



PEPPOL Deliverable D4.1 Standard Basic eOrdering Format and Data Structure



Version 1.2



PEPPOL WP4 2009-07-07



Borderless eProcurement
Let's make it happen!

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Pending EC approval

2 Background

2.1 PEPPOL Project

PEPPOL (Pan European Public Procurement On Line) is a three-year (May 1st 2008 – April 30th 2011) pilot project under the European Commission's CIP (Competitiveness and Innovation Programme) initiative. The vision of the PEPPOL project is that any company and in particular small and medium-sized enterprises (SMEs) in the EU can communicate electronically with any European governmental institution for the entire procurement process.

Following a specification phase (project year 1) and a development phase (project year 2), PEPPOL will run real life pilots (project year 3) involving at least the countries that are partners of the project but possibly also other countries.

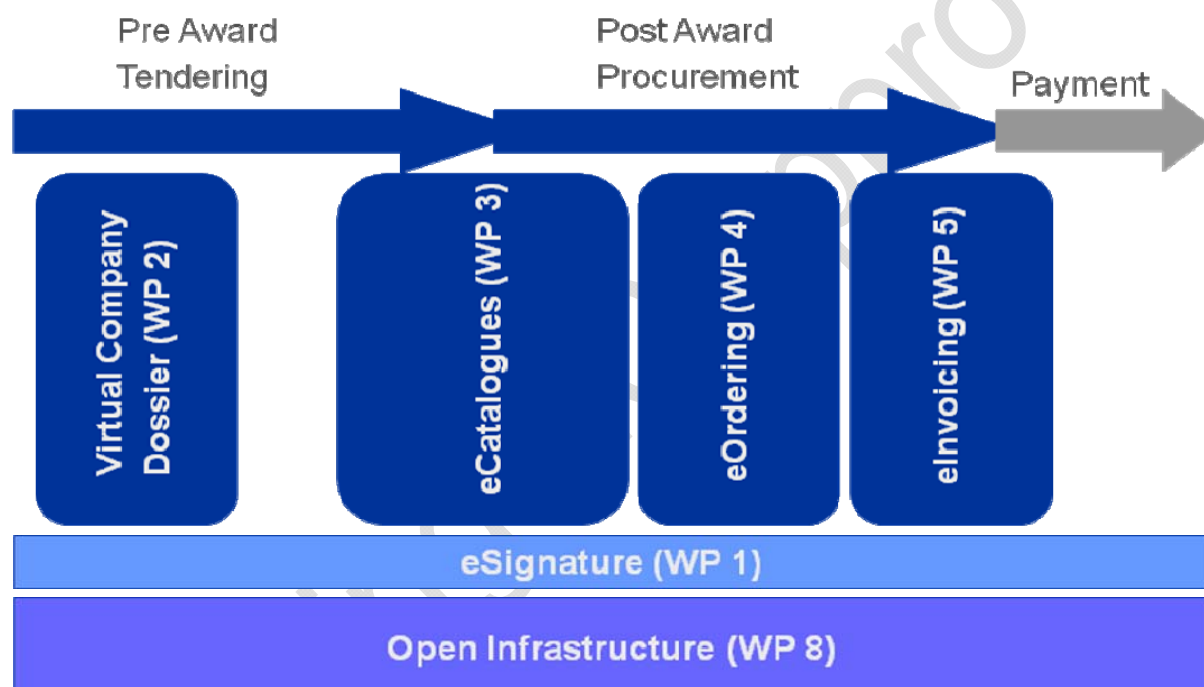


Figure 1: Structure of PEPPOL project

The structure of the PEPPOL project is shown in Figure 1. In addition to the work packages (WP) shown in the figure, WP6 is project administration and WP7 results dissemination. Following invoicing, payment is the last step, which however is outside the scope of PEPPOL and assumed to be handled by existing payment systems.

E-procurement processes may be manual or automated, or combinations of the two. For example:

- Tendering (pre-award) is today a typically manual process:
 - Electronic documents are meant to be read by humans (e.g. PDF).
 - Documents are submitted and read following manual work processes.
 - More automated processes for e-tendering are envisaged but not within the timeframe of PEPPOL
- Post-award (ordering, invoicing) may be automated or manual

- In the manual case, electronic documents are sent by manual processes, addressed to an actor where a person will read the documents (e.g. a PDF invoice).
- In a fully automated case, the originating system will generate a structured document (typically XML) and ship this off to the receiver, where the document will be handled automatically by the receiver's system. Manual intervention may be kept at a minimum.

PEPPOL mainly addresses the automated case; it is a system integration project focusing on how to automatically exchange structured information between the IT systems of the actors involved.

Correspondingly, PEPPOL has no WP addressing tendering in general; only the aspects of VCD (virtual company dossier) and e-catalogues are covered. Since e-signatures are particularly important for tendering, the e-signature WP (WP1) has assumed responsibility for tendering pilots that are sufficiently advanced to show interoperability even in this phase.

Virtual company dossier (VCD) covers interoperable solutions for utilization of company information (possibly including roles and authorizations) that is already registered, in order to reuse this information in electronic tendering processes across Europe. WP2 in PEPPOL will in particular focus on service interfaces and data structures for system integration towards the information sources, and to convey the information between the systems of the parties involved in the tendering process. Interactive, online solutions to business registers are not the main scope. Results from the EBR³ and BRITE⁴ projects will be utilized.

E-catalogues can be used in both tendering and ordering. WP3 in PEPPOL focuses on data structures and interfaces for catalogues suitable for automated exchange between systems, representing products, their specifications, and associated information such as price. PEPPOL will build on existing work in the area. Referral to standard product codes and other nomenclature and semantic information is necessary, although not specifically addressed by PEPPOL. E-catalogues intended for human use (such as PDF-format brochures) are mainly out of scope.

WP4 and WP5 address ordering and invoicing processes respectively. For these WPs, automated transfer (interfaces, data structures) for system to system communication is the main focus. Electronic documents intended for human processing (such as a PDF invoice) are mainly out of scope.

Catalogue, order, order confirmation, and invoice will in PEPPOL be based on the NES profiles of UBL (Universal Business Language). PEPPOL contributes strongly to the ongoing standardization work in CEN ISSS WS/BII. This means that all business documents (at least for system to system communication) are XML-based.

The cross-cutting WP1 and WP8 handle e-signatures and transport infrastructure respectively. The transport infrastructure shall explicitly support system to system integration of procurement solutions across Europe. An actor that wants to participate in cross-border public procurement (buyer or seller side) shall integrate towards this infrastructure.

While PEPPOL infrastructure provides transport and transport security for e-procurement, e-signatures must work end-to-end between the actors that do business. Thus e-signature interoperability is covered by a separate work package - WP1.

2.2 Scope of Work Package 4 – eOrdering

2.2.1 Objectives and Goals

The objectives of PEPPOL WP 4 – eOrdering are set by the stakeholders in the pilot i.e.

³ <http://www.ebr.org/>

⁴ <http://www.briteproject.net/>

Pilot owners: The sponsors i.e. EU commission and the participating countries.

Pilot participants: Countries participating in PEPPOL WP 4.

Pilot customers: stakeholders that gain benefits from the pilot i.e. EU member countries not participating in PEPPOL WP 4.

Pilot owner objectives can be deduced from the I2010⁵ strategy and CIP ICT PSP⁶ project call and country specific reasons to sponsor the project:

Impact – support a single European market, competitiveness and innovation by

- **Removing barriers** for cross border eOrdering
- **Learning** through implementation and operation of eOrdering pilot systems
- **Raising awareness** of eOrdering benefits through a pilot

Pilot participant objectives can be deduced from country specific reasons to participate in the project:

- **Leveraging existing solutions** to handle cross border eOrdering
- **Create traction** on interoperability model, thereby securing the investment in the chosen eOrdering interoperability model
- **Influence** on standardization activities in such a way that they meet the requirements of the participant

Pilot customer objectives can be deduced from country specific reasons to join the reference group:

- **Learning** in order to mature their own organizations by following the PEPPOL eOrdering project.
- **Cost saving** by adopting a proven eOrdering interoperability model

2.2.2 Scope

WP4's scope is electronic ordering in cross-border public procurement and analysis of relevant studies, standards and legislation.

In the design phase, a loose definition for cross-border has been used. In a typical case a public authority and an economic operator are situated in different countries. However, there are also cases where an eOrdering system is operated in a different country than the public authority and/or the economic operator. In the scope of WP4 there are all such cases when the "cross-border" characteristic can be a barrier to interoperability between a public authority and an economic operator's systems.

The eOrdering process as part of the electronic procurement starts with issuing of an order by a buyer and ends with receiving an order response and delivery instructions of the ordered goods or services from the economic operator. The order and delivery related documents in scope are:

- order
- order response
- order change / cancelation (buyer)
- dispatch advice.

⁵ http://ec.europa.eu/information_society/eeurope/i2010/strategy/index_en.htm

⁶ http://ec.europa.eu/information_society/activities/ict_psp/index_en.htm

In the WP4 pilot all orders issued are based on the corresponding product and supplier information in eCatalogues. No punch-out functionalities will be included. The management of eCatalogues is the responsibility of WP3 and outside the scope of WP4. Also invoicing is outside of WP4.

There is a strong desire by both public administrations and economic operators for automation and efficiency across the procurement process. This requires good interoperability - that is an information and process model ensuring a flow of information between different parts of the process and models ensuring data synchronization. The interoperability requirements have been analyzed according to the European Interoperability Framework.

The situation in the participating countries has been the basis for design of piloting. In some countries there are many public authorities with their own systems, in others the situation is centralized. The scope in eOrdering pilot has been limited to the centralized, most important systems in a country. This will give good understanding of the challenges and how to solve them and is the basis to include more public authorities with their eOrdering systems and economic operators into the PEPPOL network later.

2.2.3 Approach

Two separate outcomes for WP4 have been specified:

- Interconnecting the eOrdering related systems of public authorities and economic operators cross-border in piloting countries
- Making available open source client software together with tools to deal with eOrdering for both public authorities and economic operators (including SME's).

Testing of all specifications and software delivered regarding interoperability between public authorities and economic operators will be done. Also "how to" guides and training material will be delivered free of charge.

The basic approach is to start with simple concepts and get more advanced later.

WP4 has used previous work in the area and seeks cooperation with current initiatives. Identification and review of relevant studies, standards and legal requirements have been done and results will be summarized later in this report.

Analysis of the situation in the piloting countries with compared study of the features and order-related documents is done and is the basis for interconnecting existing systems. Both the processes and data elements in the processes have initially been studied with the gap to relevant UBL⁷ / NES-UBL⁸ specifications, which are close to specifications issued by CEN ISS WS/BII⁹. The corresponding analyses and studies will be done in new countries entering into WP4 as a result of the enlargement process.

The interconnection of systems will be based on the standardization work done in CEN ISS WS/BII. BII profiles are still under work, but cooperation with the CEN workshop has started. The cross-border profiles and data format will be according to BII specifications. The necessary conversions between common format and local formats will be done either in national infrastructures or local systems. The CEN ISS WS/BII has already established a work group for cooperation with pilot projects. The objective of the workshop and the timeframe of 3 years make it a perfect cooperation partner. The CEN ISS WS/BII will also give tools to validate common content; country specific elements must be validated within local systems.

⁷ Universal Business Language: http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl

⁸ Northern European Subset: <http://www.nesubl.eu/>

⁹ Workshop on "Business Interoperability Interfaces on public procurement in Europe": <http://www.ds.dk/en-GB/Sectors/ICT/Bii/Sider/default.aspx>

The piloting organizations will be selected by the piloting countries on the basis of the existing or future agreements with economic operators.

Pending EC approval