



Specification



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PEPPOL Post Award eProcurement ICT - Models

BIS 3a – Basic Order Only



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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 providing 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/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. 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 EEA⁵.

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 places 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 component of PEPPOL are the service registries (SMP) where trading partners register their capabilities to receive electronic documents according to a 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 a standardised communication agreement that deals with:

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

⁵ 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 3a, Basic Order Only – scope

This PEPPOL BIS supports a process for a purchasing agency for electronic ordering of goods and services/services that are standardized as well as those that are non-standard or not easily described in catalogues. It is intended to support transmission of an electronic order for processing in semi automated processes by the receiver. The BIS mandates no product related data but supports different ways referring to catalogues or unstructured information about goods or services. By selective use of catalogue references it can be used as basis for automated processing of orders.

The order also supports different ways of establishing references to support automation within the invoicing and payment processes.

The intended scope for this BIS is:

- ▶ B2B and B2G
- ▶ Common business processes for cross industry and cross border ordering
- ▶ Regional ordering 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 business processes”. 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
- ▶ Approval
- ▶ Invoicing
- ▶ Warehouse (buyer/supplier) – picking / replenish

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 3a, Basic Order Only – benefits

Based on success with automation of invoicing, there is a growing interest in automation of ordering also. This approach has two dimensions, support further automation of invoicing and using structured catalogues as basis for ordering. Implementing this BIS is an important step for many companies and government agencies towards full procurement automation.

For the suppliers, the approval, picking and invoicing can be automated significantly,

For the procuring agency, approval and accounting of invoices can be automated and ordering can be structured by use of catalogues.

Other potential benefits of using this BIS are, among others:

- ▶ Can be implemented as part of national or regional eProcurement initiatives.
- ▶ Can be used by procuring agencies as step towards automation of procurement. The flexibility of the specifications allows the buyers to gradually automate and structure ordering, based on cost benefit approach.
- ▶ SMEs can offer their trading partners the option of exchanging standardized documents in a uniform way and thereby move all orders 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 orders and invoices.
- ▶ Significant saving can be realized by the procuring agency by automating and streamlining in-house processing.
- ▶ For the suppliers, the approval, picking and invoicing can be automated significantly,

- ▶ Significant saving can be realized by the suppliers by automating and streamlining in-house processing. Linking to picking and invoicing can be improved significantly based on increased order quality, restructuring of invoice dispute resolution and shorter payment cycles.
- ▶ For the procuring agency, invoice automation and ordering can be structured

This PEPPOL BIS is based on the CEN/ISSS WS/BII Profile BII03 specification, see [BII_Order].

1.5 PEPPOL BIS 3a, Basic Order Only – 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:
 - ▶▶ There are no legal requirements that place requirements on this BIS.
- ▶ Organization (Organization/Business):
 - ▶▶ This PEPPOL BIS supports B2B and B2G
 - ▶▶ This PEPPOL BIS supports cross border, regional and domestic ordering 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 of order transmission in electronic form, 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:
 - ▶▶ The set of information elements is assumed to be sufficient to support Organizational business and processing requirements stated above.
 - ▶▶ A CORE order:
 - 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 orders 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 orders.
- ▶ 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:
 - ▶▶ 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 3a – Basic Order Only (this document).
- ▶ Implementation guideline for this BIS.
- ▶ 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 order 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]	http://www.peppol.eu/
[PEPPOL_EIA]	http://www.peppol.eu/peppol_components/peppol-eia/eia
[PEPPOL_PostAward]	http://www.peppol.eu/peppol_components/peppol-eia/eia#ict-architecture/post-award-e-procurement/models
[PEPPOL_Transp]	http://www.peppol.eu/peppol_components/peppol-eia/eia#ict-architecture/transport-infrastructure/models
[CEN_BII]	www.cen.eu/cwa/bii/specs
[CEN_BII2]	http://www.cenbii.eu
[BII_Order]	http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII_profile_03 - Order only v1.pdf
[BII_OrderModel]	An browsable HTML version: http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm001 Order; 1.0; CENBII/D1.htm and MS-Excel version: http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm001 Order; 1.0; CENBII.xls
[UBL]	http://docs.oasis-open.org/ubl/os-UBL-2.0/UBL-2.0.html
[UBL_Order]	http://docs.oasis-open.org/ubl/cs-UBL-2.0/xsd/maindoc/UBL-Order-2.0.xsd
[Schematron]	http://www.schematron.com
[XSLT]	http://www.w3.org/TR/xslt20/
[EIF]	European Interoperability Framework 2.0, found at: http://ec.europa.eu/isa/library/index_en.htm http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf

2 Legal Interoperability

This chapter describes the legal scope for adoption and use of PEPPOL Business Interoperability Specifications (BIS) 3a – Basic Order Only. These requirements apply to Contracting Authorities (Customers) and Economic Operators (Suppliers) who reside in countries whose eProcurement legal frameworks are aligned with the same legal requirements as stated in this specification.

No legal requirements have been identified that needs to be supported by this BIS.

3 Organizational - Organization/Business Interoperability

Organizational/Business requirements for orders originate mainly 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 ordering 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 invoicing 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 to 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 invoice 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 invoices 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 invoicing 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 order.
- ▶ 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.
- ▶ either party may use an intermediary to handle the orders.
- ▶ the supplier must be registered in a PEPPOL recognized SMP for receiving order documents.
- ▶ provides support for semi automated processing of orders by the receiver and can be used as basis for automated processing of invoices also.

3.3 Business requirements

The CEN BII workshop specifies a core order document that is intended to meet requirements in all countries of Europe 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 options and state as part of this PEPPOL BIS.

The business requirements identified are the following:

Org01 In all countries participating in PEPPOL there are legal requirements that invoices should include address information for the customer/buyer and the supplier/seller and their names. In some countries this information can be given either by using identifiers that refer to a registry that holds the name and detailed address or by providing the name and address details directly in the invoice. In other country however only the latter approach, giving the name and address details in the invoice, is accepted.

Same thinking applies to orders. This means that if orders in PEPPOL always include the party name and its address details then they should comply with the law in all participating country.

Consequently all orders should at minimum contain the customer and supplier name and address detail as

- ▶▶ street name and building number
- ▶▶ city name
- ▶▶ zip code
- ▶▶ country code

Org02 Content of an order:

- ▶▶ The date of issue
- ▶▶ A set of numbers or characters that uniquely identifies the Order (Order Identifier)
- ▶▶ The full name and address of the buyer
- ▶▶ The quantity and identification of the goods or services

Org03 In order to align with the structure of most ERP systems and to comply with legal requirements of some participating countries it is required to provide the quantity for each line.

Org04 Some code list and identifier elements in the BII core orders do not specify what code list or identifier schema should be used which implies that the sender can use any or has to agree with the receiver which one should be used. Limiting the choice of code lists and identifier a schema reduces the set that need to be considers and improves interoperability.

- ▶▶ The choice of party, postal address and location identifiers needs to be limited to a stated list which currently includes: GLN
- ▶▶ The choice of standard item identifiers needs to be limited to a stated list which currently includes: GTIN
- ▶▶ The choice of commodity classification code lists needs to be limited to a stated list which currently includes: UN/SPSC, CPV, eClass

Org05 The BII normative documentation defines specific codes or code lists but those are not expressed in the BII validation artefacts. In order to enforce correct implementation these need to be expressed in the PEPPOL validation artefacts.

- ▶▶ For the embedded document binary object the Mime code in attribute should be MIMEMediaType.

Org06 For deciding when different rules apply the definition of cross border and domestic is as follows:

- ▶▶ The nationality of a party is determined by his legal registration country. If that is not provided in an order it is assumed to be the same as the postal address. Nationality is the country to which the party is liable for tax. An order is considered to be cross border if the nationality of the customer and the supplier is not the same, else it is considered to be domestic.

Org07 For the purpose of aligning implementations the amounts of allowance and charges as well as related multipliers are forced to be non-negative, i.e. a negative allowance must be treated as charge and vice versa.

Org08 Following policies apply to use of decimals and rounding in all PEPPOL documents:

- ▶▶ Currency amounts are stated with maximum 2 decimals rounded as necessary.
- ▶▶ VAT rates are stated as percentages with maximum 2 decimals. E.g. twenty one and one third percent is stated as 21.33
- ▶▶ Quantity is stated with maximum 3 decimals.
- ▶▶ Unit prices are stated with maximum of 4 decimals.

3.4 PEPPOL Policy for using Identifiers

PEPPOL project has defined a “Policy for Using Identifiers” [PEPPOL_Transp] that describes the policy for using the correct identifiers in both its transport infrastructure and within the documents exchanged across that infrastructure. It also introduces principles for any identifiers used in the PEPPOL environment. The policies that apply to this BIS are the following:

- Org21 Policy 8. - XML attributes for Party Identifiers in UBL documents
The “schemeID” attribute must be populated in all instances of the “ID” element when used within a “PartyIdentification” container and in all instances of the “EndpointID” element when used within a “Party” container.
- Org22 Policy 11 - PEPPOL Customization Identifiers.
The PEPPOL Customization Identifier identifies the standardised transaction (e.g. BII transaction) and any PEPPOL extension, as it applies to the transaction. The full syntax is:
`<transactionId>:# <extensionId>[#<extensionId>]`
- Org23 Policy 12 - Specifying Customization Identifiers in UBL documents
The value for CustomizationID element in the document instance MUST correspond to the Customization ID of the BusDox Document Identifier (see POLICY 11). In addition, the “schemeID” attribute must specify ‘PEPPOL’ to indicate this convention is a PEPPOL policy.
- Org24 Policy 16 - PEPPOL Process Identifiers
PEPPOL processes are identified by the respective BII processes. The process identifier has to match the BII profile ID.

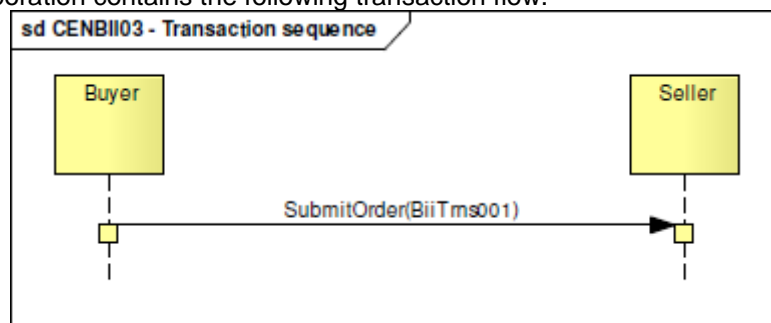
4 Organizational - Process Interoperability

The PEPPOL project, has adopted the BII profile specifications as basis for public procurement in Europe. This PEPPOL BIS reuses the collaboration specifications as a means of controlling the interaction between the trading parties.

4.1 CEN ISSS WS/BII Profile

Orders are 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 Basic Order Only process is defined by the CEN ISSS WS/BII profile BII03, see [BII_Order].

The BiiColl003 collaboration contains the following transaction flow.



4.2 Business rules

The BII profile business rules are listed in chapter 5.2.3. The BII profile specifications do not allow modifications to the collaboration 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 BiiCoreTrdm001 specifications [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 BII03 the transaction data model used is BiiCoreTrdm001, see [BII_OrderModel]. A PEPPOL extension is identified as: eugen.

5.1 Legal requirements, mapping to semantic model

No mapping of legal requirements to be supported in this BIS.

5.2 BIS 3a – Order Transaction Data Model

The BIS 3a data model is based on TRDM001 order transaction from CEN BII. Information about this data model can also 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.

See [BII_OrderModel].for further information.

The following tables shows the elements in a Core Order.

- ▶ First two columns show the Cardinality of the element.
- ▶ The element name (element preceded with a “+” sign is a class, the rest are simple elements).
- ▶ The last column states restrictions, references, business rules or code list that may apply to the field.
- ▶ Please note that the order of elements when used in orders must follow the order stated in the below list. For more information please refer to [UBL].

5.2.1 BIS 3a – Order header

The following table shows the content of the core order header:

Cardinality		Element name	Restriction
1	1	Order UBL Version Identifier/Identifier	BIIRULE-T01-R001
1	1	Order/Customization Identifier/Identifier	Org23 BIIRULE-T01-R002
1	1	Order/Profile Identifier/Identifier	Org24 BIIRULE-T01-R003
1	1	Order/Identifier	BIIRULE-T01-R005
1	1	Order/Issue Date/Date	BIIRULE-T01-R004
0	1	Order/Issue Time/Time	
0	1	Order/Note/Text	
0	1	Order/Document Currency Code/Code	CL-001-001 BIIRULE-T01-R030 BIIRULE-T01-R027
0	1	Order/Accounting Cost/Text	
0	1	+Order/Validity Period/Period	
0	1	... Period/End Date/Date	
0	1	+Order/Quotation Document Reference/Document Reference	
1	1	... Document Reference/Identifier	
0	1	+Order/Order Document Reference/Document Reference	
1	1	... Document Reference/Identifier	
0	1	+Order/Originator Document Reference/Document Reference	
1	1	... Document Reference/Identifier	BIIRULE-T01-R006
0	1	... Document Reference/Document Type/Text	
0	n	+Order/Additional Document Reference/Document Reference	
1	1	... Document Reference/Identifier	BIIRULE-T01-R007

Cardinality		Element name		Restriction
0	1	...	Document Reference/Document Type/Text	
0	1	...	Document Reference/Attachment	
0	1	...	Attachment. Embedded Document. Binary Object	PCL-001-001
0	1	...	+Attachment. External Reference	
1	1	...	External Reference. URI. Identifier	
0	1	...	+Order/Contract	
1	1	...	Contract/Identifier	BIIRULE-T01-R008
0	1	...	Contract/Contract Type/Text	
1	1	...	+Order/Buyer Customer Party/Customer Party	
1	1	...	+Customer Party/Party	
0	1	...	Party. Endpoint Identifier. Identifier	PCL-001-007
0	1	...	+Party. Party Identification	
1	1	...	Party Identification. Identifier	PCL-001-006
0	1	...	+Party. Party Name	
1	1	...	Party Name. Name	
0	1	...	+Party. Postal Address. Address	
0	1	...	Address. Identifier	PCL-001-002
0	1	...	Address. Postbox. Text	
0	1	...	Address. Street Name. Name	EUGEN-T01-R002
0	1	...	Address. Additional Street Name. Name	
0	1	...	Address. Building Number. Text	EUGEN-T01-R002
0	1	...	Address. Department. Text	
0	1	...	Address. City Name. Name	EUGEN-T01-R002
0	1	...	Address. Postal Zone. Text	EUGEN-T01-R002
0	1	...	Address. Country Subentity. Text	
0	1	...	+Address. Country	
1	1	...	Country. Identification Code. Code	CL-001-003
0	n	...	+Party. Party Tax Scheme	
0	1	...	Party Tax Scheme. Company Identifier. Identifier	
1	1	...	+Party Tax Scheme. Tax Scheme	
1	1	...	Tax Scheme. Identifier	CL-001-004
0	1	...	+Party. Party Legal Entity	
0	1	...	Party Legal Entity. Registration Name. Name	
1	1	...	Party Legal Entity. Company Identifier. Identifier	
0	1	...	+Party Legal Entity. Registration Address. Address	
0	1	...	Address. City Name. Name	
0	1	...	Address. Country Subentity. Text	
0	1	...	+Address. Country	
1	1	...	Country. Identification Code. Code	CL-001-003
0	1	...	+Party. Contact	
0	1	...	Contact. Telephone. Text	
0	1	...	Contact. Telefax. Text	
0	1	...	Contact. Electronic Mail. Text	
0	1	...	+Party. Person	
0	1	...	Person. First Name. Name	
0	1	...	Person. Family Name. Name	
0	1	...	Person. Middle Name. Name	
0	1	...	Person. Job Title. Text	
0	1	...	+Customer Party/Delivery Contact/Contact	

Cardinality		Element name		Restriction
0	1	...	Contact. Name	
0	1	...	Contact. Telephone. Text	
0	1	...	Contact. Telefax. Text	
0	1	...	Contact. Electronic Mail. Text	
1	1	+Order/Seller Supplier Party/Supplier Party		
1	1	...	+Supplier Party/Party	
0	1	...	Party. Endpoint Identifier. Identifier	PCL-001-007
0	1	...	+Party. Party Identification	
1	1	...	Party Identification. Identifier	PCL-001-006
0	1	...	+Party. Party Name	
1	1	...	Party Name. Name	BIIRULE-T01-R010
0	1	...	+Party. Postal Address. Address	EUGEN-T01-R001
0	1	...	Address. Identifier	PCL-001-002
0	1	...	Address. Postbox. Text	
0	1	...	Address. Street Name. Name	
0	1	...	Address. Additional Street Name. Name	
0	1	...	Address. Building Number. Text	
0	1	...	Address. Department. Text	
0	1	...	Address. City Name. Name	
0	1	...	Address. Postal Zone. Text	
0	1	...	Address. Country Subentity. Text	
0	1	...	+Address. Country	
1	1	...	Country. Identification Code. Code	CL-001-003 BIIRULE-T01-R028
0	1	...	+Party. Party Legal Entity	
0	1	...	Party Legal Entity. Registration Name. Name	
1	1	...	Party Legal Entity. Company Identifier. Identifier	
0	1	...	+Party Legal Entity. Registration Address. Address	
0	1	...	Address. City Name. Name	
0	1	...	Address. Country Subentity. Text	
0	1	...	+Address. Country	
1	1	...	Country. Identification Code. Code	CL-001-003 BIIRULE-T01-R028
0	1	...	+Party. Contact	
0	1	...	Contact. Telephone. Text	
0	1	...	Contact. Telefax. Text	
0	1	...	Contact. Electronic Mail. Text	
0	1	...	+Party. Person	
0	1	...	Person. First Name. Name	
0	1	...	Person. Family Name. Name	
0	1	...	Person. Middle Name. Name	
0	1	...	Person. Job Title. Text	
0	1	+Order/Originator Customer Party/Customer Party		
1	1	...	+Customer Party/Party	
0	1	...	+Party. Party Identification	
1	1	...	Party Identification. Identifier	PCL-001-006
0	1	...	+Party. Party Name	
1	1	...	Party Name. Name	BIIRULE-T01-R009
0	1	...	+Party. Contact	

Cardinality		Element name			Restriction
0	1	...	...	Contact. Telephone. Text	
0	1	...	...	Contact. Telefax. Text	
0	1	...	...	Contact. Electronic Mail. Text	
0	1	...	...	+Party. Person	
0	1	...	...	Person. First Name. Name	
0	1	...	...	Person. Family Name. Name	
0	1	...	...	Person. Middle Name. Name	
0	1	...	...	Person. Job Title. Text	
0	1	...	...	+Order/Delivery	
0	1	...	...	+Delivery/Delivery Location/Location	
0	1	...	...	+Location. Address	EUGEN-T01-R002
0	1	...	...	Address. Identifier	PCL-010-003
0	1	...	...	Address. Postbox. Text	
0	1	...	...	Address. Street Name. Name	
0	1	...	...	Address. Additional Street Name. Name	
0	1	...	...	Address. Building Number. Text	
0	1	...	...	Address. Department. Text	
0	1	...	...	Address. City Name. Name	
0	1	...	...	Address. Postal Zone. Text	
0	1	...	...	Address. Country Subentity. Text	
0	1	...	...	+Address. Country	
1	1	...	...	Country. Identification Code. Code	CL-001-003 BIIRULE-T01-R028
0	1	...	...	+Delivery/Requested Delivery Period/Period	BIIRULE-T01-R011 EUGEN-T01-R007
0	1	...	...	Period. Start Date. Date	
0	1	...	...	Period. End Date. Date	
0	1	...	...	+Delivery/Delivery Party/Party	
0	n	...	...	+Party. Party Identification	
1	1	...	...	Party Identification. Identifier	PCL-001-006
0	1	...	...	+Party. Party Name	
1	1	...	...	Party Name. Name	
0	1	...	...	+Party. Contact	
0	1	...	...	Contact. Name	
0	1	...	...	Contact. Telephone. Text	
0	1	...	...	Contact. Telefax. Text	
0	1	...	...	Contact. Electronic Mail. Text	
0	1	...	...	+Order/Delivery Terms	
0	1	...	...	Delivery Terms/Identifier	
0	1	...	...	Delivery Terms/Special Terms/Text	
0	1	...	...	+Delivery Terms/Delivery Location/Location	
0	1	...	...	Location. Identifier	
0	n	...	...	+Order/Allowance Charge	
1	1	...	...	Allowance Charge/Charge Indicator/Indicator	
0	1	...	...	Allowance Charge/Allowance Charge Reason/Text	EUGEN-T01-R004
1	1	...	...	Allowance Charge/Amount	EUGEN-T01-R006
0	n	...	...	+Order/Tax Total	
1	1	...	...	Tax Total/Tax Amount/Amount	BIIRULE-T01-R029
0	1	...	...	+Order/Anticipated Monetary Total/Monetary Total	

Cardinality		Element name	Restriction
1	1	... Monetary Total/Line Extension Amount/Amount	BIIRULE-T01-R018 EUGEN-T01-R009
0	1	... Monetary Total/Allowance Total Amount/Amount	BIIRULE-T01-R019
0	1	... Monetary Total/Charge Total Amount/Amount	BIIRULE-T01-R020
1	1	... Monetary Total/Payable Amount/Amount	BIIRULE-T01-R021 EUGEN-T01-R008
1	n	+Order/Order Line	BIIRULE-T01-R016

Table 1 Information Elements in a Core Order Header

5.2.2 BIS 3a – Order line

The following table shows the content of the core order line:

Cardinality		Element name	Restriction
0	1	Order Line/Note/Text	
1	1	+Order Line/Line Item	
1	1	... Line Item/Identifier	BIIRULE-T01-R017
1	1	... Line Item/Quantity	EUGEN-T01-R005 EUGEN-T01-R010 BIIRULE-T01-R031
0	1	... Line Item/Line Extension Amount/Amount	
0	1	... Line Item/Total Tax Amount/Amount	
0	1	... Line Item/Partial Delivery Indicator/Indicator	
0	1	... Line Item/Accounting Cost/Text	
0	n	... +Line Item/Delivery	
0	1	... +Delivery/Requested Delivery Period/Period	BIIRULE-T01-R011 EUGEN-T01-R007
0	1	... Period/Start Date/Date	
0	1	... Period/End Date/Date	
0	1	... +Line Item/Originator Party/Party	
0	1	... +Party/Party Identification	
1	1	... Party Identification/Identifier	CL-001-003
0	1	... +Party/Party Name	
1	1	... Party Name/Name	
0	1	... +Line Item/Price	
1	1	... Price/Price Amount/Amount	BIIRULE-T01-R026
0	1	... Price/Base Quantity/Quantity	
1	1	... +Line Item/Item	
0	1	... Item/Description/Text	
0	1	... Item/Name	BIIRULE-T01-R013 BIIRULE-T01-R023
0	1	... +Item/Sellers Item Identification/Item Identification	BIIRULE-T01-R013
1	1	... Item Identification/Identifier	
0	1	... +Item/Standard Item Identification/Item Identification	
1	1	... Item Identification/Identifier	BIIRULE-T01-R024
0	n	... +Item/Additional Item Property/Item Property	
1	1	... Item Property/Name	
1	1	... Item Property/Value/Text	

Table 2 Information Elements in a Core Order Transaction Line

5.2.3 Syntax mapping to UBL

The UBL schema for order can be downloaded from link [UBL_Order].

5.3 BIS 3a – Order Only, Business Rules (BiiCoreTrdm001)

The PEPPOL ruleset is a set of rules that clarify the content by stating mandatory fields, content rules like codelists, calculation rules and dependency rules for individual fields. Issuers of orders that produce messages that do not contradict any of these rules can be certain that anyone claiming conformance to PEPPOL can receive and process these messages.

PEPPOL has stated the following abstract rule in order to facilitate interoperability in cross border trade as well as compliance to EU legal directives. The rules are grouped into four sections depending on their scope and origin. It is important for implementers to note that documents issued by PEPPOL participants claiming conformance, MUST conform to the business rules stated in this BIS.

All the following rules have accompanying error level that can be stated as:

- ▶ warning the rule points to an issue that would provide clarifying or information that increases consistency and aids interoperability. The rule should be applied to the message.
 - ▶▶ A sender of message should NOT send messages that might raise warnings.
 - ▶▶ Receivers of messages should not reject messages that raise warnings.
- ▶ fatal the rule point to a major issue of consistency or data correctness.
 - ▶▶ A sender of message should NOT send messages that will raise fatal errors.
 - ▶▶ Receivers of messages can be expected to reject messages that raise fatal errors.

As support for implementers PEPPOL has made available:

- ▶ A Schematron implementation of the rules
- ▶ PEPPOL document validation service.

See [PEPPOL_PostAward] for more information.

5.3.1 BII Core Rules (biicore)

These are BII rules that are concerned with the CORE order data model. This set of rules is syntax specific and reflects PEPPOL use of mapping to UBL 2.0. It restricts use of classes by changing their cardinality.

The mapping of rules to Schematrons also identifies rules of checking for presence of additional content that is not part of the core specifications. These rules are not listed here since they are not part of the specifications.

Rule No.	Rule	Error level
BIICORE-T01-R001	A XML instance MUST be a BiiTrdm001 transaction	warning
BIICORE-T01-R001	An order SHOULD not contain empty elements.	warning
BIICORE-T01-R435	Element 'PartyIdentification' may occur at maximum 1 times.	warning
BIICORE-T01-R436	Element 'PartyName' must occur exactly 1 times.	warning
BIICORE-T01-R437	Element 'PartyLegalEntity' may occur at maximum 1 times.	warning
BIICORE-T01-R438	Element 'PartyIdentification' may occur at maximum 1 times.	warning
BIICORE-T01-R439	Element 'PartyName' must occur exactly 1 times.	warning
BIICORE-T01-R440	Element 'PartyLegalEntity' may occur at maximum 1 times.	warning
BIICORE-T01-R441	Element 'Description' may occur at maximum 1 times.	warning
BIICORE-T01-R442	Element 'PartyIdentification' may occur at maximum 1 times.	warning
BIICORE-T01-R443	Element 'PartyName' may occur at maximum 1 times	warning
BIICORE-T01-R444	Element 'Note' may occur at maximum 1 times.	warning

BIICORE-T01-R445	Element 'Validity Period' may occur at maximum 1 times.	warning
BIICORE-T01-R446	Element 'Order Document Reference' may occur at maximum 1 times.	warning
BIICORE-T01-R447	Element 'Contract' may occur at maximum 1 times.	warning
BIICORE-T01-R448	Element 'Delivery' may occur at maximum 1 times.	warning
BIICORE-T01-R449	Element 'PartyName' may occur at maximum 1 times	warning

5.3.2 BII Profile Rules (biiprofile)

These are BII rules that are concerned with profile level issues. They respond to the ProfileID in an order.

Rule No.	Rule	Error level
BIIPROFILE-T01-R001	An order transaction T01 MUST only be used in BIS 3 or 6,	fatal

5.3.3 BII and PEPPOL Semantic Rules (biirules and eugen)

These are the rules that BII and PEPPOL have identified that are concerned with the semantics of the data. They are the European common ordering rules identified. These are issues like rules on content, dependency and calculations. BII rules have the “BIIRULE” prefix while PEPPOL rules are prefixed with “EUGEN”. For readability the rules are grouped together by scope.

General rules:

Rule No.	Rule	Error level
BIIRULE-T01-R001	An order MUST have a syntax identifier.	fatal
BIIRULE-T01-R002	An order MUST have a customization identifier.	fatal
BIIRULE-T01-R003	An order MUST have a profile identifier.	fatal
BIIRULE-T01-R004	An order MUST contain the date of issue	fatal
BIIRULE-T01-R005	An order MUST contain the order identifier	fatal
BIIRULE-T01-R030	An order MUST have a currency code for the document.	fatal
BIIRULE-T01-R027	Currency Identifier MUST be stated in the currency stated on header level	fatal
BIIRULE-T01-R006	Any reference to Originator document MUST specify the document identifier.	fatal
BIIRULE-T01-R007	Any references to Additional documents MUST specify the document identifier.	fatal
BIIRULE-T01-R008	Any reference to a contract MUST specify the contract identifier.	fatal
EUGEN-T01-R004	Allowance Charge reason text MUST be specified for all allowances and charges	fatal

Parties:

Rule No.	Rule	Error level
BIIRULE-T01-R009	An order MUST contain the full name of the customer.	fatal
BIIRULE-T01-R010	An order MUST contain the full name of the supplier.	fatal
EUGEN-T01-R001	A supplier postal address SHOULD contain at least street name and number, city name, zip code and country code.	warning
EUGEN-T01-R002	A customer postal address SHOULD contain at least, Street name and number, city name, zip code and country code.	warning

BIIRULE-T01-R015	In cross border trade the VAT identifier for the customer should be prefixed with country code.	warning
BIIRULE-T01-R028	Country in an address MUST be specified using the country code	fatal

Calculation rules:

Rule No.	Rule	Error level
BIIRULE-T01-R018	Order monetary total amount MUST equal the sum of the line extension amounts	fatal
BIIRULE-T01-R019	Total allowance it MUST be equal to the sum of allowances at document level	fatal
BIIRULE-T01-R020	Total charges MUST be equal to the sum of document level charges.	fatal
BIIRULE-T01-R029	TaxTotal on header SHOULD be the sum of taxes on line level	warning
BIIRULE-T01-R021	Order total payable amount due is the sum of order line totals minus document level allowances plus document level charges and VAT total.	fatal
BIIRULE-T01-R026	Prices of items MUST not be negative	fatal
EUGEN-T01-R006	An allowance amount MUST NOT be negative.	fatal
EUGEN-T01-R008	Total payable amount MUST NOT be negative	fatal
EUGEN-T01-R009	Line extension amount MUST NOT be negative	fatal

Product / services:

Rule No.	Rule	Error level
BIIRULE-T01-R016	An order MUST have at least one order line	fatal
BIIRULE-T01-R017	Order line MUST contain a unique line identifier	fatal
BIIRULE-T01-R013	An order line MUST contain ID or Name	fatal
BIIRULE-T01-R023	Product names SHOULD NOT exceed 50 characters	warning
BIIRULE-T01-R024	If standard identifiers are provided within an item description, an Schema Identifier SHOULD be provided (e.g. GTIN)	warning
BIIRULE-T01-R025	Classification codes within an item description SHOULD have a List Identifier attribute (e.g. CPV or UNSPSC)	warning
EUGEN-T01-R005	Each order line SHOULD contain the quantity	warning
EUGEN-T01-R010	Quantity ordered MUST not be negative	fatal
BIIRULE-T01-R031	Quantities MUST have unit of measure	fatal

Delivery:

Rule No.	Rule	Error level
BIIRULE-T01-R011	A delivery period end date MUST be later or equal to a delivery period start date	fatal
EUGEN-T01-R003	A Delivery address SHOULD contain at least, city, zip code and country code.	warning
EUGEN-T01-R007	If an order refers to a delivery period then either the start date or the end date MUST be present	fatal

5.4 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. See Ch. 5.5 on code lists.

PCL-010-006

PCL-010-007

Examples of usage in PartyIdentification:

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

The following examples denotes 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 SubmitOrder within "PEPPOL BIS 3a" as extension to the BII BiiCoreTrdm001 data model:

```
urn:www.cenbii.eu:transaction:biicoretrdm001:ver1.0:#urn:www.peppol.eu:bis:peppol3a:ver1.0
```

Where:

- ▶ Transaction ID: urn:www.cenbii.eu:transaction:biicoretrdm001:ver1.0
- ▶ Extension ID: urn:www.peppol.eu:bis:peppol3a:ver1.0
- ▶ Please be aware of the different usage of letter "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:

```
<cbc:CustomizationID schemeID="PEPPOL">
urn:www.cenbii.eu:transaction:biicoretrdm001:ver1.0:#urn:www.peppol.eu:bis:peppol3a: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 —BII03 – Order Only:

```
<cbc:ProfileID>urn:www.cenbii.eu:profile:bii03:ver1.0</cbc:ProfileID>
```

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

5.5 SubmitOrder - 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].

5.5.1 BII Code list rules (biirules-CodeLists)

The following rules regarding code lists are stated in BII documentation.

Rule ID	Rule description	Severity
CL-001-001	DocumentCurrencyCode MUST be coded using ISO code list 4217	fatal
CL-001-002	CurrencyID MUST be coded using ISO code list 4217	fatal
CL-001-003	Country codes in a order MUST be coded using ISO code list 3166-1	fatal
CL-001-004	Order tax schemes MUST be coded using UN/ECE 5153 code list	warning
CL-001-005	Delivery termsID SHOULD be coded using Incoterms 2000 code list	warning

5.5.2 PEPPOL Code list rules (eugen-CodeLists)

The following additional code list rules are applied for PEPPOL implementations in addition to the BII rules.

Rule ID	Rule description	Severity
PCL-001-001	Mime code in attribute MUST be MIMEMediaType.	fatal
PCL-001-002	Postal address identifiers SHOULD be GLN.	warning
PCL-001-003	Location identifiers SHOULD be GLN	warning
PCL-001-004	Standard item identifiers SHOULD be GTIN.	warning
PCL-001-006	Party Identifiers MUST use the PEPPOL PartyID list	fatal
PCL-001-007	Endpoint Identifiers MUST use the PEPPOL PartyID list.	fatal

5.6 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 order. 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 order 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.

For further information on extensions, 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. All document instances conformant to this PEPPOL BIS must be:

- ▶ 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 orders.

See [PEPPOL_PostAward] for more information.

A valid XML instance conformant to this BIS is identified by the following XML fragment.

```
<Order xmlns="urn:oasis:names:specification:ubl:schema:xsd:Order-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:biicoretrdm001:ver1.0:#urn:www.peppol.eu:bis:peppol3a:ver1.0
  </cbc:CustomizationID>
  <cbc:ProfileID>urn:www.cenbii.eu:profile:bii03:ver1.0</cbc:ProfileID>
  ...
</Order>
```

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

And as such PEPPOL Orders do not require the eSignatures. However, if eOrders are digitally signed the recipient party (e.g. Supplier) may wish to consider to use the PEPPOL Digital Signature Validation service to confirm validity of the certificate used for the signature.

8 Technical Transport Interoperability

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 orders 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 Supplier) must register their support for PEPPOL BIS 3a in a PEPPOL recognized SMP.

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