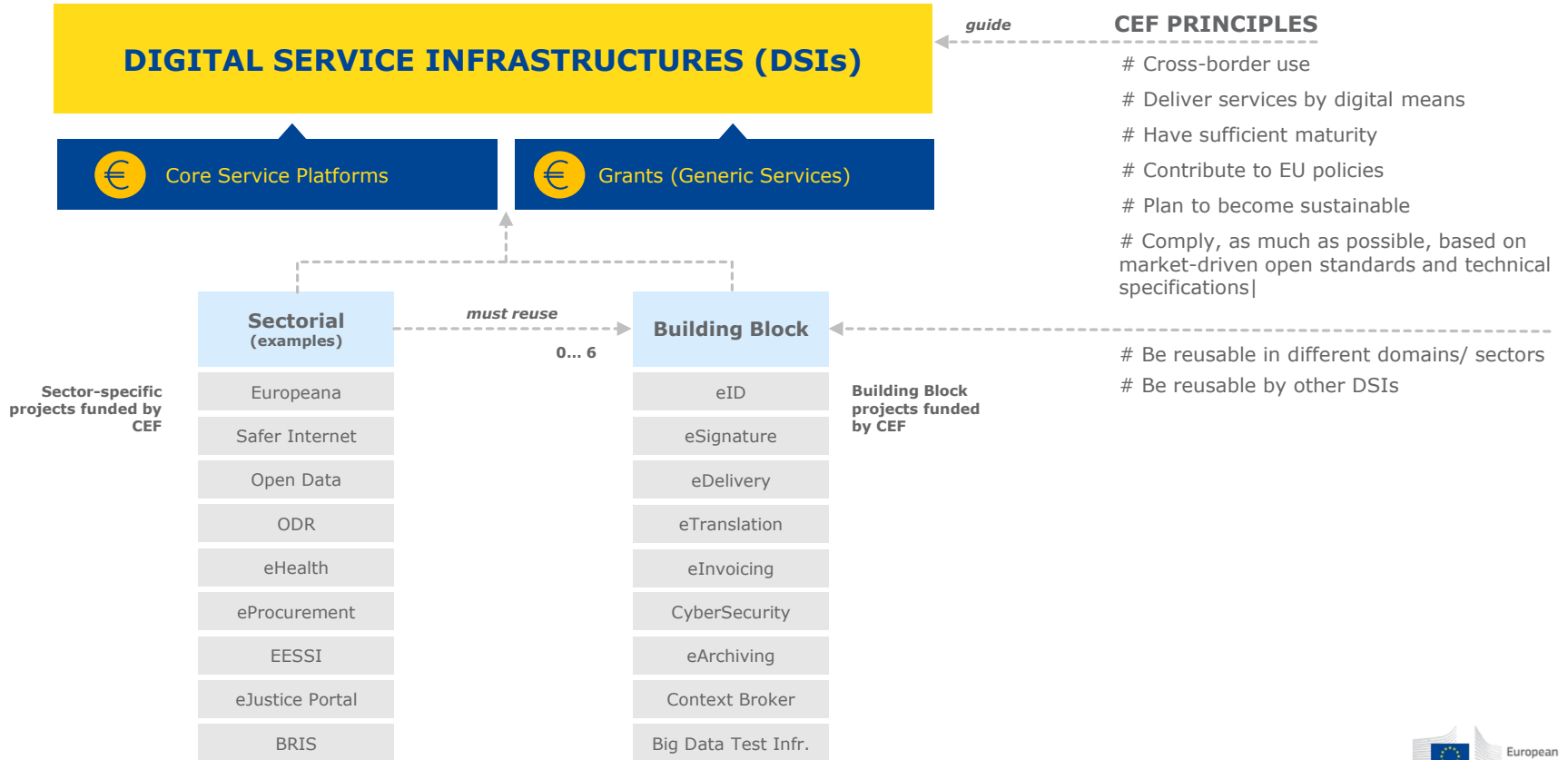
European Commission

More building blocks are coming

ANALYSE and TEST *with*

Data analytics

ARCHIVE *with*

eArchiving

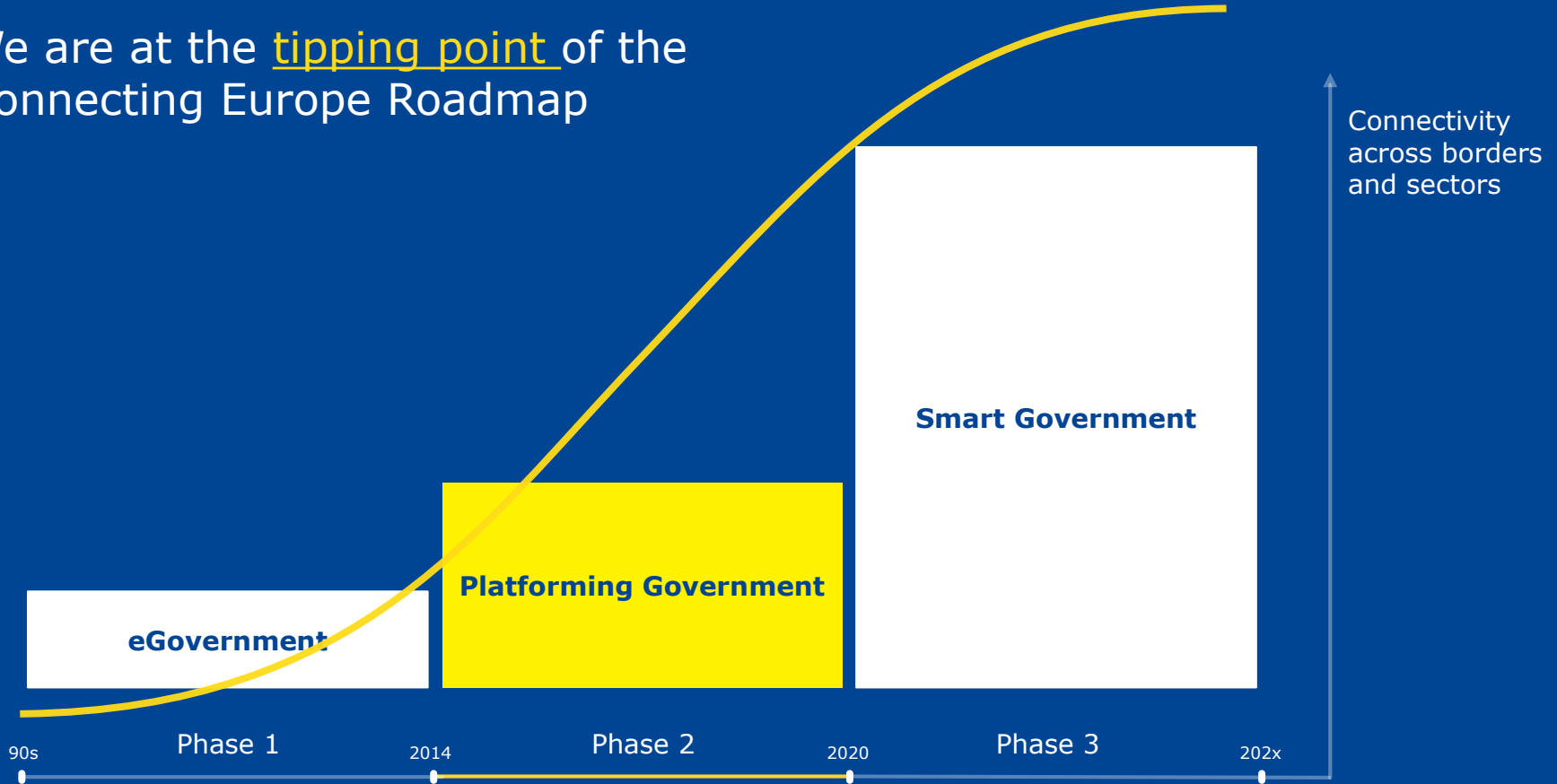# What are the fundamental characteristics of a Building Block / DSI?

DIGITAL SERVICE INFRASTRUCTURES (DSIs)

guide

€ Core Service Platforms

€ Grants (Generic Services)

CEF PRINCIPLES

\# Cross-border use

\# Deliver services by digital means

\# Have sufficient maturity

\# Contribute to EU policies

\# Plan to become sustainable

\# Comply, as much as possible, based on market-driven open standards and technical specifications|

Sectorial (examples)

must reuse

0... 6

Building Block

\# Be reusable in different domains/ sectors

\# Be reusable by other DSIs

Sector-specific projects funded by CEF

Sectorial (examples)	Building Block
Europeana	eID
Safer Internet	eSignature
Open Data	eDelivery
ODR	eTranslation
eHealth	eInvoicing
eProcurement	CyberSecurity
EESSI	eArchiving
eJustice Portal	Context Broker
BRIS	Big Data Test Infr.

Building Block projects funded by CEF

(*) A Building Block is a package of technical specifications, services and sample software that can be reused in different policy domains:

European Commission

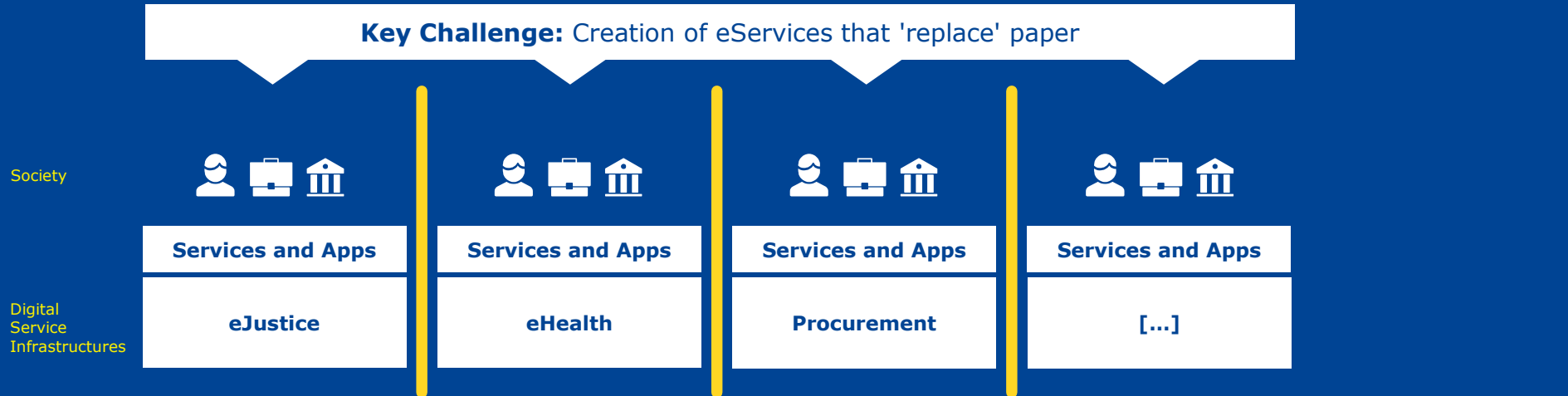The CEF Building Blocks are creating a common digital platform across Europe
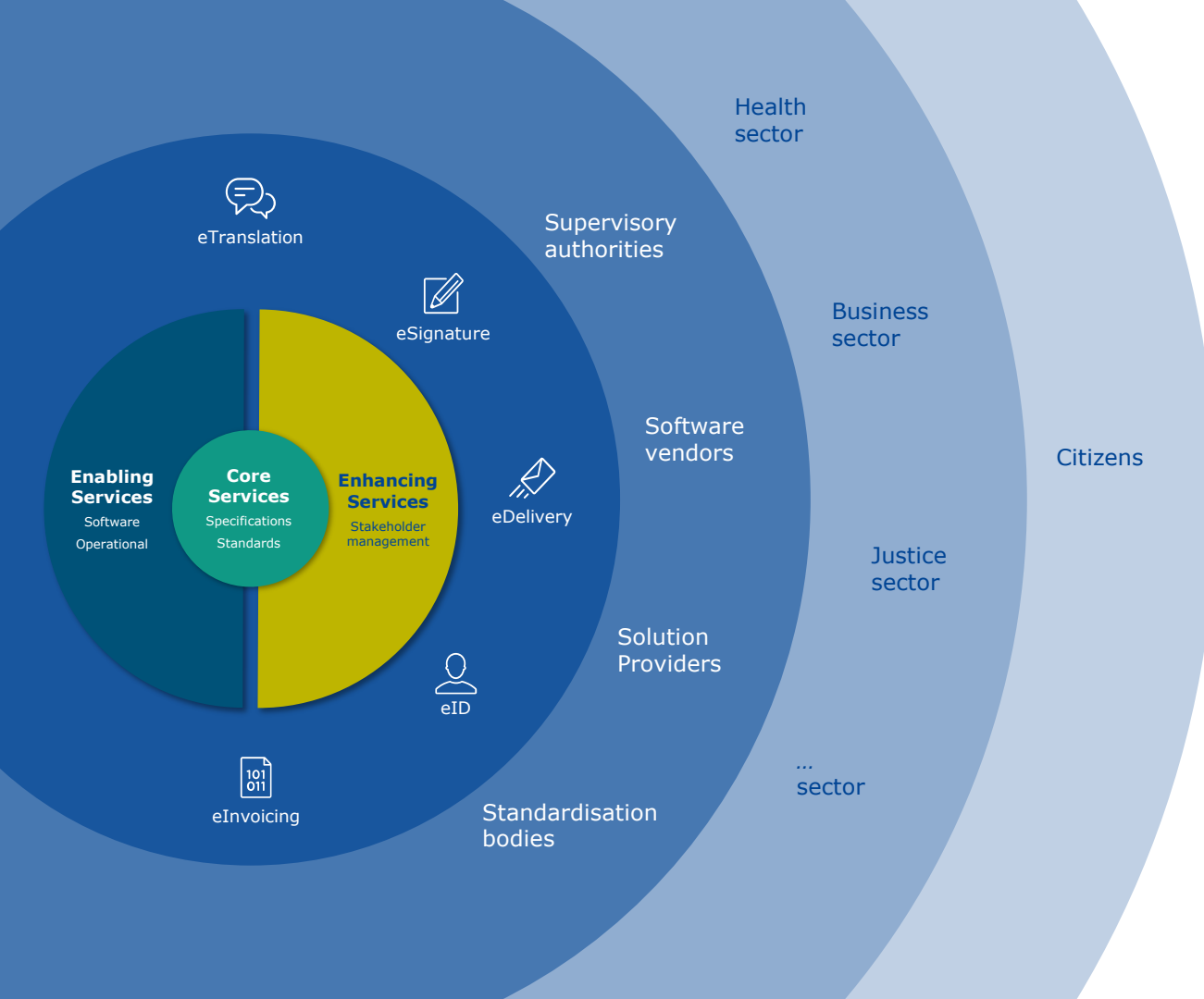
We are at the <u>tipping point</u> of the Connecting Europe Roadmap

Connectivity across borders and sectors

Smart Government

Platforming Government

eGovernment

90s   Phase 1   2014   Phase 2   2020   Phase 3   202x

Phase 1: eGovernment.

However Europe cannot fully benefit from it because we are still working in silos, we still have digital borders….

Key Challenge: Creation of eServices that 'replace' paper

Society

Services and Apps

Services and Apps

Services and Apps

Services and Apps

Digital Service Infrastructures

eJustice

eHealth

Procurement

[…]

Citizens   Businesses   Public Administrations

Phase 2: Platforming Government. We need to remove digital barriers to create a fully functioning Digital Single Market.

Key Challenge: Connecting eServices across-borders and across-sectors

Society

Services and Apps	Services and Apps	Services and Apps	Services and Apps	Services and Apps

Digital Service Infrastructures

eJustice	eHealth	Procurement	Taxation	[...]

Sectors are still being on boarded

CEF Building Blocks

Enabling Seamless Flow of Data

Powered by the CEF Building Blocks

eID   eSignature   eDelivery   eInvoicing   eTranslation

Citizens   Businesses   Public Administrations

Phase 3: Smart Government. This is how we will ensure high quality, user-centric digital public services for citizens and seamless cross-border public services for businesses.

Key Challenge: Exploitation of the Digital Platform i.e. Once Only, Digital by Default, …

Society

Digital Service Infrastructures

Services and Apps	Services and Apps	Services and Apps	Services and Apps
eJustice	eHealth	Procurement	Other Sectors

EIF Principles

CEF Building Blocks

Enabling Seamless Flow of Data

eID   eSignature   eDelivery   eInvoicing   eTranslation

Citizens   Businesses   Public Administrations

The European Commission's Digital Strategy

Digital Commission

Digitally transformed + User-focused + Data-driven

EU2017.EE TALLINN Declaration

eIDAS Regulation

Better Regulation Agenda

Massive Adoption of Building Blocks

Security

Governance

Digital Solutions

for Policy processes   for Administrative processes

Reusable Solutions Platform

Data Ecosystem

Digital Infrastructure
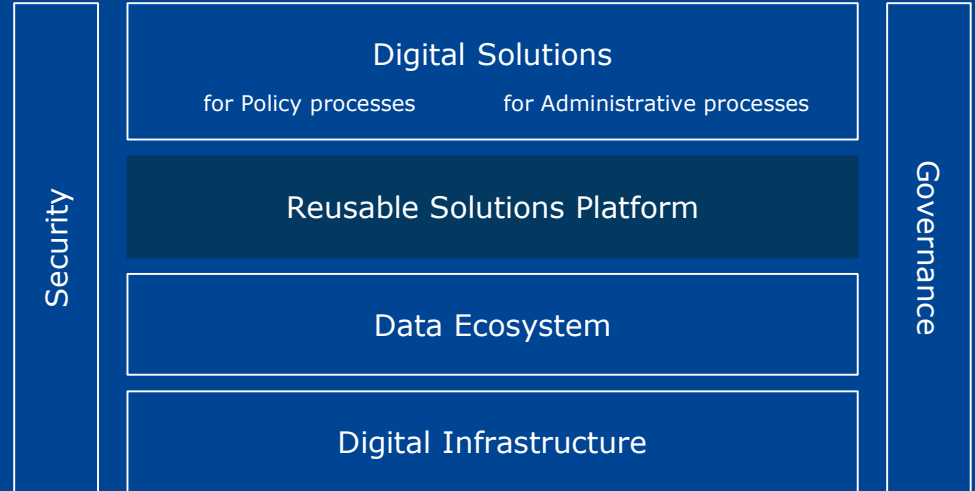
The CEF Building Blocks

eID
Extending the use of online services to citizens of other EU member states

eDelivery
Supporting electronic registered delivery of data and documents

eSignature
Creating and verifying electronic signatures

eInvoicing
Supporting Public Entities in the uptake of the EU Standard for eInvoicing

eTranslation
Exchanging information across languages in the EU Member States
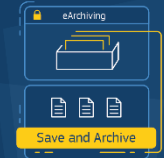
eArchiving
Tackling the challenge of short, medium and long-term data management and reuse

EU Login

EU Send

EU Sign
f.k.a. ESSI

Available
as-a-service *to the European Commission*

Data Value Chain
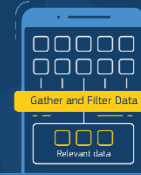
Context Broker
Managing and sharing real time data (context information) via a central hub

Big Data Test Infrastructure
Data and analytics services from infrastructure to tools for experimenting with Big Data technologies

The CEF Building Blocks are at the core of Europe's Digital Transformation - What is changing?

eGovernment	Connecting Europe	Full Digital Government
Silo thinking	→	Cross Sectorial
Vertical Value Creation	→	Ecosystem Value Creation
Custom Specifications	→	Open Standards
Organisational Structure	→	Service Design

We have the building blocks of the new paradigm expressed in the Tallinn declaration i.e. Europe without digital borders

New paradigm

EU2017.EE

1. Digital-by-default
2. Once-only
3. Trustworthiness and Security
4. Openness and transparency
5. Interoperability by default
6. Horizontal enabling policy steps
7. Cross-border by default

Justice

Health

CEF Building Blocks

Procurement
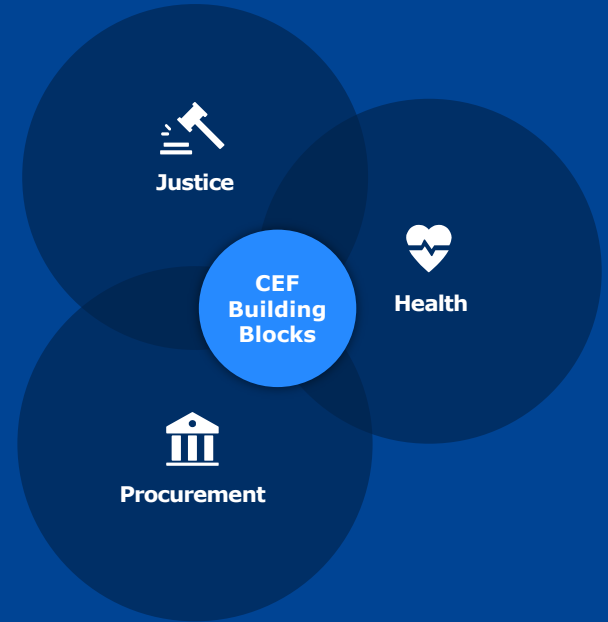
Uptake
of the CEF building blocks

Deployment in the CEF Digital Programme

Digital Service Infrastructures		EXCHANGE with eDelivery	SIGN with eSignature	IDENTIFY with eID	TRANSLATE with eTranslation	INVOICE with eInvoicing
Europeana	DG CONNECT	Not applicable	Not applicable	Not applicable	Commitment to analyse	Not applicable
Safer internet	DG CONNECT	Not applicable	Not applicable	Commitment to reuse	Commitment to analyse	Not applicable
European Data Portal	DG CONNECT	Not applicable	Not applicable	Reusing	Reusing	Not applicable
Cybersecurity	DG CONNECT	Not going to reuse	Not applicable	Not going to reuse	Not applicable	Not applicable
eHealth — ERN	DG SANTE	Not applicable	Not applicable	Reusing	Not applicable	Not applicable
eHealth — Patient summary	DG SANTE	Commitment to reuse	Commitment to analyse	Not going to reuse	Not applicable	Not applicable
eProcurement — eCertis	DG GROW	Not applicable	Not applicable	Commitment to reuse	Commitment to reuse	Not applicable
eProcurement — ESPD	DG GROW	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
eProcurement — eTendering	DG GROW	Reusing	Commitment to analyse	Commitment to analyse	Not applicable	Not applicable
eProcurement — eInvoicing	DG GROW	Reusing	Not applicable	Not applicable	Not applicable	Not applicable
eTranslation — ELRC service	DGT	Reusing	Not applicable	Not applicable	Not applicable	Not applicable
eTranslation — eTrans. service	DGT	Commitment to analyse	Not applicable	Commitment to reuse	Not applicable	Not applicable

Legend: Reusing | Commitment to reuse | Commitment to analyse | Not applicable | Not going to reuse

Deployment in the CEF Digital Programme

Digital Service Infrastructures		EXCHANGE *with* eDelivery	SIGN *with* eSignature	IDENTIFY *with* eID	TRANSLATE *with* eTranslation	INVOICE *with* eInvoicing
e-Justice	e-Justice portal — DG JUST	Reusing	Reusing	Reusing	Reusing	Not applicable
	E-evidence — DG JUST	Commitment to reuse	Commitment to reuse	Commitment to analyse	Not applicable	Not applicable
	IRI — DG JUST	Commitment to reuse	Not applicable	Not applicable	Not applicable	Not applicable
	Standard forms — DG JUST	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
	Me-CODEX — DG JUST	Reusing	Reusing	Not applicable	Not applicable	Not applicable
	e-Justice BRIS — DG JUST	Reusing	Commitment to analyse	Not applicable	Not going to reuse	Not applicable
	ODR — DG JUST	Reusing	Not going to reuse	Reusing	Reusing	Not applicable
	ESSI — DG GROW	Reusing	Reusing	Reusing	Reusing	Not applicable
	P2P Mobile Payments — DG FISMA	Commitment to reuse	Commitment to analyse	Commitment to analyse	Commitment to analyse	Not applicable
	eArchiving — DG CNECT	Commitment to analyse	Commitment to analyse	Commitment to analyse	Commitment to analyse	Not applicable

Legend: ■ Reusing ■ Commitment to reuse ■ Commitment to analyse ■ Not applicable ■ Not going to reuse

European Commission

Significant growth in the last year. Since November 2017…

Reuse
+ 128 %

41 more projects at the EC are **reusing** the CEF Building Blocks

73
EC projects reusing BBs

32
EC projects reusing BBs
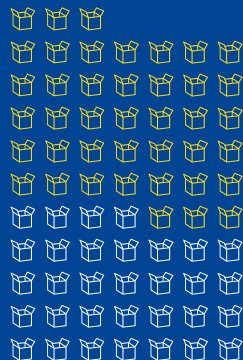
Nov. 2017   **Nov. 2018**

Success Stories
+ 350%

21 more teams told us how they have successfully re-used the CEF Building Blocks

27
Success Stories

6
Success Stories

Nov. 2017   **Nov. 2018**
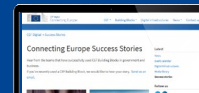
CEF eInvoicing: Legal milestones & services

(*) optional deadline

Directive 2014/55/EU electronic invoicing in public procurement

CEN TC 434 begins the definition of the European Standard on eInvoicing

European Standard on eInvoicing published in the Official Journal

All Member States' central entities comply with eInvoicing Directive

(18 April 2019)

All Member States' local entities comply with eInvoicing Directive (*)

(18 April 2020)

2014	2015	2016	2017	2018	2019
Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
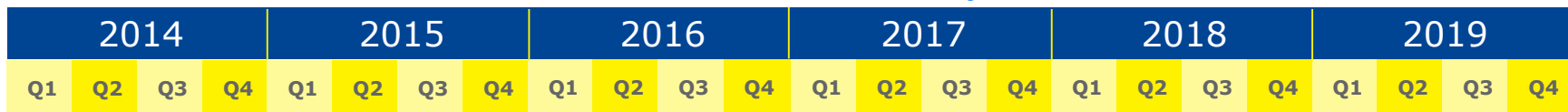
CEF Digital + collaborative spaces

eInvoicing Readiness Checker

Country factsheets

Conformance testing

CIUS & Extensions community registry

Knowledge Base

Catalogue of Good Practices

Training - Implementation workshops & Webinars

European Commission

CEF Digital

CEF Digital

CEF eInvoicing User Community

eInvoicing User Community

Analytics

SPACE SHORTCUTS

CEF Knowledge Base

PAGE TREE

- eInvoicing news & events
- Forum
- Contribute
- Archive

Pages · 1 JIRA link · Analytics

Edit

CEF DIGITAL

eINVOICING USER COMMUNITY

THE EUROPEAN STANDARD

The European Parliament and Council adopted **Directive 2014/55/EU**, establishing the European standard. The recent publication of the European Standard on eInvoicing in the Official Journal of the European Union marks the beginning of the implementation phase of the standard.

The Directive mandates an 18-month implementation period after the publication of the standard, with **18 April 2019** fixed as the deadline for this.

3 2 8

Days

Learn More

FEATURED TWEETS

The Country Sheets for eInvoicing 2017 are here! Want to **learn more?** Simply click on the button below and **visit the Country Sheets!**

We kindly invite you to **spread the word!** By simply **retweeting** this message, together we create **more visibility** for the eInvoicing B2G status throughout Europe.

Did you know that according to the Public Procurement Code, all public procurement processes in Portugal 🇵🇹 should preferably be performed electronically? More on #eInvoicing in Portugal: http://europa.eu/!Gn73bt #ConnectingEurope

About the community

The eInvoicing User Community space enables stakeholders involved and interested in cross-border eInvoicing, to discuss eInvoicing in the EU public and private sectors. The space is also used for co-creative activities with the Advisory Group and Early Adopters of the eInvoicing Readiness Checker Website, which is designed to help public administrations implement electronic invoicing, as per the requirements of Directive 2014/55/EU.

Your space moderators

Contact us

Get in touch with the CEF eInvoicing team for questions, comments or other type of requests.

Contact

Read more about the **eInvoicing Service Desk**

New Video & Infographic Now Available

Space tools

Stakeholder management services

Knowledge base

OBJECTIVE OF THE SERVICE

This service provides public entities and solution & service providers an easy reference repository for eInvoicing related information.

It includes information about access to the different code lists, codes used and their meaning, and a glossary of elements used in the European eInvoicing standard.

The Knowledge base provides information on EU and country specific levels.

BENEFITS

- This service provides a useful and reliable information repository that helps users to find, consult and interpret information resources about eInvoicing in Europe.
- It provides useful information that public administrations can use to plan, initiate and execute eInvoicing implementation plans and strategies.

CEF Digital
Connecting Europe

CEF Digital > News

CEF eInvoicing Video and Infographic: Available Now

Directive 2014/55/EU

CENTRAL GOVERNMENT

HOSPITAL

USERS

Public entities
Policy makers
Economic operators & suppliers
Solution & service providers

More info

CEF Digital   >

Get started

Contact us   >

2018 Country Factsheets

CEF Digital
Connecting Europe

CEF Digital Home > eInvoicing

Situation per country

Interested in the uptake of eInvoicing in Europe?

CEF Monitoring Dashboard >

Every European Union Member State has a unique approach to dealing with eInvoicing. For each country you can find out more about their:

- policy framework
- eInvoicing platform (if existing)
- approach for receiving and processing electronic invoices

Summary

Organisation responsible for eInvoicing	
eInvoicing legislation	
eInvoicing is mandatory for	
eInvoicing standard(s)	
eInvoicing platform	

Full Country Factsheet

Legislation

..

eInvoicing platform and eInvoicing management solutions

..

Approach for receiving and processing eInvoices

..

Additional information

..

Country factsheets

EU Member States

Austria	Italy
Belgium	Latvia
Bulgaria	Lithuania
Croatia	Luxembourg
Cyprus	Malta
Czech Republic	The Netherlands
Denmark	Poland
Estonia	Portugal
Finland	Romania
France	Slovakia
Germany	Slovenia
Greece	Spain
Hungary	Sweden
Ireland	United Kingdom

ADDITIONAL EEA (European Economic Area) COUNTRIES

Iceland	Norway
Liechtenstein	

Community-driven Registry of CIUS and Extensions

Community-driven Registry of CIUS (Core Invoice Usage Specifications) and Extensions

Created by Ines COSTA, last modified by Fred VAN BLOMMESTEIN on May 16, 2018

Topic	Registry of CIUS (Core Invoice Usage Specifications) and Extensions
Excerpt	This page aims to give the eInvoicing community the opportunity to share the ongoing and planned initiatives across Member States and sectors to create CIUS and Extensions on the European standard on eInvoicing.
Status	OPEN
Deadline	Ongoing

Provide information on CIUS and Extensions

The table below aims to give the eInvoicing community the opportunity to share the ongoing and planned initiatives across Member States and sectors to create CIUS and Extensions on the European standard on eInvoicing. The content is community-driven and the contributors take the sole responsibility of the information shared. Please note that the information available does not have an authoritative character.

We invite you to contribute to build on the information available about the CIUS and Extensions on the European standard on eInvoicing by filling the table below:

Name	Type	Country	Sector	Purpose of the CIUS or Extension	Publisher	Governor	Underlying specification	Further info	Status	Contact
OpenPEPPOL BIS 3.0 5A	CIUS	Any	Any	Restricts the business process scope of the EN with reference to BIS2 business processes.	OpenPEPPOL	OpenPEPPOL	EN16931	http://docs.peppol.eu/poacc/billing/3.0/	ACTIVE	@ Olav Astad KRISTIANSEN
Icelandic national CIUS	CIUS	IS	Any	Applies national regulations and imposes data format to payment instructions when using national payment clearing services.	IST	ISgov	PEPPOL BIS 3.0 5A	http://www.stadlar.is/stadlastarf/fagstadlarad-i-upplysingataekni.aspx	DEVELOPMENT	@ Georg BIRGISSON
Austrian national CIUS	CIUS	AT	Any	Apply national regulations	BRZ	BRZ	EN16931		DEVELOPMENT	@ Philip HELGER
Austrian government CIUS	CIUS	AT	Any	Additional regulations only applying to the mandatory government interface. This CIUS builds on top of the Austrian national CIUS!	BRZ	BRZ	AT national CIUS		DEVELOPMENT	@ Philip HELGER
Energy eInvoice	Extension	NL	Energy	Enables the addition of information concerning: 1) Measured energy use, including meter info, meter readings, fuel type etc. 2) VAT specification for more than one party, which is a consequence of the so called supplier-centered model.	Energy eInvoice steering committee	Energy eInvoice steering committee	Simplerinvoicing (SI-UBL)	https://energie-efactuur.nl/en/	DEVELOPMENT	Wouter van den Berg (TNO)
Italian national CIUS	CIUS	IT	Any	Applies national regulations and restricts data format in compliance with eInvoice national format (FatturaPA)	AgID, AdE	AgID, AdE	EN16931	http://www.agid.gov.it/agenda-digitale/pubblica-amministrazione/cef-telecom-einvoicing-eigor	DEVELOPMENT	Fabio MASSIMI

European Commission

CEF Digital > Success Stories

Connecting Europe Success Stories

Laurentius - A Connecting Europe Success Story

Nils MC GRATH · Feb 14, 2018

eDelivery | eSignature By using the CEF AS4 profile and CEF's conformance testing platform the team at the Slovenian Supreme Court has succeeded in speeding up the judicial process, saved staff from mundane tasks and generated savings of over €4.5M per year.

Justice

LEARN MORE

Latest

News

Event calendar

Digital Service Infrastructures

Media library

Success stories

Read all the Connecting Europe success stories on CEF Digital

View >

30

eInvoicing Success Stories

In addition to the workshops, CEF eInvoicing has also recorded the success stories from Individual countries with regards to their eInvoicing implementation journey.

CEF grant accelerated eInvoicing roll-out in Croatia's public sector

Croatia's eInvoicing implementation plan:

The Ministry of Economy, Entrepreneurship and Crafts of Croatia responded to CEF's eInvoicing grant call in 2016 to:

- Advance cross-border eInvoicing possibilities

- Develop national eInvoicing efforts within Croatia

- Connect new stakeholders to the Croatian eInvoice Exchange Hub

How CEF contributed:

The CEF program supported the Croatian Ministry by providing a standardised set of technical details for electronic invoicing to shorten the implementation process.

In addition to this, they were supported through the use of:

- the European eInvoicing standard;

- CEF Digital 2018's conformance testing;

- Training and Desk services to support the implementation.

Croatia's Ministry of Economy, Entrepreneurship and Crafts saved time and cost introducing electronic invoicing on an international scale, with a boost from CEF's grants program.

Finland is using AI in attempt to achieve one-hundred per cent eInvoicing

Finland has reached a mature level of eInvoicing implementation:

- The Finnish Bankers' Association launched a standard eInvoicing format in 2003, and by 2007 Finland had a B2C eInvoicing solution.

- By introducing eInvoicing a decade ago, over 90% of invoices are now electronic in Finland.

Greatest eInvoice Benefits for Finland:

- Finland's payment system is fully digitalised, helping the transition from paper to electronic formats.

- New payment products such as eInvoice have measurable climate benefits reviewed by the Finnish government annually.

Future eInvoicing plans:

- Finland plans to implement 100% automated eInvoice handling by utilising AI. AI can place eInvoices on its payment flow within seconds, facilitating further automation.

FA FINANCE FINLAND

CEF Digital
Connecting Europe

About   Building Blocks   DSIs   News   Grants   Monitoring   Contact

CEF Digital > Success Stories

Finland is using AI in attempt to achieve one-hundred per cent eInvoicing

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Finland is a best practice example of the future of eInvoicing. By introducing eInvoicing in the last decade, the Finnish State Treasury confirms that today, over ninety per cent of invoices are electronic, up from eight per cent in the early 2000's. By utilising Artificial Intelligence (AI), Finland aims to achieve one-hundred per cent eInvoicing, and that invoices will not only be electronic but that they will be processed automatically too. Finland's story illustrates the future of eInvoicing and that electronic invoicing is only the beginning of your CEF journey.

eInvoicing in Sweden

The Single Face To Industry (SFTI) initiative was born out of a central effort to promote e-procurement in 1998. Today 63% of all invoices to the Swedish central government are electronic.

Financial Savings:

• The Swedish government anticipates 165,6 million EUR savings when the eInvoicing law enters into force on April 1st, 2019.

eInvoicing at the local government level:

• From the outset, SFTI has been a success for local authorities and regions.

• Today, eInvoicing is used by 87% of municipalities and 95% of regions.

Sweden's collaboration with CEF:

SFTI has been a active participant to eInvoice standardisation projects such as PEPPOL and E-SENS, facilitating the construction of a single digital market.

Ready to get started?

Reach out to us to learn more!
Or visit our website
www.ec.europa.eu/cefdigital

Background

- Problems with **many standards**
- **Lack of normative contextualised standards** (only workshop agreements)
- **Different approaches and ambitions** in Member States to implementing eInvoicing and eProcurement
- The Directive on electronic invoicing in public procurement ([Directive 2014/55/EU](#)) was developed, setting a **minimum requirement** for the public sector
- The Directive can in the transposition add further requirements

From the Directive

The benefits of electronic invoicing are maximised when the generation, sending, transmission, reception and processing of an invoice can be fully automated.

…

A mere image file should not be considered to be an electronic invoice for the purpose of this Directive.

Requirements for the contracting authorities/entities

From article 7

Receipt and processing of electronic invoices

*Member States shall ensure that contracting authorities and contracting entities **receive and process electronic invoices** which comply with the **European standard on electronic invoicing** whose reference has been published pursuant to Article 3(2) and with **any of the syntaxes on the list** published pursuant to Article 3(2).*

a list with a limited number of syntaxes which comply with the European standard on electronic invoicing

Semantic data model of the core elements of an electronic invoice

European Commission

Definitions

(1) **'electronic invoice'** means an invoice that has been issued, transmitted and received in a structured electronic format which allows for its automatic and electronic processing;

(2) '**core elements of an electronic invoice**' means a set of essential information components which an electronic invoice must contain in order to enable cross-border interoperability, including the necessary information to ensure legal compliance;

(3) '**semantic data model**' means a structured and logically interrelated set of terms and their meanings that specify the core elements of an electronic invoice;

(4) '**syntax**' means the machine readable language or dialect used to represent the data elements contained in an electronic invoice;

(5) '**syntax bindings**' means guidelines on how a semantic data model for an electronic invoice could be represented in the various syntaxes;

Issued, **transmitted** and **received** in a **structured electronic format**

Seller's IT-solution → Buyer's IT-solution

Syntax bindings

Syntax A

Syntax B

Semantic data model of the **core elements** (Business terms and rules)

Key dates

16 April 2014
Directive 2014/55/EU

17 October 2017
Publication of the reference to the European
Standard on eInvoicing in the Official Journa

18 April 2019

Deadline for Member
States to transpose into
national law

18 April 2020
Extended deadline (upon request) for
contracting authorities and entities which are
not central government authorities

So eInvoicing, in the context of the Directive, is

- Formatted in a structured way so that it can be processed efficiently
- Issued, transmitted and received electronically

This rules out:

- Paper invoices which are scanned by the receiver but managed in an electronic workflow system
- PDF-invoices created by the issuer and sent to the receiver

Implementation of the Directive – requirements on public entities and suppliers

1. As is – no additional restrictions

2. As is but also for contracts under the threshold

3. As 1 or 2 but with policy that requirement for eInvoice must be part of call for tenders

4. Requirement for suppliers to also send

Governance…

Characteristics from countries with high penetration of e-Invoicing

- Strong initiative from public sector
- Either a governmental authority or collaboration between several
- Provide policy/directions – standards and infrastructure
- Give support and provide capacity building
- Involvement in EU-level initiatives
- EMSFEI (High level and policy issues)
- OpenPEPPOL (Operational and practical issues)

European Commission

Status in your country?

The European Norm and its content

Georg Birgisson

DIGIT

Initiation of the standardisation
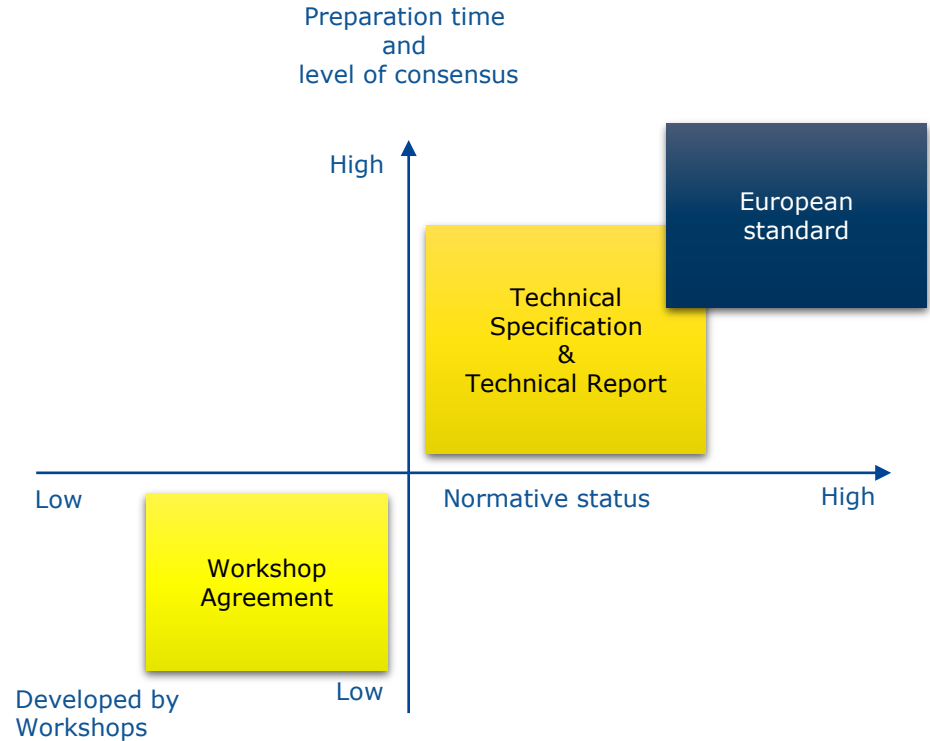
From article 3

*The Commission shall request that the relevant **European standardisation organisation** draft a European standard for the semantic data model of the core elements of an electronic invoice (the 'European standard on electronic invoicing').*

…

The Commission shall request that the relevant European standardisation organisation provide a list with a limited number of syntaxes which comply with the European standard on electronic invoicing, the appropriate syntax bindings and guidelines on transmission interoperability, in order to facilitate the use of such standard.

CEN/TC 434 was established

- CEN - European Committee for Standardisation
- The work started in a project committee (PC434) but was later changed into a technical committee (TC434)
- TC434 has over 100 committee members from 31 countries
- Participation in the work must go through the national standardisation committees.
- The committee is about to finalize all deliverables defined in the standardisation request

Preparation time and level of consensus

High

European standard

Technical Specification & Technical Report

Low   Normative status   High

Workshop Agreement

Developed by Workshops   Low

Current status

Number	Title	Status
EN 16931-1	Semantic data model of the core elements of an electronic invoice	Approved!
CEN/TS 16931-2	List of syntaxes that comply with EN 16931-1	Approved!
CEN/TS 16931-3-1	Methodology for syntax bindings of the core elements of an electronic invoice	Approved!
CEN/TS 16931-3-2	Syntax binding for ISO/IEC 19845 (UBL2.1) invoice and credit note	Approved!
CEN/TS 16931-3-3	Syntax binding for UN/CEFACT XML Cross Industry Invoice D16B	Approved!
CEN/TS 16931-3-4	Syntax binding for UN/EDIFACT D16B	Approved!
CEN/TR 16931-4	Guidelines on interoperability of electronic invoices at the transmission level	Approved!
CEN/TR 16931-5	Guidelines on the use of sector or country extensions in conjunction with EN 16931-1, methodology to be applied in the real environment	Approved!
CEN/TR 16931-6	Result of the test of EN 16931-1 with respect to its practical application for an end user	Approved!

Introduction to key concepts of the standard

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16931-1

June 2017

ICS 35.240.20; 35.240.63

English Version

Electronic invoicing - Part 1: Semantic data model of the
core elements of an electronic invoice

Facturation électronique - Partie 1: Modèle sémantique
de données des éléments essentiels d'une facture
électronique

Elektronische Rechnungsstellung - Teil 1:
Semantisches Datenmodell der Kernelemente einer
elektronischen Rechnung

This European Standard was approved by CEN on 17 April 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this
European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references
concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN
member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by
translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management
Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia,
Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania,
Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland,
Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Section 1-3 - Scope, references, terms & definitions

Section 4 – The concept of a core invoice

Section 5 – Business process to support

Section 6 – The semantic model, rules and data types

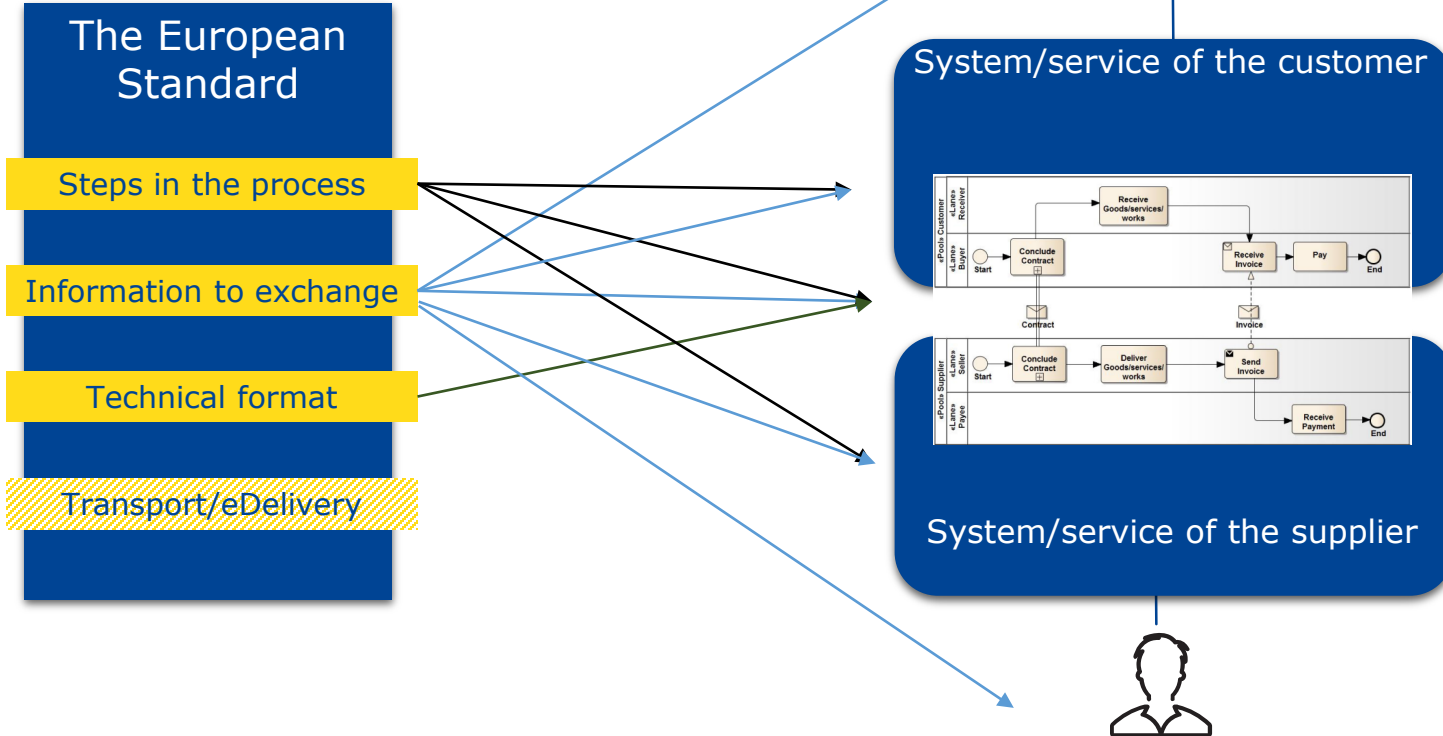Section 7 – Core Invoice Usage Specification (and compliance)
_____

Annex A – Examples (Informative)

Annex B – Assessment of the EN towards the Standardization request (Informative)

Annex C – How does the EN meet legal requirements (Informative)

Annex D – BPMN symbols (informative)

Areas covered by the standard

Reasons for a core invoice

The European standard recognises the following reasons:

- Business environment is diverse – also the need for information exchange

- Invoices from different situations may potentially contain many information elements – a complete model becomes very large and complex

- Even if it would technically be possible to have a large model, it would be challenging and costly

- When different countries/industries use subset of large standards, interoperability is hampered and silo-implementations are created

European Commission

Common understanding
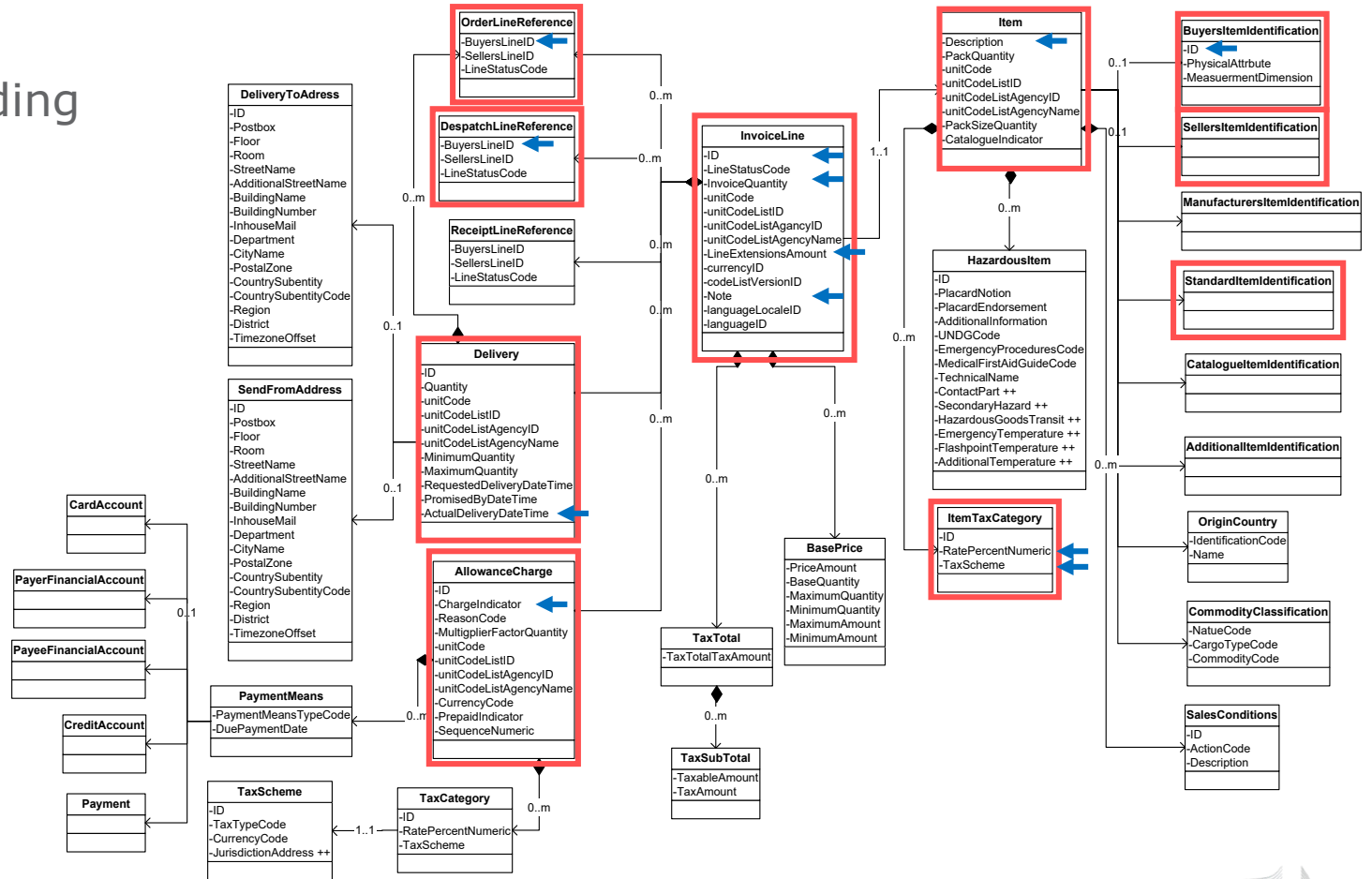
The concept of a core invoice – How?

The norm identifies a few **guiding principles**:

- It should be easier to use than paper invoicing
- Standardised information elements makes processing more efficient (than paper invoices)
- It should be possible to use without prior consultation or bilateral agreements
- It should contain information to enable efficient and automatic processing
- Software should be able to present all information, and automatically process structured data
- Structured data should result in optimised business processes
- The core invoice model should not make assumptions on the method of creation, delivery or processing
- The core invoice model should not make assumptions on the syntax or transmission technology

EN 16931-1:2017 Chapter 4

European Commission

# Requirement driven approach on defining the model

- Each business term in the model comes from one or more documented (and numbered) requirement
- The requirements give a good understanding of the background
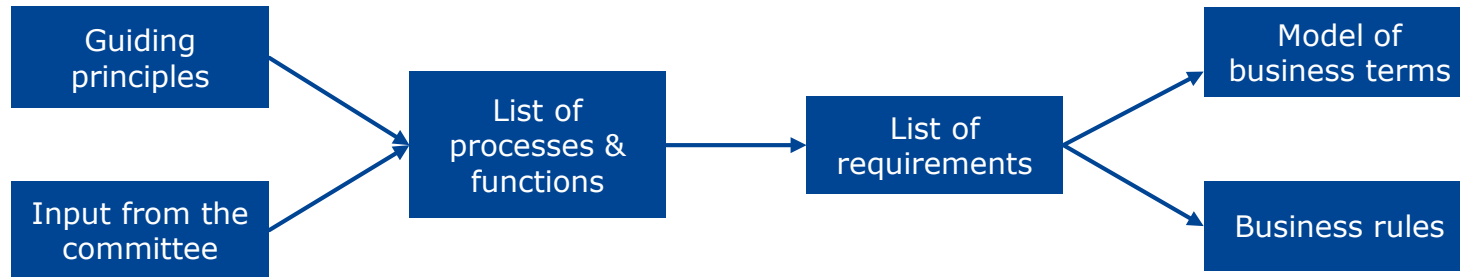
Business processes to support

The invoice model contains information elements to support the following processes

— P1: Invoicing of deliveries of goods and services against purchase orders, based on a contract

— P2: Invoicing deliveries of goods and services based on a contract

— P3: Invoicing the delivery of an incidental purchase order

— P4: Pre-payment

— P5: Spot payment

— P6: Payment in advance of delivery

— P7: Invoices with references to a despatch advice

— P8: Invoices with references to a despatch advice and a receiving advice

— P9: Credit notes or invoices with negative amounts, issued for a variety of reasons including the return of empty packaging

— P10: Corrective invoicing (cancellation/correction of an invoice)

— P11: Partial and final invoicing

— P12: Self billing

EN 16931-1:2017 Chapter 5.2.1
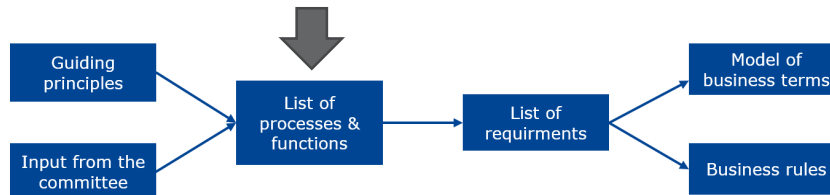
Business requirements derived from the processes

- Based on the identified processes and listed invoice functions, requirements are defined
- Each requirement has an assigned identifier

R5   information to trace to a single related purchase order from the document level (all processes, except P2 and P5);

R6   information to trace to a single related purchase order line from the invoice line (all processes, except P2 and P5);

R7   information to trace to a single contract and the underlying call for tenders from the document level (all processes, except P3 and P5);
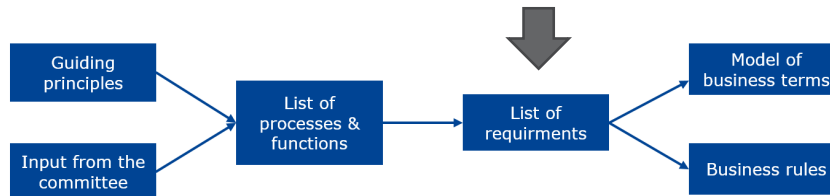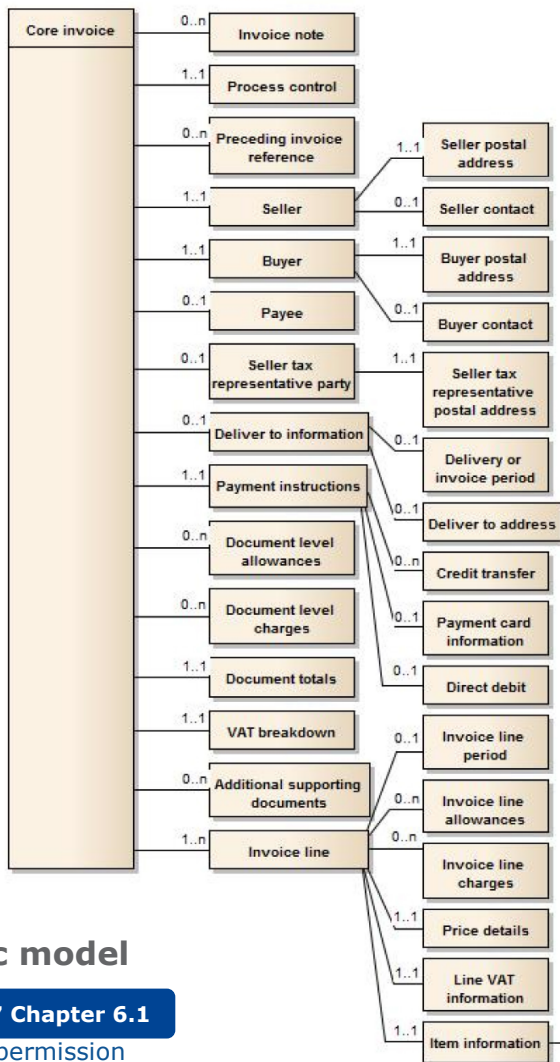
Examples of key components

Invoice (header)
Invoice number (1..1)
Issue date (1.1)
Type code (1...
Currency cod...
....

Seller information
Name (1..1)
Trading name (0..1)
Identifier (0..n)
Legal registration identifier (0..1)
VAT number (0..1)
Additiona...
...

Payment instructions
Payment means type code (1..1)
...text (0..1)
...(0..1)

VAT Breakdown
Category taxable amount (1..1)
Category tax amount (1..1)
Category code (1..1)
Category rate (...
Exemption text...
Exemption code...

Item information
Name (1..1)
Description (0..1)
Sellers identifier (0..1)
Buyers identifier (0..1)
Standard identifier (0..1)
Item classification (0..n)
Country of origin (0..1)

The semantic model

EN 16931-1:2017 Chapter 6.1

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European Commission

Examples of business terms

ID	Level	Cardinality	Business Term	Description	Usage Note	Req. ID	Semantic data type [2]
BT-1	+	1..1	Invoice number	A unique identification of the Invoice.	The sequential number required in Article 226(2) of the directive 2006/112/EC [2], to uniquely identify the Invoice within the business context, time-frame, operating systems and records of the Seller. It may be based on one or more series of numbers, which may include alphanumeric characters. No identification scheme is to be used.	R56	Identifier
BT-2	+	1..1	Invoice issue date	The date when the Invoice was issued.		R56	Date
BT-3	+	1..1	Invoice type code	A code specifying the functional type of the Invoice.	Commercial invoices and credit notes are defined according to the entries in UNTDID 1001 [6]. Other entries of UNTDID 1001 [6] with specific invoices or credit notes may be used if applicable.	R44	Code

ID – Unique id for each business term

Level – indicates depth in model (+, ++, +++, ++++)

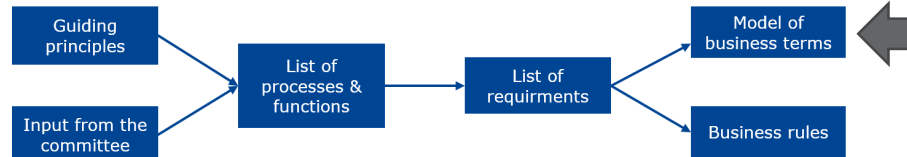**Cardinality** – Indicates optionality, repetitions allowed

Business term – name of the business term

Description – short description/definition

Usage note – guiding/explanatory information

Req id – reference to underlying requirement

Data type – the type of

```
Guiding principles ──┐
                     ├──> List of processes & functions ──> List of requirments ──> Model of business terms
Input from the       │                                                         └──> Business rules
committee ───────────┘
```

European Commission

Business rules

- Conditions – dependencies between terms
- Integrity constraints (In many cases, the data model cardinality indicates the same thing)

| ID	Description	Target / context	Business term / group
BR-CO-8	Invoice line charge reason code and Invoice line charge reason shall indicate the same type of charge reason.	Invoice line Charges	BT-144, BT-145
BR-CO-9	The Seller VAT identifier, Seller tax representative VAT identifier, Buyer VAT identifier shall have a prefix in accordance with ISO code ISO 3166-1 alpha-2 by which the country of issue may be identified. Nevertheless, Greece may use the prefix 'EL'.	VAT identifiers	BT-31, BT-48, BT-63
BR-CO-10	Sum of Invoice line net amount = $\sum$ Invoice line net amount.	Document totals	BT-106

ID – Unique id for each business rule

Description – textual description of the rule

Target/Context – the cgroup/class for where the rule applies

Business term/group – reference to the term for which the rule applies

EN 16931-1:2017 Chapter 6.4.2

European Commission

Business rules – VAT Rules

- VAT Rules – Rules for each VAT category
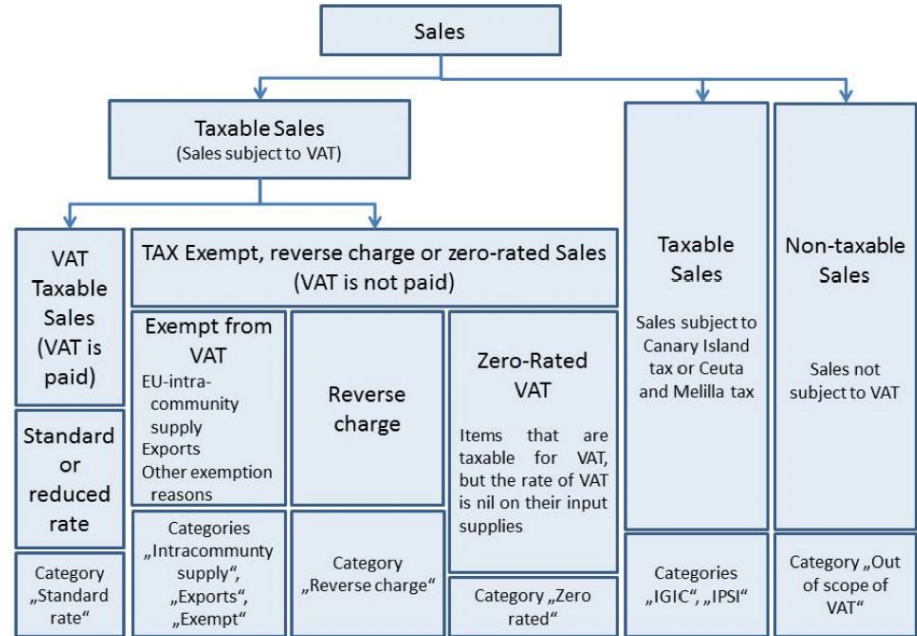
ID	Description
BR-Z-1	An Invoice that contains a line, a document level allowanc[e] where the Invoiced item VAT category code (BT-151, BT-[9]) shall contain in the VAT breakdown (BG-23) exactly one equal with "Zero rated".
BR-Z-2	An Invoice that contains a line where the Invoiced item VAT category code (BT-151) is "Zero rated" shall contain the Sellers VAT Identifier (BT-31), the Seller Tax registration identifier (BT-32) or the Seller tax representative VAT identifier (BT-63).
BR-Z-3	An Invoice that contains a document level allowance where the Invoiced item VAT category code (BT-95) is "Zero rated" shall contain the Sellers VAT Identifier (BT-31), the Seller Tax registration identifier (BT-32) or the Seller tax representative VAT identifier (BT-63).

EN 16931-1:2017 Chapter 6.4.3

Access to the specificat...

EC is sponsoring access F to the EN and the list of syntaxes. These specifications are available for free download

The other specifications must still be purchased

European Committee for Standardization

CEN COMMUNITY TECHNICAL BODIES STANDARDS EVOLUTION AND FORECAST SEARCH STANDARDS

Technical Bodies > CEN/TC 434

CEN/TC 434 - Electronic Invoicing

General Structure Work programme Published Standards

EN FR DE

CEN/TC 434 Published Standards

Reference, Title	Publication date	Sales Points
CEN/TR 16931-4:2017 (WI=00434004) Electronic invoicing - Part 4: Guidelines on interoperability of electronic invoices at the transmission level	2017-07-05	
CEN/TR 16931-5:2017 (WI=00434005) Electronic invoicing - Part 5: Guidelines on the use of sector or country extensions in conjunction with EN 16931-1, methodology to be applied in the real environment	2017-07-05	
CEN/TR 16931-6:2017 (WI=00434006) Electronic invoicing - Part 6: Result of the test of EN 16931-1 with respect to its practical application for an end user	2017-10-18	
CEN/TS 16931-2:2017 (WI=00434002) Electronic invoicing - Part 2: List of syntaxes that comply with EN 16931-1	2017-06-28	
CEN/TS 16931-3-1:2017 (WI=00434007) Electronic invoicing - Part 3-1: Methodology for syntax bindings of the core elements of an electronic invoice	2017-07-05	
CEN/TS 16931-3-2:2017 (WI=00434008) Electronic invoicing - Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note	2017-10-18	
CEN/TS 16931-3-2:2017/AC:2018 (WI=00434C01) Electronic invoicing - Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note	2018-07-18	
CEN/TS 16931-3-3:2017 (WI=00434009) Electronic invoicing - Part 3-3: Syntax binding for UN/CEFACT XML Industry Invoice D16B	2017-10-18	
CEN/TS 16931-3-4:2017 (WI=00434010) Electronic invoicing - Part 3-4: Syntax binding for UN/EDIFACT INVOIC D16B	2017-10-18	
EN 16931-1:2017 (WI=00434001) Electronic invoicing - Part 1: Semantic data model of the core elements of an electronic invoice	2017-06-28	

Examples of questions which the standard gives answers to

Which document types can be attached to an invoice?

Which element should be used for a reference to the customer, similar to "Your reference" in a paper invoice?

We use "Reverse Charge" VAT. Should the Tax Amount always be 0?

Should a credit note always have negative amounts?

Many syntaxes – a problem?

- There are a large number of syntaxes in use
- Many communities are already using e-invoicing since a long time
- Use of many syntaxes result in interoperability problems

---

(9)
In order to further simplify the use of electronic invoicing and to reduce costs, one of the long-term objectives should be to **limit the number of syntaxes used**, preferably by concentrating on those most commonly used.

Article 3
Establishment of a European standard
…
The Commission shall request that the relevant European standardisation organisation **provide a list with a limited number of syntaxes** which comply with the European standard on electronic invoicing, the appropriate syntax bindings and guidelines on transmission interoperability, in order to facilitate the use of such standard.

Article 7
Receipt and processing of electronic invoices
Member States shall ensure that contracting authorities and contracting entities receive and process electronic invoices which comply with the European standard on electronic invoicing whose reference has been published pursuant to Article 3(2) and with **any of the syntaxes on the list** published pursuant to Article 3(2).

The standardization request from EC defined a number of criteria

Req ID	Requirement of sub-requirement
1	Comply with the core invoice semantic data model specified in the EN
2	Be international, open and free to use
3	Have a governance and sustainability model
3.1	There is an established organisation maintaining the syntax (format)
3.2	There is a maintenance process that is: - documented with defined participation and voting rules; - governed; - open to participation for stakeholders.
3.3	There is a funding model allowing further development and maintenance.
3.4	Support can be provided (consulting, educating, training) to solution providers (implementers) or users (companies, PAs etc.).
4	Be part of a coherent set of standards and technical specifications to support the broader e-procurement process or the broader e-invoicing supply chain
5	Be widely used in the EU or worldwide
6	Be used in production environments (and not just test) by both the public and the private sector
7	Reflect well-accepted technology and aim to incorporate the latest technological developments considered to be state of the art
8	Have guidelines, code lists, validating tools freely available to ease implementation by ICT vendors and suppliers
9	Have a set of official, freely available syntax-dependent artefacts for validation (the XML Schema or Schematron) to support tool independent validation
10	Have an official updating and versioning strategy that takes due account of backward compatibility, as well as appropriate guidelines for customisation that explain how to extend and restrict the syntax

Specifications from CEN/TC434

Reference	WG	Title
EN 16931-1	WG1	Electronic invoicing - Part 1: Semantic data model of the core elements of an electronic invoice
TS 16931-2	WG2	Electronic invoicing - Part 2: List of syntaxes that comply with EN 16931-1
TS 16931-3-1	WG3	Electronic invoicing - Part 3-1: Methodology for syntax bindings of the core elements of an electronic invoice
TS 16931-3-2	WG3	Electronic invoicing - Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note
TS 16931-3-3	WG3	Electronic invoicing - Part 3-3: Syntax binding for UN/CEFACT XML Cross Industry Invoice D16B
TS 16931-3-4	WG3	Electronic invoicing - Part 3-4: Syntax binding for UN/EDIFACT INVOIC D16B
~~TS 16931-3-5~~	~~WG3~~	~~Electronic invoicing - Part 3-5: Syntax binding for the Financial Invoice based on ISO 20022~~
TR 16931-4	WG4	Electronic invoicing - Part 4: Guidelines on interoperability of electronic invoices at the transmission guideline
TR 16931-5	WG5	Electronic invoicing - Part 5: Guidelines on the use of sector or country extensions in conjunction with EN 16931-1, methodology to be applied in the real environment
TR 16931-6	WG6	Electronic invoicing - Part 6: result of the test of EN 16931-1 with respect to its practical application for an end user

Specifications from CEN/TC434

Reference	WG	Title
EN 16931-1	WG1	Electronic invoicing - Part 1: Semantic data model of the core elements of an electronic invoice
TS 16931-2	WG2	Electronic invoicing - Part 2: List of syntaxes that comply with EN 16931-1
TS 16931-3-1	WG3	Electronic invoicing - Part 3-1: Methodology for syntax bindings of the core elements of an electronic invoice
TS 16931-3-2	WG3	Electronic invoicing - Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note
TS 16931-3-3	WG3	Electronic invoicing - Part 3-3: Syntax binding for UN/CEFACT XML Cross Industry Invoice D16B
TS 16931-3-4	WG3	Electronic invoicing - Part 3-4: Syntax binding for UN/EDIFACT INVOIC D16B
~~TS 16931-3-5~~	~~WG3~~	~~Electronic invoicing - Part 3-5: Syntax binding for the Financial Invoice based on ISO 20022~~
TR 16931-4	WG4	Electronic invoicing - Part 4: Guidelines on interoperability of electronic invoices at the transmission guideline
TR 16931-5	WG5	Electronic invoicing - Part 5: Guidelines on the use of sector or country extensions in conjunction with EN 16931-1, methodology to be applied in the real environment
TR 16931-6	WG6	Electronic invoicing - Part 6: result of the test of EN 16931-1 with respect to its practical application for an end user

European Commission

Specifications from CEN/TC434

Reference	WG	Title
EN 16931-1	WG1	Electronic invoicing - Part 1: Semantic data model of the core elements of an electronic invoice
TS 16931-2	WG2	Electronic invoicing - Part 2: List of syntaxes that comply with EN 16931-1
TS 16931-3-1	WG3	Electronic invoicing - Part 3-1: Methodology for syntax bindings of the core elements of an electronic invoice
TS 16931-3-2	WG3	Electronic invoicing - Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note
TS 16931-3-3	WG3	Electronic invoicing - Part 3-3: Syntax binding for UN/CEFACT XML Cross Industry Invoice D16B
TS 16931-3-4	WG3	Electronic invoicing - Part 3-4: Syntax binding for UN/EDIFACT INVOIC D16B
~~TS 16931-3-5~~	~~WG3~~	~~Electronic invoicing - Part 3-5: Syntax binding for the Financial Invoice based on ISO 20022~~
TR 16931-4	WG4	Electronic invoicing - Part 4: Guidelines on interoperability of electronic invoices at the transmission guideline
TR 16931-5	WG5	Electronic invoicing - Part 5: Guidelines on the use of sector or country extensions in conjunction with EN 16931-1, methodology to be applied in the real environment
TR 16931-6	WG6	Electronic invoicing - Part 6: result of the test of EN 16931-1 with respect to its practical application for an end user

European Commission

Which syntaxes are predominant in your work?

A closer look at UBL and CII

For both UBL 2.1 and UN/CEFACT Cross Industry Invoice

- Overview of the Specifications, XML-schemas and other resources
- Use of namespaces, versioning and document types
- Handling of code lists
- Typical message design and key syntactical features

UBL Version 2.1 – ISO/IEC 19845:2015

Overview of the standard

- UBL stands for Universal Business Language
- OASIS UBL 2.1 is developed and maintained by the UBL Technical Committee within OASIS
- UBL is an ISO-standard (ISO/IEC 19845-2015)

- UBL was developed with starting point in the CBL/xCBL format
- Sweden and Denmark early adopters around 2003-2004

UBL 1.0

- Published 2004
- Order To Invoice (8 Documents)
- >600 elements in common library
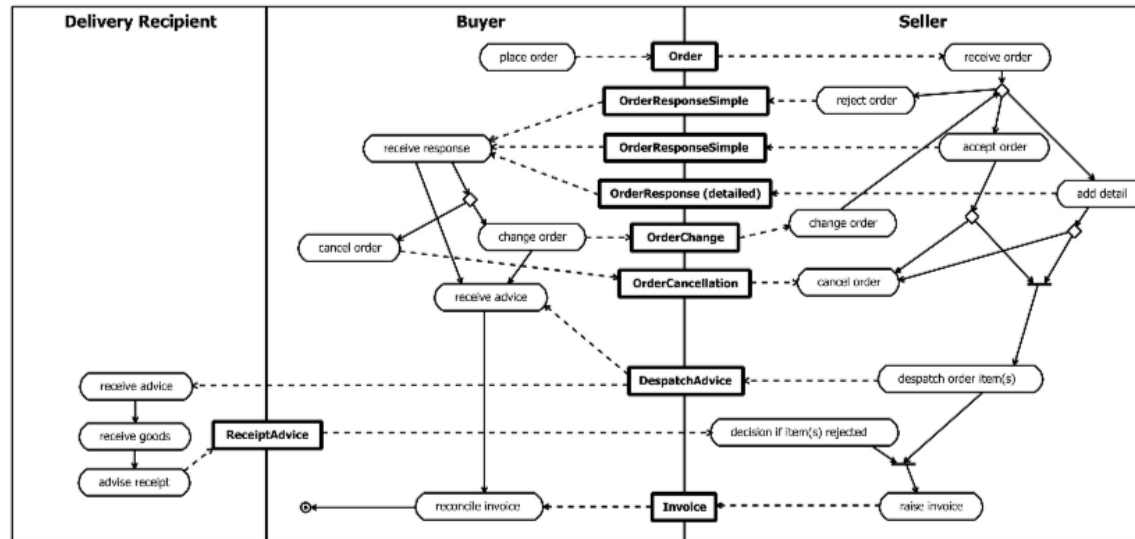
UBL 2.0

- 31 business documents
- >1900 elements in common library
- Input from European projects
- Published 2006
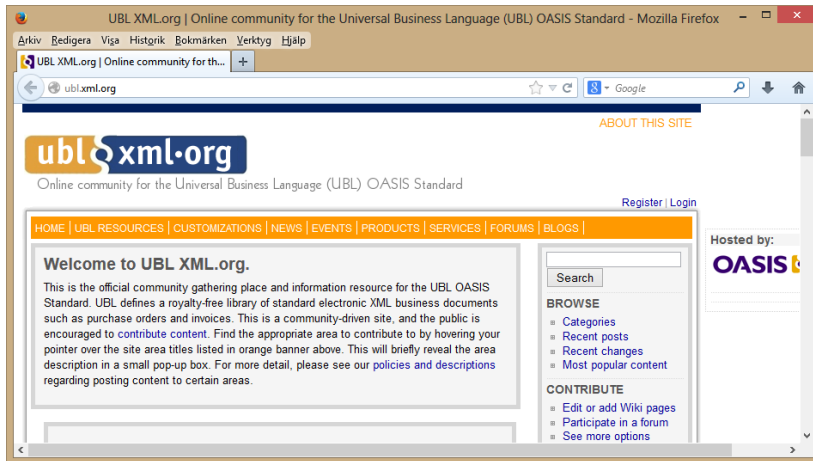
Sourcing (product and price synchronization)

- Catalogue Request, Catalogue, Catalogue Item Specification Update,
- Catalogue Pricing Update, Catalogue Deletion, Request For Quotation, Quotation

Fulfilment (shipping)

- Forwarding Instructions, Packing List, Bill Of Lading, Waybill, Certificate Of Origin
- Transportation Status

Billing

- Credit Note, Debit Note, Self Billed Invoice, Self Billed Credit Note, Freight
- Invoice, Reminder

Payment

- Remittance Advice, Statement

Additional document types

- Application Response, Attached Document

UBL 2.1

- 62 business documents

- Library of >2300 elements

- Built based on input from projects like CEN/BII, PEPPOL, ePRIOR and freight management projects

- Backward compatible with UBL 2.0.

  - Any XML-instance produced based on UBL 2.0 will validate using UBL 2.1

Additional guidelines

- Customization Methodology

- Genericode Code list support

- Digital signature extension (XAdES)

Sourcing (product and price synchronization)
- Catalogue Request, Catalogue, Catalogue Item Specification Update,
- Catalogue Pricing Update, Catalogue Deletion, Request For Quotation, Quotation

Fulfilment (shipping)
- Forwarding Instructions, Packing List, Bill Of Lading, Waybill, Certificate Of Origin
- Transportation Status ,Fulfilment Cancellation

Billing
- Invoice, Credit Note, Debit Note, Self Billed Invoice, Self Billed Credit Note, Freight Invoice, Reminder

Payment
- Remittance Advice, Statement

Tendering
- Awarded Notification, Call for Tenders, Contract Award Notice, Contract Notice
- Guarantee Certificate, Prior Information Notice, Tender, Tender Receipt
- Tenderer Qualification, Tenderer Qualification Response, Unawarded Notification

VICS Collaborative Planning, Forecasting, and Replenishment
- Exception Criteria, Exception Notification, Forecast, Forecast Revision
- Item Information Request, Product Activity

Vendor Managed Inventory
- Instruction for Returns, Inventory Report, Retail Event, Stock Availability Report
- Trade Item Location Profile

Intermodal Freight Management
- Goods Item Itinerary, Packing List, Transport Execution Plan, Transport Execution Plan Request
- Transport Progress Status, Transport Progress Status Request, Transport Service Description
- Transport Service Description Request, Transportation Status, Transportation Status Request

Utility Billing
- Utility Statement

Additional Documents
- Application Response, Attached Document
- Document Status, Document Status Request

Localization

- UBL TC has a number of localization subcommittees

- Translated business term names and definitions

- UBL 1 is translated into
  - Chinese (traditional and simplified)
  - Japanese
  - Korean
  - Spanish
  - Italian

- UBL 2 is translated into
  - Italian
  - Spanish
  - German
  - Slovak

- And partially to
  - Danish
  - Turkish
  - Hungarian
  - Lithuanian

UBL Architecture

- Built using the Core Component Technical Specification (ISO 15000-5, CCTS 2.01)
- UBL has its own "Naming and Design Rules for XML"
- A library of reusable components (ABIEs)
- Document models

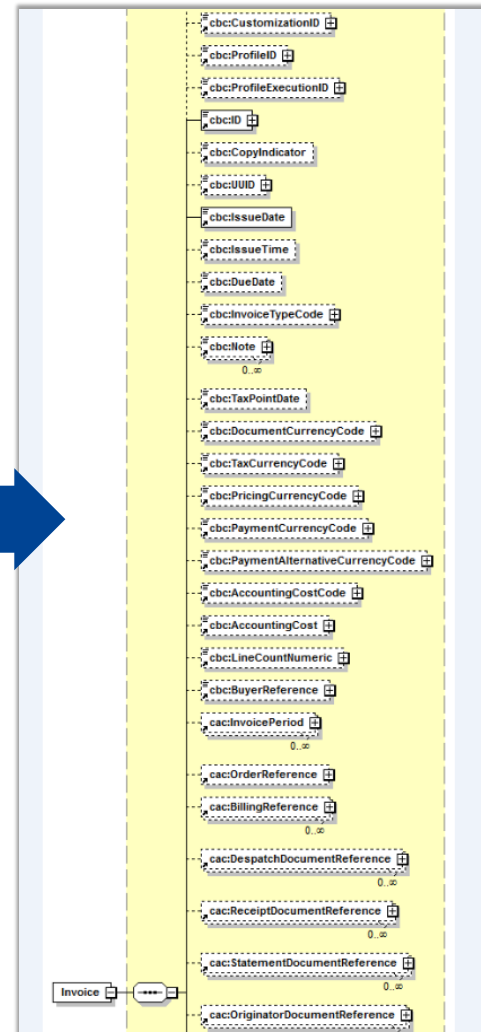# Core Component Technical Specification + Naming and Design Rules for XML

- Core Component Technical Specification says how business terms (Business Information Entities) should be represented in a standardized manner

UBL Name	Dictionary Entry Name	Obje ct Clas	Object Class	Property Term Qualifier	Property Term Possessive Noun	Property Term Primary	Property Term	Representatio n Term	Dat a Typ	Data Type	As so ci	Asso ciate d	Alternative Business Terms	Cardinal ity	Compon ent Type	
Address	Address. Details		Address												ABIE	A class to define common informatio
ID	Address. Identifier		Address			Identifier	Identifier	Identifier		Identifier. Type			DetailsKey	0..1	BBIE	An identifier for this address within a
AddressTypeCode	Address. Address Type Code.		Address		Address Type	Code	Address Type Code	Code		Code. Type				0..1	BBIE	A mutually agreed code signifying th
AddressFormatCode	Address. Address Format		Address		Address Format	Code	Address Format Code	Code		Code. Type				0..1	BBIE	A mutually agreed code signifying th
Postbox	Address. Postbox. Text		Address			Postbox	Postbox	Text		Text. Type			PostBox, PO Box	0..1	BBIE	A post office box number registered
Floor	Address. Floor. Text		Address			Floor	Floor	Text		Text. Type			SubPremiseNumbe	0..1	BBIE	An identifiable floor of a building.
Room	Address. Room. Text		Address			Room	Room	Text		Text. Type			SubPremiseNumbe	0..1	BBIE	An identifiable room, suite, or apartm
StreetName	Address. Street Name. Name		Address		Street	Name	Street Name	Name		Name. Type			Thoroughfare	0..1	BBIE	The name of the street, road, avenue
AdditionalStreetNam	Address. Additional_ Street		Address	Additional	Street	Name	Street Name	Name		Name. Type			Thoroughfare	0..1	BBIE	An additional street name used to fu
BlockName	Address. Block Name. Name		Address		Block	Name	Block Name	Name		Name. Type				0..1	BBIE	The name of the block (an area surro
BuildingName	Address. Building Name.		Address		Building	Name	Building Name	Name		Name. Type			BuildingName	0..1	BBIE	The name of a building.
BuildingNumber	Address. Building Number.		Address		Building	Number	Building Number	Text		Text. Type			PremiseNumber	0..1	BBIE	The number of a building within the s
InhouseMail	Address. Inhouse_ Mail. Text		Address	Inhouse		Mail	Mail	Text		Text. Type			MailStop	0..1	BBIE	The specific identifable location with
Department	Address. Department. Text		Address			Department	Department	Text		Text. Type			Department	0..1	BBIE	The department of the addressee.
MarkAttention	Address. Mark Attention. Text		Address		Mark	Attention	Mark Attention	Text		Text. Type				0..1	BBIE	The name, expressed as text, of a p

- Naming and Design rules (NDR) describes how to express in XSD/XML
- UBL also have syntax representations **for binary format (ASN.1)** and a **JSON representation** is under development
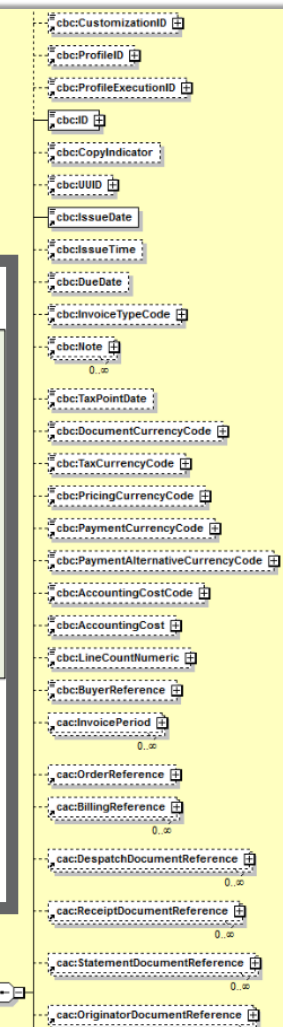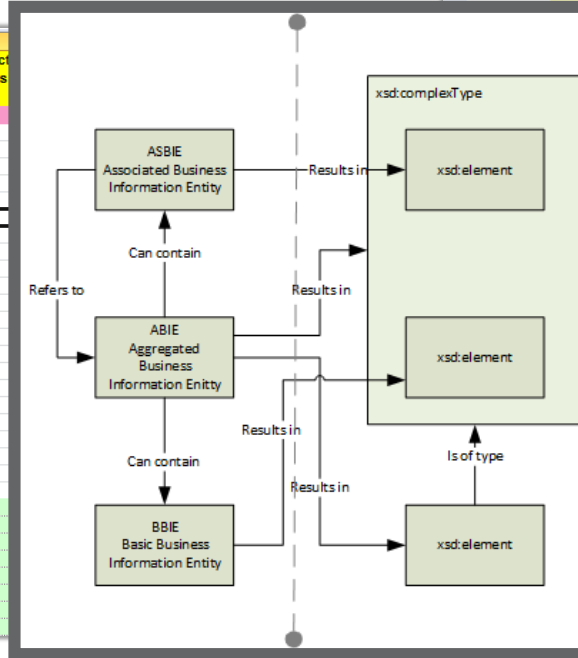
Semantic model transformed to XML syntax using naming and design rules

UBL NDR

Semantic model transformed to XML syntax using naming and design rules

Use of code lists in XML Schemas

- Built in "enumerations" of code values is a common way of defining allowed value domains
- Code lists must then be published as an integrated part of the XML Schemas
- New versions of XML Schemas must be used to get access to new code values
- Potential compatibility issues between publications

```
<xs:element name="County" type="xs:string" minOccurs="0" />
<xs:element name="PostCode" type="xs:string" />
<xs:element name="Country">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="IN" />          Enumeration
      <xs:enumeration value="DE" />
      <xs:enumeration value="ES" />
      <xs:enumeration value="UK" />
      <xs:enumeration value="US" />
    </xs:restriction>
  </xs:simpleType>
</xs:element>
</xs:sequence>
</xs:complexType>
```

- **UBL is not using tightly bound code lists**

Use of code lists in XML Schemas

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      <xs:enumeration value="ES" />
      <xs:enumeration value="UK" />
      <xs:enumeration value="US" />
    </xs:restriction>
  </xs:simpleType>
</xs:element>
</xs:sequence>
</xs:complexType>
```

Enumeration

- **UBL is not using tightly bound code lists**
- **However – UBL is still referring to the code lists in supporting documentation**

Use of namespaces, versioning and document types

- Each document type has its unique Namespace
  - **Invoice**: urn:oasis:names:specification:ubl:schema:xsd:Invoice-2
  - **CreditNote**: urn:oasis:names:specification:ubl:schema:xsd:CreditNote-2
- Only major version of UBL is "visible" in namespace
- Minor version number is stated in the message: \<cbc:UBLVersionID\>2.1\</cbc:UBLVersionID\>

UBL Extension

- All UBL Documents have an extension point as the first element
- Gives possibility to do custom extensions without breaking compatibility
- Structure contains
  - Placeholder for the XML
  - Metadata about the extension

This is NOT the same type of extension as defined by CEN/TC434
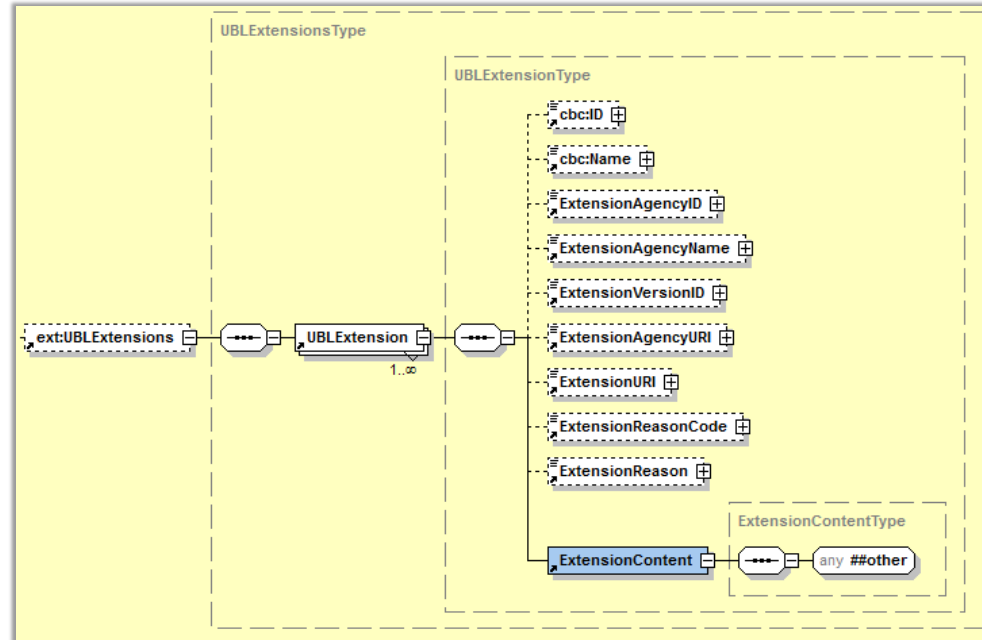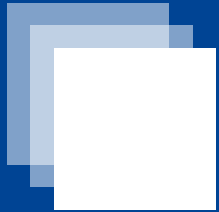
UN/CEFACT Cross Industry Invoice D16B

Overview of the standard

- CII stands for Cross Industry Invoice

- CII is developed and maintained by UN/CEFACT

- UN/CEFACT serves as the focal point for trade facilitation recommendations and electronic business standards, covering both commercial and government business processes that can foster growth in international trade and related services.

- UN/CEFACT develops and maintains UN/EDIFACT, XML Schemas, Code lists and a number of UNECE Recommendations (such as Recommendation N°. 20 - Codes for Units of Measure)

Cross Industry messages

- Version 1 published 2009 (as part of D09A)

- In D09B, Cross Industry Order, Catalogue and DespatchAdvice were added

- New schemas are normally published 2 times a year

- Since 2016, UN/CEFACT publishes two branches of the Cross Industry Invoice XML Schemas

- One branch following the same method as before. Currently it contains 16 different Cross Industry (messages) XML schemas

- One branch called the Supply Chain Reference Data Model (SCRDM) which are process-driven schemas derived from the model. Currently it only contains the Cross Industry Invoice-message

XML Schemas

Issued	Document Title	Download
2017	XML Schemas version 17B	ZIP
	Validation Report	PDF
2017	XML Schemas version 17A	ZIP
	Validation Report	PDF
2016	XML Schemas 16B (SCRDM - CII)	ZIP
	XML Schemas version 16B	ZIP
	Validation Report	PDF
	Release notes	PDF
2016	XML Schemas update 16A.1 (SCRDM - CII)	ZIP
	XML Schemas version 16A	ZIP
	Validation Report	PDF
	Release notes	PDF
2015	XML Schemas version 15B	ZIP
	Validation Report	PDF
	Release notes	PDF
2015	XML Schemas version 15A	ZIP
	Validation Report	PDF
	Release notes	PDF
2015	XML Schemas version 14B	ZIP
	Validation report	PDF
	Release notes	PDF
2014	XML Schemas version 13B	ZIP
	Validation report	PDF
2013	XML Schemas version 13A	ZIP

Cross Industry Invoice Architecture

- Built using the Core Component Specification (ISO 15000-5, CCTS 2.01)

- Managment of reference model and subsetting using CCBDA (Core Components Business Document Assembly Technical Specification)

- UN/CEFACT has its own "Naming and Design Rules for XML"

- Several layers of components

- Guarantees coeherence within and between different messages as they inherit from the same super structures

Use of code lists in XML Schemas

- Built in "enumerations" of code values is a common way of defining allowed value domains

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      <xs:enumeration value="ES" />
      <xs:enumeration value="UK" />
      <xs:enumeration value="US" />
    </xs:restriction>
  </xs:simpleType>
</xs:element>
</xs:sequence>
</xs:complexType>
```

- **CII XML Schemas are published in three variants**

  - Uncoupled: Message schemas without coupling to Code List Modules **based on the SCRDM-branch**

  - Coupled: Message schemas with coupling to Code List Modules **based on the SCRDM-branch**

  - Coupled: Message schemas with coupling to Code List Modules **based on the "old"-branch**

European Commission

Use of namespaces, versioning and document types

- Each document type has its unique Namespace (Invoice and CreditNote use the same schema)
  - **SCRDM branch CrossIndustryInvoice**:
    urn:un:unece:uncefact:data:standard:CrossIndustryInvoice:100

  - **"Old" branch CrossIndustryInvoice**:
    urn:un:unece:uncefact:data:standard:CrossIndustryInvoice:13

- The List of syntaxes that comply with EN 16931-1 has evaluated and includes the SCRDM-version

Syntax bindings

Syntax binding specifications

Semantic data model of the core elements
(Business terms and rules)

Syntax bindings

OASIS UBL 2.1

Cross Industry Invoice D16B
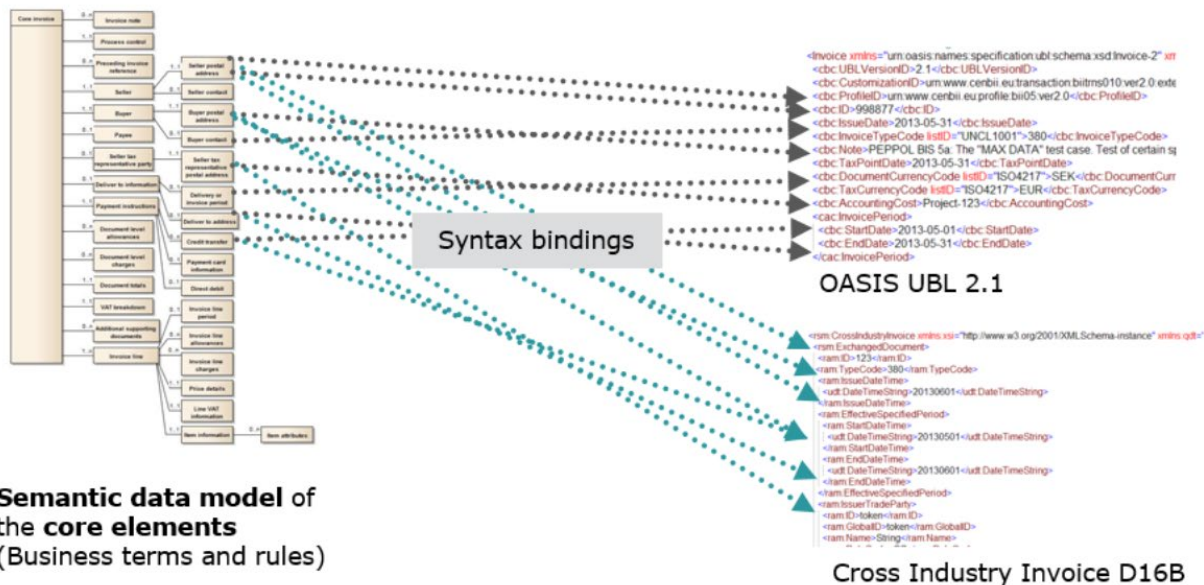
Syntax binding – Semantic model → Syntax

ID	Level	Card.	BT	Desc.	DT	Path	Type	Card.	Match	Rules
BT-1	1	1..1	Invoice number	A unique identification of the Invoice.	I	/Invoice/cbc:ID	I	1..1		
BT-2	1	1..1	Invoice issue date	The date when the Invoice was issued.	D	/Invoice/cbc:IssueDate	D	1..1		
BT-3	1	1..1	Invoice type code	A code specifying the functional type of the Invoice.	C	/Invoice/cbc:InvoiceTypeCode	C	0..1	CAR-2	
BT-5	1	1..1	Invoice currency code	The currency in which all Invoice amounts are given, except for the Total VAT amount in accounting currency.	C	/Invoice/cbc:DocumentCurrencyCode	C	0..1	CAR-2	
BT-6	1	0..1	VAT accounting currency code	The currency used for VAT accounting and reporting purposes as accepted or required in the country of the Seller.	C	/Invoice/cbc:TaxCurrencyCode	C	0..1	SEM-2	

Syntax binding – Syntax → Semantic model

Path	Card.	ID	Level	Card.	BT	Desc.	DT
/Invoice							
/Invoice/cbc:CustomizationID	0..1	BT-24	2	1..1	Specification identifier	An identification of the specification containing the total set of rules regarding semantic content, cardinalities and business rules to which the data contained in the instance document conforms.	I
/Invoice/cbc:ProfileID	0..1	BT-23	2	0..1	Business process type	Identifies the business process context in which the transaction appears, to enable the Buyer to process the Invoice in an appropriate way.	T
/Invoice/cbc:ID	1..1	BT-1	1	1..1	Invoice number	A unique identification of the Invoice.	I
/Invoice/cbc:IssueDate	1..1	BT-2	1	1..1	Invoice issue date	The date when the Invoice was issued.	D
/Invoice/cbc:DueDate	0..1	BT-9	1	0..1	Payment due date	The date when the payment is due.	D
/Invoice/cbc:InvoiceTypeCode	0..1	BT-3	1	1..1	Invoice type code	A code specifying the functional type of the Invoice.	C

Not a simple pair matching game

- Not all business terms can be mapped to a single element, often qualifiers are necessary
- The syntaxes have different structures and order of elements
- The syntaxes may have different cardinalities or even datatypes

- The syntax mappings have additional and separate validation rules

BT-1 Invoice number
BT-23 Business process type
BT-24 Specification identifier
BT-2 Invoice Issue date
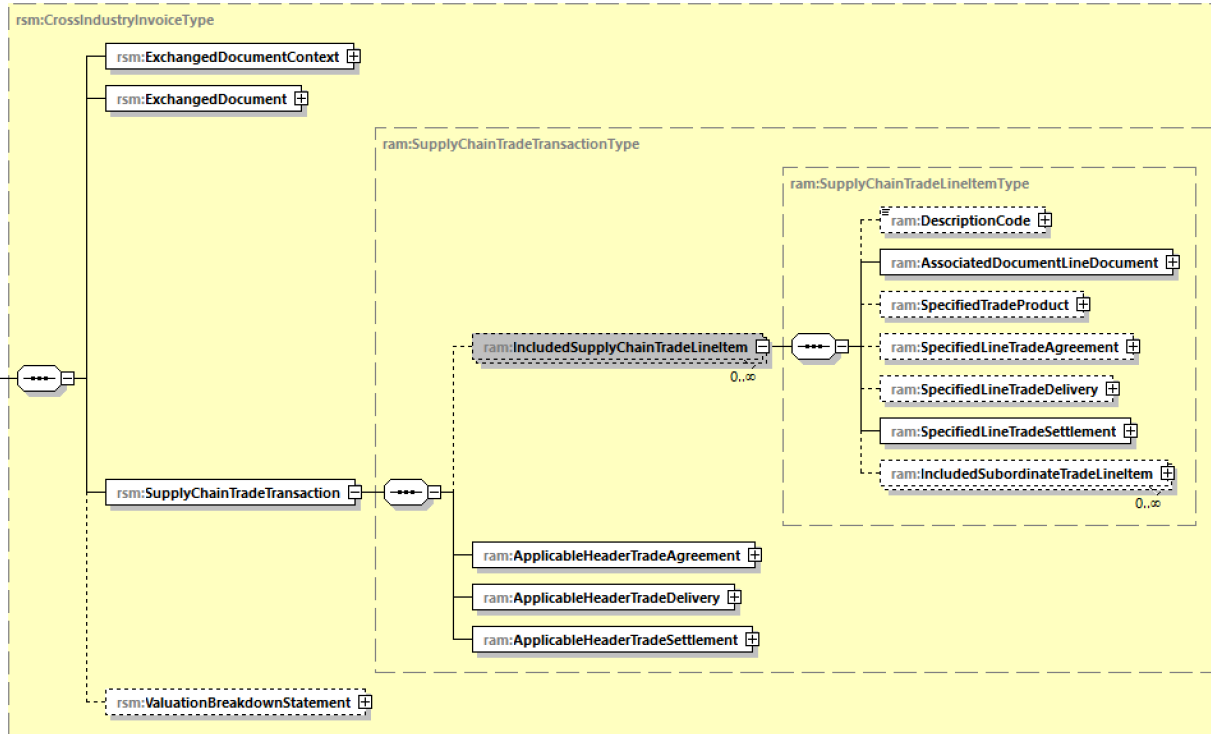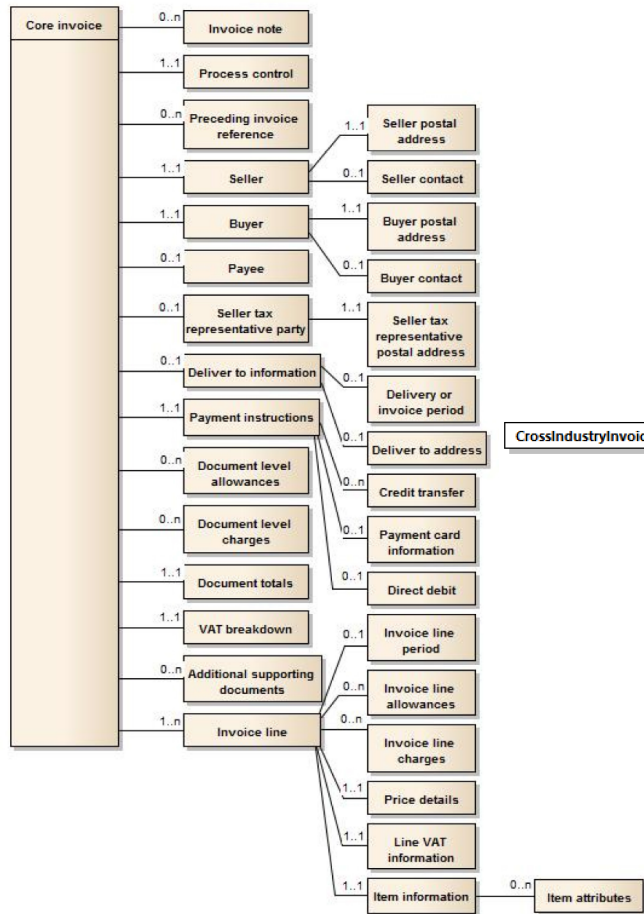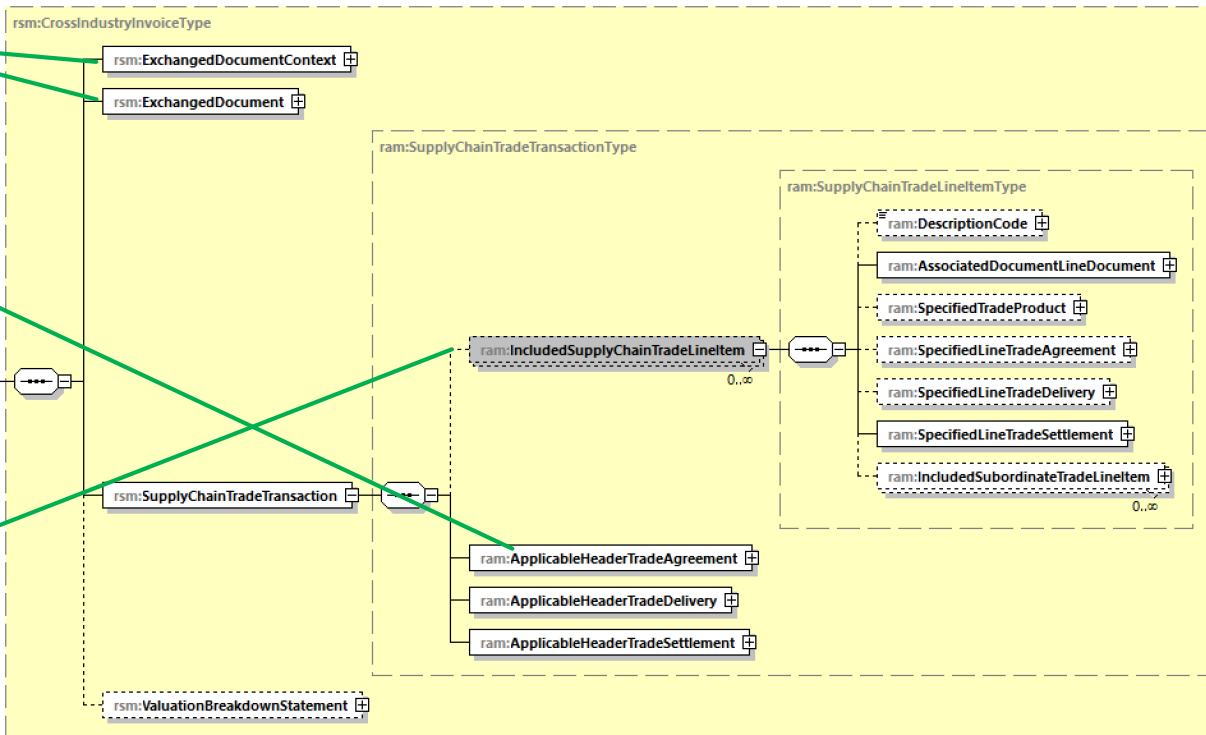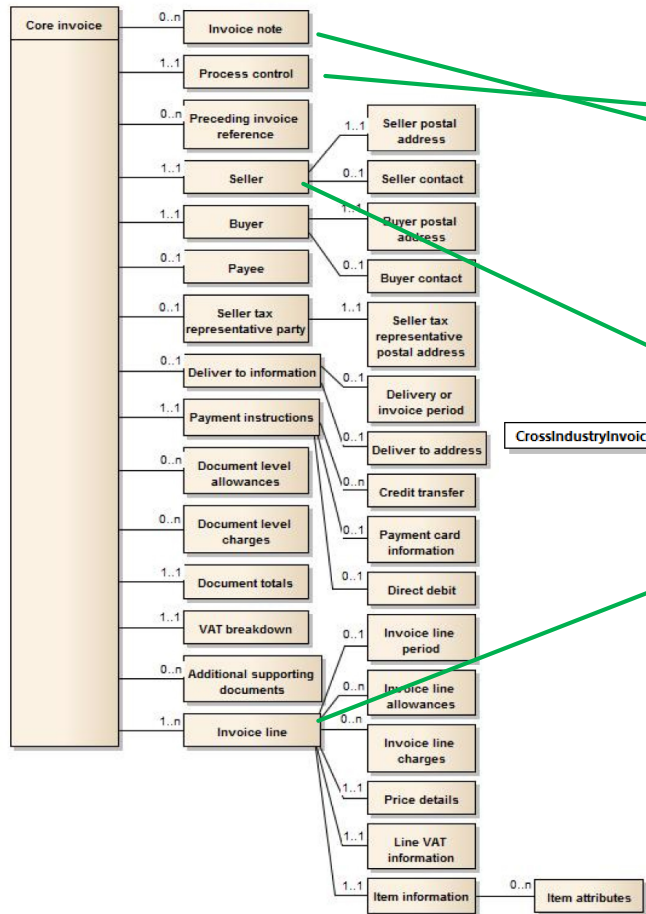
```xml
]<Invoice
 xmlns:cac="urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2"
 xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
 xmlns="urn:oasis:names:specification:ubl:schema:xsd:Invoice-2">
    <cbc:CustomizationID>urn:cen.eu:en16931:2017</cbc:CustomizationID>
    <cbc:ProfileID>P3</cbc:ProfileID>
    <cbc:ID>TOSL108</cbc:ID>
    <cbc:IssueDate>2013-06-30</cbc:IssueDate>
    <cbc:DueDate>2013-07-20</cbc:DueDate>
    <cbc:InvoiceTypeCode>380</cbc:InvoiceTypeCode>
    <cbc:Note>Ordered in our booth at the convention</cbc:Note>
    <cbc:TaxPointDate>2013-06-30</cbc:TaxPointDate>
```

```xml
]<rsm:CrossIndustryInvoice
 xmlns:udt="urn:un:unece:uncefact:data:standard:UnqualifiedDataType:100"
 xmlns:rsm="urn:un:unece:uncefact:data:standard:CrossIndustryInvoice:100"
 xmlns:ram="urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:100">
    <rsm:ExchangedDocumentContext>
        <ram:BusinessProcessSpecifiedDocumentContextParameter>
            <ram:ID>P3</ram:ID>
        </ram:BusinessProcessSpecifiedDocumentContextParameter>
        <ram:GuidelineSpecifiedDocumentContextParameter>
            <ram:ID>urn:cen.eu:en16931:2017</ram:ID>
        </ram:GuidelineSpecifiedDocumentContextParameter>
    </rsm:ExchangedDocumentContext>
    <rsm:ExchangedDocument>
        <ram:ID>TOSL108</ram:ID>
        <ram:TypeCode>380</ram:TypeCode>
        <ram:IssueDateTime>
            <udt:DateTimeString format="102">20130630</udt:DateTimeString>
        </ram:IssueDateTime>
        <ram:IncludedNote>
            <ram:Content>Ordered in our booth at the convention</ram:Content>
        </ram:IncludedNote>
    </rsm:ExchangedDocument>
```

```xml
<cac:AccountingSupplierParty>
    <cac:Party>
        <cac:PartyIdentification>
            <cbc:ID schemeID="0088">1238764941386</cbc:ID>
        </cac:PartyIdentification>
        <cac:PostalAddress>
            <cbc:StreetName>Main street 34</cbc:StreetName>
            <cbc:AdditionalStreetName>Suite 123</cbc:AdditionalStreetName>
            <cbc:CityName>Big city</cbc:CityName>
            <cbc:PostalZone>303</cbc:PostalZone>
            <cbc:CountrySubentity>RegionA</cbc:CountrySubentity>
            <cac:Country>
                <cbc:IdentificationCode>NO</cbc:IdentificationCode>
            </cac:Country>
        </cac:PostalAddress>
        <cac:PartyTaxScheme>
            <cbc:CompanyID>NO123456789MVA</cbc:CompanyID>
            <cac:TaxScheme>
                <cbc:ID>VAT</cbc:ID>
            </cac:TaxScheme>
        </cac:PartyTaxScheme>
        <cac:PartyLegalEntity>
            <cbc:RegistrationName>Salescompany ltd.</cbc:RegistrationName>
            <cbc:CompanyID>123456789</cbc:CompanyID>
        </cac:PartyLegalEntity>
        <cac:Contact>
            <cbc:Name>Antonio Salesmacher</cbc:Name>
            <cbc:Telephone>46211230</cbc:Telephone>
            <cbc:ElectronicMail>antonio@salescompany.no</cbc:ElectronicMail>
        </cac:Contact>
    </cac:Party>
</cac:AccountingSupplierParty>
```

```xml
<ram:ApplicableHeaderTradeAgreement>
    <ram:SellerTradeParty>
        <ram:GlobalID schemeID="0088">1238764941386</ram:GlobalID>
        <ram:Name>Salescompany ltd.</ram:Name>
        <ram:SpecifiedLegalOrganization>
            <ram:ID>123456789</ram:ID>
        </ram:SpecifiedLegalOrganization>
        <ram:DefinedTradeContact>
            <ram:PersonName>Antonio Salesmacher</ram:PersonName>
            <ram:TelephoneUniversalCommunication>
                <ram:CompleteNumber>46211230</ram:CompleteNumber>
            </ram:TelephoneUniversalCommunication>
            <ram:EmailURIUniversalCommunication>
                <ram:URIID>antonio@salescompany.no</ram:URIID>
            </ram:EmailURIUniversalCommunication>
        </ram:DefinedTradeContact>
        <ram:PostalTradeAddress>
            <ram:PostcodeCode>303</ram:PostcodeCode>
            <ram:LineOne>Main street 34</ram:LineOne>
            <ram:LineTwo>Suite 123</ram:LineTwo>
            <ram:CityName>Big city</ram:CityName>
            <ram:CountryID>NO</ram:CountryID>
            <ram:CountrySubDivisionName>RegionA</ram:CountrySubDivisionName>
        </ram:PostalTradeAddress>
        <ram:SpecifiedTaxRegistration>
            <ram:ID schemeID="VA">NO123456789MVA</ram:ID>
        </ram:SpecifiedTaxRegistration>
    </ram:SellerTradeParty>
</ram:ApplicableHeaderTradeAgreement>
```

BT-29 Seller identifier
BT-30 Seller legal registration identifier
BT-27 Seller name
BT-31 Seller VAT-identifier

European Commission

Usage specifications and compliance

Christian Vindinge Rasmussen

Georg Birgisson

DIGIT

Compliance and conformance - The European standard defines these concepts

Compliant
some or all features of the core invoice model are used and all rules of the core invoice model are respected

Conformant
all rules of the core invoice model are respected and some additional features not defined in the core invoice model are also used

Core Invoice Usage Specifications

Extensions

From article 7 in the directive

Receipt and processing of electronic invoices

Member States shall ensure that contracting authorities and contracting entities receive and process electronic invoices which **comply** *with the European standard on electronic invoicing whose reference has been published pursuant to Article 3(2) and with any of the syntaxes on the list published pursuant to Article 3(2).*

Core – something in common

IMPORTANT

An invoice which follows a CIUS MUST ALWAYS also be compliant towards the (non-restricted) norm.

International Standard Syntax (CII/UBL)

Extension

Core

Usage specification

Requirements for the contracting authorities/entities

From article 7

Receipt and processing of electronic invoices

*Member States shall ensure that contracting authorities and contracting entities **receive and process electronic invoices which comply with the European standard on electronic invoicing** whose reference has been published pursuant to Article 3(2) and with any of the syntaxes on the list published pursuant to Article 3(2).*

Claiming compliance towards the norm

Compliance of sending or receiving party

*A receiving party may only claim compliance to the core invoice model if he accepts invoices that comply with the core invoice model in general**, or with a CIUS**, that is itself compliant with the core invoice model.*

European Commission

What is allowed to restrict in a Core Invoice Usage Specification

- "Forbid" optional elements 0..n/0..1 ➜ 0..0

- Make definition narrower

- Add synonyms or explanatory text

- Make optional element mandatory

- Limit allowed number of repetitions

- Change data type to narrower representation (alphanumeric ➜ numeric)

- Limited allowed code values

- Add additional business rules or make existing more restrictive

- Restrict field lengths

- Require certain formatting on values

- Restrict number of decimals/fractions

IMPORTANT

An invoice which follows a CIUS MUST ALWAYS also be compliant towards the (non-restricted) norm.

European Commission

A few scenarios

Using EN as is

Using CIUS IT

Using CIUS NL

Using Extension

All instances should be possible to accept

All instances should be possible to accept

All instances should be possible to accept

All instances may not be possible to accept

Supports EN fully

Example: The extension has added a code for a Invoice Type which is not supported in the EN and the receiver will not understand its purpose

Assuming the invoices are conformant against its specifcation (EN/CIUS/Extension)
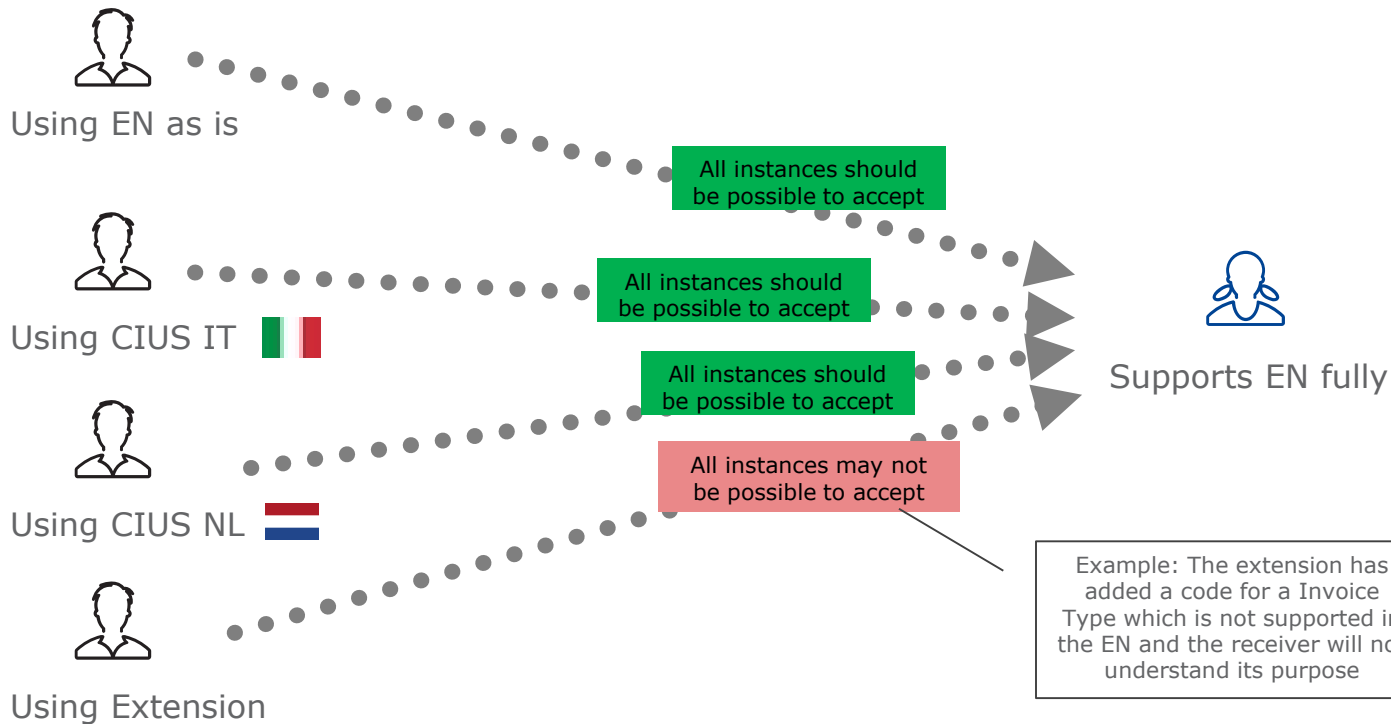
European Commission

A few more scenarios

Using EN as is

Using CIUS IT

Using CIUS NL

Using Extension

All instances may not be possible to accept

All instances should be possible to accept

All instances may not be possible to accept

All instances may not be possible to accept

Example: The issuer may use a feature from the EN which has been restricted in the CIUS

Supports CIUS IT only

Example: The extension has added a code for a Invoice Type which is not supported in the EN and the receiver will not understand its purpose

Assuming the invoices are conformant against its specifcation (EN/CIUS/Extension)

European Commission

UC **eInvoicing User Community**

SPACE SHORTCUTS
📄 CEF Knowledge Base

PAGE TREE

❯ eInvoicing news & events
❯ Forum
⌄ Contribute
  ❯ CEF eInvoicing Implementation Work
  • Guidance Paper for EU public admini:
  ❯ eInvoicing Pioneer Group
  • **Community-driven Registry of CIU**
  • Catalogue of Good Practices to supp
  ❯ Older posts (CONTRIBUTE)
  ❯ Follow-up actions after the CEF eInvc
❯ Archive
• Meta
• Links

Community-driven Registry of CIUS (Core Invoice Usage Specifications) and Extensions

Created by Ines COSTA, last modified by Philip HELGER on Oct 29, 2018

Topic	Registry of CIUS (Core Invoice Usage Specifications) and Extensions
Excerpt	This page aims to give the eInvoicing community the opportunity to share the ongoing and planned initiatives across Member States and sectors to create CIUS and Extensions on the European standard on eInvoicing.
Status	OPEN
Deadline	Ongoing

Provide information on CIUS and Extensions

The table below aims to give the eInvoicing community the opportunity to share the ongoing and planned initiatives across Member States and sectors to create CIUS and Extensions on the European standard on eInvoicing. The content is community-driven and the contributors take the sole responsibility of the information shared. Please note that the information available does not have an authoritative character.

We invite you to contribute to build on the information available about the CIUS and Extensions on the European standard on eInvoicing by filling the table below:

Name	Type	Country	Sector	Purpose of the CIUS or Extension	Publisher	Governor	Underlying specification	Further info	Status	Contact
OpenPEPPOL BIS 3.0 5A	CIUS	Any	Any	Restricts the business process scope of the EN with reference to BIS2 business processes.	OpenPEPPOL	OpenPEPPOL	EN16931	http://docs.peppol.eu/poacc/billing/3.0/	ACTIVE	@ Olav Astad KRISTIANSEN
Icelandic national CIUS	CIUS	IS	Any	Applies national regulations and imposes data format to payment instructions when using national payment clearing services.	IST	ISgov	PEPPOL BIS 3.0 5A	http://www.stadlar.is/stadlastarf /fagstadlarad-i-upplysingataekni.aspx	DEVELOPMENT	@ Georg BIRGISSON
Austrian national CIUS	CIUS	AT	Any	Apply national regulations	BRZ	BRZ	EN16931	Publication on eRechnung.gv.at asap	ACTIVE	@ Philip HELGER
Austrian government CIUS	CIUS	AT	Any	Additional regulations only applying to the mandatory government interface. This CIUS builds on top of the Austrian national CIUS!	BRZ	BRZ	AT national CIUS	Publication on eRechnung.gv.at asap	ACTIVE	@ Philip HELGER
Energy eInvoice	Extension	NL	Energy	Enables the addition of information concerning: 1) Measured energy use, including meter info, meter readings, fuel type etc. 2) VAT specification for more than one party, which is a consequence of the so called supplier-centered model.	Energy eInvoice steering committee	Energy eInvoice steering committee	Simplerinvoicing (SI-UBL)	https://energie-efactuur.nl/en/	DEVELOPMENT	Wouter van den Berg (TNO)
Italian national CIUS	CIUS	IT	Any	Applies national regulations and restricts data format in compliance with eInvoice national format (FatturaPA)	AgID, AdE	AgID, AdE	EN16931	http://www.agid.gov.it/agenda-digitale /pubblica-amministrazione/cef-telecom-einvoicing-eigor	DEVELOPMENT	Fabio MASSIMI
NLCIUS	CIUS	NL	Any	Applies national regulations and conventions. The purpose of the NLCIUS is to prevent the need for any other NL	NEN / SMeF	NEN / SMeF	EN16931	NLCIUS is a joint initiative of government, industry and	ACTIVE	Michiel Stornebrink (TNO)

General rules and country-qualified rules

- A **general rule** applies for all invoices

  - The rule is triggered by the existence of a spefic business term

  ---

  Rule text from the standard
  > In an Invoice line where the Invoice item VAT category code (BT-151) is "Export outside the EU" the Invoiced item VAT rate (BT-152) shall be 0 (zero).

  Context (what triggers the rule)
  > Existence of
  > ***InvoiceLine/Item/ClassifiedTax/CategoryCode='XYZ'***

  Example rule text from a CIUS
  > The Seller Name must not have more than 50 characters

  Context (what triggers the rule)
  > Existence of
  > ***Seller/Name***

- A **country-qualified rule** applies only for invoices issued in a specific country

  - The rule is triggered by the given country code of the seller

  ---

  Example rule text from a Country specific CIUS
  > When the Seller is Swedish, the Legal Registration Number must be numeric with 10 digits.

  Context (what triggers the rule)
  > Existence of
  > ***Seller/Address/CountryCode='SE'***
  > *AND existence of*
  > ***Seller/LegalRegistrationNumber***

Layers of validation rules in PEPPOL

XML Well-formedness
Basic XML

XML Schema
XML Invoice Standard (UBL/CII)

CEN TC/434
EN + Syntax specific rules

PEPPOL General Rules

PEPPOL CIUS

CIUS-Country qualified rules

Country Specific

Country Specific

Country Specific

Country Specific

Compliant!

Compliant!
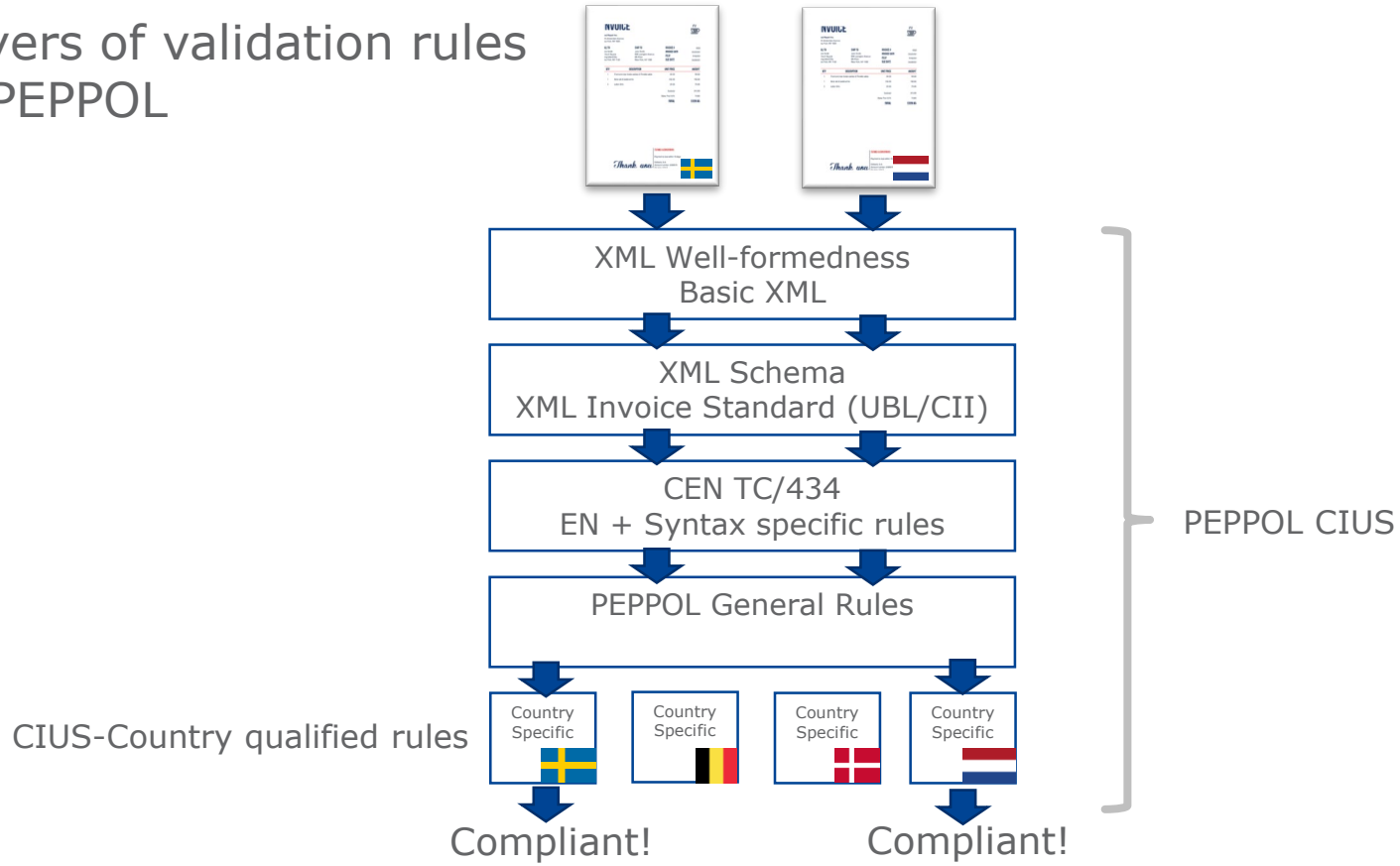
National rules in PEPPOL CIUS

To avoid creation of national CIUS'es:

- affected based on the country of the seller.
- Don't affect invoices issued in other countries.
- PEPPOL Authority responsible

Appendix C: National rules

The following rules have been defined by PEPPOL Authorities in addition to the rules for PEPPOL BIS in general. These rules are affected based on the country of the seller, and will not affect invoices issued in other countries. They apply in **all** profiles that use this transaction specification.

National rules are provided by each country's PEPPOL Authority, and if you need any changes or additions to these rules, please contact your PEPPOL Authority.

Table 18. National transaction business rules

Rule	Message/Context/Test
DK-R-001 **(warning)**	**For Danish suppliers when the Accounting code is known, it should be referred on the Invoice.**
	ubl-creditnote:CreditNote | ubl-invoice:Invoice
	not(cac:AccountingSupplierParty/cac:Party/cac:PostalAddress/cac:Country/cbc:IdentificationCode = 'DK' and (normalize-space(cbc:AccountingCost/text()) = ''))
DK-R-002 **(fatal)**	**Danish suppliers MUST provide legal entity (CVR-number).**
	ubl-creditnote:CreditNote | ubl-invoice:Invoice
	not(cac:AccountingSupplierParty/cac:Party/cac:PostalAddress/cac:Country/cbc:IdentificationCode = 'DK' and (normalize-space(./cac:AccountingSupplierParty/cac:Party/cac:PartyLegalEntity/cbc:CompanyID/text()) = ''))

European Commission

Example - Swedish rules
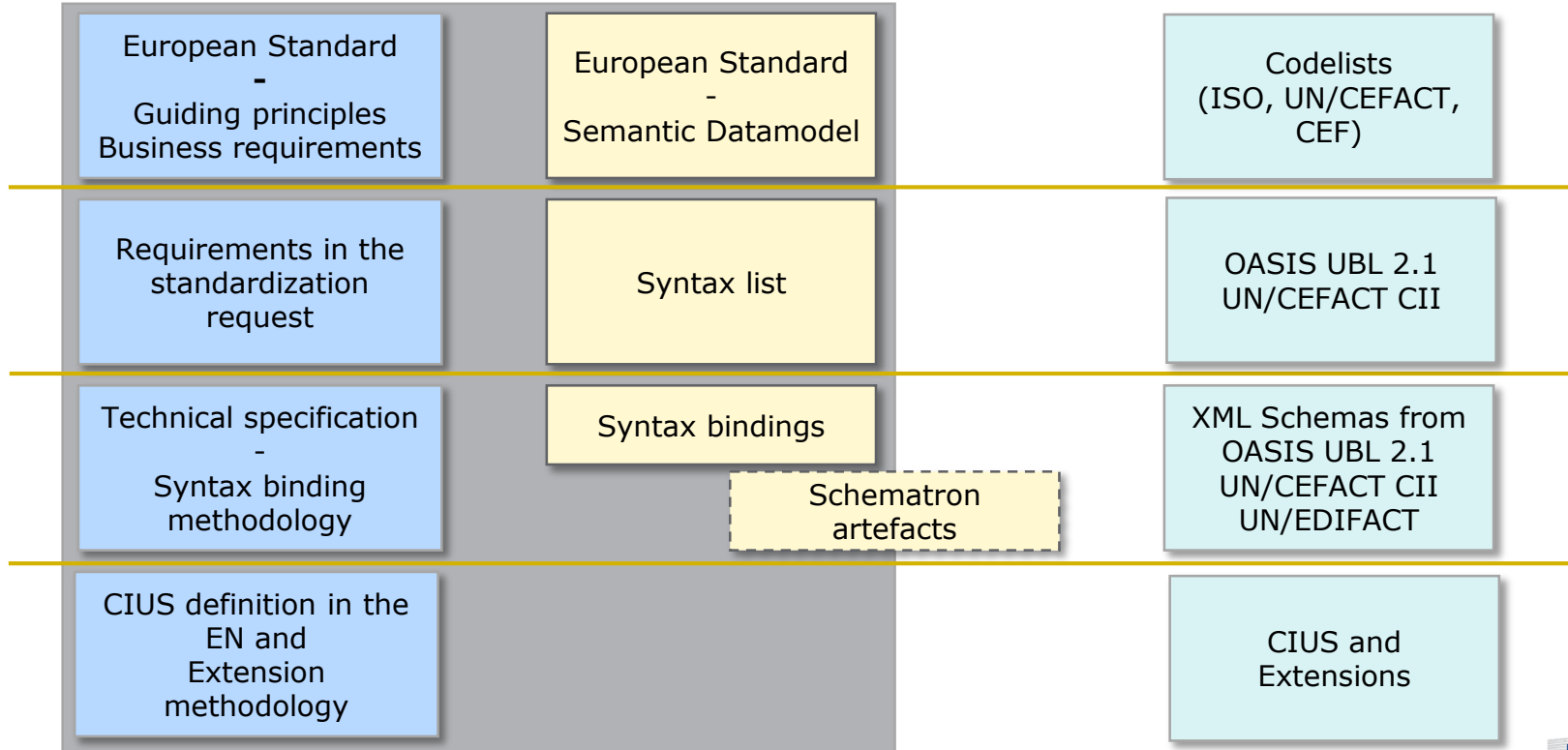
- Formats for VAT and organisation numbers
- Swedish VAT rates
- Tax registration F-Skatt
- Payment means Bankgiro and Plusgiro

SE-R-001 For Swedish suppliers, Swedish VAT-numbers must consist of 14 characters.	fatal
SE-R-002 For Swedish suppliers, the Swedish VAT-numbers must have the trailing 12 characters in numeric form	fatal
SE-R-003 Swedish organisation numbers should be numeric.	fatal
SE-R-004 Swedish organisation numbers consist of 10 characters.	fatal
SE-R-005 For Swedish suppliers, when using Seller tax registration identifier, 'Godkänd för F-skatt' must be stated	fatal
SE-R-006 For Swedish suppliers, only standard VAT rate of 6, 12 or 25 are used	fatal
SE-R-007 For Swedish suppliers using Plusgiro, the Account ID must be numeric	warning
SE-R-008 For Swedish suppliers using Bankgiro, the Account ID must be numeric	warning
SE-R-009 For Swedish suppliers using Bankgiro, the Account ID must have 7-8 characters	warning
SE-R-010 For Swedish suppliers using Plusgiro, the Account ID must have 2-8 characteres	warning
SE-R-011 For Swedish suppliers using Swedish Bankgiro or Plusgiro, the proper way to indicate this is to use Code 30 for PaymentMeans and FinancialInstitutionBranch ID with code SE:BANKGIRO or SE:PLUSGIRO	warning

European Commission

Requirements and Methodology specifications from TC 434	Content Specifications from TC 434	Content Specifications from other groups
European Standard - Guiding principles Business requirements	European Standard - Semantic Datamodel	Codelists (ISO, UN/CEFACT, CEF)
Requirements in the standardization request	Syntax list	OASIS UBL 2.1 UN/CEFACT CII
Technical specification - Syntax binding methodology	Syntax bindings	XML Schemas from OASIS UBL 2.1 UN/CEFACT CII UN/EDIFACT
	Schematron artefacts	
CIUS definition in the EN and Extension methodology		CIUS and Extensions

European Commission

Member state plans for the future

Christian Vindinge Rasmussen

DIGIT

Denmark

TODAY

eInvoice usage in public sector

98 %

Main syntax standard

ISO/IEC 19845:2015 UBL

Infrastructure

NemHandel

TOMORROW

Implementaion of the EN/CIUS

PEPPOL CIUS
(+Rules for domestic suppliers)

Plans for infrastructure

PEPPOL and NemHandel in parallel.
PEPPOL only long term.

Legislation (transposition of the directive)

eInvoicing already mandated for suppliers by law. Additional types fo public entities will be affected.

European Commission

Sweden

TODAY	TOMORROW

eInvoice usage in public sector

50% local/regional authorities
60% governmental authorities

Implementaion of the EN/CIUS

PEPPOL CIUS
(+Rules for domestic suppliers)

Main syntax standard

ISO/IEC 19845:2015 UBL

Plans for infrastructure

PEPPOL

Infrastructure

Various

Legislation (transposition of the directive)

Law mandating suppliers to invoice electronically both above and below threshold.

European Commission

Norway

TODAY	TOMORROW

eInvoice usage in public sector

> 70-80%

Implementaion of the EN/CIUS

> PEPPOL CIUS
> (+Rules for domestic suppliers)

Main syntax standard

> ISO/IEC 19845:2015 UBL

Plans for infrastructure

> PEPPOL

Infrastructure

> PEPPOL

Legislation (transposition of the directive)

> Still under discussion. Potentially partial mandating.

European Commission

Netherlands

TODAY

eInvoice usage in public sector

> Central government 50%
> Regional/local 5%

Main syntax standard

> ISO/IEC 19845:2015 UBL

Infrastructure

> Central government - hub
> The rest - PEPPOL

TOMORROW

Implementaion of the EN/CIUS

> Country CIUS but will also accept PEPPOL CIUS

Plans for infrastructure

> PEPPOL

Legislation (transposition of the directive)

> As is from the directive. Mandate on the central government to require eInvoicing in new contracts.

European Commission

Austria

TODAY

eInvoice usage in public sector

> Federal government 50%
> The rest - ?%

Main syntax standard

> Domestic XML format
> ISO/IEC 19845:2015 UBL

Infrastructure

> Central service (webform+upload)
> PEPPOL

TOMORROW

Implementaion of the EN/CIUS

> Austrian CIUS on 2 levels. Country specific rules and government specific rules)
> PEPPOL for cross boarder

Plans for infrastructure

> Central service (webform+upload)
> PEPPOL

Legislation (transposition of the directive)

> As is from the directive

European Commission

Cyprus

TODAY

eInvoice usage in public sector

0%

Main syntax standard

-

Infrastructure

-

TOMORROW

Implementaion of the EN/CIUS

PEPPOL CIUS
(+Rules for domestic suppliers)

Plans for infrastructure

PEPPOL

Legislation (transposition of the directive)

As is from the directive

European
Commission

Croatia

TODAY

eInvoice usage in public sector

Small number

Main syntax standard

ISO/IEC 19845:2015 UBL

Infrastructure

Centralized solution

TOMORROW

Implementaion of the EN/CIUS

PEPPOL CIUS
Domestic CIUS

Plans for infrastructure

PEPPOL + Connection to central solution directly or through service provider

Legislation (transposition of the directive)

Under discussion but likely also below threshold, potentially mandating suppliers

Main take aways so far…

- **Implementation of the EN is progressing** slowly, but still progressing over the next 12 (-18) months

- **CIUS is being developed** across different domains
  - **PEPPOL CIUS** is currently expected to be the most used

- Some **Member States** (MS) have moved from little or some knowledge, to now **good insight to the EN** and have actual roadmap for implementations

- Some **Member States** are **lacking behind**…
  - **Political backing**
  - **Lack of clear responsibility of eInvoicing within the MS**
  - **Lack of national expertise in implementation or governance of eInvoicing**
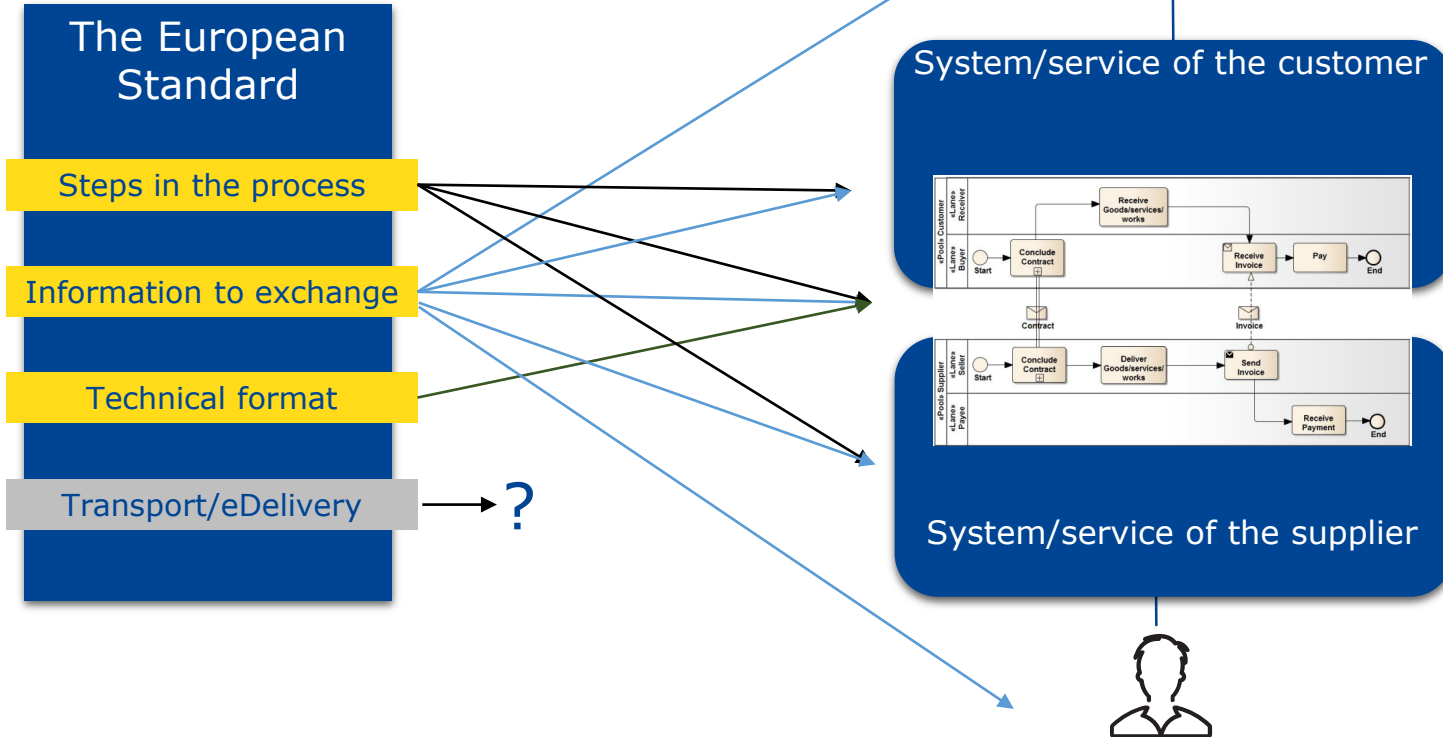
European Commission

Interconnectivity – cross border and on national level
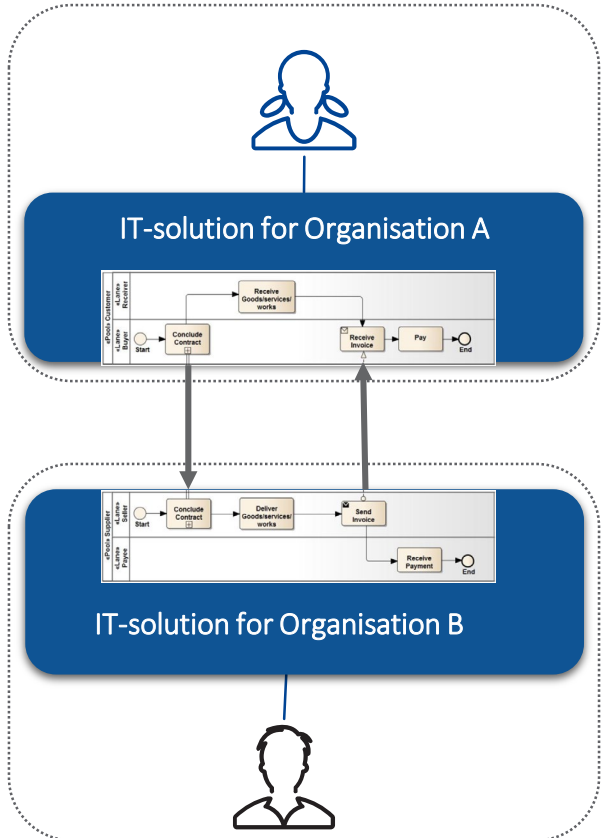
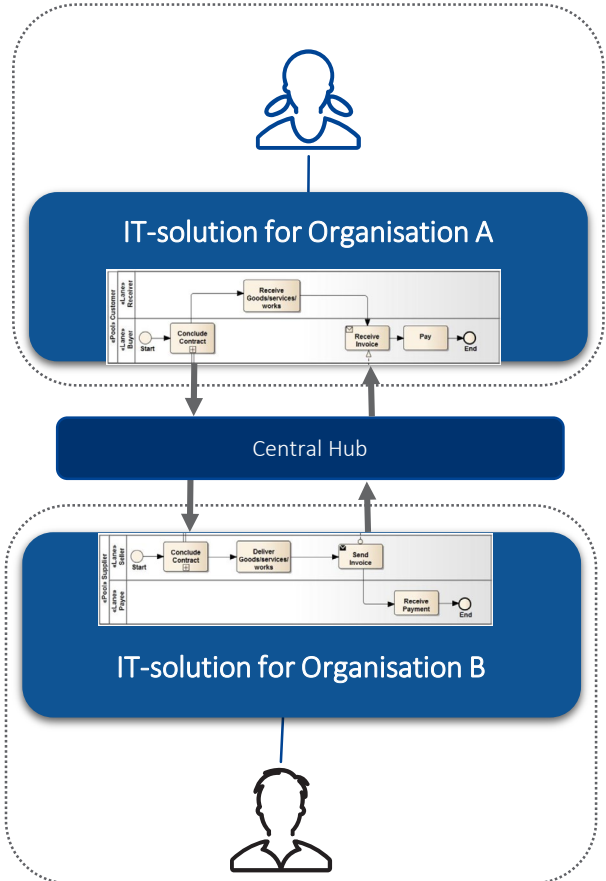**Christian Vindinge Rasmussen**

DIGIT
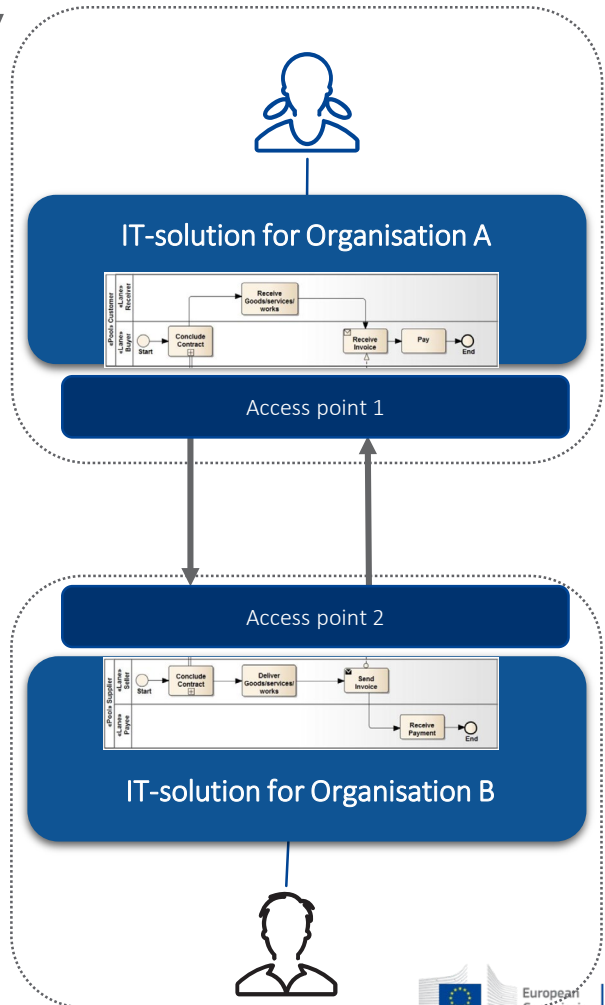
Areas covered by the standard

Different solutions for interconnectivity

2-corner model

3-corner model

4-corner model

Many different options – Generation of the eInvoice

Generation of the eInvoice, examples

- Directly from the ERP/Accounting system

  - Often internal format which is transformed into exchange format

- Through a web-portal

  - Provided by the customer

  - By supplier's own choice

- Printer capture/Virtual printer

  - Software installed as printer

  - When printing, the data is captured and transformed to an eInvoice

Preferred option may depend on
- *Volume of invoices*
- *Size of supplier*
- *Requirement from customer*

System/service of the supplier

System/service of the customer
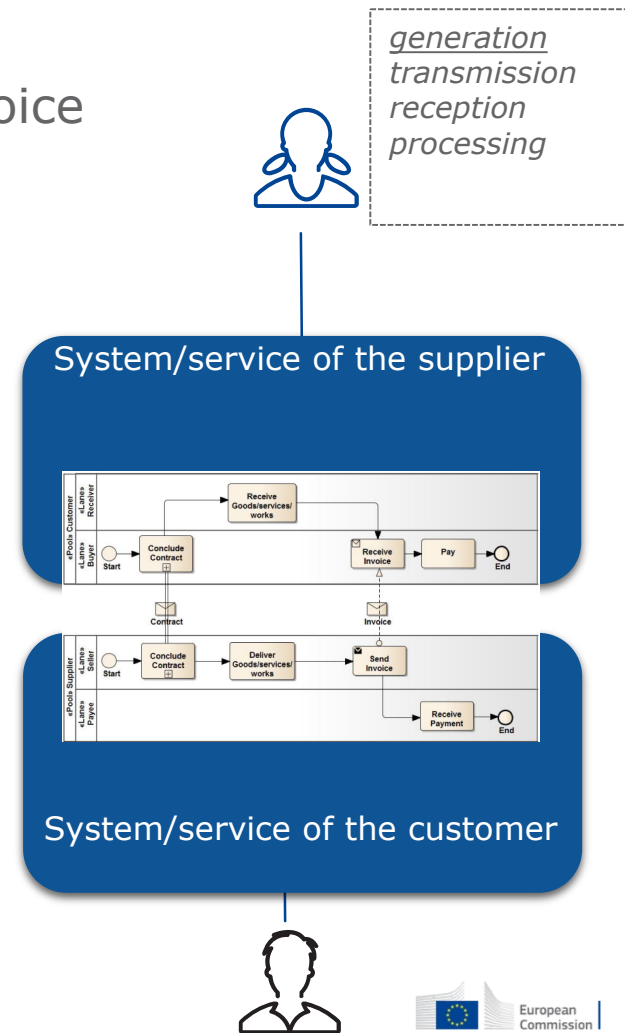
Many different options – transmission of the eInvoice

Transmission of the eInvoice

- 4-corner model – often with help from a service provider
  - Connected to network of other service providers
  - Connected to an eDelivery network (PEPPOL)

- 3-corner model – both trading partners are using the same platform

- 2-corner - Peer-to-peer, direct connection
  - FTP, web service/API, e-mail

System/service of the supplier

System/service of the customer
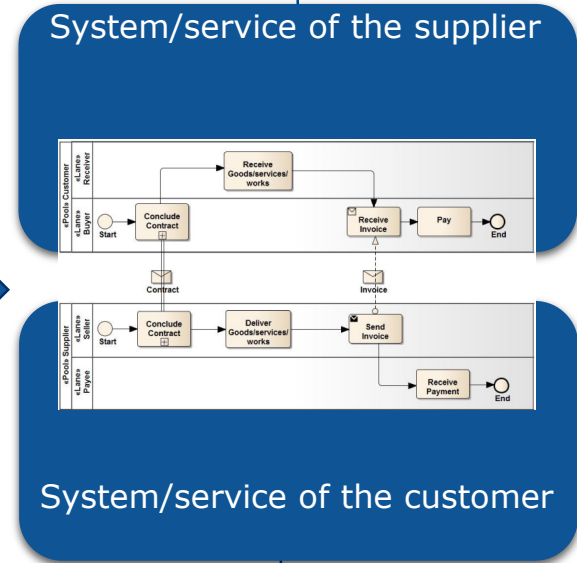
Reception of eInvoice - components to have in place

- Workflow for eInvoice/eProcurement solution

  - For handling the eInvoices in an efficient manner

  - Visualization, assessment/approval

  - Sometimes integrated in the ERP but often a separate service

- ERP/Accounting solution

  - For accounting and payment initiation

- Strategy for references and/or straight-through processing

System/service of the supplier

System/service of the customer
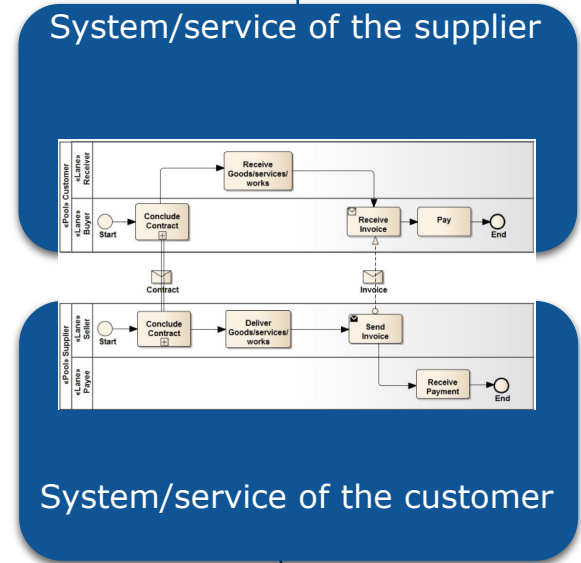
Exchange infrastructure –
a challenge which will
take time to solve
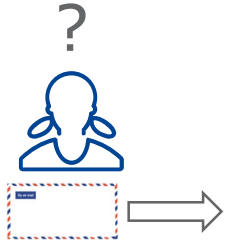
Infrastructure (eDelivery) in coherence with CEF Invoicing

Christian Vindinge Rasmussen

Georg Birgisson

DIGIT

Four-corner model

A common approach for service provider collaboration

System environments tend to be very complex today

Many critical business functions are carried out as services provided by third parties

Supplier

On Premis ERP/ accounting systems

Cloud based ERP/ accounting systems

eInvoicing Service/Portal

EDI Service Provider (VAN)

Integration tools /platforms

Customer

On Premis ERP/ accounting systems

Cloud based ERP/ accounting systems

Procurement / workflow support

eInvoicing Service/Portal

EDI Service Provider (VAN)

Integration tools /platforms

European Commission

Corner 1

Supplier

Corner 2

Service Provider A

Corner 3

Service Provider B

Corner 4

Customer

European Commission

Contractual view

on four-corner-model

Supplier (C1)

Customer (C4)

Commercial agreement
Collaboration (EDI) agreement

Service Provider A (C2)

Service Provider B (C3)

Supplier (C1)		Customer (C4)

```
Service Provider A (C2)  →  Collaboration agreement  →  Service Provider B (C3)
                            Bilateral or multilateral
```
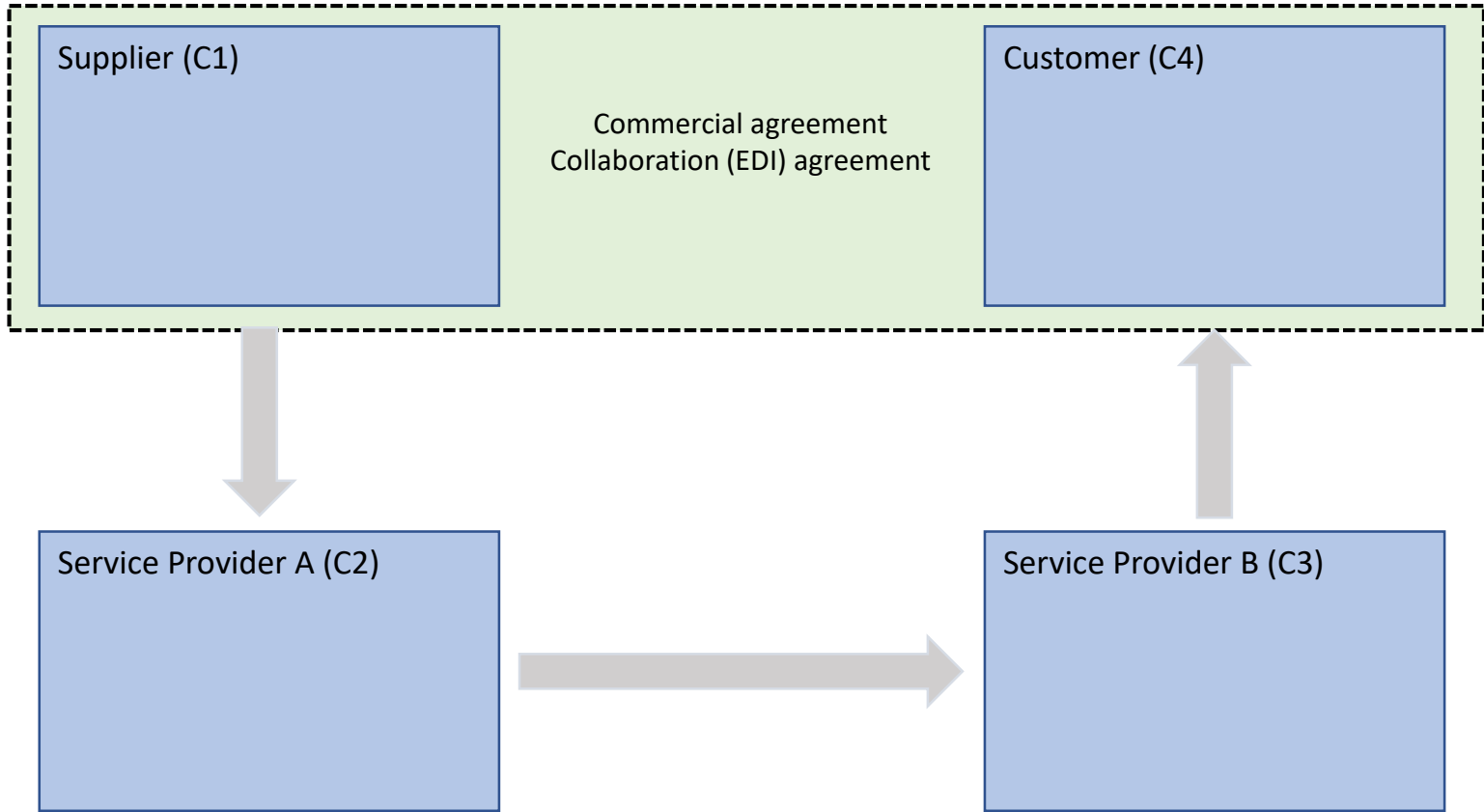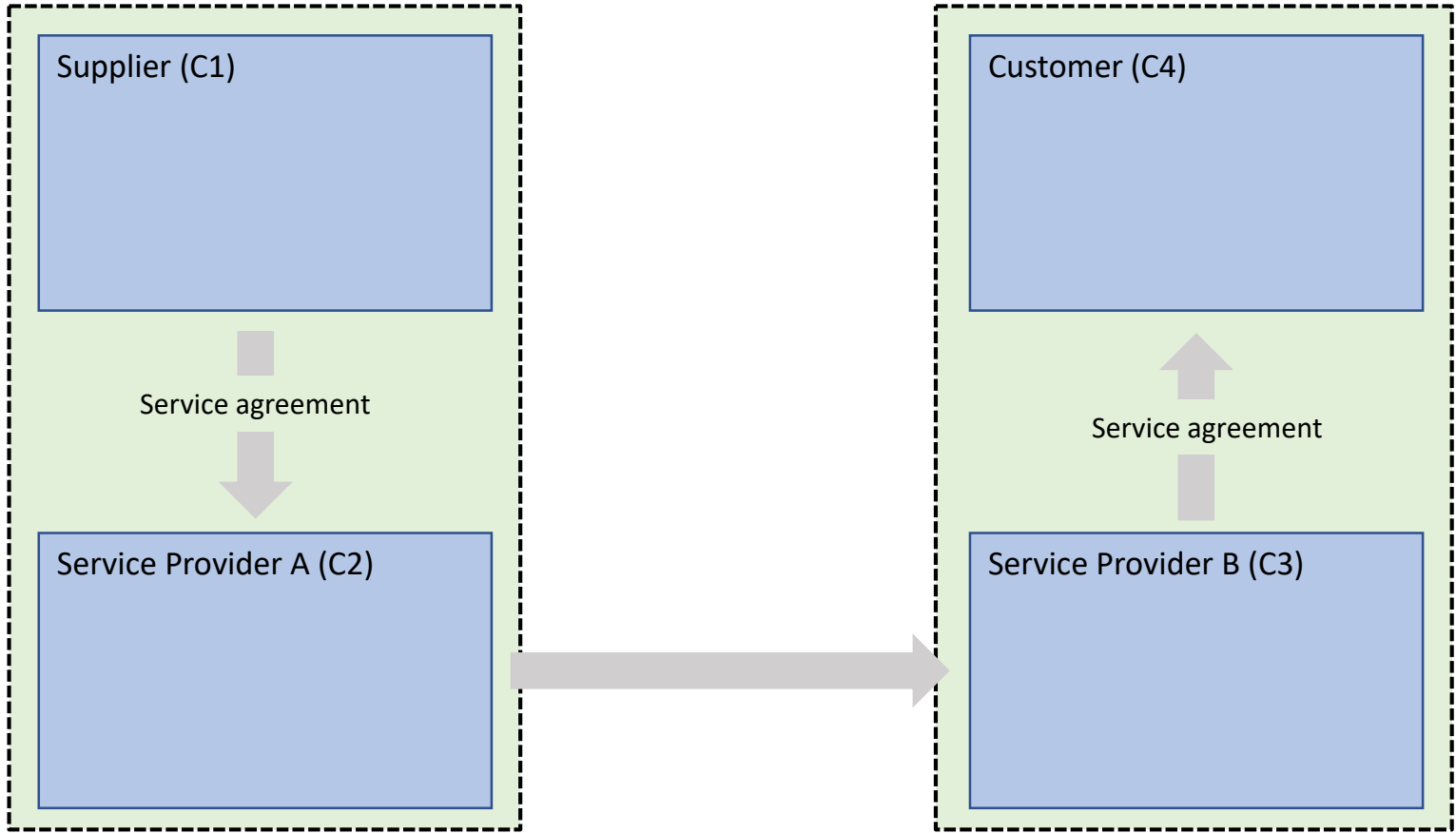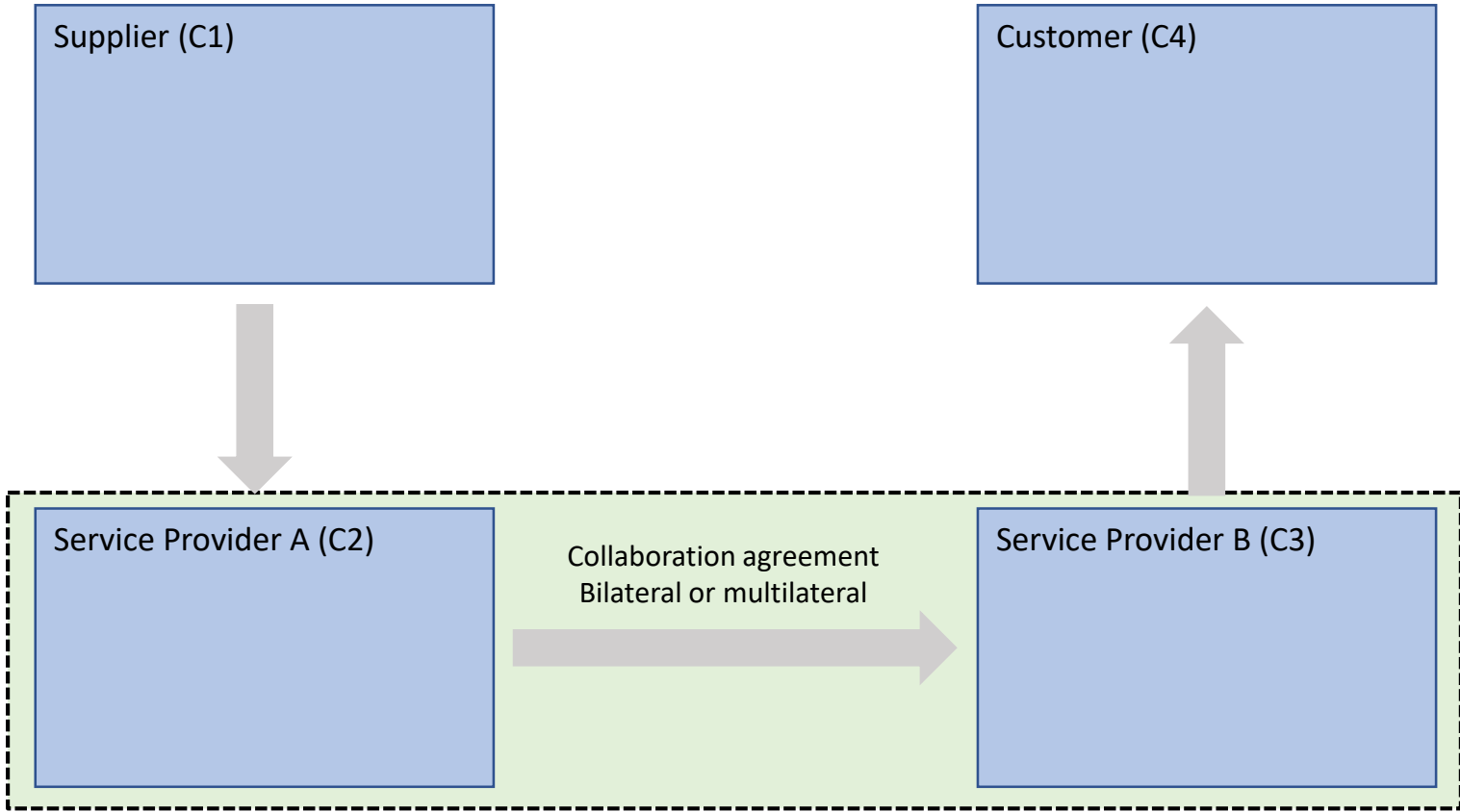
Functional view and common added services

in four-corner-model
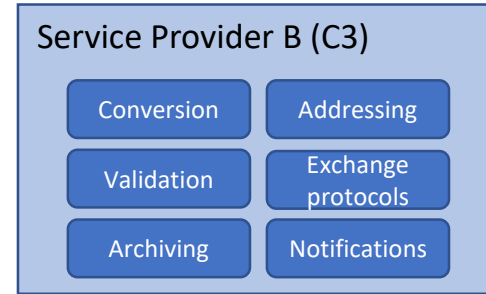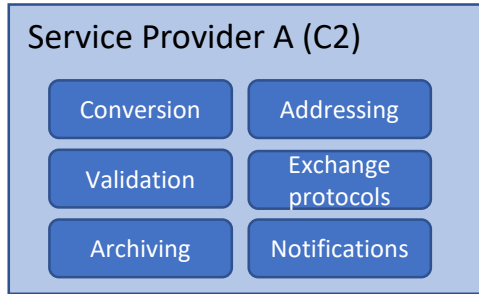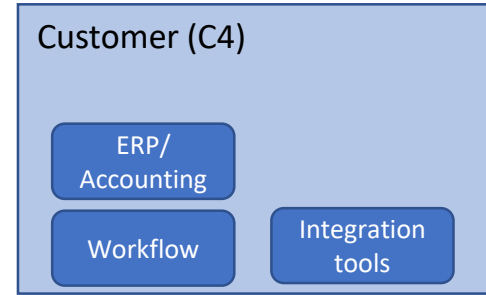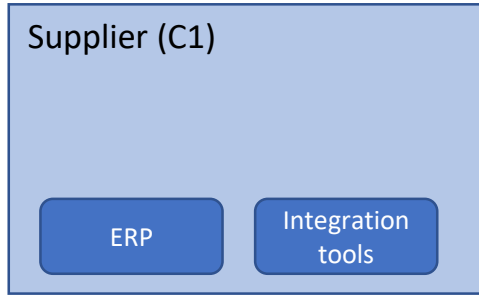
Use of standards

in four-corner-model

Supplier (C1)

Customer (C4)
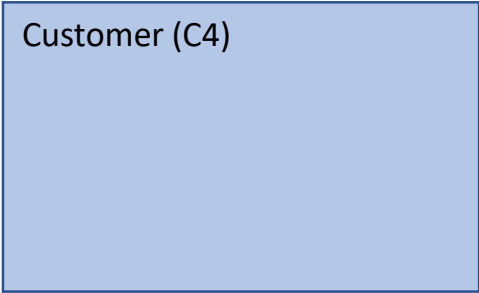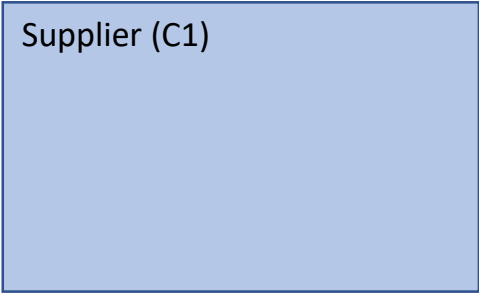
Common protocols: FTP, Web services, REST, MQ

Common formats: Inhouse (flatfile), Proprietary XML

Service Provider A (C2)

Service Provider B (C3)
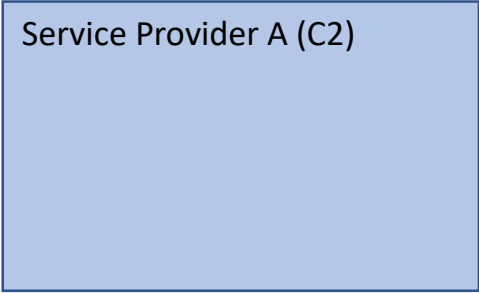
Common protocols: AS2/AS4, Web services, FTP

Common Formats: EDIFACT, XML (UBL, CII, other) The European Standard!
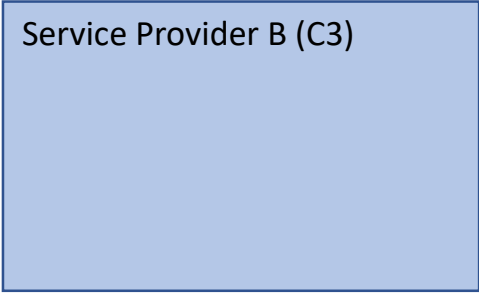
Supplier (C1)

```
GL3004        A1111 608175    20120604-71.03          608175    2857125    3TN
GL3004        A1111 608186    20120604-1867.33        608186    2857128    3TN
GL3004        A1111 608357    20120604-59.70          608357    2857142    3TN
GL3004        A1111 608404    20120604-1848.52        608404    2857146    3TN
GL3004        A1111 608408    20120604-183.02         608408    2857147    3TN
GL3004        A1111 608527    20120604-8.95           608527    2857151    3TN
GL3004        A1111 608534    20120604-903.61         608534    2857152    3TN
GL3004        A1111 608547    20120604-1648.16        608547    2857153    3TN
GL3004        A1111 608567    20120604-478.96         608567    2857157    3TN
GL3004        A1111 608582    20120604-394.42         608582    2857158    3TN
GL3004        A1111 608603    20120604-62.57          608603    2857160    3TN
GL3004        A1111 608644    20120604-26.00          608644    2857164    3TN
GL3004        A1111 608652    20120604-16.92          608652    2857165    3TN
GL3004        A1111 608695    20120604-43.93          608695    2857167    3TN
```

Customer (C4)

- ERP/ Accounting
- Workflow

{1:F01BPHKPLPKXXX0000000000}{2:I940BOFAUS6BXBAMN}{
:20:TELEWIZORY S.A.
:25:BPHKPLPK/320000546101
:28C:00084/001
:60F:C031002EUR5000,00
:61:0310201020D1088,41FTRFREF 12345678/2003//83270
Transfer
:86:020?00wyplata/przelew?20DEUTSCHE ELEKTROAPPARA
SE 4 MUNCHEN?22OCMT/EUR1088,41?23CHGS/SHA/EUR20,00
/2003 ZAPLATA ZA?25FABRYKATY DO TUB 200 SZTUK?26GZ
UK GZY 77 T?27RANZYSTORY 300 SZTUK BT34SX?28OPORNI
38DE0970020270189012872
:62F:C031020EUR3891,59
-}|

Service Provider A (C2)

- Conversion
- Addressing
- Validation
- Exchange protocols
- Archiving
- Notifications

Service Provider B (C3)

- Conversion
- Addressing
- Validation
- Exchange protocols
- Notifications

<cac:SellerParty>
 <cac:Party>
  <cac:PartyIdentification>
   <cac:ID identificationSchemeAgencyID="9">7300009010479</cac:ID>
  </cac:PartyIdentification>
  <cac:PartyName>
   <cbc:Name>Atea Sverige AB</cbc:Name>
  </cac:PartyName>
  <cac:Address>
   <cbc:Postbox>Box 18</cbc:Postbox>
   <cbc:CityName>Kista</cbc:CityName>
   <cbc:PostalZone>16493</cbc:PostalZone>
  </cac:Address>
  <cac:PartyTaxScheme>

Four-corner model characteristics (in the context of eInvoicing/EDI)

- *End Entities (Supplier/Customer)* may choose any *Service Provider* connected to the network.

- The *Service Providers* are acting on behalf of the *End Entities.*

- *The Service Provider* collaborates in networks, either with bilateral or multilateral collaboration agreements

- The collaboration agreements specifies technical aspects (such as type of transport protocol) but also service levels and issue resolution procedures

- The *Exchange Format* of payloads/messages used between the *Service Provider are often pre-agreed*.

- Each *End Entity* only needs to enter into a contractual agreement with its selected *Service Provider* .

- *Service Providers* may transform data to/from the agreed *Exchange Format* before sending or after receiving depending of the *End Entity's* preferences. The creation of the business document, in its *Exchange Format,* can happen either in the issuer´s own systems or it may be translated from an *In-house Format* to the *Exchange Format* by the *Service Provider*.

- The *Service Provider* often offers more added value services to the *End Entity* (such as archiving, syntax validation, syntax transformation).

What about the three-corner model?
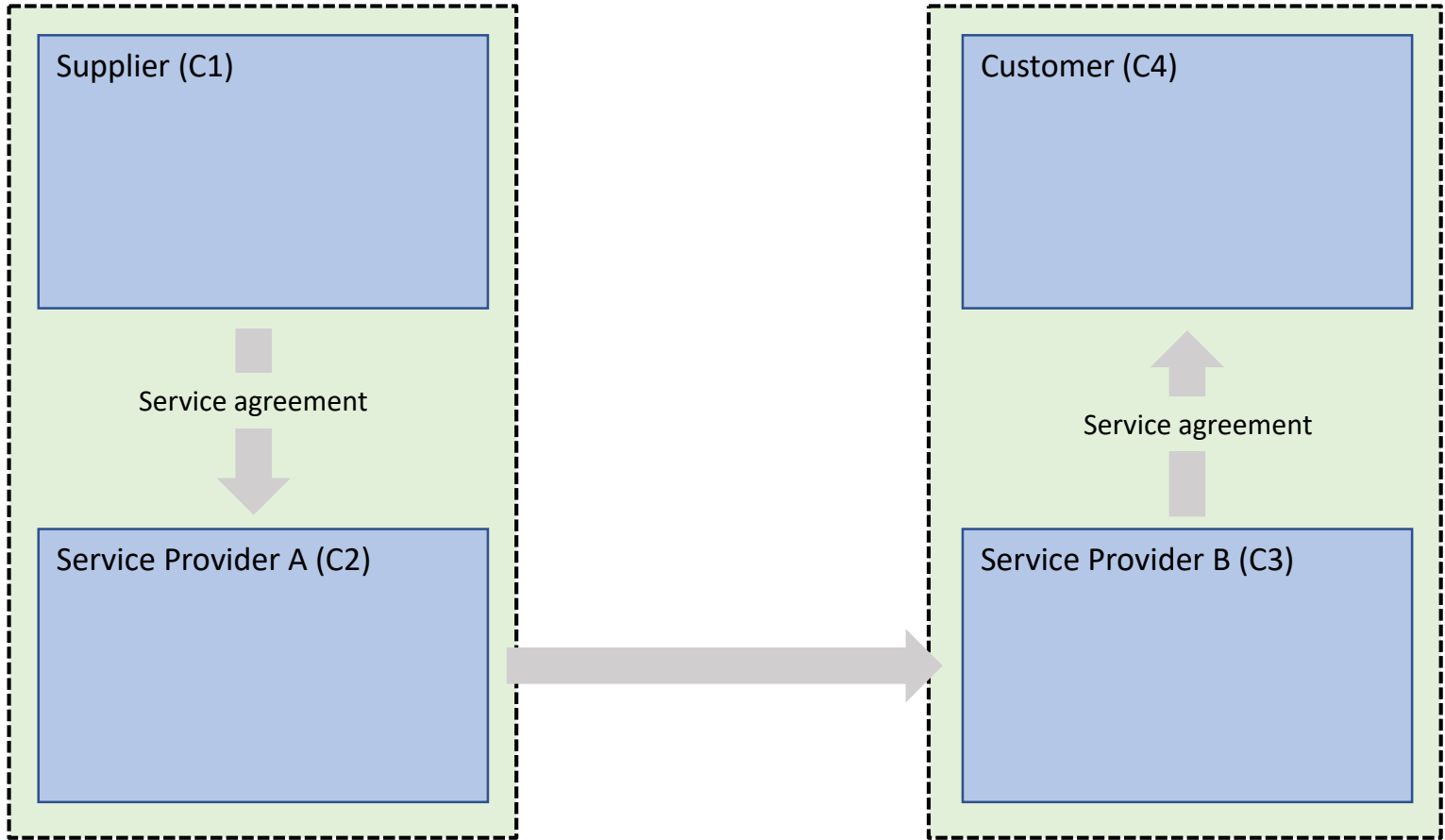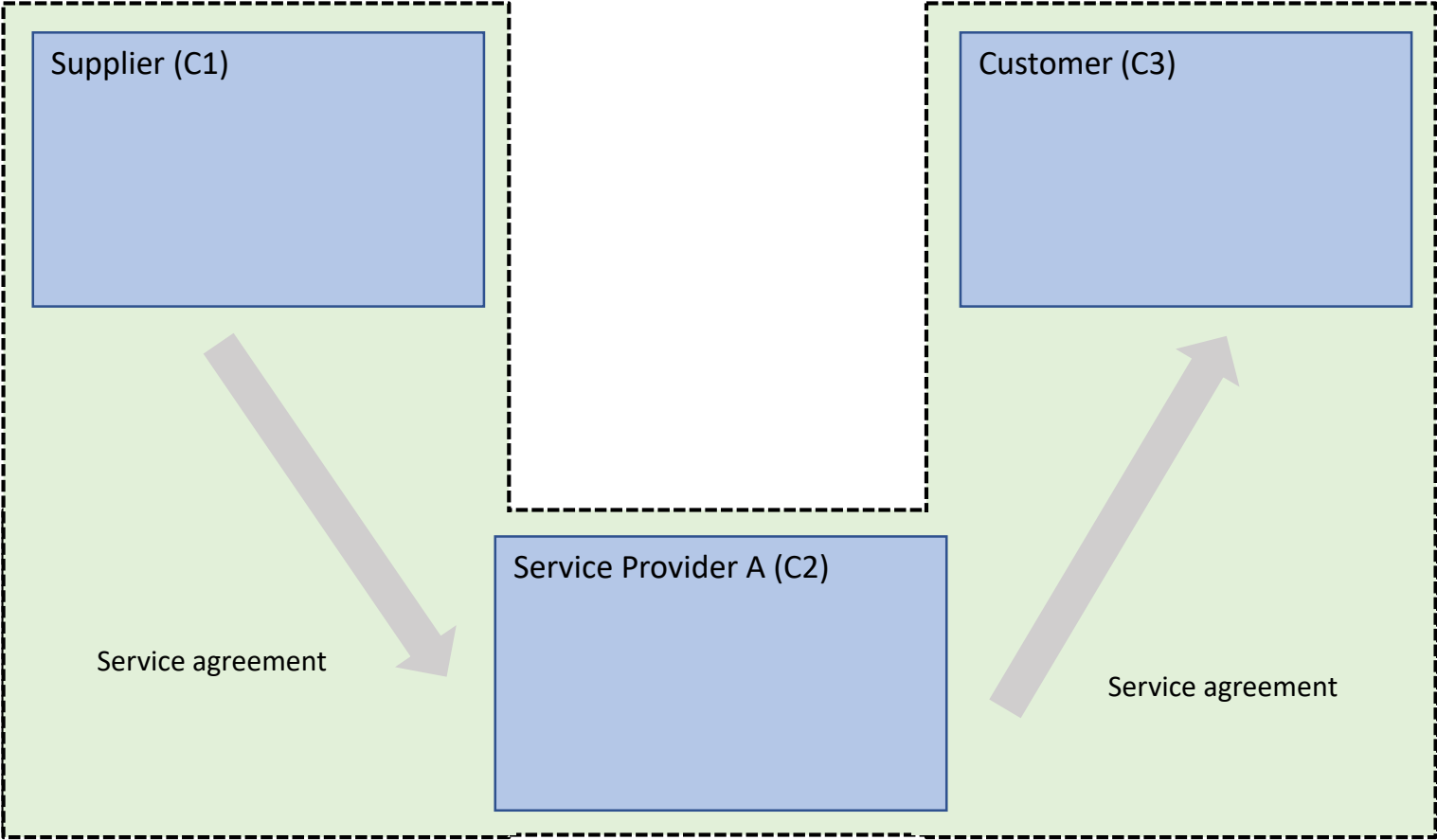
Supplier (C1)

Customer (C3)

Service Provider A (C2)

Service agreement

Service agreement

Collaboration between service providers is necessary!

- Non-for profit trade association with 70 member organisations
- Recommends best practices
- Promotes interoperability
- Advocates wide adoption of e-invoicing

- Non-for-profit association with 300 member organisations (260 service provider/Access points)
- Recommends and develops standards for use in e-procurement
- Provides the legal framework and technical services for an exchange network

Big overlap of members in the two associations

PEPPOL
PAN-EUROPEAN PUBLIC PROCUREMENT ONLINE

A short introduction

What is PEPPOL

Infrastructure where Buyers and Sellers can exchange e-documents

Specifications for electronic invoice, order, catalogue…

Non-for-profit organisation which maintains and governs

European Commission
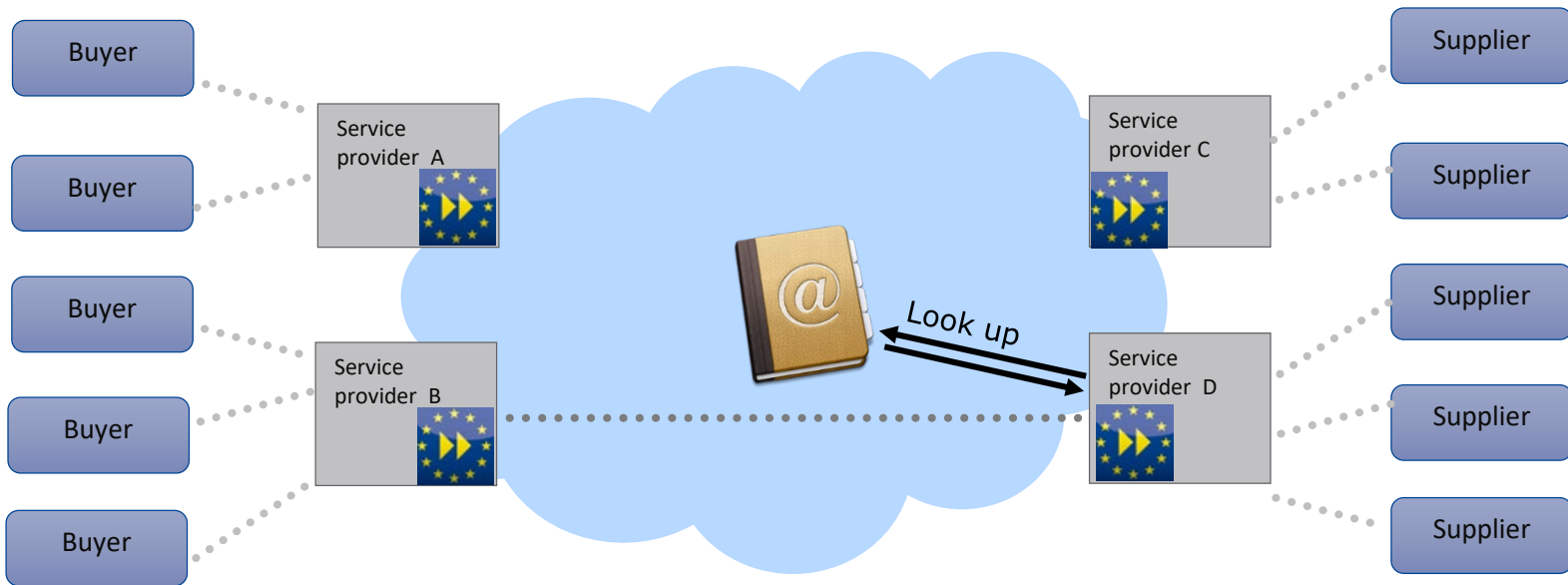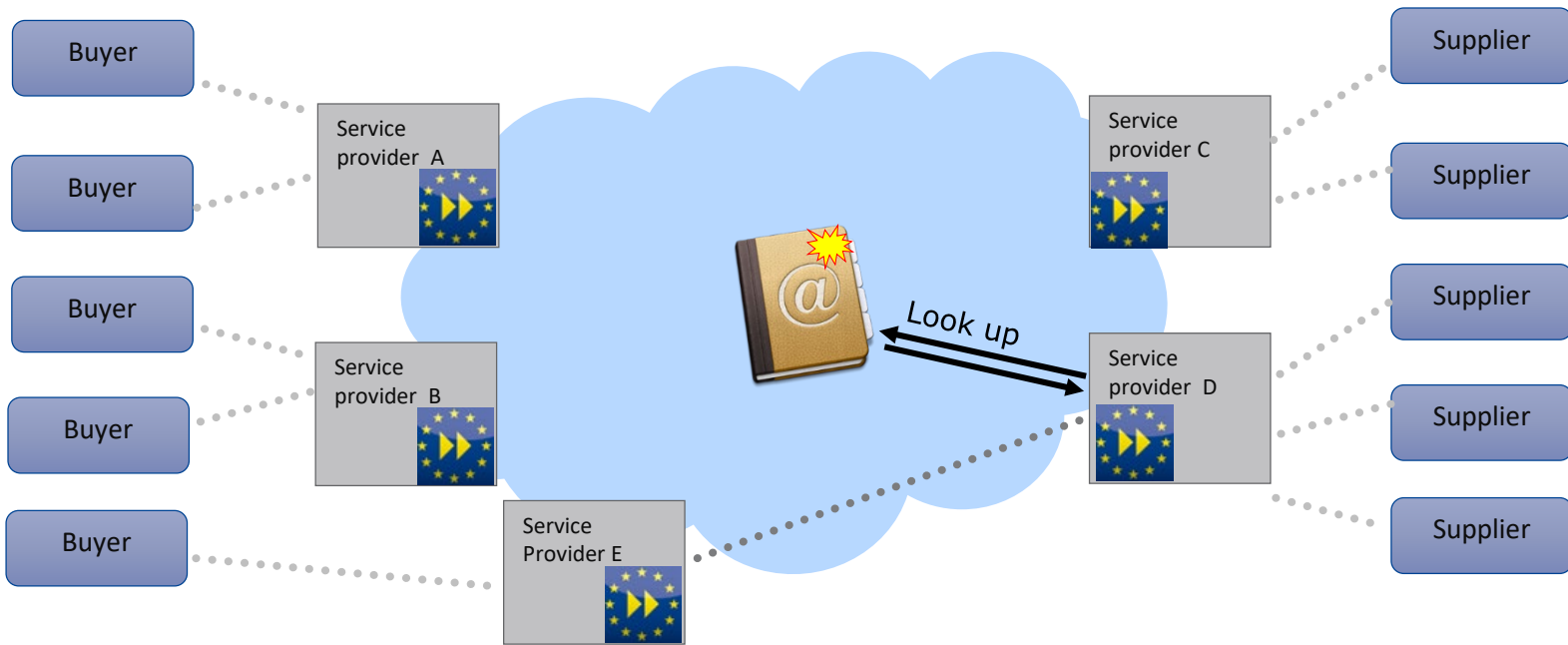
INVOICE

East Repair Inc.
485 Amsterdam Avenue
New York, NY 1023

BILL TO	SHIP TO	INVOICE #	00234
John Smith	John Smith	INVOICE DATE	03/25/2014
2 Court Square	664 Lexington Avenue	P.O.#	1742/2014
Long Island City	6th Floor	DUE DATE	04/09/2014
120	New York, NY 1022		

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Front and rear brake cables & Throttle cable	56.00	
1	New set of pedal arms	182.00	182.00
3	Labor 3hrs	25.00	75.00
		Subtotal	313.00
		Sales Tax 5.0%	15.65
		TOTAL	$328.65

By Par

PEPPOL-ID Receiver: 0007:5512345672
PEPPOL-ID Sender: 0007:2020332423

Buyer
- Name and address
- Party identifiers

Delivery location
- Address
- Identifiers

Electronic address identifier (EndpointID)
- "PEPPOL-ID" (GLN, DUNS etc)

0007 : 5512345678

Type code for Swedish organisation number

The actual number

European Commission

SBDH

XML Envelope

```xml
<?xml version="1.0" encoding="UTF-8"?>
<StandardBusinessDocument
xmlns="http://www.unece.org/cefact/namespaces/StandardBusinessDocumentHeader"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <StandardBusinessDocumentHeader>
    <HeaderVersion>1.0</HeaderVersion>
    <Sender>
        <Identifier Authority="iso6523-actorid-upis">0088:7315458756324</Identifier>
    </Sender>
    <Receiver>
        <Identifier Authority="iso6523-actorid-upis">0088:4562458856624</Identifier>
    </Receiver>
    <DocumentIdentification>
        <Standard>urn:oasis:names:specification:ubl:schema:xsd:Invoice-2</Standard>
        <TypeVersion>2.1</TypeVersion>
        <InstanceIdentifier>123123</InstanceIdentifier>
        <Type>Invoice</Type>
        <CreationDateAndTime>2013-02-19T05:10:10Z</CreationDateAndTime>
    </DocumentIdentification>
    <BusinessScope>
      <Scope>
          <Type>DOCUMENTID</Type>
          <InstanceIdentifier>urn:oasis:names:specification:ubl:schema:xsd:Invoice-2::I
      </Scope>
      <Scope>
          <Type>PROCESSID</Type>
          <InstanceIdentifier>urn:www.cenbii.eu:profile:bii04:ver2.0</InstanceIdentifier
      </Scope>
    </BusinessScope>
  </StandardBusinessDocumentHeader>
  <Invoice:Invoice xmlns="urn:oasis:names:specification:ubl:schema:xsd:Invoice-2"
xmlns:Invoice="urn:oasis:names:specification:ubl:schema:xsd:Invoice-2"
xmlns:cac="urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponen
xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2">
      <cbc:UBLVersionID>2.1</cbc:UBLVersionID>
      ...
  </Invoice:Invoice>
</StandardBusinessDocument>
```

Contains all info necessary for a
eDelivery Look-up

Business Document Envelope

Envelope Header

Business Message

PEPPOL today

+**200** Certified Access Points in **20** European countries, plus Singapore, Canada and USA. More than **150.000** e-Invoice receiving organizations connected. **60 million** e-invoices between APs in 2017.

12 PEPPOL Authorities

- Agency for Digital Italy (AgID) (Italy)
- Agency for Public Management and eGovernment (Difi) (Norway)
- Danish Business Authority (Denmark)
- Department of Health (UK)
- Department of Public Expenditure and Reform (Ireland)
- Federal Public Service Policy and Support (BOSA) (Belgium)
- Agency for Digital Government (DIGG) (Sweden)
- **Free Hanseatic City of Bremen – KoSIT (Germany)**
- Ministry of Economic Development (Poland)
- SimplerInvoicing (Netherlands)
- **Info-communications Media Development Authority (IMDA) (Singapore)**
- OpenPEPPOL AISBL

Access points in PEPPOL

Access point	Country
2C Solution SRL	Italy
216 Accountants B.V	Netherlands
AdValvas Europe	Belgium
Advanced Business Software and Solutions	UK
Advania Holding hf.	Iceland
Aksess Innkjøp (Prosjektservice AS)	Norway
Aksesspunkt Norge AS	Norway
Aliquid Italy	Italy
Amesto Solutions Purchasing A/S	Norway
Azets Insight AS	Norway
Order2Cash – (Anachron B.V.)	Netherlands
Apix Messaging Oy	Finland
Apro Consulting Services B.V.	Netherlands
Archiva S.r.L.	Italy
Archivium Srl	Italy
Arco Information N.V.	Belgium
At Work Systems	Norway
B2B Router (Invinet Sistemes)	Spain
B4 value.net GmbH	Germany
Babelway	Belgium
Basware	EU
BEAst AB	Sweden
Billit	Belgium
BIZbrains A/S	Denmark
Bluzor B.V.	Netherlands
Brain2	Belgium
Bundesrechenzentrum GmbH (BRZ)	Austria
Calvi Business Software BV	Netherlands
Catalog360 Limited	UK
CEGEDIM	France
Celtrino – EDI Factory	Ireland
Centric Netherlands	Netherlands
CGI Sverige AB	Sweden
CloudOffice AS	Norway
Cloud Trade Technology Ltd.	UK
CodaBox N.V.	Belgium
Comarch SA	Poland
Commerce-Connections	UK
Consorci Administració Oberta de Catalunya (AOC)	Spain
Consumer Cloud Technology Services Pte Limited	Singapore
Compello AS	Norway
Credemtel S.p.A.	Italy
Crediflow Försäljnings AB	Sweden
Consip SpA (Italy)	Italy
crossinx GmbH	Germany
CS Amed SRL	Italy
Daldata AS	Norway
DataPost Pte Ltd	Singapore
Data Interchange	UK
Danish Business Authority (ERST)	Denmark
Dcode Websolutions AS	Norway
DERWID.com GmbH	Austria
Desk Drive	Belgium
Digital Cab ApS	Denmark
Danish Business Authority (ERST)	Denmark
DocFlow Italia S.p.A.	Italia
Document Centric Solutions	Ireland
Docuten (Enxendra Technologies)	Spain
Doxee S.p.A.	Italy
Dynatos NV	Belgium
DXC	UK
Easy Systems B.V.	Netherlands
EC/DG DIGIT	Belgium
eConnect International (eVerbinding)	
ecosio InterCom Gm...	
eDelivery s.r.o. – fo...	
EDI Plus Ltd	UK
EDICOM CAPITAL S.L.	Spain
EDIGard AS	Norway
EDISON S.A.	Poland
Effektus AS	Norway
eFinans AS	Norway
Elcom	UK
Electronic Data Transfer S.A.S.	France
Enable-U B.V.	Netherlands
Enercom Swiss Finance SA	Switzerland
Epoca S.r.l.	Italy
Esker S.A.	France
Eesti Post AS (Omniva)	Estonia
EVRY AS	Norway
Exact	Netherlands
F.R. Biernat	Norway
Faber system Srl	Italy
FIKEN AS	Norway
FinHill Hilversum B.V.	Netherlands
Financijska agencija	Croatia
Fitek Group	Estonia
Fylkesmannen i Sogn og Fjordane	Norway
Genesis IT AB	Sweden
Generix Group Benelux	Belgium
GHX UK	UK
Goldman Solutions & Services Ltd.	Cyprus
GXS (OpenText)	USA
Hafslund Tellier AS	Norway
Hogia Business Products AB	Sweden
Ibistic	Norway
IBM Corporation	USA
IBM Danmark ApS	Denmark
iEDI ApS	Denmark
IFIN Sistemi S.r.L. a socio unico	Italy
ILGE Sybscription Management BVBA	Belgium
Implema AB	Sweden
In.Te. S.A.	Italy
Inaras NV	Belgium
InExchange Factorum AB	Sweden
Infinite Sp. z.o.o.	Poland
Infocert S.p.A.	Italy
INPOSIA Solutions GmbH	Germany
Integrasjonssystemer AS	Norway
Intercent-ER	Italy
Kalin Setterberg Data Aktiebolag	Sweden
KBC Commercial Finance	Belgium
KMD Denmark	Denmark
Kofax Sweden Services AB	Sweden
LBMX Inc.	Canada
Liaison Technologies Oy	Finland
Logiq AS	Norway
Lyanthe	Netherlands
Maritech Systems AS	Norway
Millum AS	Norway
Ministry of Finance, Republic of Slovenia	Slovenia
Miracle A/S	Denmark
Moneybird	Netherlands
mySupply ApS	Denmark
NetClient AS	Norway
NetEDI	UK
Netropolix Software NV	Belgium
Nets Norway AS	Norway
nexMart GmbH & Co. KG	Germany
Norwegian Labour and Welfare Service (NAV)	Norway
Onetrail BV	Netherlands
Oppgjorskontoret AS	Norway
Opus Capita Group Oy	Finland
Outsourcia AS Bakke	Norway
Pagero	Sweden
Pagero HBS GmbH	Germany
Pagero Norway	Norway
Palette Software AB	Sweden
Payt B.V.	Netherlands
PaperLess Innovation Ltd.	Malta
Pearl Norge AS	Norway
PIMEC, Petita i Mitjana Empresa de Catalunya	Spain
PinkRoccade Local Government BK.V.	Netherlands
PostNord (Strålfors Svenska AB)	Sweden
PowerOffice Software AS	Norway
PracBiz Pte Ltd	Singapore
Prosjektservice AS	Norway
Qvalia Group AB	Sweden
Reknes AS	Norway
Resforma AS	Norway
Ricoh Netherlands B.V.	Netherlands
S.A.T.A	Italy
	Germany
...Services	Portugal
	Sweden
Scancloud AB	Sweden
Science Warehouse Limited	UK
SEEBURGER AG	Germany
Seen Solution SrL	Italy
Seres	France
Seres SA	Spain
SIA S.p.A.	Italy
Simpler Invoicing	Netherlands
SINGAPORE E-BUSINESS PTE LTD	Singapore
Skaitos kompiuteriu servisas	Lithuania
Smartbook Technology AS	Norway
Sorvive Technologies Inc.	USA
STDM SrL	Italy
StarHub Ltd	Singapore
Storecove (Datajust B.V.)	Netherlands
SYMTRAX S.A.	France
System Kreditt AS	Norway
Svea Ekonomi AB	Sweden
TB Okonomi AS	Norway
Tecmarket Servizi S.p.A.	Italy
Teal IT	Belgium
Telema AS	Estonia
Telenor Norge AS	Norway
Tesisquare S.p.A.	Italy
TIE Kinetix	Netherlands
Tieto	Finland
Tradeinterop	Netherlands
Tradeshift	Denmark
Tradeshift AB	Sweden
Transalis Ltd.	UK
Tripletex AS	Norway
True Commerce (Coventry) Ltd.	UK
TrueCommerce ApS Denmark	Denmark
Truelink A/S	Denmark
Tungsten Network Ltd.	UK
Tyringe Konsult AB	Sweden
TX2 Concept	Singapore
UNI MICRO AS	Norway
UnifiedPost	Netherlands
Unimaze Software	Iceland
Unit4 Agresso	Norway
Upheads AS	Norway
UPRC Greece	Greece
ValidatedID S.L.	Spain
Van Meijel	Netherlands
Viaduct AB	Sweden
Virtualstock Ltd.	UK
Visma Labs	Sweden
Visma Software International AS	Norway
Voxel Media S.L.	Spain
Wax Digital Ltd.	UK
Webware Internet Solutions GmbH	Germany
Workflow Management & Document Consulting Asia Pte Ltd	Singapore
Xledger Labs AS	Norway
XS Offfice AS	Norway
Zirius AS	Norway
ZZI d.o.o	Slovenia

3   **The CEF eDelivery Discovery Model approach**

Discovery models

Static	Dynamic
In a Static Service Location model the IP address and related attributes are static. The IP address of all the Access Points in the network are stored on a central location for the other Access Points to reference. To send a message, the sending Access Point looks a the static list of IP addresses on the networks' Domain Name System (DNS) to locate the Access Point of the receiver.	Dynamic Service Location enables the sending AP to dynamically discover the IP address and capabilities of the receiver. Instead of looking at a static list of IP addresses, the sender consults a **Service Metadata Publisher (SMP)** where information about every participant in the data exchange network is kept up to date. As at any point in time there can be several SMPs, every participant must be given a unique ID that must be published by **the Service Metadata Locator (SML)** on the network's Domain Name System (DNS). By knowing this URL, the sender is able to dynamically locate the right SMP and therefore the right receiver.

PROS & CONS

+ High speed as there is no overhead processing

- Less flexible, change of irrelevant references

+ More automated and flexible

- Slower speed, as some overhead processing is required

European Commission

PEPPOL – A deployment of CEF eDelivery DSI

AP

The role of the AP (Access Point) is to send and receive messages in a secure and reliable way, on behalf of the participants. The AP is essentially a simple which is often offered together with other value added services by a service provider.

SMP

Once the sender discovers the address of the receiver's SMP, it is able to retrieve the needed information (i.e. metadata) about the receiver. With such information, the message can be sent. The SMP is usually a distributed component in an eDelivery Messaging Infrastructure.

SML

The role of the SML (Service Metadata Locator) is to manage the resource records of the participants and SMPs (Service Metadata Publisher) in the DNS (Domain Name System). The SML is usually a centralised component in an eDelivery Messaging Infrastructure.
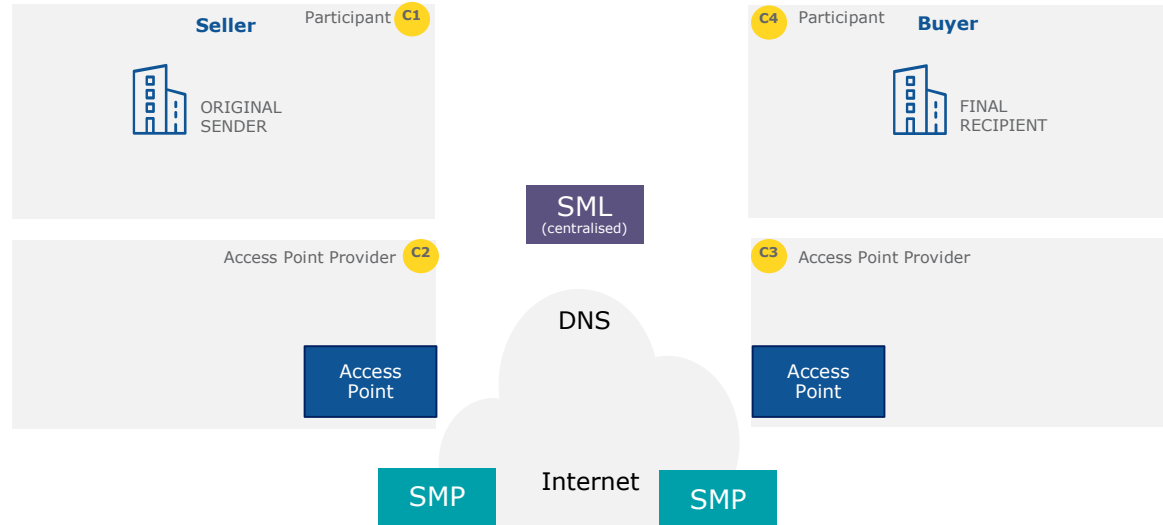
Transport Infrastructure Agreements (TIA)

- The Access Point Provider and the Service Metadata Publisher Provider must sign a contract with OpenPEPPOL (or any of the PEPPOL Authorities)

- Agreements defines responsibilities, expectations, service levels and more

- Only providers who have signed the agreements can participate in the network (controlled by digital certificates on a communication level)

OpenPEPPOL AISBL

Community Agreement

PEPPOL-Authorities (SE, IT, BE NL, UK, NO, DK…)

Provider Agreement

Service providers

European Commission

Dynamic discovery in detail

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Phase 1: Registration

1. Buyer ID, Supported Message type and End point is published
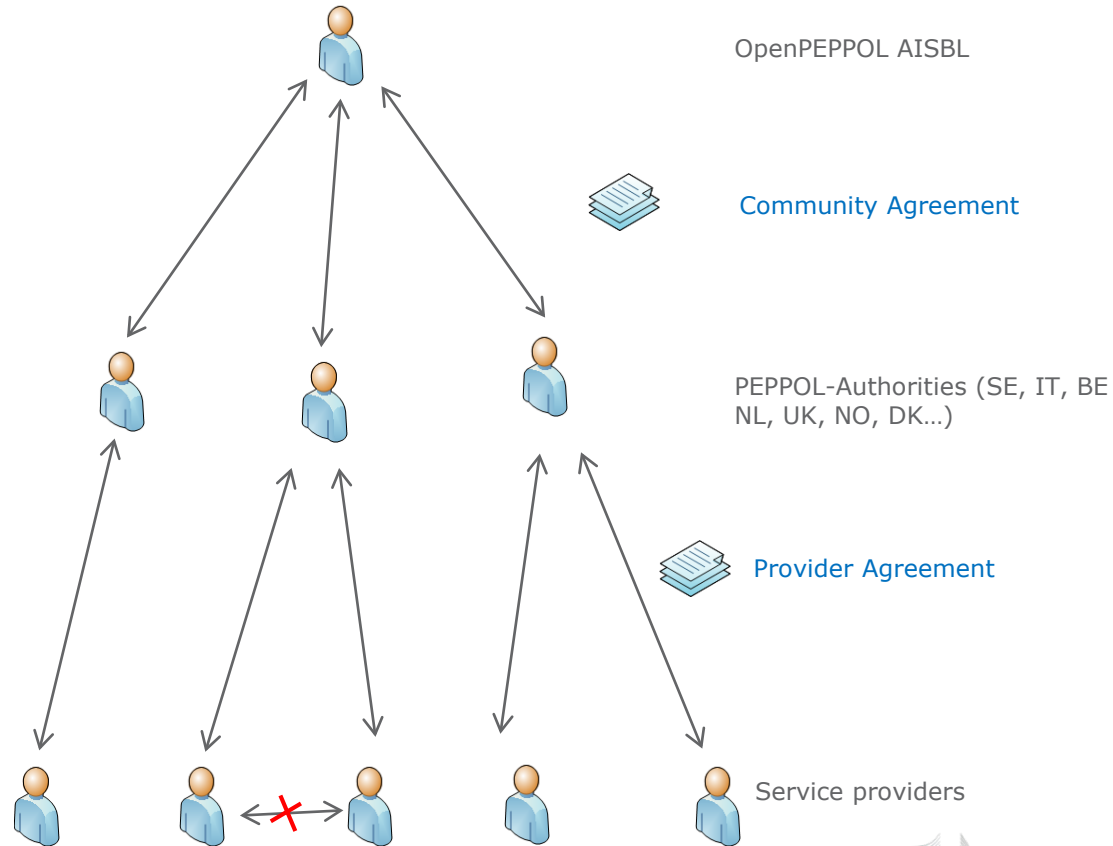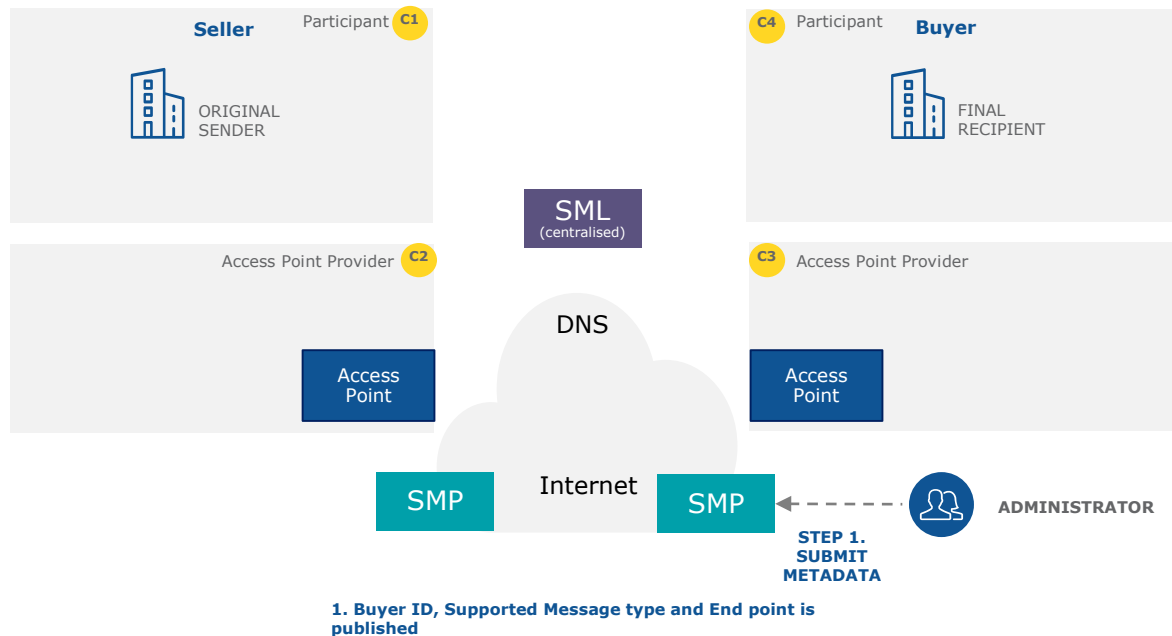
Dynamic discovery in detail

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Phase 1: Registration

Seller — Participant C1 — ORIGINAL SENDER

Buyer — C4 Participant — FINAL RECIPIENT

Access Point Provider C2 — Access Point

C3 Access Point Provider — Access Point

SML (centralised)

DNS

Internet

SMP — SMP

STEP 2. CREATE PARTICIPANT

STEP 1. SUBMIT METADATA

ADMINISTRATOR

1. Buyer ID, Supported Message type and End point is published
2. The SMP creates a record in the SML which associates the participant with the SMP

European Commission
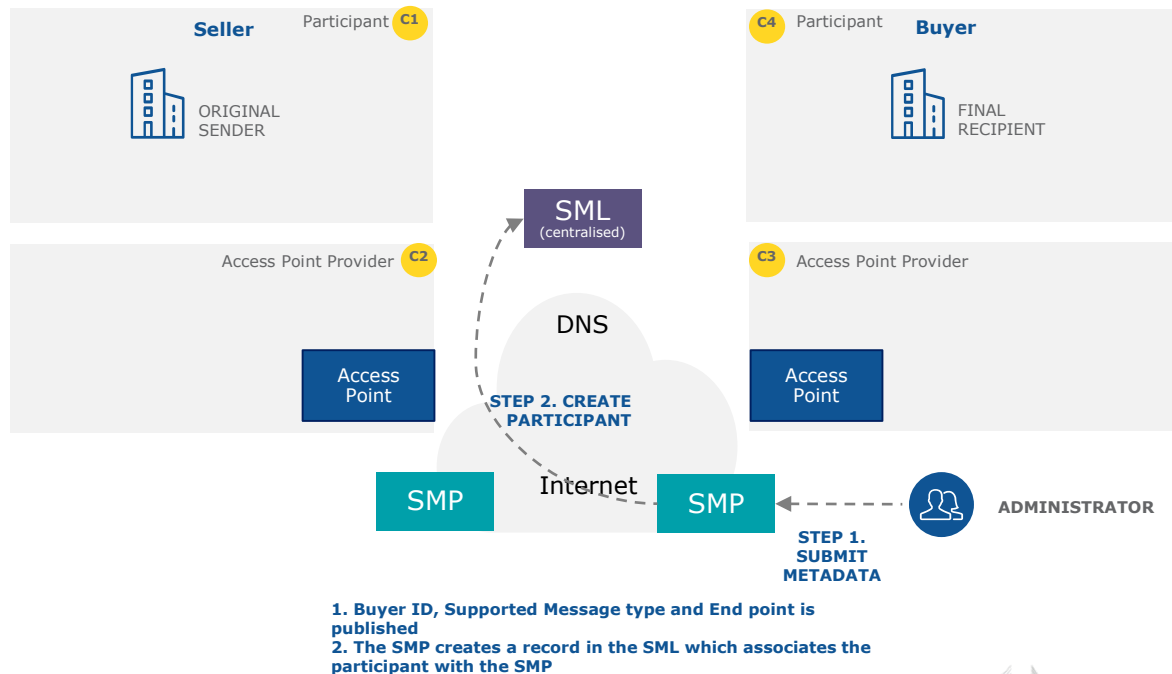
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Phase 1: Registration

Seller — Participant **C1** — ORIGINAL SENDER

C4 — Participant — **Buyer** — FINAL RECIPIENT

Access Point Provider **C2**

C3 Access Point Provider

STEP 3. REGISTER PARTICIPANT

SML (centralised)

DNS

Access Point

Access Point

STEP 2. CREATE PARTICIPANT

Internet

SMP

SMP

ADMINISTRATOR

STEP 1. SUBMIT METADATA

1. Buyer ID, Supported Message type and End point is published
2. The SMP creates a record in the SML which associates the participant with the SMP
3. The SML updates the DNS which creates a DNS record for the participant, pointing to the SMP
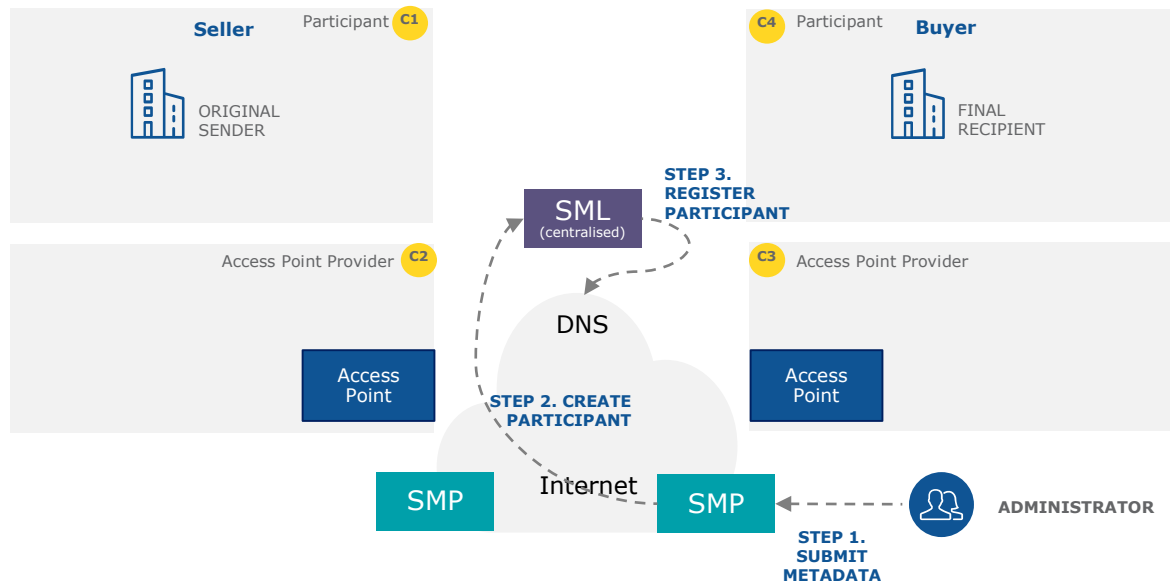
European Commission

Dynamic discovery in detail

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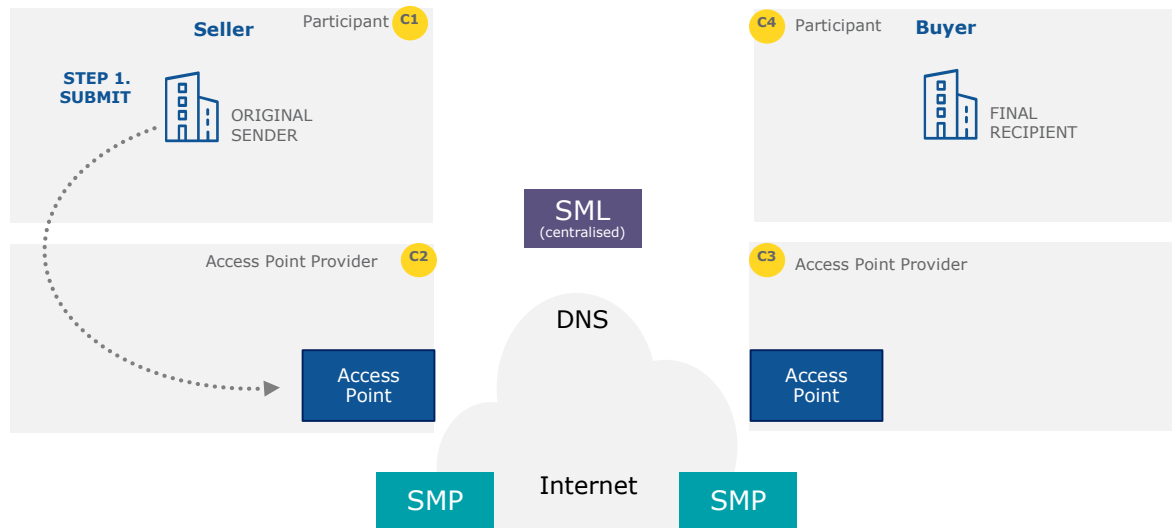
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Phase 2: Operations

1. Seller issues an eInvoice (or other eDocument) and hands it over to the AP
2. The AP makes a lookup using a HTTP GET. The DNS directs the AP to the participant's SMP
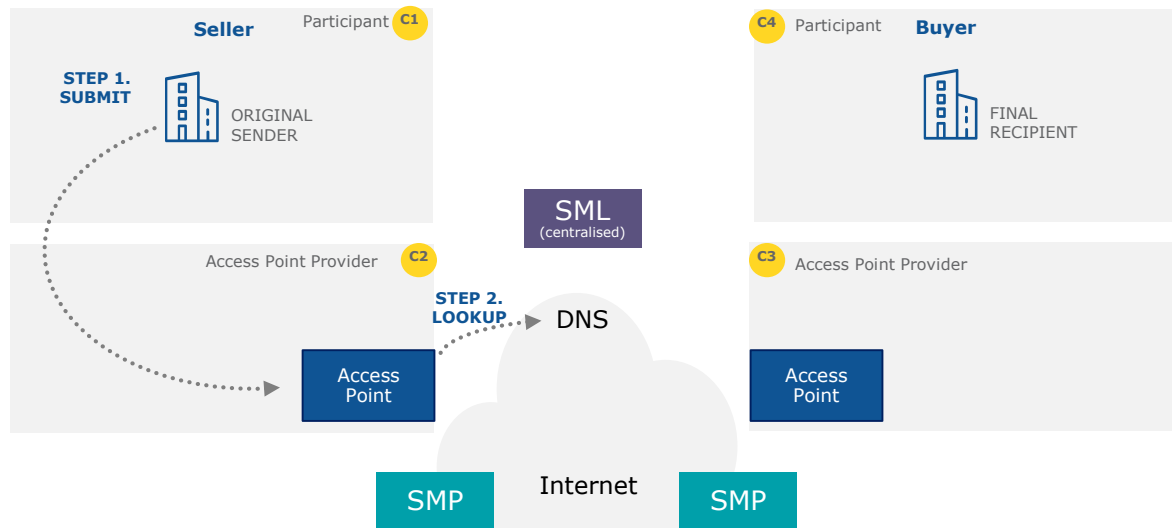
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1. Seller issues an eInvoice (or other eDocument) and hands it over to the AP
2. The AP makes a lookup using a HTTP GET. The DNS directs the AP to the participant's SMP
3. The HTTP GET results in the service metadata for the end point (AP)

Service Metadata Example

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns3:SignedServiceMetadata xmlns="http://busdox.org/transport/identifiers/1.0/" xmlns:ns2="http://www.w3.org/2005/08/addressing" xmlns:ns3="http://busdox.org/serviceMetadata/publishing/1.0/">
    <ns3:ServiceMetadata>
        <ns3:ServiceInformation>
            <ParticipantIdentifier scheme="iso6523-actorid-upis">0088:50512318800008</ParticipantIdentifier>
            <DocumentIdentifier scheme="busdox-docid-qns">
urn:oasis:names:specification:ubl:schema:xsd:Invoice-2::Invoice##urn:www.cenbii.eu:transaction:biitrns010:ver2.0:extended:urn:www.peppol.eu:b
            <ns3:ProcessList>
                <ns3:Process>
                    <ProcessIdentifier scheme="cenbii-procid-ubl">urn:www.cenbii.eu:profile:bii05:ver2.0</ProcessIdentifier>
                    <ns3:ServiceEndpointList>
                        <ns3:Endpoint transportProfile="busdox-transport-as2-ver1p0">
                            <ns2:EndpointReference>
                                <ns2:Address>https://peppol.zzz.com/yyy/adapter/inbound/as2peppol</ns2:Address>
                            </ns2:EndpointReference>
                            <ns3:RequireBusinessLevelSignature>false</ns3:RequireBusinessLevelSignature>
                            <ns3:MinimumAuthenticationLevel>1</ns3:MinimumAuthenticationLevel>
                            <ns3:ServiceActivationDate>2017-03-13Z</ns3:ServiceActivationDate>
                            <ns3:ServiceExpirationDate>2027-03-13Z</ns3:ServiceExpirationDate>
                            <ns3:Certificate>MIIENiCCAx6gAwIBAgIQAovA/eZvyKgJmu+nvl1PdDANBgkqhkiG9w0BAQsFADBX
```

- The Participant's identifier
- Type of supported business message
- Type of business process
- Type of transport protocol to use for this message
- Technical endpoint/address to where the message should be sent
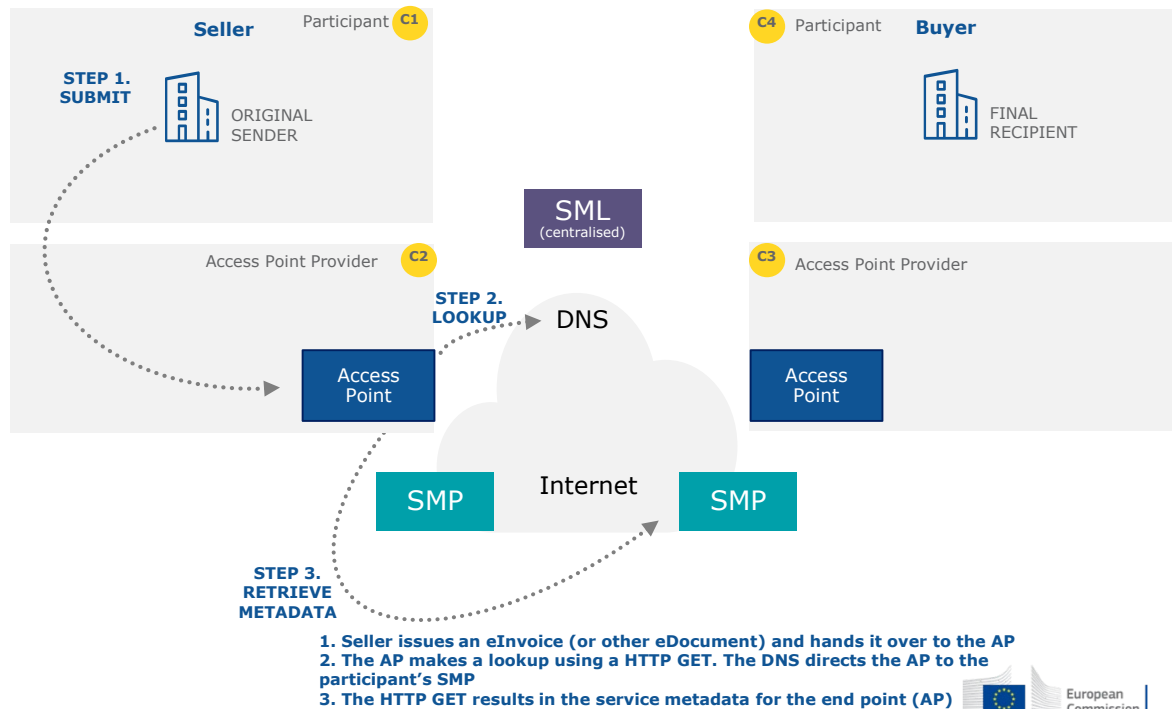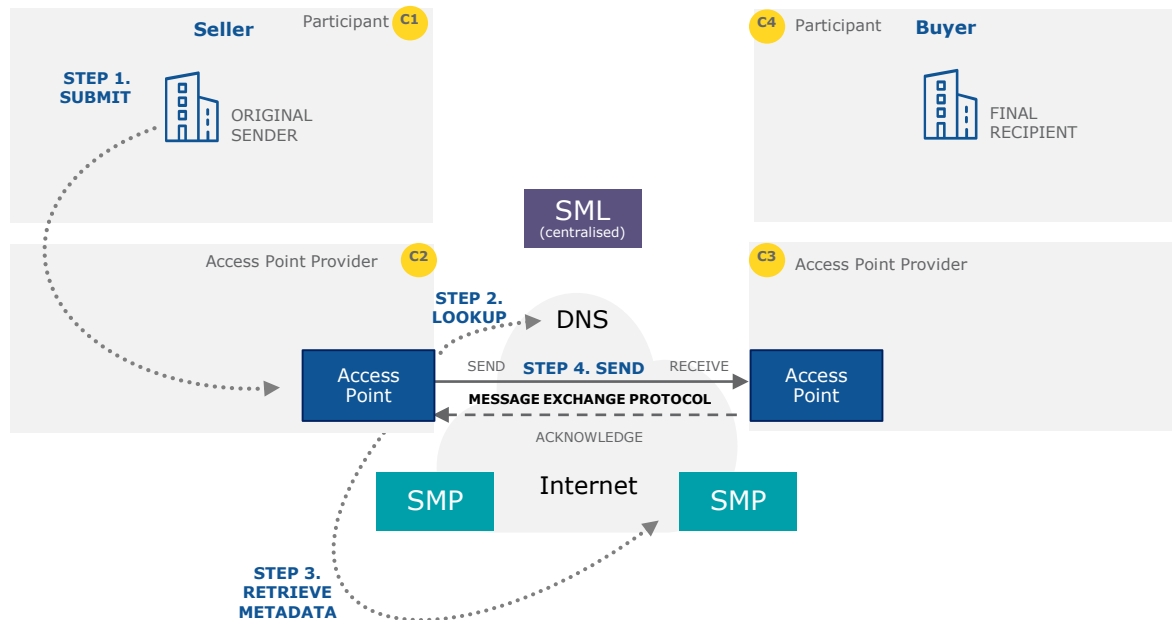
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Seller — Participant C1 — ORIGINAL SENDER
STEP 1. SUBMIT

C4 Participant — Buyer — FINAL RECIPIENT

SML (centralised)

Access Point Provider C2
STEP 2. LOOKUP — DNS

C3 Access Point Provider

Access Point — SEND — STEP 4. SEND — RECEIVE — Access Point
MESSAGE EXCHANGE PROTOCOL
ACKNOWLEDGE

SMP — Internet — SMP

STEP 3. RETRIEVE METADATA

1. Seller issues an eInvoice (or other eDocument) and hands it over to the AP
2. The AP makes a lookup using a HTTP GET. The DNS directs the AP to the participant's SMP
3. The HTTP GET results in the service metadata for the end point (AP)
4. The AP sends the eInvoice to the receiver's AP

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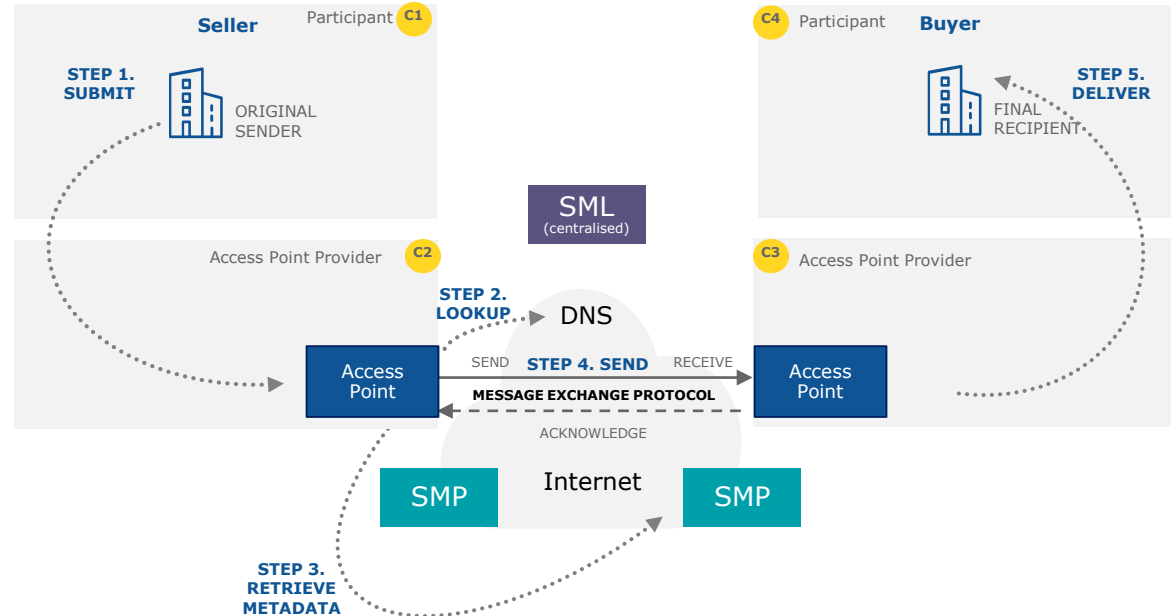
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1. Seller issues an eInvoice (or other eDocument) and hands it over to the AP
2. The AP makes a lookup using a HTTP GET. The DNS directs the AP to the participant's SMP
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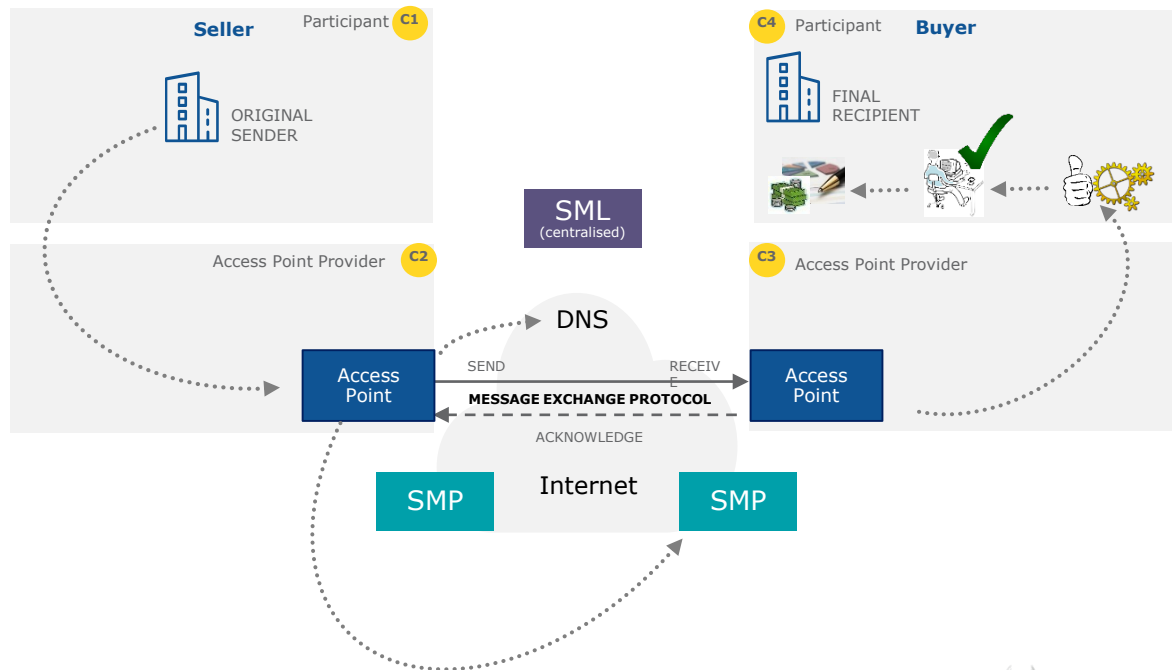5. The receiver's AP hands the eInvoice over to the Buyer

4 Consequences for the users

Consequences for the users

- A participant registered in the PEPPOL Infrastructure is visible as a receiver by everybody. The SML/SMP is open for queries.

- Only certified and approved Access points can send messages in the infrastructure

- Receiving Access points are not allowed to refuse an incoming message if it comes from a certified Access point

- Participants must implement routines for handling new connections!

Scenario - Known business partner

Consequences for the users

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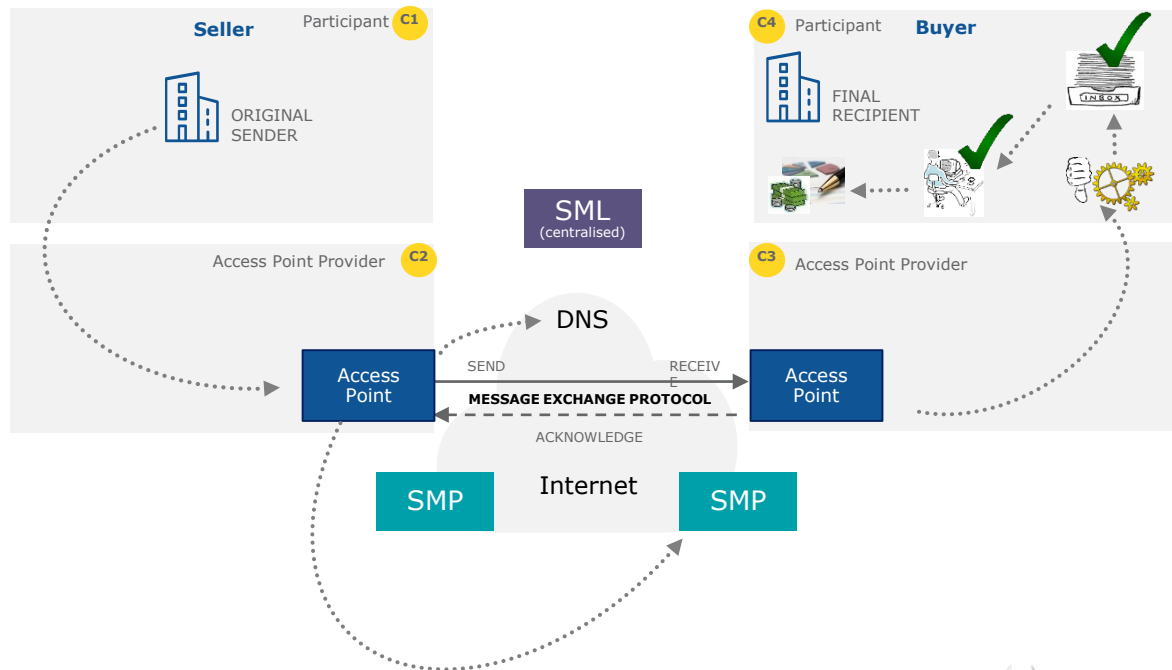- Participants must implement routines for handling new connections!

Scenario – Unknown business partner

CEF eDelivery is not a one-size fits all solution

SCOPE OF CEF eDELIVERY			PEPPOL PAN-EUROPEAN PUBLIC PROCUREMENT ONLINE	e-CODEX	**Your** CEF eDelivery implementation
	EXCHANGE MODEL	TOPOLOGY	4-corner model	4-corner model	**Your** choice
		PROTOCOL	PEPPOL AS2 profile	e-SENS AS4 profile	e-SENS AS4 profile recommended
		INTEGRATION APPROACH	Service Providers (Market)	Specific Connector	**Your** choice
	DISCOVERY MODEL		Dynamic	Static	**Your** choice
	SECURITY MODEL	TRUST CIRCLE	PKI	Mutual trust	**Your** choice
		SECURITY CONTROL	Liberal inner security	Inner security with connector	**Your** choice

European Commission

6   Technical specifications

CEF eDelivery specifications

The approach employed by eDelivery is to promote the use of existing technical specifications and standards rather than to define new ones.

The profiling work of e-SENS and PEPPOL on these standards, i.e. constraining configuration choices, is equally taken on board. Even though eDelivery makes software available implementing these specifications, the use of commercial software or other Open Source software projects is also possible.

COMPONENT	KEY SPECIFICATIONS
Access Point	➢ e-SENS AS4 profile of the ebMS3/AS4 OASIS Standards ➢ PEPPOL AS2 profile of AS2 and SBDH (for the post award eProcurement only)
Digital Certificates	➢ ETSI – Electronic Signatures and Infrastructures profile
Connector	➢ ETSI REM for evidences
Service Metadata Locator (SML)	➢ e-SENS Profile based on the OASIS BDXL Specification ➢ e-SENS ebCore Party ID Profile
Service Metadata Publisher (SMP)	➢ e-SENS Profile based on the OASIS BDX-SMP Specification

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CEF's IT Governance Model

		SCOPE OF DECISIONS	KEY OUTPUTS
CEF POLICY	CEF Coordination Committee	■ Policy implementation decisions	Work Programme
CEF IT STRATEGY & COORDINATION	Architecture Management Board / CEF Telecom Expert Group	■ Strategic decisions	Common principles
CEF DSIs IMPLEMENTATION	BUILDING BLOCK DSIs (DSI Operational Management Board, DSI Extended Expert group) / SECTOR SPECIFIC DSIs (DSI Operational Management Board, DSI Extended Expert group)	■ Tactical decisions / ■ Operational & technical implementation decisions	Project Charter / Change Request
CEF DSIs STAKEHOLDERS	Standardisation Bodies / Private Sector / Open Source Communities / Other Stakeholders		

European Commission

EMSFEI – European Multi Stakeholder Forum for eInvoicing

Other Stakeholders

- Member States national foras for eInvoicing
- Subject Matter Experts
- EESPA, **OpenPEPPOL**, CEN

WHO…?

The European Multi-Stakeholder Forum on Electronic Invoicing (EMSFEI) brings together stakeholders from national e-invoicing forums and from the user side of the market.

WHY…?

Its objective is to help pave the way for a broad-scale adoption of e-invoicing at national and EU-level. The Forum creates a unique opportunity to exchange experiences and best practice across borders. It also discusses issues of common interest and may issue recommendations to the Commission.

WHEN & WHERE…?

2 times per year in Brussels

A number of sub groups with key focus areas

European Commission

EMSFEI - Subgroups

- Guidance paper on the implementation of the EN and Directive
- CIUS creation
- New opportunities
- And much more

European Multi-Stakeholder Forum on e-Invoicing (EMSFEI)

Checklist for the transposition and general implementation of the eInvoicing Directive (2014/55/EU)

Guidance for EU public administrations

Version 1.0

OpenPEPPOL's Governance Model

Your checklist:

- Which OpenPEPPOL Authority should I sign up with?
- Where should I invest my time in the OpenPEPPOL governance model?
- How should I involve my stakeholders?

- If your country has a PEPPOL Authority then this should be priority one for you

- If your PEPPOL Authority has specific rules – make sure to study these first before entering into an agreement

- Get onboard and start to interact with the community
  - Not only at CEF Digital but also at OpenPEPPOL Coordinating Communities

- Involve your primary stakeholders early in the process and make sure it is transparent what you intend to do

- And remember – many other people around EU is doing the same thing right now as you – thinking, asking and doing eInvoicing implementations

European Commission

Roadmap for mass adoption of eInvoicing

Success factors from early adopters are

- Policy on standard for format and content
- Policy on transmission technology
- Support available to implementers
- Tools which helps on conformance testing
- Legal requirements

Examples of things to consider when developing a roadmap for eInvoicing

Policy for For the supplier/issuer
- Suppliers have a diverse environment (such as different technical solutions, processes, maturity level)
- Clear policy around standards helps
- Supporting tools can be provided – validation tools, presentation style sheets, translations
- Aligned requirements on use of references and identifiers if possible

Policy for Interconnectivity
- Minimum requirement on technology for how to connect and for service providers to collaborate
- Publicly available strategy on how to handle the European standard – both domestically and cross border (CIUS)
- Transmission cross border (eDelivery)

Policy for the public sector
- Up to each entity to tender for solutions or centrally provided?
- Maturity level of the public entities – are temporary solutions necessary?
- Mandate eInvoicing? Through law/contracts? Also below threshold?
- Centrally provided supporting tools, help desk, training and capacity building?

System/service of the supplier

System/service of the customer

European Commission
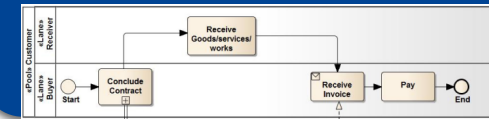
Roadmap to deploy CEF *eInvoicing* on a country level

	Domain Owner		Participants in eInvoicing implementations			

PHASE

ELICIT requirements	CONSIDERATIONS	SELECT eInvoicing Standards	DEPLOY	INTEGRATE with backend(s) with partners	OPERATE

CEF TEAM

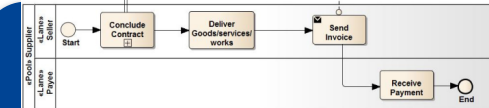| Standard Specification	Onboarding		Service Desk	Connectivity Testing	Service Desk
Readiness checkerl	Validation tool		Training and deployment		CEF eInvoicing Community

YOUR TEAM

Attend workshops
•
Complete self-assessment tool
•
Identify business requirements
•
Carry out feasibility study

Drivers for implementation
•
National policy making
•
Coherence with EU law
•
Infrastructure and technical impl.
•
Onboarding
•
Success factors and pitfalls
•
Sustainability beyond transposition

EN eInvoicing

Cross-Industry Invoice

UBL

National Standards

Assess current solutions

Deploy components
•
Configure components
•
Validation
•
CIUS

Integrate with CRM, ERP systems
•
RESTfull APIs, SOAP
•
Perform Pre-production testing

Participate in Connectivity testing
•
Perform Pre-production testing

Open source

Hosting
•
Maintenance

Commercial solution

Hosting
•
Fees

Custom built

Hosting
•
Maintenance

Roadmap to deploy CEF *eDelivery*

	Domain Owner		*Participants in eDelivery Messaging Infrastructure*				
PHASE	**ELICIT** requirements	**DESIGN** eDelivery infrastructure	**SELECT** eDelivery solutions	**DEPLOY** eDelivery solutions	**INTEGRATE** with backend(s)	with partners	**OPERATE** eDelivery solutions
CEF TEAM	Technical Specifications / Onboarding / Self-Assessment tool	Documentation (COD, SOD, …) / Design message exchange model	List of Software solutions / SML Service / PKI Service	Service Desk / Training and deployment		Connectivity Testing	Service Desk / CEF eDelivery Community
YOUR TEAM	Attend workshops • Complete self-assessment tool • Identify business requirements • Carry out feasibility study	Design discovery model • Design security model • Design integration approach • Participate in the writing of a SDD • PoC (optional)	*Open source* Assess OSS projects • Customise/ extend solution / *Commercial solution* Assess Vendors • Buy solution / *Custom built* Build solution	Deploy components • Configure components	Integrate with eDelivery Access Point • Perform Integration testing • Perform Pre-production testing	Participate in Connectivity testing • Perform Pre-production testing	*Open source* Hosting • Maintenance / *Commercial solution* Hosting • Fees / *Custom built* Hosting • Maintenance

Need a checklist?

- At CEF Digital you can find a comprehensive checklist on how to implement CEF eInvoicing on EU public level

- The checklist is created by other Member States who already implemented the EN standard and eDelivery infrastructure

eInvoicing

If you are a public administration in the EU, or you would like to do business with one, you will need to comply with the European standard for sending, receiving and processing electronic invoices.

Learn about eInvoicing

Understand how eInvoicing will impact public procurement in your country.   +

Use eInvoicing

Start your eInvoicing implementation with our support services and knowledge articles.

Make your solution conformant

Find out if your eInvoicing solution complies with the European standard on eInvoicing (EN 16391).   +

Join the community

Featured

eInvoicing in each Member State

Quick Links

- Join the Community
- All eInvoicing Services
- Monitoring dashboard
- Media Library

Key documents

- eInvoicing infographic (PDF)
- Conformance testing Service Offering Description (PDF)
- EMSFEI guidance on implementation for EU public administrations (PDF)

Latest

CEF eInvoicing: Publication of the Electronic Address Scheme Code List

Contact us >

European Commission

Funding and Grants – possibilities within CEF

Christian Rasmussen

DIGIT

2019 CEF Telecom eInvoicing call: Context

- eInvoicing **Directive deadline**: 17/4/2019 for both transposition and implementation;

- Public authorities must be able to process eInvoices **compliant** with the European standard **(EN)**;

- Some Member States are still **lagging behind** in the implementation of the Directive;

- The regional authorities of those countries that have opted for the deadline **extension**;

- Innovative **solutions** are essential to help Member States in the path to more efficient eInvoicing.
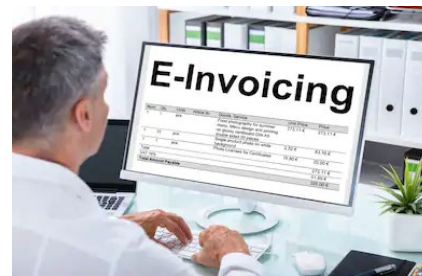
2019 CEF Telecom eInvoicing call: Details

2019-1 call:

- **Budget**: €6.2 million

- **Co-funding rate**: 75% of eligible costs

- **Pre-financing**: up to 50% of maximum grant
  amount

- Indicative **duration** of the actions: 12 months

2019 CEF Telecom eInvoicing call: Eligibility

The 2019 Work Programme makes the following proposals eligible:

- Proposals from one or more **EU/EEA** Member States;

- Proposals from **international organisations**, joint, public or private **undertakings** or **bodies**, from EU/EEA countries;

- Proposals from **third countries** and applicants without legal identity may be accepted (see eInvoicing call text for info).

2019 CEF Telecom eInvoicing call: Objectives

Objective 1:

• Proposals that increase the **national readiness** to **accept and process EN compliant invoices**;

• All proposals submitted to include relevant national or regional public authorities responsible for the implementation of the **Directive 2014/55/EU**.

2019 CEF Telecom eInvoicing call: Objectives

Objective 2:

- Update of **existing eInvoicing solutions** (from public and private providers) to achieve compliance with the **EN**;

- In the update of solutions, only **CIUS** (Core Invoice Usage Specifications) could be funded.

2019 CEF Telecom eInvoicing call: Objectives

Objective 3:

- Implementation of innovative solutions that enable advanced **eInvoicing/eProcurement functionalities using the EN**;

- This includes proposals aiming to **fully digitise processes** using robotics or other innovative solutions;

- The goal of proposals submitted under this objective is to produce an **improved processing** of invoices.

2019 CEF Telecom eInvoicing call: Award criteria

Award will be determined by the following:

- 1) The **Relevance** of the proposal;

- 2) Its **Quality** & **Efficiency;**

- 3) **Impact** & **Sustainability.**

A score will be applied to the three objectives on a scale from 0 to 5. The threshold for **individual criteria is 3** and the **overall threshold** is **10.** Proposals with a score **on/above** these thresholds may be recommended for funding.

Innovation
and Networks
Executive Agency

Past eInvoicing calls

2015-1 eInvoicing call

- Call opening: 15 September 2015 - Call closure: 11 February 2016

- **Call objective:**
- Increase uptake and the use of the eInvoicing DSI by supporting authorities – especially at the regional and local levels – in meeting the requirements of the eInvoicing Directive

- **Overall indicative budget: €7 million**
- **Co-funding rate:** 75% of eligible costs
- **Proposals received: 10**
- **Eligible proposals received: 8**
- **Grant agreements: 8**
- **Maximum EU contribution: €4,426,111**

- **1 action** already completed

- **7 actions** on-going (all aiming to implement European eInvoicing standard), supporting:
  - Solution providers (AT - ecasio, ES - EDICOM, UK - ELCOM) in upgrading their solution to the eInvoicing standard + supporting users of the solutions
  - Uptake and upgrade of national eInvoicing platforms (CY, HR, ES, IT)
  - Tool for eInvoicing format mapping (NL, DE)

European Commission

2015-1 eInvoicing call:
Member States involved (13)
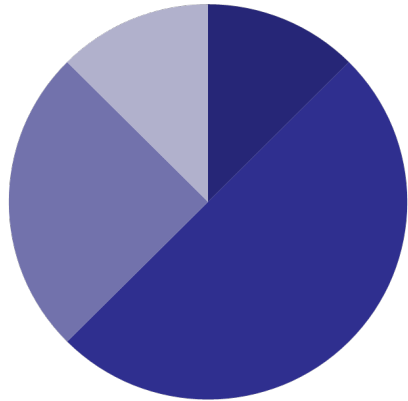
- 5 members (1 consortium)
- 6 members (4 consortia)
- 7 members (2 consortia)
- 8 or more members (1 consortium)

Member States (7)

Public sector, (32)
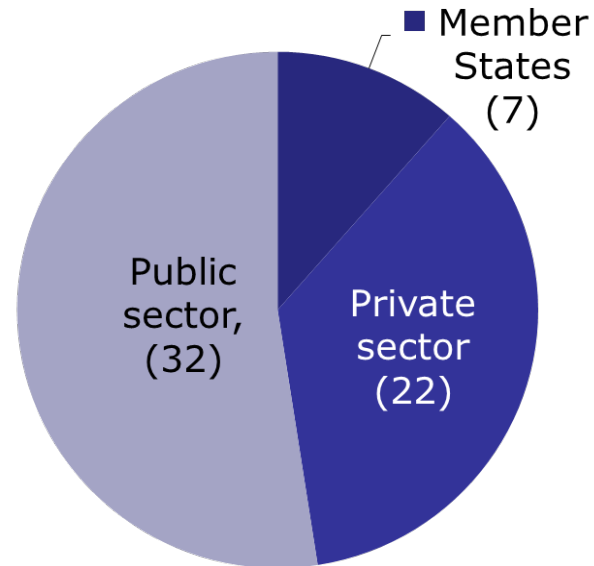
Private sector (22)

European Commission

2016-3 eInvoicing call

- Call opening: 13 September 2016 - Call closure: 15 December 2016

- **Call objective:**
- Increase uptake and the use of the eInvoicing DSI by supporting authorities – especially at the regional and local levels – in meeting the requirements of the eInvoicing Directive

- **Overall indicative budget: €7 million**
- **Co-funding rate:** 75% of eligible costs
- **Proposals received: 21**
- **Eligible proposals received: 20**
- **Recommended proposals: 15**
- **Recommended funding: €10,401,818**

- Info below still indicative: grant agreement preparation now on-going (to be finalised by mid-September)
- Most of the actions to start between May and September 2017 and run until end of 2018
  - All will ensure the compliance with the European eInvoicing standard
  - Most will also deploy eDelivery

- Actions will support:
  - Solution providers and national eInvoicing solutions, including at the local level, to make them complaint with eInvoicing standard
  - Strong focus of some of the actions on onboarding suppliers and engaging with SMEs

2016-3 eInvoicing call
Member States involved (22)

Pie chart 1:
- Public sector (60)
- Private sector (58)
- Member States (10)
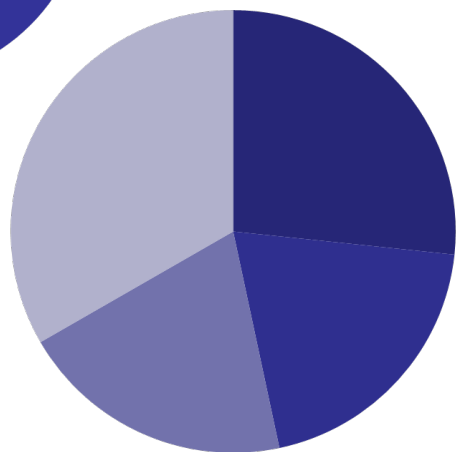
Pie chart 2 legend:
- ■ 5 members (4 consortia)
- ■ 6 members (3 consortia)
- ■ 7 members (3 consortia)
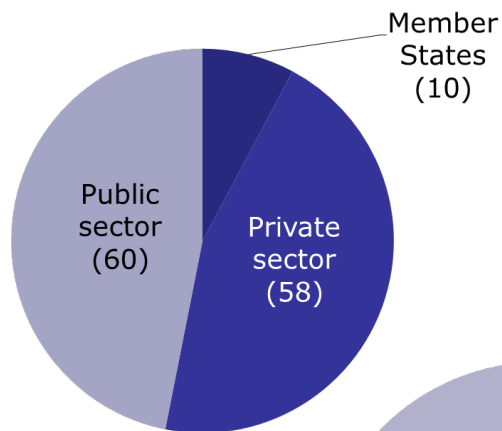- ■ 8 or more members (5 consortia)

European Commission

2017-3 eInvoicing call

- Call opening: 28 June 2017 - Call closure: 28 November 2017

- **Call objective:**

- Increase uptake and the use of the eInvoicing DSI by supporting authorities – especially at the regional and local levels – in meeting the requirements of the eInvoicing Directive

- **Overall indicative budget: €10 million**

- **Co-funding rate:** 75% of eligible costs

- **Proposals received: 23**

- **Eligible proposals received: 21**

- **Recommended proposals: 10**

- **Recommended funding: €8,800,000**

- Info below still indicative: grant agreement preparation will start in May 2018

- Most of the actions to start between May and September 2018 and run until end of 2019

  - All will ensure the compliance with the European eInvoicing standard

  - Most will also deploy eDelivery

- Actions will support:

  - Solution providers and national eInvoicing solutions, including at the local level, to make them complaint with eInvoicing standard

  - Strong focus of some of the actions on onboarding suppliers and engaging with SMEs

2017-3 eInvoicing call
Member States involved (16)
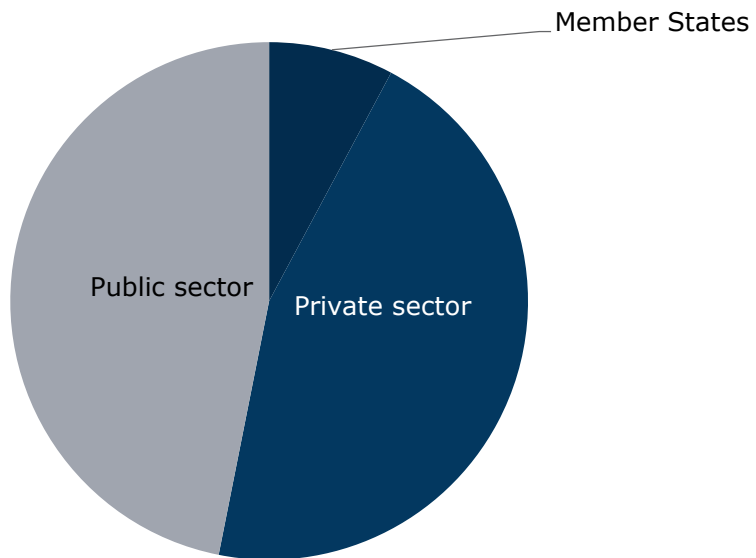
Member States
Number of projects and CEF funding (€ thousand)

Country	Number of projects	CEF funding (€ thousand)
Austria	1	183
Belgium	2	105
Bulgaria		
Croatia	2	516
Cyprus	2	1,364
Czech Republic		
Denmark		
Estonia	1	671
Finland	2	159
France	2	120
Germany	2	168
Greece	1	710
Hungary	2	380
Ireland	2	683
Italy	4	1,383
Latvia	1	24
Lithuania	1	745
Luxembourg		
Malta		
Netherlands	3	909
Poland	3	510
Portugal	2	921
Romania	1	22
Slovakia	1	90
Slovenia	1	570
Spain	7	2,324
Sweden	1	115
United Kingdom	4	1,147

EEA and Third Countries
Number of projects and CEF funding (€ thousand)

Country	Number of projects	CEF funding (€ thousand)
Norway	1	714

CEF Telecom 2014-2016

List of grant agreements for eInvoicing DSI building blocks

Project Code	Title	Beneficiary countries	Start Date	End Date	Project Status	CEF funding for the action (€)
2015-AT-IA-0049	EVA - e-Invoicing for Austria	AT	01/09/2016	31/12/2017	Ongoing	183,000
2015-CY-IA-0052	E-invoicing Cyprus	CY	01/10/2016	31/12/2017	Ongoing	561,430
2015-ES-IA-0055	SMART eINVOICING PLATFORM TO ENFORCE CROSS-BORDER DOCUMENTATION EXCHANGE (SEINPEX)	ES	01/08/2016	31/12/2017	Ongoing	222,781
2015-EU-IA-0050	eIGOR - eInvoicing GO Regional	IT,UK	01/01/2017	31/12/2017	Ongoing	1,252,500
2015-EU-IA-0054	Semantic conversion of business documents (SCOBDO)	DE,NL	01/09/2016	31/12/2017	Ongoing	283,199
2015-EU-IA-0058	GOVeIn European eInvoicing Project: implementation of the European electronic invoice within the Public Health area	ES,FR,HU,IE,IT,NL,PL,RO,UK	01/10/2016	31/10/2017	Ongoing	770,249
2015-HR-IA-0048	Croatian eInvoicing Business-to-Administration Exchange Project	HR	02/06/2016	30/05/2017	Closed	251,328
2015-UK-IA-0056	eInvoice Expansion	UK	01/10/2016	31/12/2017	Ongoing	901,624
2016-CY-IA-0105	Cy e-Invoicing (Local Authorities)	CY	01/01/2018	31/12/2018	Ongoing	802,134
2016-EL-IA-0130	Interoperable eInvoicing in Greece (GRinv)	EL	01/10/2017	30/09/2018	Ongoing	710,065
2016-ES-IA-0117	FACe - The core platform of the Spanish public authorities to process the European standard on electronic invoice	ES	01/09/2017	30/11/2018	Ongoing	298,691
2016-ES-IA-0134	EUeInvoicing.cat - European standards adoption for eInvoicing in Catalonia	ES	01/09/2017	31/08/2018	Ongoing	622,833
2016-EU-IA-0086	Tools and support towards the adoption of the future EN on electronic invoicing in SMEs	BE,ES,IT	01/09/2017	31/08/2018	Ongoing	372,054
2016-EU-IA-0096	GOV2EU - Supporting public entities to adopt EU Standard on electronic invoice for cross-border transactions	BE,DE,ES,FR,HU,IT,PL,PT,SK	01/09/2017	31/10/2018	Ongoing	1,248,208
2016-EU-IA-0109	SAPHeIN – Implementing SAPHetydoc for the wide adoption of eINvoicing	ES,PT	01/06/2017	31/08/2018	Ongoing	908,837
2016-EU-IA-0119	Facilitate and increase the use of the European Norm on e-invoice and the use of access point in the EU	FI,NO,SE	15/12/2016	01/06/2018	Ongoing	887,879
2016-EU-IA-0120	Internet of Business (IoB)	EE,FI,LV	01/06/2017	31/05/2018	Ongoing	795,248
2016-EU-IA-0126	Promote uptake of e-invoicing in Ireland	IE,UK	01/07/2017	30/06/2018	Ongoing	755,904
2016-HR-IA-0090	eINVOICING For Croatian Public Authorities (eICPA)	HR	19/09/2017	19/09/2018	Ongoing	264,201
2016-LT-IA-0104	eInvoicing cross-border LT	LT	01/09/2017	01/09/2018	Ongoing	744,553
2016-NL-IA-0088	NL eInvoicing	NL	16/12/2016	31/05/2018	Ongoing	705,068
2016-PL-IA-0106	European cross-border e-invoice in local public procurement in Poland	PL	01/10/2017	30/11/2018	Ongoing	420,442
2016-SI-IA-0103	Readiness of Slovenian E-invoicing	SI	01/06/2017	01/06/2018	Ongoing	570,248

European Commission

2019 CEF Telecom eInvoicing call: Additional information

- Link to call webpage: https://ec.europa.eu/inea/en/connecting-europe-facility/cef-telecom/apply-funding/2019-einvoicing;

- For more information concerning the technical specifications, you may access the call text;

- For information concerning eInvoicing and the EU Commission's efforts to promote it, please consult CEF Digital and its services;

- CEF eInvoicing country Factsheets.

CEF Digital
#ConnectingEurope

Innovation and Networks Executive Agency

More information on the calls…

✉ **inea-cef-telecom-calls@ec.europa.eu**
inea@ec.europa.eu

https://ec.europa.eu/inea/en/connecting-europe-facility/cef-telecom/apply-funding/2019-cef-telecom-calls-proposals

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#CEFTelecomDay

INEA

Thank you!

Discussion

Lessons learned

QUESTIONS?