



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

9 Annex

9.1 As-is Situation in other European Countries

The following chapters give an overview of existing systems in countries not (yet) directly involved in the PEPPOL project.

9.1.1 Belgium

9.1.1.1 Overview

The Federal Public Services of Information and Communication Technologies (FedICT) is the Belgian public organization responsible for defining the eProcurement federal recommendations. These recommendations are applicable in all three economically autonomous regions of the country (Brussels-Capital Region, Flemish Region, and the Walloon Region). In particular, the role of FedICT is summarized below:

- develop a common Belgian strategy for eGovernment projects
- establish uniform IT standards, including technical architecture and implementation methodology
- assist federal public departments to implement the strategy
- monitor the execution of eGovernment projects and services

9.1.1.2 System(s)

JEPP launched during the last quarter of 2002

- Common platform capable of hosting several **eNotification** portals
- FedICT, MoD and BDA portals currently hosted
- Web-based approach
- Microsoft Technologies utilised
- Current version supports:
 - electronic **publication of notices** and invitations to tenderers
 - re-organisation of **back-office processes**

9.1.2 France

9.1.2.1 Overview

The government of France has set the target to modernise its public procurement mechanisms, through the enforcement of eProcurement throughout the whole French public sector. In this respect, the French parliament approved (in 2002) the New Code for the Public Procurement (NCMP), which came into force in January 2004. Furthermore, in March 2004, the French

Ministry of Finance announced the creation of a Central Purchasing Body, aiming to assist contracting authorities for **electronically purchasing their commodities** (stationary, IT equipment, furniture, etc.), under centrally arranged framework contracts (initially effective only for the French Ministry of Finance). According to the NCMP, all contracting authorities must be able to **accept tenders submitted electronically** by 1st January 2005. The NCMP defines four types of contract awarding procedures:

- Calls for tenders, foreseeing an open or restricted procedure
- Negotiated procedure, through competition with or without notification
- Simplified competitive dialogue, where the procurement agency specifies its needs with the aid of selected suppliers, before creating a competition
- Contracts without prior formalities, for low-cost standard recurring purchases for common frequent commodities

9.1.2.2 System(s)

The Defence Public Sector Marketplace (**DPSM**) which integrated two armament portals was launched in 2003, facilitating the organisation of competitions, the publishing of call for tenders notifications, and the submission of tenders:

- **ixarm.com**: used for the procurement of arms, ammunition and other combat related supplies
- **achats.defense.gouv.fr**: covering the remaining defence procurement needs (furniture, construction works, fuel, medical equipment, etc)

There exists support for private network establishment, between all involved parties, for secure repetitive purchases (e.g. parts of Rafale fighting aircraft) eAuction and eCatalogues services are currently offered through a third party platform

9.1.3 Spain

9.1.3.1 Overview

The Basque Country is an autonomous community (2.100.000 habitants) of Spain, with its own regional government, which exercises several authorities including public finance, education, culture, health, security, industry, etc. The Basque Government has an annual budget of €2.25 billion for public procurement, which represents a 33% of the government budget (€1.9 billion of operational costs and €350 million of real investment). The Royal Decree Law 2/2000 establishes the environment for public procurement in Spain. Three types of intermediaries are involved in the administrative procedure of public procurement of the Basque Government:

- Government Procurement Bodies (about 150): responsible for defining global government procurement needs for the Departments of the Basque government and decide on issues related to them
- Markets Commissions (about 100): responsible for assisting Government Procurement Bodies on legal issues
- Technical services (as many as the government departments and agencies): responsible for defining needs and consulting the previous two on technical issues

9.1.3.2 System(s)

- eContratacion eTendering

Currently supports **contract notification** and procurement of individual contracts

- eContratacion eMarketplace

A repetitive purchases system that currently supports **purchases under framework** agreements through supplier **eCatalogues**

- Suppliers Registry

Database of fiscal and juridical information about registered enterprises

- Procurement Procedure and Documentation File Manager

Tendering procedure management system

9.1.4 UK

9.1.4.1 Overview

9.1.4.1.1 England, Wales & Northern Ireland

- The UK public eProcurement rules, guidelines, and standards are primarily introduced by the Office of Government Commerce (OGC), an independent Office of the Treasury. The OGC was formed in 1999, with an aim to improve the efficiency of public procurement in the UK. The main activities of OGC comprise the following:
- Development of government market in UK following an efficient and transparent approach, for attracting both local and overseas suppliers
- Definition of guidelines and establishing of standards from existing eProcurement Practices, resulting in eProcurement platforms for the public sector, adopting the principles of equal treatment and openness
- Provision of efficient IT services for supporting the procurement business of contracting authorities
- Offering assistance to public administrations for developing their eProcurement systems in compliance with UK procurement legislation

9.1.4.1.2 SCOTLAND

The devolved Government for Scotland is responsible for most of the issues of day-to-day concern to the people of Scotland, including health, education, justice, rural affairs, and transport.

Procurement (including eProcurement) is a devolved matter for the Scottish Government which has responsibility for developing and advising on procurement policy for the public sector in Scotland. The Scottish Government launched the eProcurement Scotl@nd (ePS) service in 2002 which provides Scottish public sector bodies with range of solutions that support the full purchase to pay cycle. ePS is an approach to public sector procurement that delivers rapid, sustainable and significant benefits to participating organisations. ePS drives forward commitment to public sector excellence, focuses on achieving the best value for government, for business and the people of Scotland.

9.1.4.2 System(s)

Dynamic Trade Centre (DTC)

Supports the eSourcing cycle from eTendering through to eAuctions and the contract/performance management aspects of contracts.

PECOS

A dynamic purchase-to-pay system that supports transactional procurement activities such as hosting eCatalogues and punch-out connections; raising, approving and transmitting eOrders; recording goods/services received; and, optionally processing invoices.

Regio

System that enables the validation & management of eCatalogues from suppliers to ensure that they are in the correct format for upload to Pecos.

9.2 IDABC e-Invoicing and e-Ordering project³⁷

The IDABC e-Invoicing and e-Ordering project started in the summer of 2007 as a joint initiative from the DG Internal Market and Services and the DG for Information Technology. The overall project objectives are twofold: a first objective is to contribute to the use of electronic invoicing in the public sector in line with the objectives of the i2010 e-Government action plan and the e-Procurement action plan. A second objective is to contribute to the establishment of the European Electronic Invoicing Framework (EEI), which is under the responsibility of the Expert Group on e-Invoicing (see http://ec.europa.eu/internal_market/payments/einvoicing/index_en.htm for more information).

On the one hand, business requirements for e-Invoicing in a public procurement context and cross-border environment are being gathered. As a result, an interim report with the identified business requirements was provided in spring 2008 and after the summer of 2008 a final report will be published by the DG Internal Market and Services.

On the other hand, a pilot project has been launched to setup an e-Invoicing and e-Ordering system between the DG for Information Technology and a number of suppliers. After having finalised the feasibility study, the DG for Information Technology recently started the development of the proof-of-concept, which will be run as a pilot in the beginning of next year. In the first phase suppliers will only send invoices and later on the dispute and credit note process will be implemented. It is estimated that by the end of 2009 the e-Ordering process will complete the pilot.

9.2.1 Objectives

The objective is to contribute to the use of electronic invoices in the public sector according to the i2010 e-Government action plan and the e-Procurement action plan. Furthermore, the action should contribute to establishing an electronic invoicing (eInvoicing) Framework within the EU which allows for the exchange of electronic data by all actors in the supply chain. To this end, the project will:

1. Establish the business requirements for eInvoicing systems between public administrations and suppliers in a cross-border environment. An eInvoicing system used successfully by public administrations will have to be widely accepted by its suppliers. Consequently the business requirements of both sectors should be represented in the technical development process and the standards used. A standards-development process that is based on a business modelling methodology makes it possible to capture, analyse and describe the standardised business processes and message definitions of the involved sectors in a syntax-independent way and is therefore the basis for interoperability and openness for future developments.
2. Test through a pilot the use of electronic exchange of invoices and orders between public administrations and suppliers in a cross-border environment. The Commission is well placed to act as a testing environment for a cross-border eInvoicing and eOrdering system. Firstly, due to its multi-country procurement relations a Commission pilot will allow a realistic simulation of the difficulties of cross-border electronic interactions. Secondly, the evaluation of a public eInvoicing and eOrdering system would provide valuable experience and clear specifications that should be made available to Member States together with open source components including design and architectural aspects. Finally, given the procurement volumes of the EU institutions, it can be expected that a long term automation of ordering and invoicing processes after the pilot, in addition to generating savings and improving the performance of the administration will act as a lever to increase the use of eInvoicing in the European market place.

³⁷ IDABC Work Programme Sixth Revision (2009), <http://ec.europa.eu/idabc/servlets/Doc?id=32115>

The strategy to reach the objective follows two phases:

- a first phase, resulting in an inventory of business requirements which have been used for the development of the global implementation plan and will be used to develop a preliminary prototype focused on basic eInvoicing functions and that will serve as an input for an EU eInvoicing Framework.
- a second phase which includes the evaluation of the prototype developed in the previous phase with a selected number of Commission suppliers and two development sub-phases aiming to cover respectively a more complex eInvoicing system and eOrdering functions.

The project therefore focuses on:

- establishing the business requirements, for electronic invoicing systems between public administrations and suppliers
- formalising the business requirements following a business modelling methodology and taking account of relevant technical, administrative and legal aspects in a cross-border environment
- reviewing the available standards, eInvoicing and eOrdering applications and technical capabilities of the involved sectors, taking into account the information provided by the eInvoicing Task force of DG Internal Market and Services,
- analysis and re-use of existing implementations and good practises applied in Member States,
- definition of a flexible architecture allowing to support the interoperability with “off the shelf” business software as well as with in-house developed back-offices,
- definition of procedures that rule the interactions for the invoice and order exchange taking into account the international standards and best practices.
- respect of the legal and fiscal rules, legal and fiscal implications of operating in an international environment
- demonstrate the viability of such a solution implementing a prototype
- incremental development of a cross-border eInvoicing system based on the experience of NES countries using NES profiles 4 and 8 as a reference
- development of a cross-border eOrdering system based on NES profile 7

9.2.2 Rationale

The introduction of eInvoicing and eOrdering systems in public administrations would generate savings both for the public bodies as well as the suppliers interacting with it. Studies on the benefits and returns on investment amongst public administrations and companies point to enormous savings (approx. 100 – 200 bn. EUR/year for EU27) which are locked up in the supply chain of companies and public administrations. Often this is related to inefficient manual and paper-based processes and a lack of structured and timely information.

eInvoicing and eOrdering allows shifting from a manual, paper-based, error-prone processing of several thousands of transactions per year to an electronic, paper less but fully traceable and auditable workflow. It reduces considerably manual intervention and the risk of errors in particular by recording automatically all transactions and hence avoiding disputes as, for instance, to whether and when an invoice or order has been sent or suspended. The various actors concentrate on their “core business” of initiating or verifying transactions. Ultimately this can also have a positive impact on payment deadlines (better image of public administration, reduction of negative interests due to late payments, certainty over fiscal flows, improved cash flow and financing).

9.2.3 Scope

This action specifically addresses eInvoicing and eOrdering in the domain of Government-to-Business (G2B/B2G).

Including:

- The exchange (transmission/receipt) of electronic orders between the European Commission and its suppliers in a multinational context.

- The exchange (transmission/receipt) of electronic commercial invoices and related information between the European Commission and its suppliers in a multinational context
- Compliance with the relevant legal requirements, such as VAT and privacy law
- The requirements for electronic archiving of e-Invoices and e-Orders
- The control of invoice data via relation to order and goods receipt information
- The use a flexible open service oriented architecture allowing for interoperability with different suppliers and service providers.
- The definition and use of "standardised business processes" or "profiles" that can be consumed by a generic "back-office" (Financial and Accounting Systems)

Client systems:

Internal Commission systems; systems in private companies (suppliers and their intermediaries, in case of use of Service Providers) producing invoices and orders.

Users:

Private companies acting as suppliers of the European Commission (or Third Parties providing eInvoicing/eOrdering services), financial departments of DGs of the European Commission (and ultimately other international institutions (agencies...)).

Note:

The prototype will be evaluated with a pilot restricted to DG DIGIT and a selected list of suppliers that could be extended to other DGs of the European Commission and to several suppliers in a number of countries during Phase 2

9.2.4 Technical functionalities and approach

The first phase, as outlined in the objectives, focuses on establishing the business requirements for eInvoicing systems between public administrations and suppliers and carrying out a feasibility study for the development of an eInvoicing and eOrdering system. The study takes into account the various successful eInvoicing implementations in Member States, current market trends and comments from representative suppliers of DG DIGIT as well as the results of previous and ongoing studies conducted by DG MARKT. The main results of the first phase are the formalised business requirements (following a business modelling methodology) and the Global Implementation Plan.

As described in the Preparatory Report delivered in October 2007, the Preparatory and Feasibility Phases are executed in parallel but with synchronisation points to allow the availability of the input in terms of requirements necessary for the establishment of the Feasibility Study. A prototype will be produced to validate the proposals described in this document, that will be further refined at the end of the prototype (iterative approach in line with the adoption of the RUP methodology).

The contacts with the Member States during the Feasibility Study have focused on the evaluation of the possible re-use of available specifications and components of existing solutions (open source code, architectural choices or more simply experiences and good practises) made available by Member States, for instance, the implementation of eInvoicing done by the countries involved in the NES (Northern-European Subset of UBL) initiative.

The major initial risk the project has to handle is the level of collaboration and readiness of the suppliers to accept an eInvoicing and eOrdering solution.

In order to mitigate this risk, a pragmatic approach in the short-term is to first gain cooperation on a voluntary basis of a reduced supplier population. In the long-term and once a prototype has proven to

work properly the electronic exchange of invoices or orders can be enforced in calls for tender in order to increase the dissemination of the functionality among suppliers and across processes.

Obviously the willingness of participants to join the system will depend on the wide availability and easy access (low investment cost and low complexity) and geo graphical coverage of the system. This however, can only be achieved by addressing cross-border barriers and using a single common standard. Therefore it is in the interest of all involved parties to streamline their communication infrastructure and associated costs by opting for a single, common "language" for all eInvoicing and eOrdering related communications, whatever the business domain, the communication network and the counterparty (public administrations, financial institutions, clients, suppliers).

The consideration of the business requirements and business transaction models for the Commission pilot therefore helps to create "real" business standards.

For these reasons the key point of the chosen approach consists in:

1. the adoption of an incremental development which progressively makes available the support of more complex interaction and exchange of additional business documents;
2. the re-use of best practices and the reference to existing standards (NES) that have been developed and proven by some European administrations and that are referred in the ongoing activities for the development of an international standard solution via CEN – UN/CEFACT – ISO.

The detailed technical approach is described in the Feasibility Study and is based on:

- the establishment of an interchange format based on a common standard for electronic invoices from enterprises to public customers, based on NES 2.0 and taking into account the convergence of UBL towards UN/CEFACT, foreseen by mid 2009.;
- the identification and definition of the type of interactions from "Commission to suppliers" (e.g.: orders, confirmation of e-invoice reception, requests for correction of already sent e-invoices and credit notes, etc.);
- the identification and definition of the type of interactions "suppliers to Commission" (e.g.: order responses, invoice submission, credit note submission, request for invoice status etc);
- the definition of the type of interactions between the eInvoicing and eOrdering system and the "back-office" (Financial and Accounting Systems) of the public administration (e.g.: interactions caused by events generated in the "back-office" as the rejection during validation of a successfully received invoice or the suspension of payment deadlines);
- the definition of a "Service Oriented Architecture" within which the various interactions between the suppliers' systems, the eInvoicing and eOrdering system and the "back office" of the public administration might be designed as invocation of services;
- the use of allowed methods to guarantee authenticity of origin and integrity of content in line with Directive 2001/115/EC (Electronic Data Interchange, Advanced Electronic Signatures or Other Means);
- the e-Archiving solution;
- Definition of "Profiles", such as the profiles used within NES, which are normative descriptions of business processes and scenarios based on a common application of UBL within NES. Each profile documents a context specific use of the UBL constrained by business rules and recommendation for the use of the relevant UBL documents.

The DEVELOPMENT Phase has been divided into three steps:

Phase 1:

Phase 1 covers the design of the technical architecture and the implementation of a as a proof-of-concept of the Feasibility Study, based on NES profile 4 **prototype** (Basic Invoice Only) but extended via the support of interactions allowing the invoice sender system to request the status of an invoice. The profile developed during this phase will be supported for a limited period (initial pilot) and will be then replaced by the other two more complete profiles described in the other phases. Analysis of experience in other countries revealed problems deriving from the fact that the buyer had no formal

and consistent way of informing the supplier on the status of his invoice ("manual" interaction like phone calls, e-mail or letters were required).

Phase 2:

Phase 2a has the objective to test with a **pilot** the prototype developed during Phase 1 with a small number of Commission suppliers and in parallel to complete the analysis, design and development of the support of eInvoicing based on the NES Profile 8 (Basic Billing with Dispute Response). The supported interactions include the exchange of Dispute Response and Credit Notes. At the end of Phase 2a, a workshop will be organised to discuss the results of the pilot. Member State representatives who participate in the e-Procurement Technical Working Group will be invited together with representatives of the relevant suppliers and team members of the CIP pilots

Phase 2b has the objective to test with a pilot the solution designed and developed During Phase 2a with a small number of Commission suppliers and in parallel integrate the existing solution with **eOrdering capabilities**. The chosen approach foresees to complete eInvoicing interactions with eOrdering interactions in order to maximise the benefits for the business parties. NES Profile 7 (Simple Procurement), which includes support of e- Orders and e-Invoices, will be taken as a reference with the possibility to provide a variant which matches Commission specificities. At the end of Phase 2b a workshop will be organised to discuss the results of the pilot of the system developed during the previous phase. Member State representatives, who participate in the e-Procurement Technical Working Group will be invited together with representatives of the relevant suppliers and team members of the CIP pilots. One of the deliverables of the final phase will be the packaging of the lessons-learned and re-usable components of the developed solution to allow dissemination and re-use.

9.2.5 Potential beneficiaries

Benefits for the sector

1. Complement the activities of the Expert Group on eInvoicing with practical experience at the Commission as input to the establishment of the European Electronic Invoicing Framework
2. The **promotion of eInvoicing and eOrdering** in the public sector can drive the further digitalisation of business processes in the private sector.

Benefits for MS administrations

1. Prove the transferability and reusability of some national best practices and solutions in a true international environment
2. Experience, lessons learnt, specifications, tools and components published as open source reusable by any Member State.
3. Complement the effort done by Member States in the CIP pilots with input from the commission based on a real case.
4. Re-use of architectural aspects (the adoption of "Service Oriented Architecture" within which the various interactions between the Suppliers' systems, the eInvoicing system and the "back office" of the public administration might be designed as invocation of services)
5. Cost savings and improve efficiency

Benefits for citizens/enterprises

Enterprises (initially suppliers of the European Commission):

1. Savings via reduction of manual interactions and re-work; resources can be redirected to "core business" activities
2. Reduced payment delays for their invoices
3. Reduced costs of the adaptation of the suppliers' information systems

Benefits for other entities

Other Community Institutions will benefit of the experience done in a similar context with a high degree of re-use of technology, architecture and procedures

9.2.6 Financial sustainability

The initial goal of the project is the production of specifications and primary components that are not likely to need long-term sustainability.

However, the results will be available for any public administration to be re-used. In this case, those administrations should foresee budget for the roll-out.

E.g., if the project would be implemented in the Commission, the roll-out and maintenance of the eInvoicing/eOrdering solution would be funded by the European Commission's administrative budget. The application could be hosted at the Commission Data Centre (DG Informatics) in Luxembourg and they would have operational control for managing IT aspects relating to system availability, performance and reliability.

Pending EC approval