Pagero and PEPPOL – from a technical point of view

Presented by:	Jonas Edlund, Karan Shankar
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What is PEPPOL?

- **PEPPOL** – **P**an-**E**uropean **P**ublic **P**rocurement **O**n **L**ine

- EU-project 2008 – aims to simplify the development of e-commerce within Europe

- A network and transport infrastructure for exchange of digital business documents

- PEPPOL-authorities are responsible for connecting new operators, Access Points, to the PEPPOL network on behalf of OpenPEPPOL

- Every operator signs an agreement with a PEPPOL-authority if they want to join the network **[**e.g. Difi (NO), ESV (SE), ERST (DK), NHS (UK), Simpler Invoicing (NL) and IMDA (Singapore)**]**.

- No Interoperability agreements or terms between the Access Points.

Pagero and PEPPOL

https://www.pagero.com/why-pagero/peppol/

OpenPEPPOL Coordinating Communities

- OpenPEPPOL Transport Infrastructure Coordinating Community (TICC)
- Post-Award Coordinating Community (PoACC)

OpenPEPPOL Workgroups

- Validation and Quality Assurance Project
- **MLR (Message Level Response)**
- BLR (Business Level Response)
- PEPPOL Directory

PEPPOL Access Point CERTIFIED PROVIDER

- First live in Austria
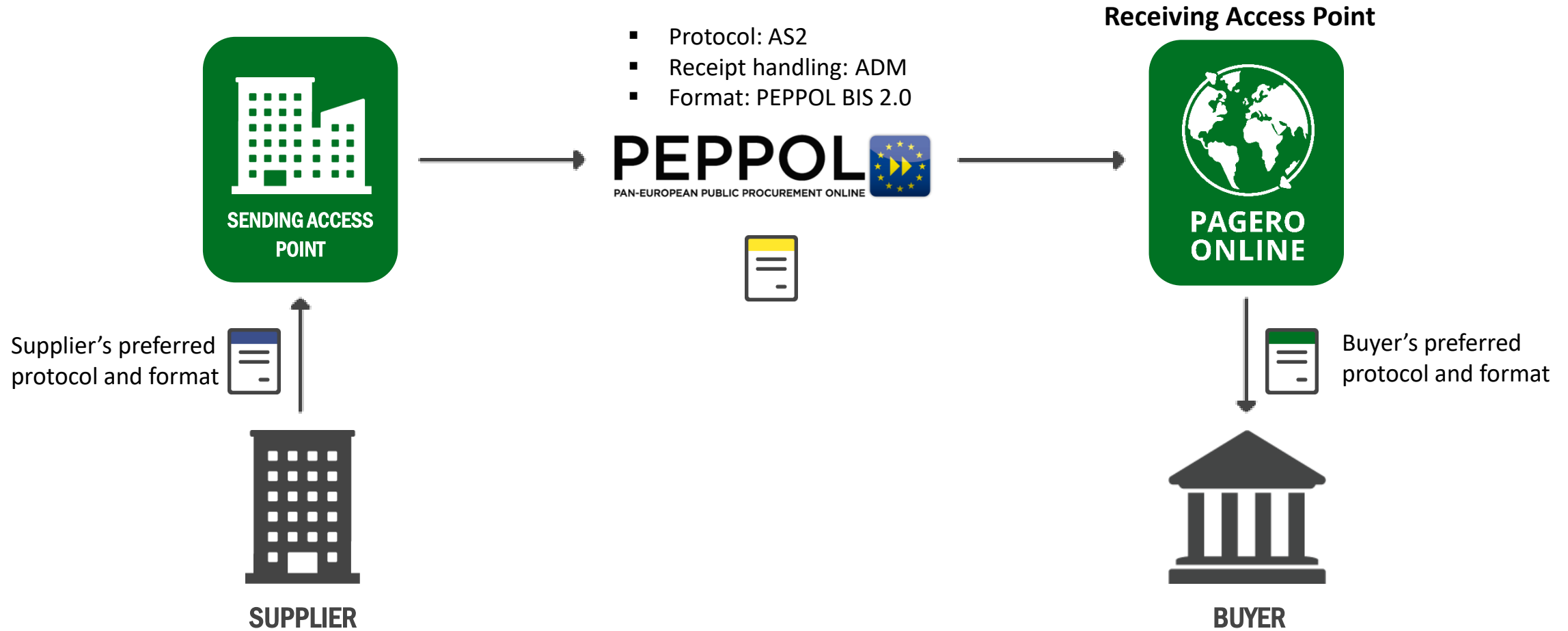- Best Practise in Norway
- Best Access Point in UK

130,000+

PEPPOL **RECIPIENTS** IN PAGERO NETWORK TODAY

30,000+

PEPPOL **SENDERS** IN PAGERO NETWORK TODAY

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Pagero and PEPPOL

Overview

- Protocol: AS2
- Receipt handling: ADM
- Format: PEPPOL BIS 2.0

Receiving Access Point

SENDING ACCESS POINT

PAGERO ONLINE

Supplier's preferred protocol and format

Buyer's preferred protocol and format

SUPPLIER

BUYER

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Elements in PEPPOL

- Service Metadata Locator (**SML**) – "*master yellow pages*"

    ○ Hosted and maintained by the European Commission (contracted to OpenPEPPOL)

- Service Metadata Publisher (**SMP**) – detailed information about the Buyers ability (processes, document types), see example of ELMA on the next slide

    ○ Hosted by approved service providers or PEPPOL Authorities

- Access Point (**AP**)

    ○ Hosted by approved service providers, ERPs, etc.

SMP

Example ELMA

Participant: CLAS OHLSON AS

Edit participant   Delete participant

Organization

ICD	NO:ORGNR (9908)
Identifier	937402198
Name	CLAS OHLSON AS

Endpoint

Endpoint	Pagero AB
Registration date	23.05.2018

Contact person

|	
Name	
Phone number	
Email	oscar.abrahamsson@clasohlson.se

Profiles

BIS04 V2 - PEPPOL BIS Invoice 2.0 (Profile 04A)
BIS05 V2 - PEPPOL BIS Billing 2.0 (Profile 05A)
EHF_CREDITNOTE 2.0 - EHF Creditnote 2.0 (Profile XXA)
EHF_INVOICE 2.0 - EHF Invoice 2.0 (Profile 04A)
EHF_INVOICE_CREDITNOTE 2.0 - EHF Invoice and Creditnote 2.0 (Profile 05A)

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Elements in PEPPOL

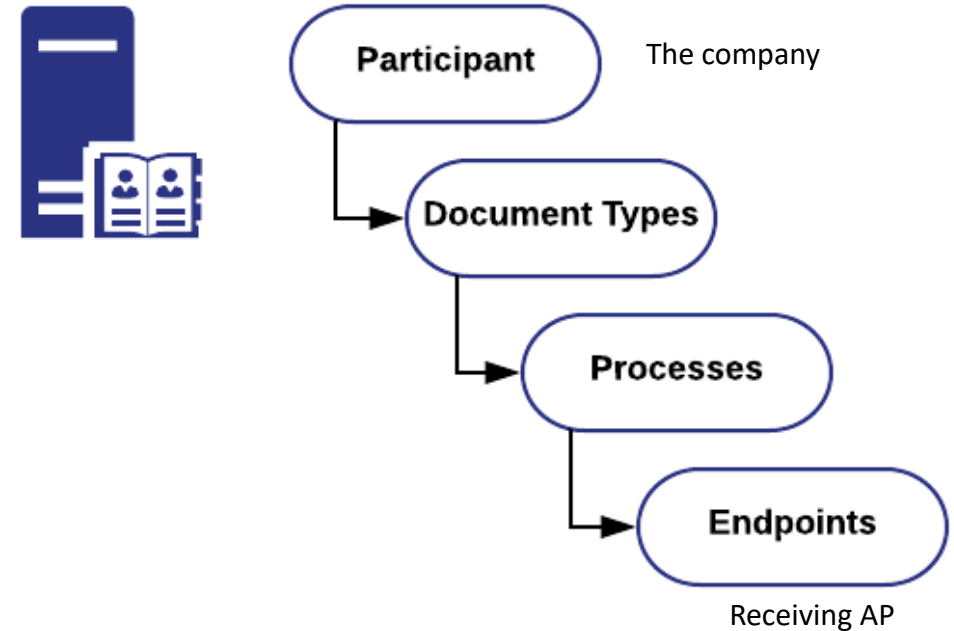## SML – Central Registration System for Addressing

- Central component in PEPPOL

- Register Participants in DNS

- Identifies approved SMPs and APs

- Supports test infrastructure with SMK

  (=SML for testing).

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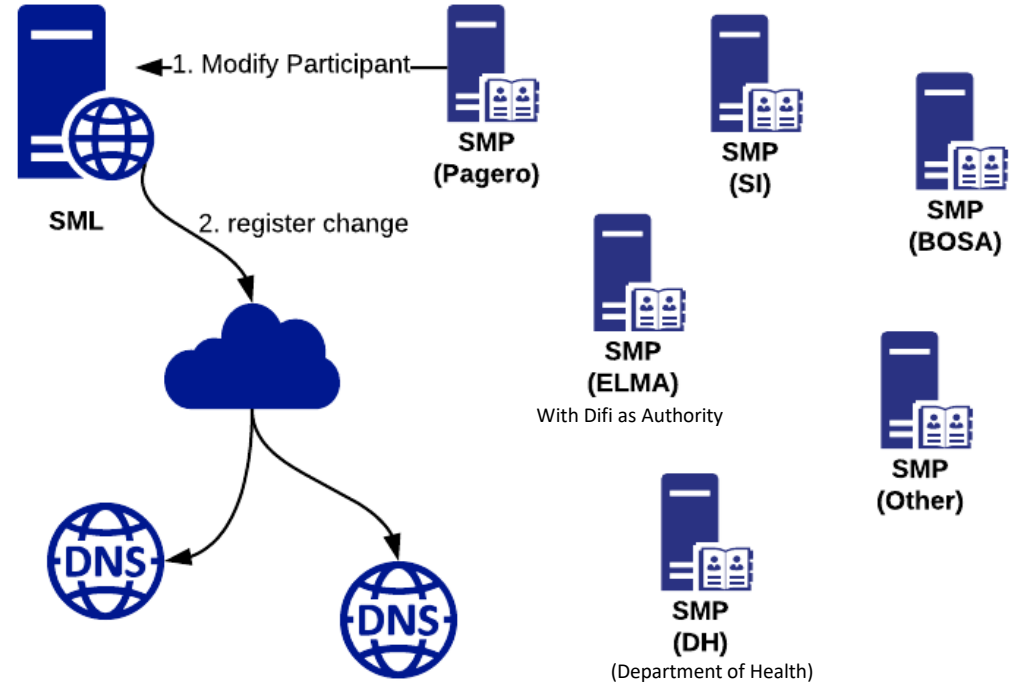
Elements in PEPPOL
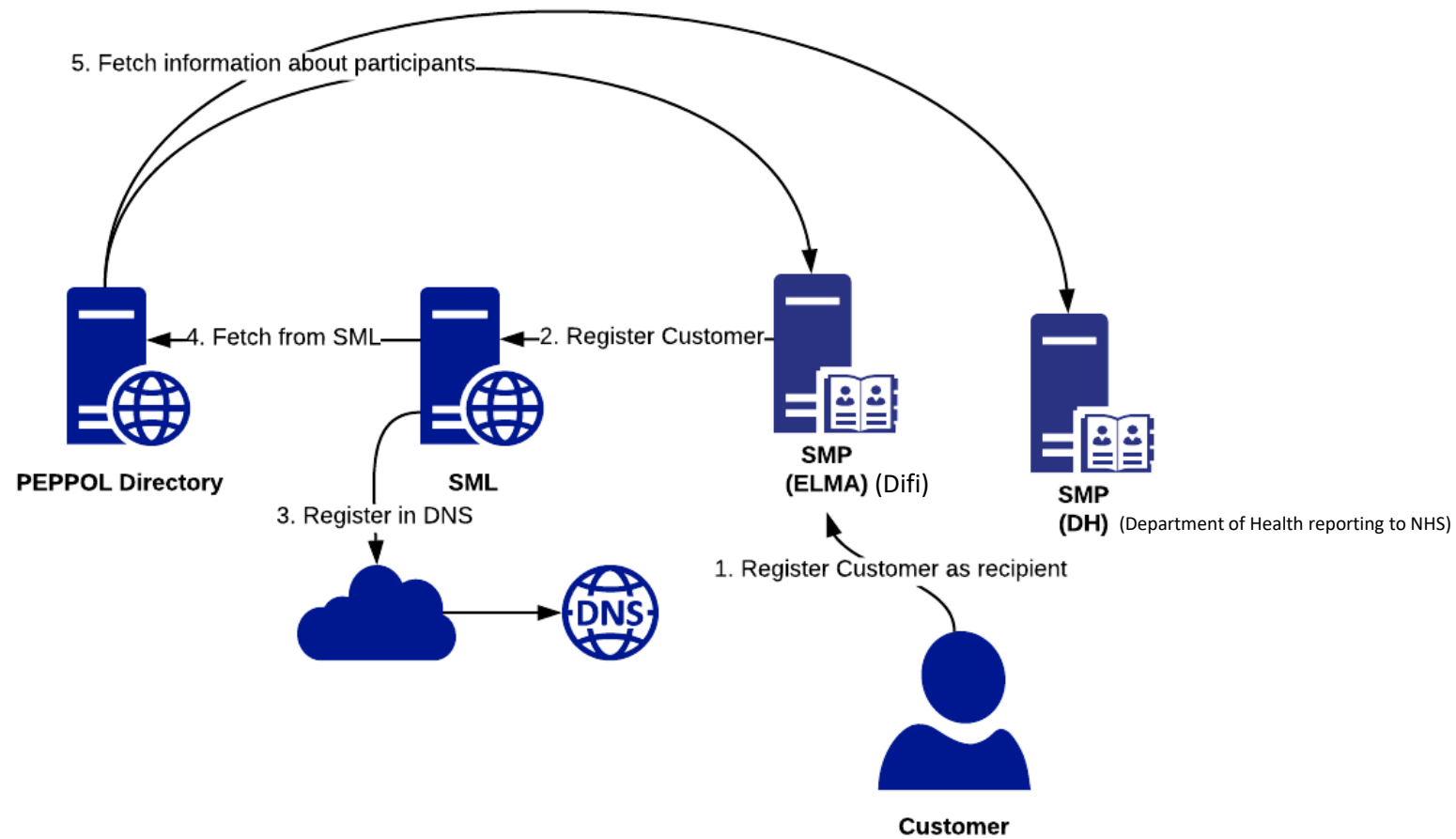
SMP – Service Metadata Publisher

- Participant Registry in PEPPOL

- Multiple SMP's in the PEPPOL infrastructure.

- Several PEPPOL Authorities demand use of their national SMP.

  (e.g. Difi as Authority requests use of ELMA in Norway)

- No standard API when updating participants in SMP.

- Changes to document types and endpoint information needs to be
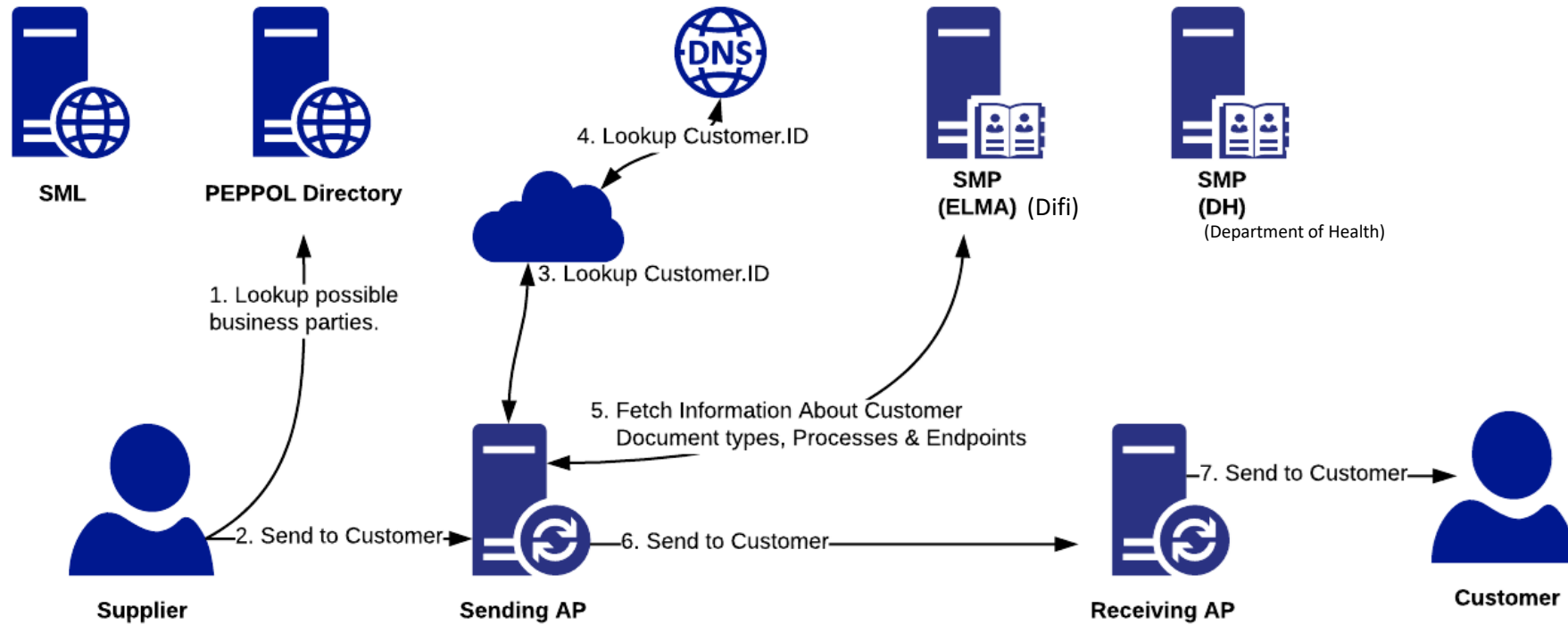
  updated for all participants in all SMPs.

Participant — The company

Document Types

Processes

Endpoints — Receiving AP

Elements in PEPPOL

Register participant

5. Fetch information about participants

4. Fetch from SML

2. Register Customer

3. Register in DNS

1. Register Customer as recipient

PEPPOL Directory

SML

DNS

SMP
(ELMA) (Difi)

SMP
(DH) (Department of Health reporting to NHS)

Customer

DNS = Domain Name System

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Elements in PEPPOL

Send document

Elements in PEPPOL

Format and Validation

Norwegian format including specific validation rules. E.g. an organization number must contain 9 digits.

EHF

EHF Common

PEPPOL BIS

OpenPEPPOL format

CEN BII

CEN BII standardizes e-Procurement processes, documents and content, supporting EU-wide interoperability, and covering the full procurement cycle, from notification in the pre-award phase, to payment in the post-award phase

Universal Business Language (UBL)

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The PEPPOL Landscape

PEPPOL Authorities exists in the following countries:

- Difi (Norway) [with ELMA required as SMP]
- ESV (Sweden)
- ERST (Denmark)
- Simpler Invoicing (Netherlands)
- NHS (UK)
- BOSA (Belgium)
- AGID (Italy)
- Ministry of Economics Division (Poland)
- IMDA (Singapore)
- Office of Government Procurement (OGP) (Ireland)
- KOSIT (Germany)

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The PEPPOL Landscape

Who is conformant according to BIS 2 Syntax:

- Sweden use PEPPOL BIS 2.0

- Belgium, but not conformant to the delivery process
  - Require manual tests
  - Validates and rejects inbound documents

- Poland, not really started yet

- Singapore, not really started yet

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The PEPPOL Landscape

Who is not conformant yet..

Who is not conformant according to BIS 2 Syntax:

- Norway (EHF)

- Denmark (OIO)

- Netherland (SI)

- UK (New Order and OrderResponse published)

- Italy

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PEPPOL

- Even though PEPPOL has become a mature network the infrastructure is still undergoing lots of changes.

  - Security enhancements in communication protocols

  - Certificate Infrastructure

  - Changes within existing communication protocols

  - Introduction of new communication protocols

  - Introduction of new PEPPOL authorities with new requirements
    - New document types
    - Requirements to the use of specific SMPs requiring integration that is not standardized within PEPPOL.

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PEPPOL Access Points

Reach is imperative

- Reaching **all** existing PEPPOL authorities is a strength (*there are differences…*)

    - Comply with requirements in technology

    - Comply with requirements in tax regulations and validation artefacts

    - Routines and contacts when working with the different PEPPOL authorities

- Knowledge and experience in cross border traffic is a benefit for the next phase

- Support global business ID's is important to take in to consideration

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PEPPOL

- Support the most common document types, to handle various business processes
    - Catalogue
    - Order
    - Order Response
    - Despatch Advice
    - Invoice
    - Invoice Response
    - Payment

- Order Change & Order Cancellation support being implemented

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PEPPOL

- PEPPOL is still undergoing a lot of changes in the format syntaxes -> requiring investments in both resources and time to stay compliant.

- New format syntax versions are introduced regularly

  - Successfully moved all customers from BIS version 1 to version 2. (...3)

  - Help customers identifying compliance issues before transition.

    - Automatically monitor issues followed by report

    - Help customers with enrichment when they are not capable of delivering the required content themselves

  - Experienced integration department securing quality in transformations

- Need to update all participants in different SMP's with non-standardized API's when mandatory BIS format versions are introduced. In ELMA manual login is required.
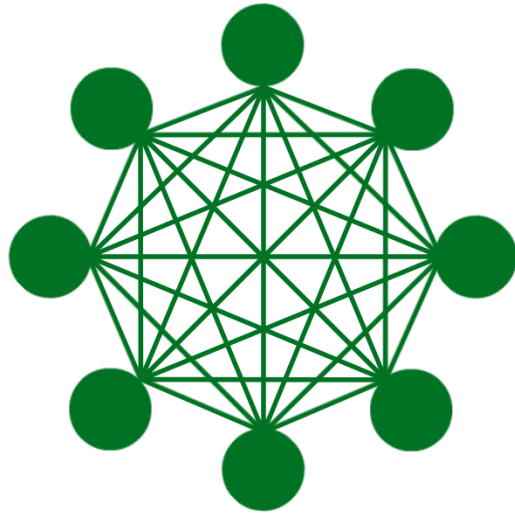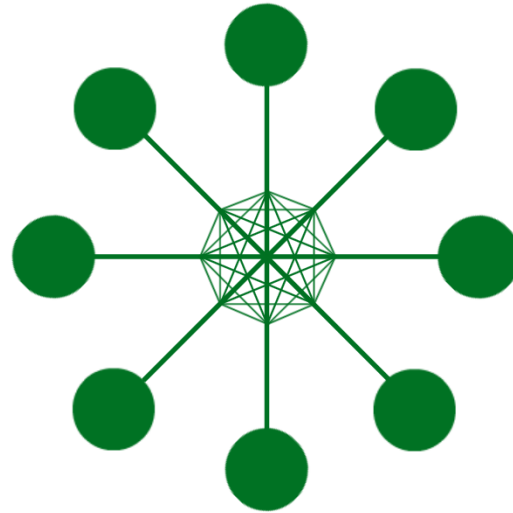
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PEPPOL

- Different PEPPOL Authorities might have extensions to the PEPPOL BIS documents.
  - PEPPOL BIS Version 3 might decrease the number of country specific versions.
  - Will most likely still exist within Europe and in new countries joining PEPPOL outside of Europe.

- It is important to offer a sophisticated and always up to date validation engine of the format that
  - Supports the standard PEPPOL BIS
  - Supports extended format syntaxes
  - *Basically a validation of the format that is received from the SMP*

- Certain customers or ERP systems do not have the capability to stay updated with all the changes in format syntaxes, validations and infrastructure.
  - Necessary to ensure backwards compatibility between versions for partners and customers.

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Challenge #1: Network vs point-to-point

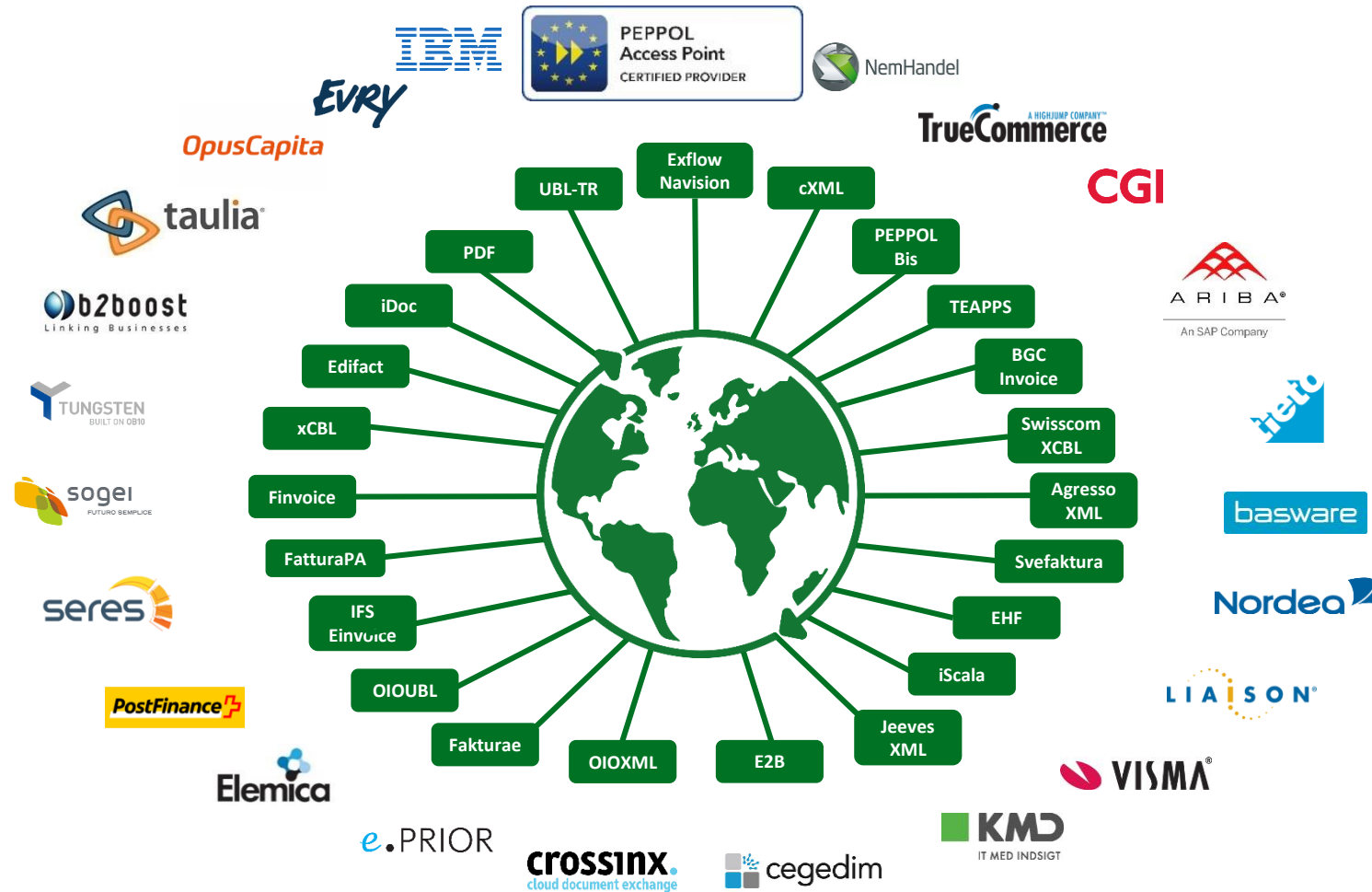Network Evolution

Point-to-point

Few-to-few

Many-to-many

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Challenge #2: Electronic transaction (B2G)

Countries

NOW			SOON		LATER	
Austria	Italy		Canada		Germany	
UK	Portugal		Belgium		Czech Republic	
Spain	Norway		Netherlands		Ireland	
Sweden	Slovenia		Poland		Lithuania	
Turkey	Denmark		Estonia			
Switzerland	Finland		Iceland			
France	Singapore		USA			

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Challenge #3-4: Multitude of Formats and Service Providers

Our World (B2G and B2B)

Value Added Services

HANDLE YOUR ENTIRE FLOW VIA ONE CHANNEL

- PDF invoice via email
- Pagero Data Capture
- External Print
- E-reminders

MINIMISE MANUAL ERROR HANDLING

- Validation
- Enrichment

FULFIL AUDITOR- AND GOVERNMENT'S DEMANDS

- E-archive
- Digital signature
- Extended reports

HANDLE MULTIPLE COMPANIES OR A GROUP STRUCTURE

- Multi-company support
- E-netting
- Payment Online

ACCURATE SPEND MANAGEMENT

- Contract Lifecycle Management
- Validation and Deviation handling
- Dashboard
- Statistics Service

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PEPPOL

PEPPOL & B2B Commerce – Knowledge

➢ High overall knowledge of PEPPOL ensures proper on-boarding.

➢ Active membership within the PEPPOL organization and in different work groups is key for knowledge, co-operation and success.

➢ A Service Provider (SP) can help you reach PEPPOL Access Points and also facilitate B2B commerce – globally.

Thank you!
jonas.edlund@pagero.com
karan.shankar@pagero.com

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