



# Specification



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## PEPPOL Post Award eProcurement ICT - Models

### BIS 6a – Procurement



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# 1 Introduction

This BIS is a result of work within PEPPOL project and is published as part of PEPPOL specifications.

This PEPPOL BIS provides a set of specifications for implementing a PEPPOL business process. The document is concerned with clarifying requirements for ensuring interoperability of pan-European Public eProcurement and provides guidelines for supporting these requirements and how to implement them.

## 1.1 Audience

The audience for this document is organizations wishing to be PEPPOL enabled for exchanging electronic orders and invoices, and/or their ICT-suppliers. These organizations may be:

- ▶ Service providers
- ▶ Contracting Authorities
- ▶ Economic Operators
- ▶ Software Developers

More specifically it is addressed towards the following roles:

- ▶ ICT Architects
- ▶ ICT Developers
- ▶ Business Experts

## 1.2 The PEPPOL BIS – short overview

The PEPPOL BIS (Business Interoperability Specification) provides a set of specifications for implementing PEPPOL business documents. The specifications enable any company to issue electronic documents that fulfil legal and business processing requirement within the European Union and the EEA<sup>4</sup>. It supports a subset of information that is used by most industries and enables users to issue documents (invoices, orders, etc...) that are valid for cross border trade within the European Union and the EEA.

The BIS specifications are based on set of requirements to provide support for “common business processes” and legal requirements. The BIS identifies a small set of information elements and business rules as a basis for supporting these requirements. A selection of business rules place restrictions on the data elements to fulfil the requirements and clarify choices otherwise left open to implementers.

The PEPPOL BIS does not support data that is specific to certain industries or may be required in other areas. Trading partners can bi-laterally or within a trading context, provide additional content and rules to meet their specific needs by using this BIS as basis.

The PEPPOL BIS can serve as a standardised communication agreement within a trading community and can be reused for new trading partners without any additional setup cost. Implementing PEPPOL therefore opens the ability to exchange documents with various trading partners without previous bi-lateral setup and thereby lowering the cost of connecting to each new trading partner.

PEPPOL approach is to promote the PEPPOL BIS as a procurement community agreement. One of the defining components of PEPPOL is the service registries (SMP) where trading partners register their capabilities to receive electronic documents according to specific BIS. This registration constitutes a community agreement: any PEPPOL partner can lookup these capabilities and engage in document exchange with the registered company without previous agreement or bi-lateral setup.

A PEPPOL BIS can be seen as part of a standardised communication agreement that deals with:

- ▶ sequence of document in scope
- ▶ content of documents (data elements)
- ▶ business rules that govern the exchange

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<sup>4</sup> EEA is the European Economic Area. Current members are Iceland, Liechtenstein and Norway.

PEPPOL specifications for the post award provide support for the procurement processes linking information flow from catalogues, through ordering into billing, see [PEPPOL\_PostAward] for more information.

### 1.3 PEPPOL BIS 6a – Procurement – scope

This PEPPOL BIS supports a process for buyers and suppliers to exchange orders and invoices with optional credit note or corrective invoice. It is intended to support transmission of electronic documents for processing in semi automated processes by the receiver. By use of linking orders and billing documents within the scoping of a profile it can be used as basis for increasing automated processing of orders and billing documents.

The intended scope for this BIS is:

- ▶ B2B and B2G
- ▶ Common business processes for cross industry and cross border procurement
- ▶ To enable both VAT and non VAT billing
- ▶ Regional procurement within EU and EEA
- ▶ Mainly for purchase of goods and services and/or services that can be itemized.

This PEPPOL BIS supports a set of “common use cases / process”. These are processes that are used widely or understood as being relevant for most companies. The main processes supported by this BIS are:

- ▶ Structured order of items or services
- ▶ Allocation of budgets
- ▶ Accounting
- ▶ Approval
- ▶ Invoicing
- ▶ Payment
- ▶ VAT reporting
- ▶ Auditing

This PEPPOL BIS supports requirements by providing elements for information needed to meet the requirement. This BIS also provides a set of business rules to clarify content and implementers can use them as basis for validation where it provides business value.

### 1.4 PEPPOL BIS 6a – Procurement – benefits

In the area of orders and invoices, many procurement agencies are using customized implementation for each trading partner. This approach leads to a situation that addresses only the (few) trade relationships with large volume of document but leaves out the (many) small ones. By implementing capabilities of BIS 6a the procurement agency can reuse the investment for various trading partners, enabling them to engage smaller contract situations. Other potential benefits of using this BIS are, among others:

- ▶ Can be used by procuring agencies as basis for moving all orders and invoices into electronic form. The flexibility of the specifications allows the buyers to gradually automate processing based on different sets of identifiers or references, based on cost benefit approach.
- ▶ Enables parties to link seamlessly order and invoicing into a single process that can be used as basis for structured EDI like agreement that is usable for number of trading partners.
- ▶ SME can offer their trading partners the option of exchanging standardized documents in a uniform way and thereby move all orders or invoices into electronic form.
- ▶ Large companies can implement this BIS as standardized documents for general operations and implement custom designed bi-lateral connections for large trading partners.
- ▶ Can be used as basis for restructuring of in-house processes of procurement and accounting.

This PEPPOL BIS is based on the CEN/ISSS WS/BII Profile BII06 specification, see [BII\_Procurement].

## 1.5 PEPPOL BIS 6a - Procurement – summary

This PEPPOL BIS structure is based on the European Interoperability Framework 2.0. PEPPOL BIS applies the Framework within 5 layers as follows:

- ▶ Legal:
  - ▶▶ Enable both VAT and non VAT invoicing
  - ▶▶ The external environment of invoicing is governed by the legal regime on invoicing. Legal scope is the EU VAT Directive 2006/112/EC on the common system of value added tax (VAT) for supporting sales and purchase invoices.
  - ▶▶ PEPPOL provides methodology for supporting additional national legal requirements to the EU VAT Directive and applies therefore equally well to domestic trade as cross border.
- ▶ Organization (Organization/Business):
  - ▶▶ This PEPPOL BIS supports B2B and B2G
  - ▶▶ This PEPPOL BIS supports cross border, regional and domestic procurement in EU and EEA
  - ▶▶ This PEPPOL BIS can function as a standardized EDI agreement within a trading community
  - ▶▶ This PEPPOL BIS supports linking of business processes within the sending and receiving organization. This process can be linked into internal processes of both sender and receiver, which may differ for various reasons.
- ▶ Organization (Process):
  - ▶▶ This PEPPOL BIS supports a set of “common business processes” that are assumed to be supported by most. These are processes that are used widely or understood as being relevant for most companies.
- ▶ Semantic:
  - ▶▶ A minimum set of information elements required to fulfil legal requirements for an order, invoice, credit note and corrective invoice.
  - ▶▶ The set of information elements is assumed to be sufficient to support Organizational business and processing requirements stated above.
  - ▶▶ A CORE document (order, invoice, etc ... ):
    - Data model, a set of elements that the receiver MUST be able to process.
    - Business rules, a set of business rules that ensure a common way of processing the information elements. The rules are stated in a way that allows for automated validation of document instances. Issuer of documents cannot issue documents that conflict with these rules.

PEPPOL adds business rules on top of the data model to clarify certain design choices left open by the CEN BII. These choices are intended to lower the implementation threshold by limiting options for implementers and thereby increase interoperability of PEPPOL documents.
- ▶ Technical Interaction (Process and semantic implementation):
  - ▶▶ Binding to OASIS UBL 2.0, see [UBL]
  - ▶▶ ISO/IEC 19757-3 Schematron, for automation of document validation, see [Schematron]
  - ▶▶ XSLT Stylesheet for presentation of content, see [XSLT]
- ▶ Technical Interaction (eSignature Validation):
  - ▶▶ Not mandatory in this PEPPOL BIS. Not supported.
- ▶ Technical Transport: Based on BusDox 1.0, see [PEPPOL\_Transp].
  - ▶▶ PEPPOL Transport Infrastructure
  - ▶▶ PEPPOL requires all documents to be transported using the PEPPOL Transport Infrastructure.

## 1.6 PEPPOL Interoperability, conformance and testing support

Participants within the PEPPOL community must claim conformance to be able to register capabilities and participate in document exchange. Conformance is therefore expressed as requirements on the software solution implementing the BIS.

More information on testing support can be found at [PEPPOL\_PostAward].

## 1.7 PEPPOL Implementation support

This PEPPOL BIS is bound to UBL 2.0 syntax. PEPPOL provides a set of tools as implementation support. These include:

- ▶ Specifications of PEPPOL BIS 6a – Procurement (this document).
- ▶ Business rules and code lists.
- ▶ Schematron components for validation of business rules that apply to documents.
- ▶ Stylesheet for presentation of Core data elements.
- ▶ A HTML presentation of the CEN BII data model for browsing.
- ▶ Validation web site
- ▶ Example documents and test cases

Information on implementation support can be found at PEPPOL Post Award support page, see [PEPPOL\_PostAward].

PEPPOL has set up the PEPPOL Enterprise Interoperability Architecture (EIA) – that presents the PEPPOL artefacts in a repository. The EIA repository is a three dimensional matrix for organizing results of the project that you can navigate by clicking on the cells in the framework. For more information about the PEPPOL EIA, see [PEPPOL\_EIA].

The latest version of this document can be found in: Post Award eProcurement / ICT Architecture / Models.

## 1.8 References

[PEPPOL]	<a href="http://www.peppol.eu/">http://www.peppol.eu/</a>
[PEPPOL_EIA]	<a href="http://www.peppol.eu/peppol_components/peppol-eia/eia">http://www.peppol.eu/peppol_components/peppol-eia/eia</a>
[PEPPOL_PostAward]	<a href="http://www.peppol.eu/peppol_components/peppol-eia/eia#ict-architecture/post-award-eprocurement/models">http://www.peppol.eu/peppol_components/peppol-eia/eia#ict-architecture/post-award-eprocurement/models</a>
[PEPPOL_Transp]	<a href="http://www.peppol.eu/peppol_components/peppol-eia/eia#ict-architecture/transport-infrastructure/models">http://www.peppol.eu/peppol_components/peppol-eia/eia#ict-architecture/transport-infrastructure/models</a>
[CEN_BII]	<a href="http://www.cen.eu/cwa/bii/specs">www.cen.eu/cwa/bii/specs</a>
[CEN_BII2]	<a href="http://www.cenbii.eu">http://www.cenbii.eu</a>
[BII_Procurement]	<a href="http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII_profile_06_-_Procurement_v1.pdf">http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII profile 06 - Procurement v1.pdf</a>
[BII_Invoice]	<a href="http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII_profile_04_-_Invoice_only_v1.pdf">http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII profile 04 - Invoice only v1.pdf</a>
[BII_InvoiceModel]	An browsable HTML version: <a href="http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm010_Invoice;1.0;CENBII/D1.htm">http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm010 Invoice; 1.0; CENBII/D1.htm</a> and MS-Excel version: <a href="http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm010_Invoice;1.0;CENBII.xls">http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm010 Invoice; 1.0; CENBII.xls</a>
[BII_Order]	<a href="http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII_profile_03_-_Order_only_v1.pdf">http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII profile 03 - Order only v1.pdf</a>
[BII_OrderModel]	An browsable HTML version: <a href="http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm001_Order;1.0;CENBII/D1.htm">http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm001 Order; 1.0; CENBII/D1.htm</a> and MS-Excel version: <a href="http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm001_Order;1.0;CENBII.xls">http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm001 Order; 1.0; CENBII.xls</a>
[BII_CreditNoteModel]	A browsable HTML version: <a href="http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm014_CreditNote;1.0;CENBII/D1.htm">http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm014 CreditNote; 1.0; CENBII/D1.htm</a> and MS-Excel version: <a href="http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm014_CreditNote;1.0;CENBII.xls">http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm014 CreditNote; 1.0; CENBII.xls</a>



[BII_DebitNoteModel]	A browsable HTML version: <a href="http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm015CorrectWithDebit; 1.0; CENBII/D1.htm">http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm015CorrectWithDebit; 1.0; CENBII/D1.htm</a> and MS-Excel version: <a href="http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm015CorrectiveInvoice; 1.0; CENBII.xls">http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm015CorrectiveInvoice; 1.0; CENBII.xls</a>
[UBL]	<a href="http://docs.oasis-open.org/ubl/os-UBL-2.0/UBL-2.0.html">http://docs.oasis-open.org/ubl/os-UBL-2.0/UBL-2.0.html</a>
[UBL_Order]	<a href="http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-Order-2.0.xsd">http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-Order-2.0.xsd</a>
[UBL_Invoice]	<a href="http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-Invoice-2.0.xsd">http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-Invoice-2.0.xsd</a>
[UBL_CreditNote]	<a href="http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-CreditNote-2.0.xsd">http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-CreditNote-2.0.xsd</a>
[UBL_DebitNote]	<a href="http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-DebitNote-2.0.xsd">http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-DebitNote-2.0.xsd</a>
[Schematron]	<a href="http://www.schematron.com">http://www.schematron.com</a>
[XSLT]	<a href="http://www.w3.org/TR/xslt20/">http://www.w3.org/TR/xslt20/</a>
[DIR_2006/112/EC]	Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, found at: <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006L0112:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006L0112:EN:NOT</a>
[DIR_1999/93/EC]	Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures, found at: <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31999L0093:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31999L0093:EN:NOT</a>
[EIF]	European Interoperability Framework 2.0, found at: <a href="http://ec.europa.eu/isa/library/index_en.htm">http://ec.europa.eu/isa/library/index_en.htm</a> <a href="http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf">http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf</a>

## 2 Legal Interoperability

This chapter describes the legal scope for adoption and use of PEPPOL Business Interoperability Specifications (BIS) 6a (Procurement). The implication is that this BIS can only be used by Contracting Authorities (Customers) and Economic Operators (Suppliers) who reside in countries whose eProcurement legal frameworks are aligned with the requirements in this BIS.

### 2.1 Ordering

The process of ordering involves transmission of order and order response documents between trading partners. Legal issues for ordering are discussed in BIS 3a document. For more information please refer to [PEPPOL\_PostAward].

There are no additional legal issues for ordering within the scope of BIS 6a Procurement.

### 2.2 Billing

The process of billing involves transmission of invoice and optional credit note and corrective invoice documents between trading partners. This BIS provides support for calculation and reporting of VAT according to the relevant EU Directive and should provide necessary elements for national legal VAT requirements that apply for invoices issued to national and foreign buyers:

- ▶ Directive 2006/112/EC of 28 November 2006 on the common system of value added tax (hereafter referred to as 'Directive 2006/112/EC') is the main body of EU level legislation on eInvoicing. The Invoicing Directive 2001/115/EC, was incorporated into the VAT Directive (2006/112/EC) as from 1 January 2007.<sup>5, 6</sup>
- ▶ At a general EU level, the relevant directives referring to the procurement procedure are the directives 2004/17/EC and 2004/18/EC. National regulations, as well as the general regulations concerning e-commerce and e-signature are applicable to cross-border eInvoicing.
- ▶ This BIS aims to provide for information that is legally mandatory for invoicing in the EU member states. National requirements from one country cannot impose upon another country.

The process of billing involves transmission of invoice and optional credit note and optional corrective invoice between trading partners.

The legal requirements for the SubmitInvoice transaction BiiCoreTrdm010 in this BIS are the same as in BIS 4a - Basic Invoice only, further information can be found at [PEPPOL\_PostAward].

The legal requirements for a Credit Note, CorrectWithCredit transaction BiiCoreTrdm014 are the same as legal requirements for an invoice transaction BiiCoreTrdm010 already described in BIS 4a - Basic Invoice only, further information can be found at [PEPPOL\_PostAward].

The legal requirements for a Corrective Invoice, CorrectWithDebit transaction BiiCoreTrdm015 are the same as legal requirements for an invoice transaction BiiCoreTrdm010 described in BIS 4a - Basic Invoice only, further information can be found at [PEPPOL\_PostAward].

For more information please refer to [PEPPOL\_PostAward].

<sup>5</sup> See European Commission study: Analysis of Business Requirements for e-Invoicing in a Public Procurement Context. 2009.

<sup>6</sup> [DIR\_2006/112/EC]

### 3 Organizational - Organization/Business Interoperability

Organizational/Business requirements for procurement originate from the business context and the goods and services in scope for the procurement. These requirements reflect on the end-to-end communication between customer and supplier and enable linking of in-house processes between them. The business objective of electronic procurement is to achieve interoperation between the in-house business processes of the sending and receiving organization.

#### 3.1 Peppol as CEN BII extension

The Peppol project, has adopted the BII profile specification as basis for public procurement in Europe. For implementing the BII profiles PEPPOL has identified number of issues.

- ▶ In some cases the BII profiles provide options for entering data, e.g. in the case of addresses that can be entered either by providing address details or by using identifiers. PEPPOL makes a choice from those options to improve interoperability.
- ▶ The BII orientation towards compliance to the EU directive on VAT is different from the PEPPOL orientation. Whereas BII provides the necessary elements in the core profile specifications for complying with the EU directives on VAT, PEPPOL seeks to define rules that enforce compliance.
- ▶ BII is designed for cross border trade. For implementation it is however realized that all invoices are issued within the legal domain of a country and consequently need to comply with the legal requirements imposed on the supplier.
- ▶ It is the end goal of the project to promote wide spread adoption of electronic procurement by suppliers who supply governments in different countries. It is assumed that only those who already have considerable trade with the public sector across borders would adopt procurement solutions that only work for cross border trade and then use another solution for their domestic trade. Considering that most companies do most of their business domestically it is considered important that the solutions can be implemented as a single solution for domestic as well as cross border trade with different countries.

To address the above issues PEPPOL has made use of the extension functionality that is part of the BII profiles. The role of this extension is to enforce those choices.

#### 3.2 Organizational scope

In this BIS:

- ▶ a service provider acting on behalf of buyer / seller can issue / receive the document in question.
- ▶ any mapping done to / from in-house or internal network formats by either party or service providers on their behalf is out of scope for PEPPOL and is the responsibility of the relevant trading partner.
- ▶ the customer must be registered in a PEPPOL recognized SMP for receiving documents that this profile supports.
- ▶ This BIS provides support for semi automated processing of documents by the receiver and can be used as basis for automated processing of documents.

#### 3.3 Business requirements

The CEN BII workshop specifies a core document that is intended to meet legal requirements in all countries of Europe for documents originating abroad, as well as supporting most common business needs. In some cases the BII document does this by providing options. The PEPPOL project has identified some issues where it is beneficial to select from those and state as part of this PEPPOL BIS.

The business requirements that are valid for the different transaction implemented as part of this profile, have been documented as part of the relevant profile and can be viewed in [PEPPOL\_PostAward].

The business requirements identified are the following:

Org01 An invoice MUST refer to the order.

Org02 A credit note MUST refer to the invoice being credited.

Org03 A corrective invoice MUST refer to the invoice being corrected.

## 4 Organizational - Process Interoperability

### 4.1 CEN ISSS WS/BII Profile

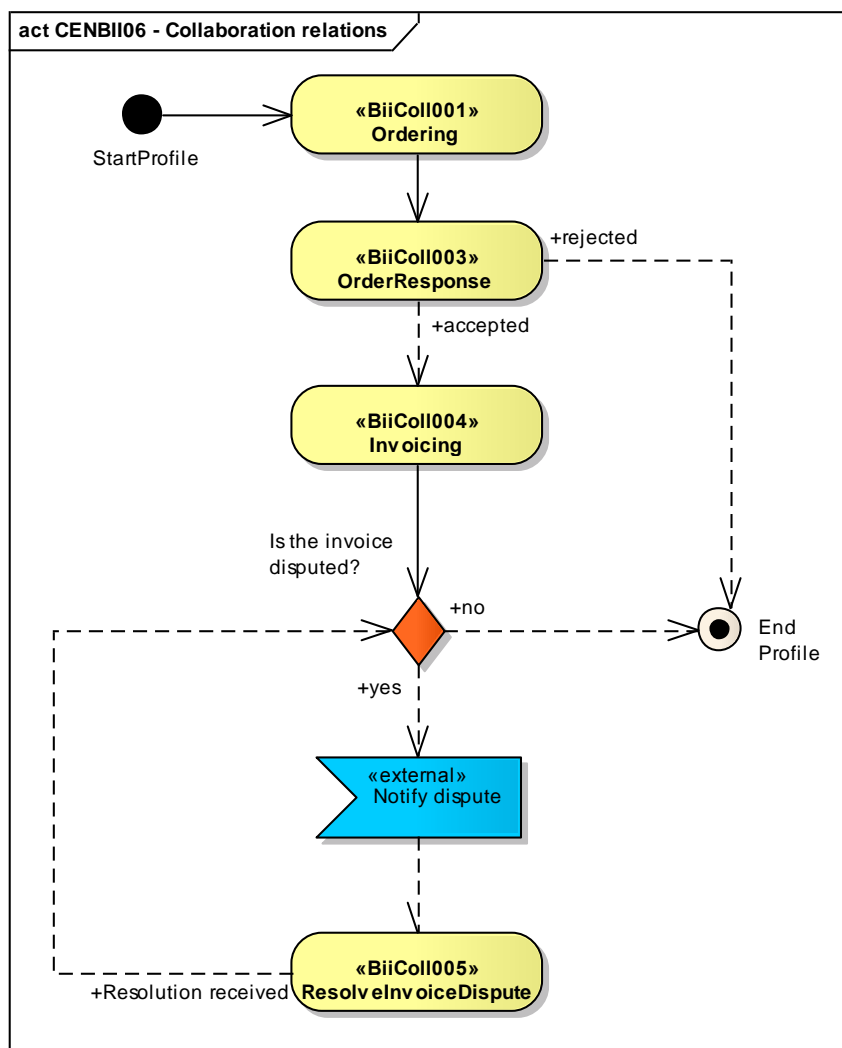
Documents need to be exchanged between the Economic Operator and the Contracting Authority in a specified process that is understood, agreed and supported by both parties.

The CEN ISSS WS/BII architecture design is intended to support object-oriented implementations. This is achieved by grouping messages into objects that can be arranged differently in various profiles. These objects are called collaborations and they may contain one or more message transactions. These objects can be reused in different profiles. The BII transaction data model is a specification of the data that is sent between the trading partners.

The organizational process (transaction choreography) for PEPPOL Business interoperability Specification Procurement 06a is defined by the CEN ISSS WS/BII profile BII06. It contains two business processes:

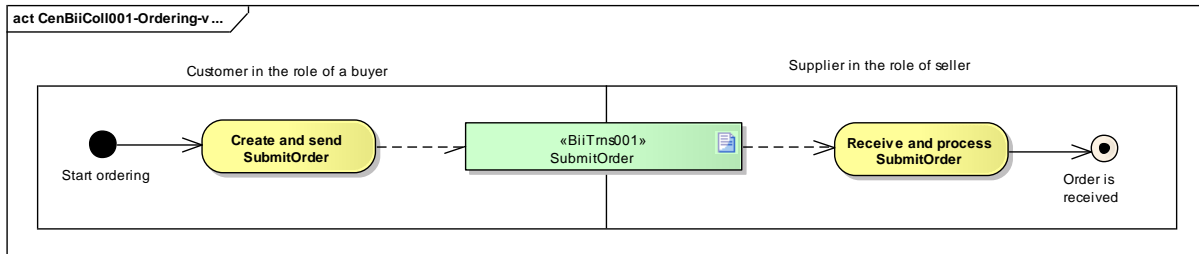
- ▶ The ordering process contains two business collaborations, ordering collaboration and OrderResponse collaboration.
- ▶ The billing process contains two business collaborations, Invoicing collaboration and ResolveInvoiceDispute collaboration.

The following diagram shows the relationships (i.e. links) between the collaborations of each business process implemented by the profile. The choreography of business collaborations defines the sequence of interactions when the profile is run within its context. Each sequence of interactions can be understood as a run-time scenario.



## 4.2 Ordering collaboration

The BiiColl001 collaboration contains the BII transaction BiiTrns001 that includes a data model that specifies the information to be sent in any Order from the Contracting Authority (buyer) to the Economic Operator (supplier).

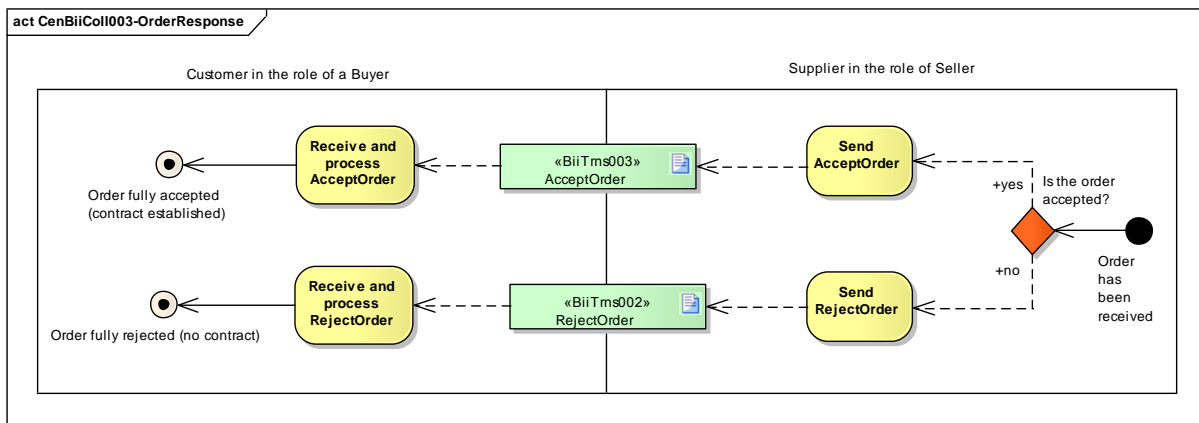


The buyer activates the Ordering collaboration to order goods or services from the seller.

- ▶ Requirements on the Ordering Collaboration are stated in the BIS 3 document
- ▶ There are no BIS 6a additional PEPPOL business rules that apply to the ordering collaboration.

## 4.3 Order response collaboration

The BiiColl003 collaboration contains the BII transactions BiiTrns002 and BiiTrns003 that include data models that specify the information to be sent in any AcceptOrder or RejectOrder from the Economic Operator (supplier) to the Contracting Authority (buyer).

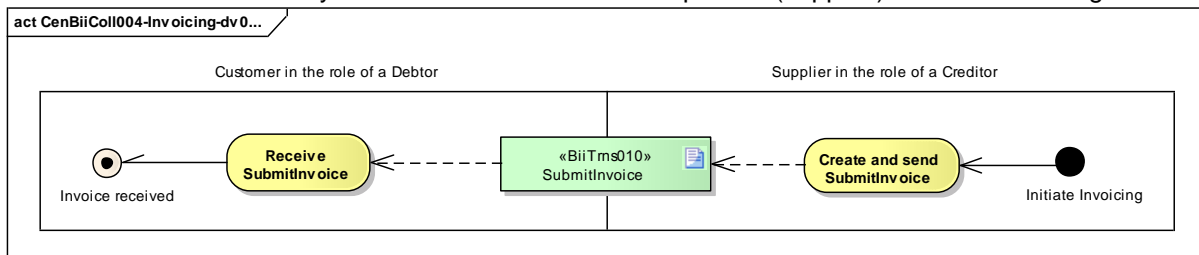


The seller activates the OrderResponse collaboration to agree or reject the order from the buyer.

- ▶ By sending AcceptOrder transaction the Seller agrees to all content of the Order
- ▶ By sending a RejectOrder transaction the Seller rejects the referenced Order in full.
- ▶ There are no PEPPOL BIS 6a additional business rules that apply to the Order response collaboration.

## 4.4 Invoicing collaboration

The BiiColl004 collaboration contains the BII transaction BiiTrns010 that includes a data model that specifies the information to be sent in any Invoice from the Economic Operator (supplier) to the Contracting Authority (buyer).

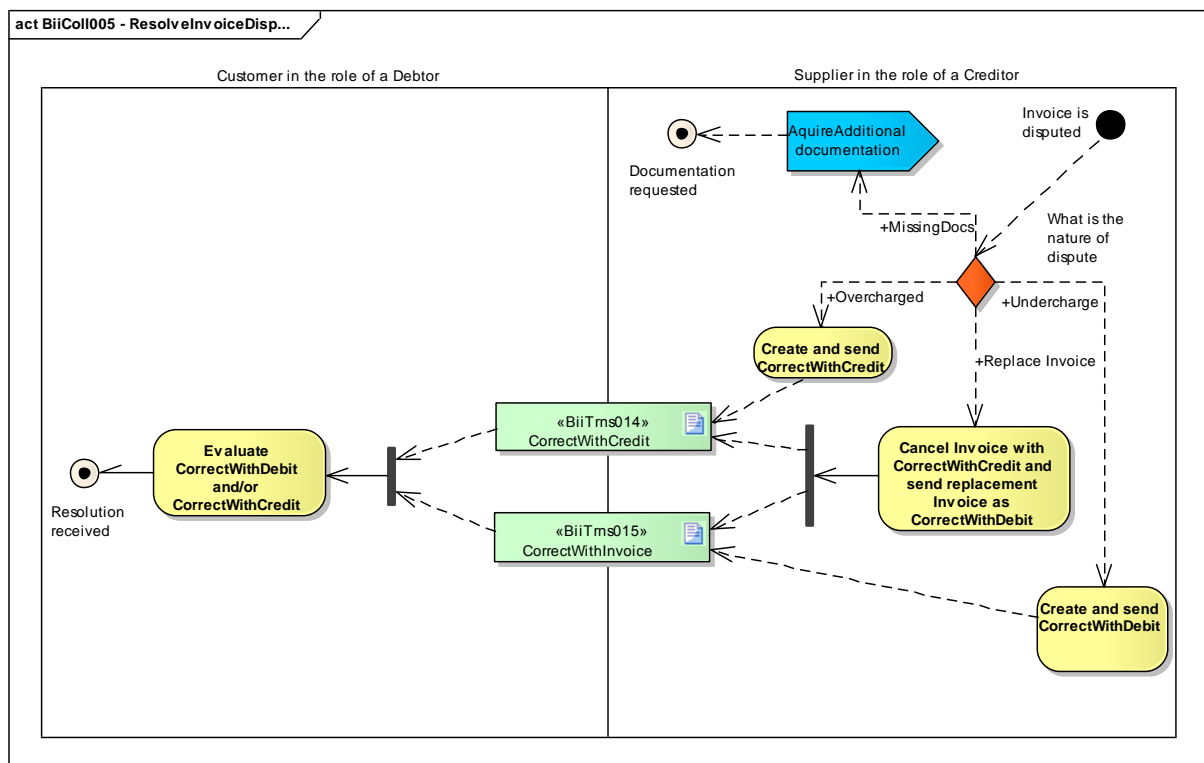


The creditor activates the invoicing collaboration to send an invoice to the debtor.

- ▶ Requirements on the Invoicing Collaboration are stated in the PEPPOL BIS 4a document
- ▶ There are no PEPPOL BIS 6a additional business rules that apply to the invoicing collaboration.

## 4.5 ResolveInvoiceDispute collaboration

The BiiColl005 collaboration contains the BII transactions BiiTrns014 and BiiTrns015 that include data models that specify the information to be sent in any CreditNote and CorrectiveInvoice from the Economic Operator (supplier) to the Contracting Authority (buyer). Any invoice dispute is resolved outside of this BIS description.



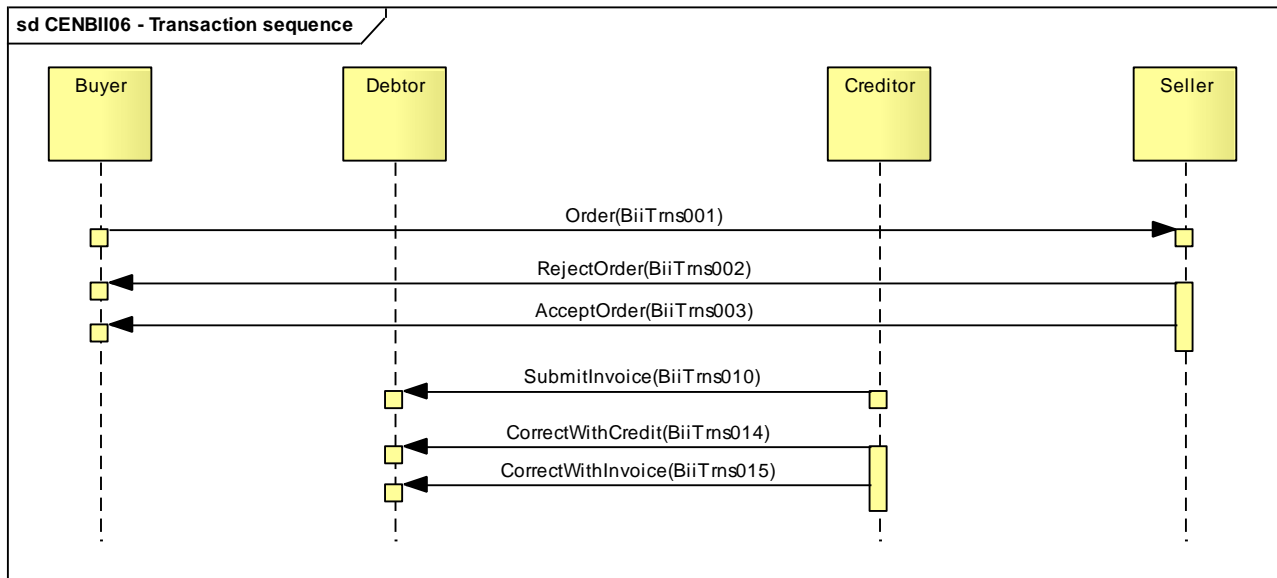
The creditor can resolve overcharge by sending a credit note.

- ▶ The creditor can resolve undercharge by issuing an additional invoice.
- ▶ The creditor can resolve undercharge by cancelling the original invoice with credit note and issuing an additional invoice.
- ▶ An invoice dispute is raised externally by the debtor to the creditor.
- ▶ Requirements on the ResolveInvoiceDispute Collaboration are stated in the PEPPOL BIS 05a document
- ▶ There are no PEPPOL BIS 6a additional business rules that apply to the ResolveInvoiceDispute collaboration.

## 4.6 Transaction data models overview

The figure below identifies the electronic messages exchanged as part of BII profile BII06 and the sequence in which these documents are exchanged.

The BII transaction data model is a specification of the data that is sent between trading partners.



## 4.7 Business rules

The BII profile specifications do not allow modifications to the process defined. Consequently PEPPOL does not specify any additional rules that apply to the process.

## 5 Semantic Interoperability

The PEPPOL BIS data model is based on the CEN/ISSS WS/BII workshop results [CEN\_BII]. They define transaction data models for the information content of a business transaction exchanged within the scope of a BIS. In CEN BII the transaction data model used for CEN ISSS WS/BII Profile 06 – Procurement are:

- ▶ SubmitOrder - CEN/ISSS WS/BII BiiCoreTrdm001
- ▶ RejectOrder - CEN/ISSS WS/BII BiiCoreTrdm002
- ▶ AcceptOrder - CEN/ISSS WS/BII BiiCoreTrdm003
- ▶ SubmitInvoice - CEN/ISSS WS/BII BiiCoreTrdm010
- ▶ CorrectWithCredit - CEN/ISSS WS/BII BiiCoreTrdm014
- ▶ CorrectWithDebit - CEN/ISSS WS/BII BiiCoreTrdm015

Information about these data models can be viewed on the CEN BII web site, see [CEN\_BII]. Please note that changes that PEPPOL has done to the data model are not represented in the BII web site.

- ▶ In MS-Excel table format.
- ▶ In HTML browsable format,

A PEPPOL extension is identified as: eugen.

### 5.1 SubmitOrder transaction data model

PEPPOL BIS 6a uses specifications of CEN/ISSS WS/BII BiiCoreTrdm001 transaction data model. PEPPOL BIS 6a uses the PEPPOL BIS 3a specifications for the SubmitOrder transaction. These show:

- ▶ organizational requirements of the Order
- ▶ the elements in a Core Order.
- ▶ the content of the Core Order line
- ▶ Additional PEPPOL business rules that apply to Order transaction BiiTrns001 data model.

PEPPOL BIS 06a, uses the PEPPOL BIS 3a specification for business rules.

For more information please refer to PEPPOL BIS 3a specifications on [PEPPOL\_PostAward]

### 5.2 RejectOrder transaction data model

PEPPOL BIS 6a uses specifications of CEN/ISSS WS/BII BiiCoreTrdm002 transaction data model.

For more information please refer to PEPPOL BIS specifications on [PEPPOL\_PostAward]

### 5.3 AcceptOrder transaction core data model

PEPPOL BIS 6a uses specifications of CEN/ISSS WS/BII BiiCoreTrdm003 transaction data model.

For more information please refer to PEPPOL BIS specifications on [PEPPOL\_PostAward]

### 5.4 SubmitInvoice transaction core data model

PEPPOL BIS 6a uses specifications of CEN/ISSS WS/BII BiiCoreTrdm010 transaction data model. PEPPOL BIS 6a uses the PEPPOL BIS 04a specifications for the SubmitInvoice transaction. These show:

- ▶ how the legal requirements from EU directive 112/2006 and organizational requirements are supported by the core Invoice specifications of this BIS.
- ▶ the elements in a Core Invoice.
- ▶ the content of the Core Invoice line
- ▶ additional PEPPOL BIS 04a business rules that apply to Invoice transaction BiiTrns010 data model.

PEPPOL BIS 06a, uses the PEPPOL BIS 4a specification for business rules.

For more information please refer to PEPPOL BIS specifications on [PEPPOL\_PostAward].



## 5.5 CreditNote transaction core data model

PEPPOL BIS 6a uses specifications of CEN/ISSS WS/BII BiiCoreTrdm014 transaction data model.

PEPPOL BIS 6a uses the PEPPOL BIS 5a specifications for the CreditNote transaction. These show:

- ▶ how the legal requirements from EU directive 112/2006 and organizational requirements are supported by the core CreditNote specifications of this BIS.
- ▶ the elements in a Core CreditNote.
- ▶ the content of the Core CreditNote line
- ▶ additional PEPPOL business rules that apply to CreditNote transaction BiiTrns014 data model.

PEPPOL BIS 06a, uses the PEPPOL BIS 5a specification for business rules.

For more information please refer to PEPPOL BIS specifications on [PEPPOL\_PostAward].

## 5.6 CorrectWithInvoice transaction core data model

PEPPOL BIS 6a uses specifications of CEN/ISSS WS/BII BiiCoreTrdm015 transaction data model.

PEPPOL BIS 6a uses the PEPPOL BIS 5a specifications for the CorrectWithInvoice transaction. They show:

- ▶ how the legal requirements from EU directive 112/2006 and organizational requirements are supported by the core CorrectWithInvoice specifications of this BIS.
- ▶ the elements in a Core CorrectWithInvoice.
- ▶ the content of the Core CorrectWithInvoice line
- ▶ additional PEPPOL business rules that apply to CorrectWithInvoice transaction BiiTrns015 data model.

For more information please refer to PEPPOL BIS specifications on [PEPPOL\_PostAward].

## 5.7 Syntax mapping to UBL

The UBL schema for various documents can be downloaded from link [UBL].

## 5.8 Identifiers, mapping of requirements to semantic model

PEPPOL has no intention of developing a new policy on identifying Parties. The strategy is to recognize a range of different identification schemes and provide a code list of those recognized schemes based on international standards. For further information, see PEPPOL “Policy for Using Identifiers” [PEPPOL\_Transp].

### Requirement Org21 Policy 8

Policy 8 is implemented as a set of code list rules.

Examples of usage in PartyIdentification:

```
<cac:PartyIdentification>
  <cbc:ID schemeID="GLN">4035811991014</cbc:ID>
</cac:PartyIdentification>
```

The following examples denote that the Issuing Agency is DK:CVR in the PEPPOL set of Issuing Agency Codes. This means that the party has the Danish CVR identifier DK87654321.

Examples of usage in PartyIdentification and Endpoint ID:

```
<cbc:EndpointId ID schemeID="DK:CVR">DK87654321</cbc:EndpointId>
```

```
<cac:PartyIdentification>
  <cbc:ID schemeID="DK:CVR">DK87654321</cbc:ID>
</cac:PartyIdentification>
```

### Requirement Org22 Policy 11

Policy 11 mandates that PEPPOL Customization Identifiers MUST follow the syntax:

```
<transactionId>:# <extensionId>[#<extensionId>]
```

The following example identifies "PEPPOL BIS 6a" as extension to the BiiCoreTrdm001, BII order data model:

```
urn:www.cenbii.eu:transaction:biicoretrdm001:ver1.0:#urn:www.peppol.eu:bis:peppol6a:ver1.0
```

Where:

- ▶ Transaction ID: urn:www.cenbii.eu:transaction:biicoretrdm001:ver1.0
- ▶ Extension ID: urn:www.peppol.eu:bis:peppol6a:ver1.0
- ▶ Please be aware of the different usage of letterl "l" and number "1".

The following example identifies "PEPPOL BIS 6a" as extension to the BiiCoreTrdm010, BII Invoice data model:

```
urn:www.cenbii.eu:transaction:biicoretrdm010:ver1.0:#urn:www.peppol.eu:bis:peppol6a:ver1.0
```

Where:

- ▶ Transaction ID: urn:www.cenbii.eu:transaction:biicoretrdm010:ver1.0
- ▶ Extension ID: urn:www.peppol.eu:bis:peppol6a:ver1.0
- ▶ Please be aware of the different usage of letterl "l" and number "1".

For implementers: Please note that CustomizationID element in the document instance MUST correspond to the Customization ID of the SMP Document Identifier.

### Requirement Org23 Policy 12

Policy 12 is implemented as follows:

- ▶ CustomizationID element MUST follow Policy 11 (see, requirement Org22):
- ▶ schemeID MUST equal "PEPPOL"

Example of usage for order:

```
<cbc:CustomizationID schemeID="PEPPOL">  
urn:www.cenbii.eu:transaction:biicoretrdm001:ver1.0:#urn:www.peppol.eu:bis:peppol6a:ver1.0  
</cbc:CustomizationID>
```

Example of usage for invoice:

```
<cbc:CustomizationID schemeID="PEPPOL">  
urn:www.cenbii.eu:transaction:biicoretrdm010:ver1.0:#urn:www.peppol.eu:bis:peppol6a:ver1.0  
</cbc:CustomizationID>
```

### Requirement Org24 Policy 16

Policy 16 mandates that process identifiers MUST match the BII profile ID.

As an example the following process identifier is used for —BII06 - Procurement:

```
<cbc:ProfileID>urn:www.cenbii.eu:profile:bii06:ver1.0</cbc:ProfileID>
```

For implementers: Please note that process identifiers in the document instance MUST correspond to the SMP process identifier.

## 5.9 Code Lists

A number of information elements values are constrained to be those in a list of codes known as Code Lists. The specific Code Lists used for this transaction must be common between business partners in order to achieve interoperability. The following section lists the code lists identified by CEN BII and PEPPOL to be used in the PEPPOL BIS.

More information about PEPPOL use of code lists can be found at [PEPPOL\_PostAward].

## 5.10 PEPPOL extensions - validation rules for national requirements

In many cases this PEPPOL BIS is sufficient for managing the exchange of documents from issuer to receiver without any previous bi-lateral agreements. The strict set of rules ensures common understanding of most important information elements within an invoice. In other cases the contractual arrangement between the parties requires adaption, like additional requirements on sender to apply further restrictions or provide additional information elements to the invoice document. Such an extension is a “set” of one or more business rules that can be applied to a message in order to achieve a specific objective that is not specifically supported by the core message specification. In CEN BII terminology this is called an extension.

To conform with PEPPOL specifications, an extension may not conflict with the core specification, i.e. a message that can be validated with an extension must also validate with the CENBII core specifications. Extensions can be used to modify the data model and the business rules but not for adding or removing transactions/message to the message flow specified in the relevant BIS document.

Extensions can involve different changes but most commonly they are concerned with:

- ▶ Restricting the cardinality of elements that are optional in the core message specification.
- ▶ Requiring elements that are not in the core message specification.
- ▶ Applying co-occurrence rules on elements and calculation rules.
- ▶ Restricting code list values.

In line with this approach, various PEPPOL participants have developed a set of business rules that clarify national requirement placed on issuers of invoices within their legal regime. These rules are also available as Schematron and can be used for validation of documents.

For further information on extensions and national rules for PEPPOL invoices, see [PEPPOL\_PostAward] for more information.

## 6 Technical Interaction Interoperability – Process and Semantic Implementation

Based on CEN BII results, a syntax binding of this PEPPOL BIS to the UBL 2.0 syntax is available to implementers. For more information about UBL see [UBL].

All document instances conformant to this PEPPOL BIS must be:

- ▶ Capable of validation against the UBL 2.0 Schema, see [UBL\_Invoice].
- ▶ Capable of validation against the UBL 2.0 Schema, see [UBL\_Order].
- ▶ Conform to all business rules provided in this BIS

As support for implementers PEPPOL has made available:

- ▶ XSLT Stylesheet for presentation of content.
- ▶ Examples of PEPPOL documents
- ▶ Guidelines on use for implementers

See [PEPPOL\_PostAward] for more information.

### 6.1 Example XML Implementations

A example of document header for invoice is identified by the following XML fragment (invoice example).

```
<Invoice xmlns="urn:oasis:names:specification:ubl:schema:xsd:Invoice-2"
xmlns:cac="urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2"
xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
xmlns:ccts="urn:un:unece:uncefact:documentation:2"
xmlns:ext="urn:oasis:names:specification:ubl:schema:xsd:CommonExtensionComponents-2"
xmlns:qdt="urn:oasis:names:specification:ubl:schema:xsd:QualifiedDatatypes-2"
xmlns:udt="urn:un:unece:uncefact:data:specification:UnqualifiedDataTypesSchemaModule:2">
  <cbc:UBLVersionID>2.0</cbc:UBLVersionID>
  <cbc:CustomizationID schemeID="PEPPOL">
    urn:www.cenbii.eu:transaction:biicoretrdm010:ver1.0:#urn:www.peppol.eu:bis:peppol6a:ver1.0
  </cbc:CustomizationID>
  <cbc:ProfileID> urn:www.cenbii.eu:profile:bii06:ver1.0</cbc:ProfileID>
  ...
```

Document implementation guidelines are available for number of transactions at [PEPPOL\_PostAward].

## 7 Technical Interaction Interoperability - eSignature Validation

PEPPOL enforces no legal requirements on digital signatures for end-to-end checking of:

- ▶ Integrity
- ▶ Authenticity
- ▶ Non repudiation

As such PEPPOL post award does not require the eSignatures. However, if documents are digitally signed the recipient party (e.g. Contracting Authority) may wish to use the PEPPOL Digital Signature Validation service to confirm validity of the certificate used for the signature.

## 8 Technical Interaction Interoperability - Transport

The method of delivering data over the PEPPOL transport infrastructure is defined by the BusDox specification that guarantees the authenticity of the origin and the integrity of their content by fulfilling the requirements of electronic data interchange (EDI), as defined in Article 2 of Commission Recommendation 1994/820/EC of 19 October 1994, see [DIR\_2006/112/EC].

PEPPOL requires all trade documents to be transported using the PEPPOL Transport Infrastructure. This uses a transport model based on the BusDox version 1.0 specification suite that can be implemented as a four corner model and ensures communication of business documents in a secure and reliable way.

The use of this PEPPOL BIS is dependent on the connection of both participants to the PEPPOL Transport Infrastructure. From the perspective of the services, the receiving participant (e.g. the Contracting Authority) must register their support for PEPPOL BIS 6a in a PEPPOL recognized SMP.

More information on the PEPPOL Technical infrastructure can be found on [PEPPOL\_Transp].