Guideline

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PEPPOL Post Award eProcurement
ICT - Models

Implementation Guideline for
BIS 4a – Basic Invoice only

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1.1	15.01.2012	Bergthor Skulason	NITA	Clarification of examples
1.2	01.05.2012	Bergthor Skulason	NITA	Textual corrections

Statement of originality

This deliverable contains original unpublished work except where clearly indicated otherwise.
Acknowledgement of previously published material and of the work of others has been made
through appropriate citation, quotation or both.

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[1] English: Agency for Public Management and eGovernment
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1 Introduction

This Guideline is a result of work within PEPPOL project and is published as material to support PEPPOL BIS specifications.

1.1 Audience

The audience for this document is organizations wishing to be PEPPOL enabled for exchange of electronic 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 (**B**usiness **I**nteroperability **S**pecification) 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[4]. It specifies a subset of information that is used by most industries and enables users to issue documents (invoices, orders, etc...) that are valid for trade within the European Union and the EEA, supporting requirements for regional, national and cross border trade.

1.3 PEPPOL Interoperability, conformance and testing support

Participants within the PEPPOL community must claim conformance to be able to participate in document exchange. The conformance requirements imply that:
- **issuing applications** must issue documents that do not violate the BIS rule set
- **receiving applications** must be able to process/understand all content.

Conformance is therefore expressed as a requirement on the software solution implementing the BIS and measured against document instances. Participants in the PEPPOL network register capabilities to receive documents while issuers of documents do not register capabilities.

Conformance is measured against a specific PEPPOL BIS and is measured against three key aspects:
- **Choreography**; compliance is measured against the sequence of collaborations and transactions in the BIS.
  Every software solution claiming compliance to a profile is expected to be able to support all business collaborations and business transactions defined by the BIS.

- **Data content**; compliance is measured against the ”core” transaction data model in the BIS.
  Every software solution claiming conformance to a BIS is expected to be able to process and understand all elements defined as part of the relevant core transaction data models referenced by the BIS. The requirement implies that the receiving applications must be able to process/understand all content, while issuing applications must issue documents that do not violate the BIS rule set.

- **Business rules**; conformance is measured against the rules stated at collaboration and transaction level of the BIS.
  Every software solution claiming conformance to a BIS is expected to adhere to all business rules stated within the BIS description and the referenced transaction data model.

PEPPOL provides support for testing of conformance with a test site that provides:
- Testing guidelines

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[4] EEA is the European Economic Area. Current members are Iceland, Liechtenstein and Norway.

- Validation web site for uploading of document instances for validation of content.
- Examples of documents, and test cases
- Documentation of testing results

More information on testing support can be found at [PEPPOL_PostAward].

1.4 PEPPOL Implementation support

This PEPPOL BIS is bound to UBL 2.0 syntax. PEPPOL provides as implementation support a set of tools and specifications. These include:
- Specifications of PEPPOL BIS 4a – Basic Invoice Only
- Implementation guideline (this document).
- Business rules and code lists.
- Schematron components for validation of business rules that apply to content.
- Stylesheet for presentation of Core data elements.
- An 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. The PEPPOL EIA is a 3 dimensional cube you can navigate by clicking a one of the blue cell in the frame.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.

1.4.1 BIS 4a – Basic Invoice Only - Specifications

The specifications of PEPPOL BIS 4a – Basic Invoice Only provides:
- Invoice data model,
- Invoice business rules
- Invoice identifiers
- Invoice code lists

The BIS 4a data model is based on TRDM010 from CEN BII. The data model is documented in the BIS4a specifications. Information about this data model can also be viewed on the CEN BII web siteʼsee [CEN_BII]
- In HTML browsable format
- In MS-Excel table format

See [PEPPOL_PostAward] for more information.
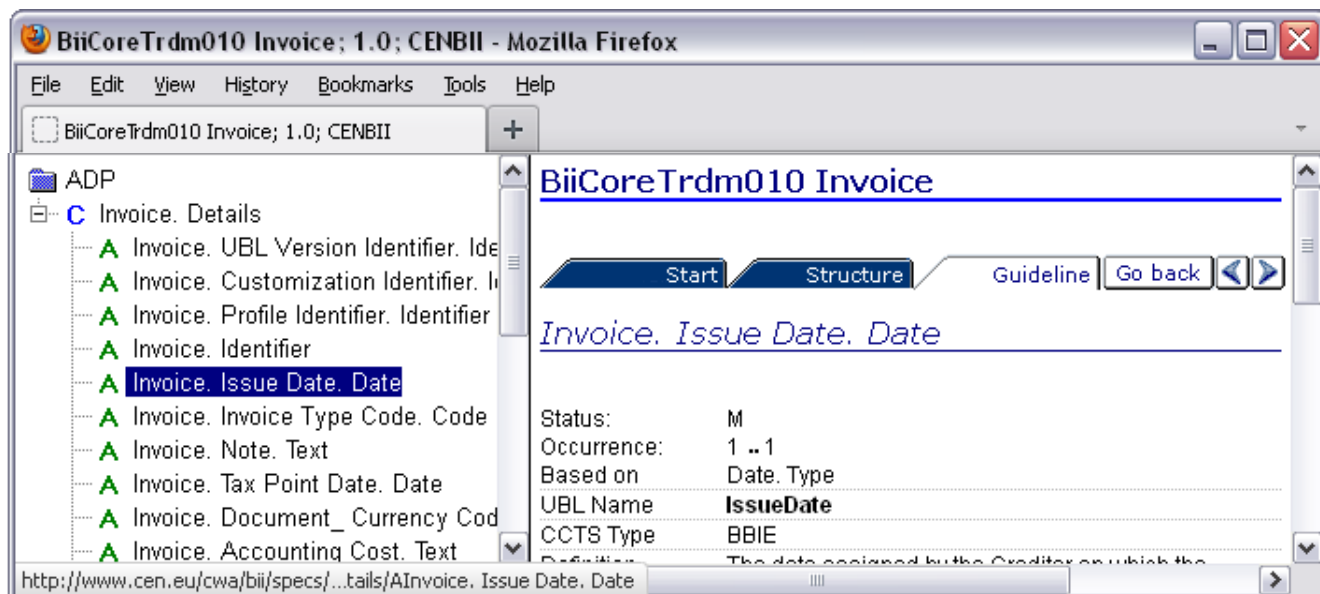
1.4.2 BIS 4a – Basic Invoice Only, Business Rules

PEPPOL has stated a set of abstract rules in order to facilitate interoperability in cross border trade as well as compliance to EU legal directives. The rules are grouped into sections depending on their scope and origin. To support the implementation of The PEPPOL specifications, the business rules are supported by:

- The rule set, see BIS 4a specifications
- Schematron implementation, as example implementation of the rules.
- Validation web site, where implementers can test documents for conformance

Implementers can validate their example documents at the PEPPOL document validation service, see [PEPPOL_PostAward] for more information.

1.5   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-eprocurement/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_Invoice]	http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII profile 04 - Invoice only v1.pdf
[BII_InvoiceModel]	An browsable HTML version: http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm010 Invoice; 1.0; CENBII/D1.htm and MS-Excel version: http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm010 Invoice; 1.0; CENBII.xls
[UBL]	http://docs.oasis-open.org/ubl/os-UBL-2.0/UBL-2.0.html
[Schematron]	http://www.schematron.com
[XSLT]	http://www.w3.org/TR/xslt20/

2 Invoice implementation guide

Based on CEN BII results, a syntax binding of this PEPPOL BIS the UBL 2.0 syntax is available to implementers. All document instances conformant to this PEPPOL BIS must be:
- ▶ Capable of validation against the relevant UBL 2.0 Schema, see [UBL].
- ▶ Conform to all business rules in this PEPPOL BIS

Examples of PEPPOL invoices and the Stylesheet used in this example are available for implementers, see [PEPPOL_PostAward] for more information.

2.1 PEPPOL business rules

A PEPPOL BIS is a statement of capabilities and can be viewed as a basis for an agreement. A business rule expresses a requirement and places a restriction on the content. The PEPPOL rule set is a set of rules that clarify the content by stating mandatory fields, content rules like code lists, calculation rules and dependency rules for individual fields.
- ▶ A document that does not break any of the rules is considered conformant to a BIS.
- ▶ Issuer of a PEPPOL document that produces messages that do not contradict any of these rules can be certain that anyone claiming conformance to PEPPOL can receive and process the messages.
- ▶ A receiver can register capabilities to receive documents and thereby state capabilities to process documents that follow stated rules of the BIS.
- ▶ A receiver should accept and process all conformant documents (that do not break any rules).

2.1.1 Mandatory elements, business rules and code lists

Information about mandatory elements, business rules and code lists is contained in the BIS specification document. Further information can be found at [PEPPOL_PostAward].

2.1.2 Use of decimals

The following rules apply to use of decimals:
- ▶ Currency amounts are stated with maximum 2 decimals rounded as necessary.
  - ▶▶ This applies to all amounts on header and line level except unit prices.
- ▶ 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.

The goal of these rules is to support implementers in harmonizing expectation towards receivers of documents, what can the sender of a document expect the receiver to understand and process of the information content without any previous bi-lateral agreements. The challenge is therefore on senders to present information in reasonable way to fit within these expectations.

2.1.3 On identifiers

Party and Endpoint identifiers

In PEPPOL, parties MUST be identified according to "PEPPOL Policy for use of Identifiers". This policy applies to use of PartyIdentification and Endpoint ID fields. The policy states that the schemeID attribute is mandatory for PartyID and EndpointID. A normative form of the PartyID code list is available as a Genericode file, see PEPPOL BIS [PEPPOL_PostAward] or [PEPPOL_Transp] for more information.
- ▶ Party Identifiers MUST follow the PEPPOL Policy on the use of Identifiers
- ▶ Endpoint Identifiers MUST follow the PEPPOL Policy on the use of Identifiers

Role of the PartyID field is to provide information about the trading partners.
Role of the EndpointID field is to identify the end point (receiving application) and bridges a gap between the transport and the application. It is recommended that PEPPOL Access Points do not base their routing on these information fields.

Address identifiers

Address information can be given by using an identifier. The identifier scheme itself is specified in the attributes of the element:
- Postal address identifiers SHOULD be GLN.
- Country codes MUST be coded using ISO code list 3166-1
- For cross border trade country codes MUST be provided for buyer and seller.

PEPPOL expects issuers of documents to provide minimum address information for parties even if address identifiers are used. This will enable receivers of documents to process them even if they do not have access to the relevant databases otherwise needed for processing and thereby enabling the issuer the reach every participant registered within PEPPOL, without previous bi-lateral setup. Therefore - according to PEPPOL – all documents should at minimum contain the customer and suppliers name and address detail as follows:
- street name and building number
- city name
- zip code
- country code

Location Identifiers

- Location identifiers SHOULD be GLN

2.2   Example XML Implementation walkthrough

The following section uses a sample PEPPOL BIS 4a stylesheet to demonstrate the use of the information contained in a PEPPOL Invoice. The first section (Figure 1 on page 11) shows the more general information of an invoice in a simple layout. The second section (Figure 2 on page 12) displays additional information, such as item details. It should be kept in mind that the XML is the original document and represents the full invoice, even though the visualization display is split into two parts.

In these diagrams each displayed section has been annotated to include labels for the displayed sections (e.g. H01 labels the overall Invoice information). These labels are useful when reading the subsequent sections describing the XML elements used.

| HO3 | **Supplier:** | | | HO2 | **Issue date:** | | **INVOICE** | HO1 |

Supplier:
Salescompany ltd.
Revenue department
Main street 1
Suite 123
Po. Box: 5467
Big city, RegionA, 54321
DK
Party ID: Supp123
VAT id: DK12345

Issue date:
15.12.2009
Invoice period:
01.11.2009— 30.11.2009
Tax point date: 30.11.2009
Due date: 31.12.2009
Invoice currency: EUR

INVOICE
Nr. TOSL108

Buyer:
Buyercompany ltd
Accounting department
Anystreet 8
Back door
Po. Box: 123
Anytown, RegionB, 101
Belgium
Party ID: 345KS5324
VAT id: BE54321

Date of delivery: 2009-12-15
Delivery location
6754238987648
Deliverystreet 12
Side door
DeliveryCity, RegionC, 523427
BE

Ln	Item nr	Name	Qty	Unit	Unit price	VAT	Amount
1	JB007	Labtop computer XYZ	1	c62	1273.00	S	1273.00
2	JB008	Returned "Advanced computing" book	-1	c62	3.96	AA	-3.96
3	JB009	"Computing for dummies" book	2	c62	2.48	AA	4.96
4	JB010	Returned IBM 5150 desktop	-1	c62	25.00	E	-25.00
5	JB011	Network cable	250	mtr	0.75	S	187,50

Booking information: Project cost code 123
Order nr.: 123
Contract reference: Contract321
Contract type: Framework agreement
Invoice note:
Ordered in our booth at the convention.

Sum of lines	1436.50
Allowances	-100.00
Charges	100.00
Total w/o tax	1436.50
VAT	292.20
Rounding	0.30
Invoice total	1729.00

Payment information:
Means: 31 - International bank transfer
Account IBAN id   **BIC id**
DK1212341234123412   DKDKABCD
Payment reference: PaymentRequest12
Account owner (factor)
Ebeneser Scrooge Inc.
Party identifier: 098740918237
Legal registration ID: 6411982340
Terms: Penalty percentage 10% from due date

Paid amount	1000.00
Amount due	729,00

Figure 1 PEPPOL Invoice visualization – summary information

Additional document information

H10 **Additional Supplier details**

Endpoint ID: 1234567890123   **Contact:**
AddressID: 1231412341324   Antonio M Salesmacher
Legal registration: Sales manager
  The Sellercompany Incorporated   Phone: 4621230
  Big City, RegionA, DK   Fax: 4621231
  ID: 5402697509   antonio@salescompany.eu

H11 **Additional Customer details**

Endpoint ID: 1234567890123   **Contact:**
Address ID: 1238764941386   John X Doe
Legal registration: Purchasing manager
  The Buyercompany inc.   Phone: 5121230
  Mainplace, RegionB, BE   Fax: 5121231
  ID: 5645342123   john@buyercompany.eu

VAT breakdown

H12

Level	Rate	Taxable amount	Tax amount
S	20%	1460.00	292.10
AA	10%	1.00	0.10
E	0%	-25.00	0.00
		Total VAT amount: 292.20	

Exemption reason code: AAM
Exempt New Means of Transport

Allowances and charges breakdown

H13

Description	Type	Amount
Packing cost	charge	100,00
Promotion discount	allowance	100.00

Attachments

H14

Id	Attachment type	Reference
Doc1	Timesheet	http://www.suppliersite.eu/sheet001.html
Doc2	Drawing	UjBsR09EbGhjZ0dTQUxNQUFBUUNBRU1tQ1p0dU1GUXhEUzhi

Additional line information

Item details

LD4

Ln	Item no	Standard item id	UNSPSC	CPV	Booking ref	Order line	Note
1	JB007	1234567890124	12344321	65434568	BookingCode001	1	Scratch on box
Processor: Intel Core 2 Duo SU9400 LV (1,4GHz). RAM: 3MB. Screen 1440x900							
		Colour: Black					
2	JB008	1234567890125	32344324	65434567		5	Cover is slightly damaged.
3	JB009	1234567890126	32344324	65434566		3	
4	JB010	1234567890127	12344322	65434565		2	
5	JB011	1234567890128	12344325	65434564	BookingCode002	4	
		Type: Cat5					

Line Allowance and charges

LD5

Ln	Type	Operator	Amount
1	Testing	Charge	10
1	Damage	Allowance	12

Price details and tax amount

LD6

Ln	Supplier id	Allowance/charge	Base price	Percent	Amount	Reason	Tax amount
1	JB007	Allowance	1500.00	15.00	225.00	Contract	254.40
2	JB008		3.96				-0.40
3	JB009	Allowance	2.75	10.00	0.28	Contract	0.50
4	JB010		25.00				0.00
5	JB011		0.75				37.50

Figure 2 PEPPOL Invoice visualization – detail information

2.3 General Invoice information (H01)

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

```
<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:peppol4a:ver1.0
     </cbc:CustomizationID>
     <cbc:ProfileID>urn:www.cenbii.eu:profile:bii04:ver1.0</cbc:ProfileID>
      …
```

Note :
- Process identifier in the document instance MUST correspond to the SMP process identifier.
- An invoice transaction T10 MUST only be used in BIS 4, 5 or 6
- An invoice transaction T10 in BIS 6 MUST have an order reference identifier.

The upper right corner on the displayed invoice shows the word "Invoice". It is a common business and/or legal requirement that the word Invoice should be clearly stated on any invoice. This word can be fixed in the template but may also be processed from the Document Type Code.
Note that PEPPOL BIS 4a only supports the commercial invoice (code 380).

The first tag in the XML states that the document is an Invoice.

```
<Invoice xmlns ...
```

The mandatory field invoice number is drawn from the following tag.

```
<cbc:ID>TOSL108</cbc:ID>
```

The Invoice Type Code tag shows that the invoice type is code 380 which is a "commercial invoice". This information is not shown on the style sheet but can be used to control the label "Invoice" where relevant.

```
<InvoiceTypeCode listID="UN/ECE 1001 Subset" listAgencyID="6">380</cbc:InvoiceTypeCode >
```

- A PEPPOL invoice MUST use InvoiceTypeCode code value 380="Commercial Invoice"

2.3.1 On Currencies

The currency of the invoice is stated in the following tag. For interoperability PEPPOL (and BII) invoices are single currency invoices so the currency stated here applies to all amounts that are part of the summation of the invoice.

```
<cbc:DocumentCurrencyCode listID="ISO 4217 Alpha" listAgencyID="6">EUR</cbc:DocumentCurrencyCode>
```

- DocumentCurrencyCode and currencyID MUST be coded using ISO code list 4217
- An invoice MUST have a currency code for the document.
- Currency Identifier MUST be stated in the currency stated on header level.

Note, that more than one currency can be stated in a document (extended information) but the receiver cannot be expected to handle these without a prior agreement.

2.3.2 Invoice Dates (H02)

An invoice MUST contain issue date. This date is specified in the following format.

```
<cbc:IssueDate>2009-12-15</cbc:IssueDate>
```

The invoice can include information about the period to which it applies. This is particularly relevant to periodic invoicing such as for utilities and communication services.

```
<cac:InvoicePeriod>
   <cbc:StartDate>2009-11-01</cbc:StartDate>
   <cbc:EndDate>2009-11-30</cbc:EndDate>
</cac:InvoicePeriod>
```

The above example states that the invoice is for the period 1st of November 2009 to 30th of November 2009.

VAT Tax point date

Depending on legislation it may be necessary to specify the date that applies to the invoice for VAT tax purposes. If not requested by law this date should only be stated when it differs from Issue Date. This date is stated in the following way in the message.

```
<cbc:TaxPointDate>2009-11-30</cbc:TaxPointDate>
```

Invoice due date

The due date of an invoice is stated in the Payment Means section of the XML document.

```
<cac:PaymentMeans>
.....
   <cbc:PaymentDueDate>2009-12-31</cbc:PaymentDueDate>
.....
</cac:PaymentMeans>
```

2.4   Supplier (H03)

This part of the invoice contains information about the supplier, who is also the issuer of the invoice. In most cases the supplier is the one who will receive the payment (payee). For cases when the payee is a different party refer to the description of Payment Means.

The supplier is described using the AccountingSupplierPary tags.

```
<cac:AccountingSupplierParty>
   <cac:Party>
      ...
   </cac:Party>
</cac:AccountingSupplierParty>
```

Supplier name

An invoice MUST contain the full name of the supplier. The name is stated as.

```
<cac:PartyName>
   <cbc:Name>Salescompany ltd</cbc:Name>
</cac:PartyName>
```

Address

The supplier address can be defined in various ways depending on regional requirements. The PEPPOL/BII specification of an address is intended to support most common requirements. The following elements can be used to display an address in the following conventional way.

Display	Mapping to elements
Revenue department	Department
Main street 1	StreetName BuildingNumber
Suite 123	AdditionalStreetName
Post box 5467	Postbox
Big City, RegionA, 54321	CityName, CountrySubentity, PostalZone
DK	CountryIdentificationCode

This example can then be expressed using the following elements.

```
<cac:PostalAddress>
   <cbc:Postbox>5467</cbc:Postbox>
   <cbc:StreetName>Main street</cbc:StreetName>
   <cbc:BuildingNumber>1</cbc:BuildingNumber>
   <cbc:AdditionalStreetName>Suite 123</cbc:AdditionalStreetName>
   <cbc:Department>Revenue department</cbc:AdditionalStreetName>
   <cbc:CityName>Big City</cbc:CityName>
   <cbc:PostalZone>54321</cbc:PostalZone>
   <cbc:CountrySubentity>RegionA</cbc:CountrySubentity>
   <cac:Country>
      <cbc:IdentificationCode listID="ISO3166-1" listAgencyID="6">DK</cbc:IdentificationCode>
```

```
     </cac:Country>
</cac:PostalAddress>
```

In many cases the building number is stored as part of the street name, in which case the bulding number element is not used.

Party Identifiers

Role of the PartyID is to identify the Supplier. It can assist the receiver in automatically processing of invoices and routing internally. Role of the EndpointID is to identify senders routing service or system.

- Party Identifiers MUST follow the PEPPOL Policy on the use of Identifiers
- Endpoint Identifiers MUST follow the PEPPOL Policy on the use of Identifiers

According to the above policy rule the schemeID is mandatory for both elements.

```
<cbc:EndpointId schemeID="DK:CVR" schemeAgencyID="ZZZ">DK87654321</cbc:EndpointId>
<cac:PartyIdentification>
       <cbc:ID schemeID="GLN" schemeAgencyID="9">4035811991014</cbc:ID>
</cac:PartyIdentification>
```

Address identifier

Address information can be given by using an identifier. The identifier scheme itself is specified in the attributes of the element. In this example, the address identifier is using the attributes for the GLN identifier.

- Postal address identifiers SHOULD be GLN.

```
<cac:PostalAddress>
   <cbc:ID schemeID="GLN" schemeAgencyID="9">1231412341324</cbc:ID>
   ...
</cac:PostalAddress>
```

To ease interoperability and for conformance, even if address identifiers are present in a document, the issuer is expected to provide address information, see chapter 2.1.3 on address identifiers above.

Seller - VAT ID

If the buyer intends to reclaim the VAT tax of an invoice, it is required that the sellers VAT number is stated in the invoice. The sellers VAT can be placed in the invoice in the following way.

```
<cac:PartyTaxScheme>
   <cbc:CompanyID schemeID=" DK:VAT " schemeAgencyID="ZZZ">DK12345</cbc:CompanyID>
   <cac:TaxScheme>
      <cbc:ID schemeID="UN/ECE 5153" schemeAgencyID="6">VAT</cbc:ID>
   </cac:TaxScheme>
</cac:PartyTaxScheme>
```

The VAT number itself is stated in the Company ID tag. As required by the EU commission, in the case of cross border trade, the VAT number itself SHOULD be prefixed with the country code of the issuing country[5].

The Tax Scheme specifies that this is a VAT registration identifier. Each of the tags uses attributes to specify the ID and code scheme used and the issuing agency. The Tax Scheme Identifier must come from the UN/ECE code list 5153, but the VAT Identifiers will be issued by appropriate national institutions.

Seller - Legal registration ID

The company legal registration id is used in several countries and mandatory in some. Example of such an id is the CVR in Denmark.

```
<cac:PartyLegalEntity>
   <cbc:CompanyID schemeID="DK:CVR" schemeAgencyID="ZZZ">1234567890</cbc:CompanyID>
</cac:PartyLegalEntity>
```

---

[5] You can verify the validity of a VAT number issued by any Member State by selecting: http://ec.europa.eu/taxation_customs/vies/vieshome.do.

2.5 Buyer (H04)

This part of the invoice contains information about the buyer, who is also the payer of the invoice. Buyer information is shown as the Accounting Customer Party:

```
<cac:AccountingCustomerParty>
     <cac:Party>
     ...
   </cac:Party>
</cac:AccountingCustomerParty>
```

Buyer name

An invoice MUST contain the full name of the buyer. The name is stated as:

```
<cac:PartyName>
   <cbc:Name>Buyercompany ltd</cbc:Name>
</cac:PartyName>
```

Address

The Customer's address can be defined in various ways depending on regions and requirements. The PEPPOL/BII specification of an address is intended to support most common requirements. The following elements can be used to display an address in the following conventional way.

Display	Source
Accounting department	Department
Anystreet 8	StreetName BuildingNumber
Back door	AdditionalStreetName
Post box 123	Postbox
Anytown, RegionB, 101	CityName, CountrySubentity, PostalZone
BE	CountryIdentificationCode

This example can then be expressed using the following elements.

```
<cac:PostalAddress>
   <cbc:Postbox>123</cbc:Postbox>
   <cbc:StreetName>Anystreet</cbc:StreetName>
   <cbc:AdditionalStreetName>Back door</cbc:AdditionalStreetName>
   <cbc:BuildingNumber>8</cbc:BuildingNumber>
   <cbc:Department>Accounting department</cbc:AdditionalStreetName>
   <cbc:CityName>Anytown</cbc:CityName>
   <cbc:PostalZone>101</cbc:PostalZone>
   <cbc:CountrySubentity>RegionB</cbc:CountrySubentity>
   <cac:Country>
      <cbc:IdentificationCode listID="ISO3166-1" listAgencyID="6">BE</cbc:IdentificationCode>
   </cac:Country>
</cac:PostalAddress>
```

In many cases the building number is stored as part of the street name, in which case the bulding number element is not used.

Party Identifiers

Role of the PartyID is to identify the Buyer. It can assist the receiver in automatically processing of invoices and routing internally. Role of the EndpointID is to identify receivers routing service or system.
- Party Identifiers MUST follow the PEPPOL Policy on the use of Identifiers
- Endpoint Identifiers MUST follow the PEPPOL Policy on the use of Identifiers

According to the above policy rule the schemeID is mandatory for both elements.

```
<cbc:EndpointId ID schemeID="DK:CVR" schemeAgencyID="ZZZ">DK87654321</cbc:EndpointId>
<cac:PartyIdentification>
   <cbc:ID schemeID="GLN" schemeAgencyID="9">345KS5324</cbc:ID>
</cac:PartyIdentification>
```

Address Identifier

Address information can be given by using an identifier. The identifier scheme itself is specified in the attributes of the element. In this example, the address identifier is using the attributes for the GLN identifier.

> ▸ Postal address identifiers SHOULD be GLN.

```
<cac:PostalAddress>
   <cbc:ID schemeID="GLN" schemeAgencyID="9">1231412341324</cbc:ID>
   ...
</cac:PostalAddress>
```

To ease interoperability and for conformance, even if address identifiers are present in a document, the issuer is expected to provide address information, see chapter 2.1.3 on address identifiers above.

Buyer - VAT ID

In cross border trade the Buyer may be allowed to reclaim the VAT tax of an invoice. In such cases the seller may be required to state the buyers VAT id. This is stated in the following tags.

```
<cac:PartyTaxScheme>
   <cbc:CompanyID schemeID="DK:VAT" schemeAgencyID="ZZZ">DK234135245</cbc:CompanyID>
   <cac:TaxScheme>
      <cbc:ID schemeID="UN/ECE 5153" schemeAgencyID="6">VAT</cbc:ID>
   </cac:TaxScheme>
</cac:PartyTaxScheme>
```

The VAT number itself is stated in the Company ID tag. As required by the EU commission, in the case of cross border trade, the VAT number itself SHOULD be prefixed with the country code of the issuing country[6].

The Tax Scheme specifies that this is a VAT registration identifier. Each of the tags uses attributes to specify the ID and code scheme used and the issuing agency. The Tax Scheme Identifier must come from the UN/ECE code list 5153, but the VAT Identifiers will be issued by appropriate national institutions.

Buyer - Legal registration ID

A company legal registration identifier is used in several countries and is mandatory in some. One example of such an identifier is the CVR used in Denmark.

```
<cac:PartyLegalEntity>
   <cbc:CompanyID schemeID="DK:CVR" schemeAgencyID="ZZZ">5645342123</cbc:CompanyID>
</cac:PartyLegalEntity>
```

2.6 Delivery information (H05)

Information about the delivery of the items on the invoice can be given once and apply to all items. The following information can be provided.

```
<cac:Delivery>
   <cbc:ActualDeliveryDate>2009-12-15</cbc:ActualDeliveryDate>
   <cac:DeliveryLocation>
      <cbc:ID schemeID="GLN" schemeAgencyID="9">6754238987648</cbc:ID>
      <cac:Address>
         <cbc:StreetName>Deliverystreet</cbc:StreetName>
         <cbc:AdditionalStreetName>Side door</cbc:AdditionalStreetName>
         <cbc:BuildingNumber>12</cbc:BuildingNumber>
         <cbc:CityName>DeliveryCity</cbc:CityName>
         <cbc:PostalZone>523427</cbc:PostalZone>
         <cbc:CountrySubentity>RegionC</cbc:CountrySubentity>
         <cac:Country>
            <cbc:IdentificationCode>BE</cbc:IdentificationCode>
         </cac:Country>
      </cac:Address>
   </cac:DeliveryLocation>
</cac:Delivery>
```

---

[6] You can verify the validity of a VAT number issued by any Member State by selecting:
http://ec.europa.eu/taxation_customs/vies/vieshome.do.

Date of delivery

The date when the items were actually delivered is shown in ActualDeliveryDate (see above).

Delivery location

Delivery location information can be given by using an identifier. The identifier scheme itself is specified in the attributes of the element. In this example, the location identifier is using the attributes for the GLN identifier.

▶ Location identifier – SHOULD be GLN

Delivery address

The address where the items were delivered at can be given in the DeliveryLocation/Address class as shown in the example above.

▶ A Delivery address SHOULD contain at least city, zip code and country code.

2.7 Additional (header) information (H06)

The invoice may contain additional information in text or as references that apply to the invoice as a whole.

Note field	A general note that applies to the invoice as whole.
Booking information	Codes that can be used to automate booking of the invoice into accounts, reference to project cost codes or account string. The exact codes used in each instance can be stated by buyer or mutually agreed between buyer and seller and can be bi-laterally or industry defined. Codes provided on header level apply to all invoice lines.
Order Reference.	Reference to an order on which the invoice is based.
Contract Reference	A reference to a contract that governs the invoice. Restricted to only one contract.
Contract Type	The type of the referenced contract. For example, a Framework Agreement.

The information is contained in the following tags.

```
<cbc:Note languageID="EN">Ordered in our booth at the convention.</cbc:Note>
```

```
<cbc:AccountingCost>project code 123</cbc:AccountingCost>
```

```
<cac:OrderReference>
   <cbc:ID>123</cbc:ID>
</cac:OrderReference>
```

```
<cac:ContractDocumentReference>
   <cbc:ID>Contract321</cbc:ID>
   <cbc:DocumentType>Framework agreement</cbc:DocumentType>
</cac:ContractDocumentReference>
```

2.8 Allowances and charges (H13)

Allowance and charges that are provided on header level apply to the whole invoice.

▶ The Charge Indicator specifies whether the class instance represents an allowance or a charge and must be in lowercase letters.
▶ AllowanceChargeReason text SHOULD be provided
▶ Allowance must be stated as positive number
▶ Allowance and charges amounts should be stated EXCLUDING VAT.
▶ VAT classification CAN be provided

```
<cac:AllowanceCharge>
   <cbc:ChargeIndicator>false</cbc:ChargeIndicator>
   <cbc:AllowanceChargeReason>Regular Discount</cbc:AllowanceChargeReason>
   <cbc:Amount currencyID="EUR">100</cbc:Amount>
</cac:AllowanceCharge>
```

Allowance and Charges may carry VAT for various reasons and therefore VAT breakdown CAN be provided

```xml
<cac:AllowanceCharge>
   <cbc:ChargeIndicator>true</cbc:ChargeIndicator>
   <cbc:AllowanceChargeReason>Transport</cbc:AllowanceChargeReason>
   <cbc:Amount currencyID="EUR">50</cbc:Amount>

   <TaxCategory>
      <cbc:ID schemeID="UN/ECE 5305" schemeAgencyID="6">S</cbc:ID>
      <cbc:Percent>20.0</cbc:Percent>
      <TaxScheme>
         <cbc:ID schemeID="UN/ECE 5153" schemeAgencyID="6">VAT</cbc:ID>
      </TaxScheme>
   </ClassifiedTaxCategory>
</cac:AllowanceCharge>
```

2.9 VAT total and VAT breakdown (H12)

VAT information is optional in the invoice. If VAT is calculated the following rules apply:
  ▶ If the VAT total amount in an invoice exists it MUST contain the suppliers VAT number.
  ▶ If the VAT total amount in an invoice exists then each invoice line item MUST have a VAT category ID.

Within the invoice the VAT breakdown is structured so that the first information item states the total amount of the VAT and then the subtotal for each VAT category follow. The following rules apply to VAT:
  ▶ An invoice MUST specify the taxable amount per VAT subtotal.
  ▶ An invoice MUST specify the tax amount per VAT subtotal.
  ▶ Every tax category MUST be defined through an identifier.
  ▶ Every tax scheme MUST be defined through an identifier
  ▶ Invoice tax categories MUST be coded using UN/ECE code list 5305
  ▶ Invoice tax schemes MUST be coded using UN/ECE code list 5153

```xml
<cac:TaxTotal>
   <cbc:TaxAmount currencyID="EUR">292.2</cbc:TaxAmount>
   <cac:TaxSubtotal>
      <cbc:TaxableAmount currencyID="EUR">1436.50</cbc:TaxableAmount>
      <cbc:TaxAmount currencyID="EUR">292.20</cbc:TaxAmount>
      <cac:TaxCategory>
         <cbc:ID schemeID="UN/ECE 5305" schemeAgencyID="6">S</cbc:ID>
         <cbc:Percent>20.0</cbc:Percent>
         <cac:TaxScheme>
            <cbc:ID schemeID="UN/ECE 5153" schemeAgencyID="6">VAT</cbc:ID>
         </cac:TaxScheme>
      </cac:TaxCategory>
   </cac:TaxSubtotal>
   <cac:TaxSubtotal>
      .... the TaxSubtotal class is repeated for each tax category.
   <cac:TaxSubtotal>
      ....
   <cac:TaxSubtotal>
      ....
</cac:TaxTotal>
```

Calculations of Tax fields are as follows:

　　　　Total VAT = ∑ VAT subtotal for all TaxSubtotal categories.

For each TaxSubtotal:
　Base for VAT subtotal = ∑ line extension amounts in invoice lines marked with the relevant category
　　　　　　　　　　　　　　　　+ allowance and charges marked with the relevant category

　VAT subtotal in category = "Base for VAT subtotal" multiplied with category tax percentage.

A good internal validation check is to check if the sum of the VAT base equals the sum of line extension amounts. Note that the stated VAT total on line level is informative only.

VAT exemption

When one or more invoice line item is exempt from VAT it may be required to state the reason for the exemption. In the Invoice this can only be stated for the invoice as a whole and thus the exemption reason applies to all lines that are exempt. The exemption reason can be given as a code (using the CWA 15577 tax exemption reason code list issued by CEN/ISSS), a text description or both.

▶ Items that are VAT exempt are categorized with a 0% VAT.

`<cac:TaxTotal>`	
…	
`<cac:TaxSubtotal>`	
…	
`<cac:TaxCategory>`	
`<cbc:TaxExemptionReasonCode listID="CWA 15577"` `listAgencyID="ZZZ">AAM</cbc:TaxExemptionReasonCode`	Code
`<cbc:TaxExemptionReason>Exempt New Means of Transport</cbc:TaxExemptionReason>`	Text
…	
`</cac:TaxCategory>`	
`</cac:TaxSubtotal>`	
`</cac:TaxTotal>`	

2.10 Invoice totals and due date (H07)

The following variables show the totals of an invoice, they are all present in the invoice but they are not all displayed in the invoice sample above. The elements are:

`<cbc:LineExtensionAmount>`	Sum of line amounts
`<cbc:AllowanceTotalAmount>`	Allowance/discounts on document level
`<cbc:ChargeTotalAmount>`	Charges on document level
`<cbc:TaxExclusiveAmount>`	Invoice total amount without VAT
`<cbc:TaxInclusiveAmount>`	VAT total amount
`<cbc:PrepaidAmount>`	Rounding of Invoice total
`<cbc:PayableRoundingAmount>`	Invoice total with VAT (value of purchase)
`<cbc:PayableAmount>`	Paid amounts

Formulas for the calculations of totals are as follows:

LineExtensionAmount = ∑ LineExtensionAmount (at line level)

AllowanceTotalAmount = ∑ Allowance Amount (in AllowanceCharge classes on document level where ChargeIndicator = "false")

ChargeTotalAmount = ∑ Charge Amount (in AllowanceCharge classes on document level where ChargeIndicator = "true")

TaxExclusiveAmount = LineExtensionAmount – AllowanceTotalAmount + ChargeTotalAmount

TaxInclusiveAmount = TaxExclusiveAmount
+ ∑ TaxTotal TaxAmount (where tax scheme = VAT)
+ PayableRoundingAmount

PrepaidAmount = ∑ PaidAmount (from PrepaidPayment classes on document level)

PayableAmount = TaxInclusiveAmount (from the LegalTotal class on document level
- PrepaidAmount (from the LegalTotal class on document level)

The Tax Inclusive Amount shows the total value of the purchase i.e. the amount that is put as charge in the buyers' accounts. The Payable Amount is the amount that the invoice claims for payment and the difference between the two amounts is what has already been paid when it is issued. For example, when there are prepayments, like when the invoice is paid at the point of purchase with a payment card.

Example of calculations:

For the sample document above these are:

Variable in calculation		Sample amounts	Element
Sum of line amounts	+	1436.50	LineExtentionamount
Allowance/discounts on document level	-	100.00	Allowances(Total)
Charges on document level	+	100.00	Charges(Total)
Invoice total amount without VAT	=	1436.50	TaxExclusiveAmount
VAT total amount	+	292.20	TaxAmount
Rounding of Invoice total	+	0.30	PayableRoundingAmount
Invoice total with VAT (value of purchase)	=	1729.00	TaxInclusiveAmount
Paid amounts	-	1000.00	PrepaidAmount
Amount due for payment	=	729.00	Payable amount

PEPPOL assumes:
- Amounts MUST be given to a precision of two decimals.
- Amounts at document level MUST apply to all invoices lines.
- Total payable amount in an invoice MUST NOT be negative
- Tax inclusive amount in an invoice MUST NOT be negative

The above example is presented in the invoice in the following way:

```
<cac:LegalMonetaryTotal>
   <cbc:LineExtensionAmount currencyID="EUR">1436.50</cbc:LineExtensionAmount>
   <cbc:TaxExclusiveAmount currencyID="EUR">1436.50</cbc:TaxExclusiveAmount>
   <cbc:TaxInclusiveAmount currencyID="EUR">1729</cbc:TaxInclusiveAmount>
   <cbc:AllowanceTotalAmount currencyID="EUR">100</cbc:AllowanceTotalAmount>
   <cbc:ChargeTotalAmount currencyID="EUR">100</cbc:ChargeTotalAmount>
   <cbc:PrepaidAmount currencyID="EUR">1000</cbc:PrepaidAmount>
   <cbc:PayableRoundingAmount currencyID="EUR">0.30</cbc:PayableRoundingAmount>
   <cbc:PayableAmount currencyID="EUR">729</cbc:PayableAmount>
</cac:LegalMonetaryTotal>
```

2.11 Payment instructions (H08)

The supplier may include payment information in an invoice in order to inform the buyer how he can pay the amount that is due. This information is an important part of payer's payment initiation instructions where the customer, as payer, instructs his financial institution to deliver the funds to the supplier/payee financial institution.

The most common payment methods are the following:
- IBAN/BIC bank debit transfer (deposit into payer's account e.g. through SWIFT).
- Customer account.
- Cash payment.
- Unspecified.

The payment means is used in different ways depending on the means used. The Payment Means Code specifies what method is being used and can be used to control validation of the information and how the information is displayed. The involved elements are:

`<cbc:PaymentMeansCode>`	Specifies what payment methods is being used.
`<cbc:PaymentDueDate>`	Invoice due date
`<cbc:PaymentChannelCode>`	The payment system used.
`<cbc:PaymentID>`	A reference for matching payment to invoice.
`<cac:PayeeFinancialAccount><cbc:ID>`	Account number
`<cac:FinancialInstitutionBranch><cbc:ID>`	Financial institution branch identifier.
`<cac:PayeeFinancialAccount><cbc:CurrencyCode>`	Account currency.
`<cac:FinancialInstitution><cbc:ID>`	Financial institution identifier.

PEPPOL eInvoice assumes:
- at a maximum only one payment method for each invoice.
- Payment means and terms stated at document level apply to the TotoalPayableAmount.

Payment transfer via SWIFT

The supplier/payee requests the customer/payer to transfer the specified amount into the payees account by using the SWIFT payment network.

```
<cac:PaymentMeans>
   <cbc:PaymentMeansCode listID="UN/ECE 4461 Subset" listAgencyID="6">31</cbc:PaymentMeansCode>
   <cac:PayeeFinancialAccount>
      <cbc:ID schemeID="IBAN">DK1212341234123412</cbc:ID>
      <cac:FinancialInstitutionBranch>
         <cac:FinancialInstitution>
            <cbc:ID schemeID="BIC">DKXDABCD</cbc:ID>
         </cac:FinancialInstitution>
      </cac:FinancialInstitutionBranch>
   </cac:PayeeFinancialAccount>
</cac:PaymentMeans>
```

The above example assumes a bank transfer by using the SWIFT system within Europe[7] in which case the following information is sufficient.

      IBAN = DK1212341234123412
      BIC (SWIFT number) = DKXDABCD

Customer account

By issuing an invoice the supplier claims payment but the settlement of the payment is not necessarily tied to the invoice itself. For example, if the customer has a running account with the seller. The supplier then claims settlement of the account balance periodically, depending on terms in the customer/supplier business contract. Therefore the invoice may not have a due date.

The settlement of the customer account balance is a separate process and is usually based on an account statement that lists invoices, payment, credit notes and other transactions.

```
<cac:PaymentMeans>
   <cbc:PaymentMeansCode listID="UN/ECE 4461 Subset" listAgencyID="6">97</cbc:PaymentMeansCode>
</cac:PaymentMeans>
```

By stating payment means code 97 the suppler informs the buyer that the invoice amount has been credited to his customer account.

Cash payment

In this example the invoice is fully paid before or at the point of issuing.

```
<cac:PaymentMeans>
   <cbc:PaymentMeansCode listID="UN/ECE 4461 Subset" listAgencyID="6">10</cbc:PaymentMeansCode>
</cac:PaymentMeans>
```

By stating payment means code 10 the supplier states that the invoice is paid and therefore contains no claim for payment. The prepaid amount should equal the Tax Inclusive Amount and there is no Payable Amount.

Unspecified

When issuing an invoiced the seller gives no information on how the invoice amount is settled. In these cases there is usually exists a contract that controls the settlement.

```
<cac:PaymentMeans>
   <cbc:PaymentMeansCode>1</cbc:PaymentMeansCode>
   <cbc:PaymentDueDate>2009-12-31</cbc:PaymentDueDate>
</cac:PaymentMeans>
```

By stating code 1 the buyer is not informed on how to settle the invoice amount. If the invoice needs to state the due date but no payment information then this code is used as PaymentMeansCode.

---

[7] Within Europe it is sufficient to use IBAN account identification but that is not the case globally.

Payment identifier

The payment means allows the issuer of the invoice to insert a reference for the expected payment of the invoice (also known as end-to-end reference). When the payer instructs his financial institution to transfer the funds he should include this reference in the payment instructions. When the funds are deposited into the payees account he can use this reference to automate the reconciliation of the financial account statement.

```
<cac:PaymentMeans>
    <cbc:PaymentID>Payref1</cbc:PaymentID>
</cac:PaymentMeans>
```

Different payee

Sometimes the party to receive the paid amount is different from the supplier. For example, in factoring. this party is then the owner of the account into which the payment should be made. Information about this party is given in the following way.

```
<cac:PayeeParty>
    <cac:PartyIdentification>
        <cbc:ID schemeID="GLN" schemeAgencyID="9">098740918237</cbc:ID>
    </cac:PartyIdentification>
    <cac:PartyName>
        <cbc:Name>Ebeneser Scrooge Inc.</cbc:Name>
    </cac:PartyName>
    <cac:PartyLegalEntity>
        <cbc:CompanyID schemeID="UKCH" schemeAgencyID="ZZZ">6411982340</cbc:CompanyID>
    </cac:PartyLegalEntity>
</cac:PayeeParty>
```

2.12 Payment terms (H09)

A due date for the payment can be stated in the following way.

```
<cac:PaymentMeans>
    <cbc:PaymentDueDate>2009-12-31</cbc:PaymentDueDate>
</cac:PaymentMeans>
```

The seller may include textual information about the terms that apply should there be delay in payments.

```
<cac:PaymentTerms>
    <cbc:Note languageID="EN">Penalty percentage 10% from due date.</cbc:Note>
</cac:PaymentTerms>
```

2.13 Additional supplier information (H10)

Supplier's legal name and address

Information about where an organization is registered and their legal name can also be provided.

```
<cac:PartyLegalEntity>
    <cbc:RegistrationName>The Buyercompany Incorporated</cbc:RegistrationName>
    <cac:RegistrationAddress>
        <cbc:CityName>Big City</cbc:CityName>
        <cbc:CountrySubentity>RegionA</cbc:CountrySubentity>
        <cac:Country>
            <cbc:IdentificationCode>DK</cbc:IdentificationCode>
        </cac:Country>
    </cac:RegistrationAddress>
</cac:PartyLegalEntity>
```

Supplier's contact details

Contact information is separated into two. Person details are used to give information about the individual, i.e. their name and job title. Contact details are then used to give information about how this person can be contacted.

```
<cac:Contact>
    <cbc:Telephone>4621230</cbc:Telephone>
    <cbc:Telefax>4621231</cbc:Telefax>
    <cbc:ElectronicMail>antonio@salescompany.dk</cbc:ElectronicMail>
</cac:Contact>
<cac:Person>
    <cbc:FirstName>Antonio</cbc:FirstName>
    <cbc:FamilyName>Salemacher</cbc:FamilyName>
    <cbc:MiddleName>M</cbc:MiddleName>
    <cbc:JobTitle>Sales manager</cbc:JobTitle>
</cac:Person>
```

This information can be formatted as follows.

Antonio M Salemacher	FirstName MiddleName FamilyName
Salesmanager	JobTitle
Phone: 4621230	Telephone
Fax: 4621231	Telefax
Email: **john@salescompany.dk**	ElectronicMail

2.14 Additional buyer information (H11)

Buyer's legal name and address

Information about where the buyer party is registered and their legal name can also be provided.

```
<cac:PartyLegalEntity>
    <cbc:RegistrationName>The Buyercompany Incorporated</cbc:RegistrationName>
    <cac:RegistrationAddress>
        <cbc:CityName>Big City</cbc:CityName>
        <cbc:CountrySubentity>RegionA</cbc:CountrySubentity>
        <cac:Country>
            <cbc:IdentificationCode>DK</cbc:IdentificationCode>
        </cac:Country>
    </cac:RegistrationAddress>
</cac:PartyLegalEntity>
```

Buyers contact

Contact information is separated into two. Person details are used to give information about the individual, i.e. their name and job title. Contact details are then used to give information about how this person can be contacted.

```
<cac:Contact>
    <cbc:Telephone>5121230</cbc:Telephone>
    <cbc:Telefax>5121231</cbc:Telefax>
    <cbc:ElectronicMail>john@buyercompany.eu</cbc:ElectronicMail>
</cac:Contact>
<cac:Person>
    <cbc:FirstName>John</cbc:FirstName>
    <cbc:FamilyName>Doe</cbc:FamilyName>
    <cbc:MiddleName>X</cbc:MiddleName>
    <cbc:JobTitle>Purchasing manager</cbc:JobTitle>
</cac:Person>
```

This information can be formatted as follows.

John X Doe	FirstName MiddleName FamilyName
Purchasing manager	JobTitle
Sími: 5121230	Telephone
Fax: 5121231	Telefax
Tölvupóstur: **john@buyercompany.eu**	ElectronicMail

2.15 Attachment(s) (H14)

Attachments are provided to give reference to any documentation that has relevance to the invoice, such as worksheets or technical specifications, as part of evidentiary documents underpinning the invoice.
- ▶ Any references to Additional documents MUST specify the document identifier.

An invoice can contain two types of attachments, either:
- ▶ ... as a reference to an external link (such as a web path):

```
<cac:AdditionalDocumentReference>
    <cbc:ID>1</cbc:ID>
    <cbc:DocumentType>Timesheet</cbc:DocumentType>
    <cac:Attachment>
        <cac:ExternalReference>
            <cbc:URI>http://www.suppliersite.eu/sheet001.html</cbc:URI>
        </cac:ExternalReference>
    </cac:Attachment>
</cac:AdditionalDocumentReference>
```

- ▶ ... or as an attached document:

```
<cac:AdditionalDocumentReference>
    <cbc:ID>Doc2</cbc:ID>
    <cbc:DocumentType>Drawing</cbc:DocumentType>
    <cac:Attachment>
        <cbc:EmbeddedDocumentBinaryObject mimeCode="application/pdf"
        filename="mydrawing.pdf">UjBsR09EbGhjZ0dTQUxNQUFBUUNBRU1ttQ1p0dU1GGUXhEUzhi</cbc:EmbeddedDocumentBinaryObject>
    </cac:Attachment>
</cac:AdditionalDocumentReference>
```

PEPPOL code rule:
- ▶ Mime code in attribute MUST be MIMEMediaType.

2.16 Invoice line - Item identification (L01)

Information about products or services invoiced is provided by invoice lines. Level of details and their relevance to different processes within the receiving organization can differ considerably. This means that different systems may opt to display different level of detail, depending on the processes they support. The same is valid for style sheets and printouts.

The following rules apply to the invoice line:
- ▶ An invoice MUST specify at least one line item.
- ▶ Invoice lines MUST have a line identifier.
- ▶ Invoice lines MUST have a line total amount.

Line number

Every invoice line must have a line number. The line number is an important identifier that is used both within and for referencing to and from other documents such as orders, credit notes and dispatch advices.

Line numbers must be unique within each invoice.

```
<cac:InvoiceLine>
    <cbc:ID>1</cbc:ID>
```

Items

The basic information provided for identifying the item (products or services) on an invoice is the supplier's item identifier, name and description.
- ▶ Each invoice line MUST contain the product/service name
- ▶ Product names SHOULD NOT exceed 50 characters long

Item name	short product name
Item description.	This element allows for longer textual description of the item that describes the item and its features in more detail than is practical in the item name.
Seller item classification	seller item classification

```
<cac:Item>
   <cbc:Description>AMD Processor, 14" Display, 4GB Memory, 320GB Hard Drive</cbc:Description>
   <cbc:Name>Laptop Computer</cbc:Name>
   <cac:SellersItemIdentification>
      <cbc:ID>JB007</cbc:ID>
   </cac:SellersItemIdentification>
...
</cac:Item>
```

2.17 Quantity and price (L02)

Quantity and unit

The invoice quantity states how much was purchased using the "unit of measure" (UOM) used for the item. The UOM is stated as an attribute for the Invoiced Quantity. In the following example the invoiced quantity is 50 and the UOM is code "C62" (pieces).
▸   Each invoice line SHOULD contain the quantity and unit of measure

```
<cac:InvoiceLine>
   <cbc:InvoicedQuantity unitCode="C62">50</cbc:InvoicedQuantity>
```

Unit price

The Unit Price is net price excluding VAT. This means that any charges, discounts or taxes (other than VAT) have already been calculated into the price.
▸   Unit Price is excluding VAT, including all discounts, charges or other taxes.
▸   Prices of items MUST NOT be negative.

The Unit of Measure (UOM) for the price is stated as an attribute of the optional field BaseQuantity. If the BaseQuantity is not present the UOM on which the price is based is assumed to be the same as the UOM for the invoiced quantity. The BaseQuantity value is assumed to be 1 if not present.
▸   BaseQuantity Default value is 1 (recommended usage).
▸   Line Item Quantity and ItemPrice BaseQuantity SHOULD use the same UOM
▸   BaseQuantity MUST be greater than zero

```
<cac:Price>
   <cbc:PriceAmount currencyID="EUR">1273</cbc:PriceAmount>
   <cbc:BaseQuantity unitCode="C62">1</cbc:PriceAmount>
...
</cac:Price>
```

Information about calculation of unit price, i.e. discounts or charges applied to list prices - can be found in InvoiceLine.Price.AllowanceCharge – are informative and are not part of calculation of Line Extension Amount.

Information about additional discounts or charges is provided as part of InvoiceLine.AllowanceCharge and is part of calculation of Line Extension Amount.

VAT category

The VAT category MUST be given for each line item and defines the VAT that is added to amount.
▸   Calculation of invoice VAT totals is based on the VAT category information.
▸   VAT percentage and InvoiceLine.TaxTotal.Amount are informative.
▸   Invoice tax categories MUST be coded using UN/ECE code list 5305
▸   Invoice tax schemes MUST be coded using UN/ECE code list 5153

▸ The specific codes and the percentages are country specific.

If a line item does not attract VAT or is exempt for some reason it should be categorized as E or Z, (exempt or zero rated).

```
<cac:Item>
   <ClassifiedTaxCategory>
      <cbc:ID schemeID="UN/ECE 5305" schemeAgencyID="6">S</cbc:ID>
      <cbc:Percent>20.0</cbc:Percent>
      <TaxScheme>
         <cbc:ID schemeID="UN/ECE 5153" schemeAgencyID="6">VAT</cbc:ID>
      </TaxScheme>
   </ClassifiedTaxCategory>
</cac:Item>
```

2.18 Line amounts (L03)

The amount for each line is stated in the Line Extension Amount and is defined as: The total amount for the Invoice Line, including Allowance and Charges but net of taxes.

▸ The UOM for the unit price and Invoiced Quantity SHOULD be the same.
▸ The LineExtensionAmount is the net amount excluding VAT.
▸ Allowances and charges on the line are added to the LineExtensionAmount
▸ Allowances and charges that apply to the price are informative only.
▸ Invoice line amount MUST be equal to the price amount multiplied by the quantity plus charges minus allowances at line level.

The formula for calculation of LineAmount is then as follows:

IF BaseQuantity is present THEN

LineExtensionAmount = PriceAmount / BaseQuantity * InvoicedQuantity
- Allowances + Charges

ELSE

LineExtensionAmount = PriceAmount * InvoicedQuantity - Allowances + Charges

END IF

The results of this calculation is stated as:

`<cac:InvoiceLine>`	
`   <cbc:LineExtensionAmount currencyID="EUR">1273</cbc:LineExtensionAmount>`	Line amount

2.19 Additional information on line (L04)

Different additional information can be provided on line level and may be useful when automating the booking process and the invoice reconciliation. These are:

Line note	A general text note that applies to a specific invoice line. Notes that apply to the invoice as a whole should be placed on document level. On paper invoices it is common practice to use invoice lines – often referred to as "zero lines" – to add text notes to the invoice. This is not supported in an electronic invoice and the header level note element should be used instead. Structured properties should not be stated as part of description, but stated as additional item property.
Booking information	This reference can be used to specify booking references or project codes that apply to the line specifically. If a single code applies to the invoice as whole it should be placed in an identical tag on document level and line level tags left empty. The exact codes used in each instance are mutually agreed between buyer and seller and can be bi-laterally or industry defined or provided by the buyer or seller.
Order line reference	Reference to an order line that corresponds to the invoice line.

Standard item identifier This is an item identification number that is based on a standardized schema. If standard identifiers are provided within an item description, a Scheme Identifier SHOULD be provided (e.g. GTIN).

Item classification. A classification of the item based on a standardized classification system SHOULD be based on UN/SPSC or the CPV classification used in public procurement. This classification can be used for creating booking rules for automatic processing of invoices or analysis for purchasing. If both classifications are used in the same invoice the class instance is used twice (once for each code).

Item Properties Various properties for the item, such as colour, size etc. It is possible to provide these as free text in the item description but if they are to be used in automatic processing of the invoice then they should be stated structurally. The class uses two elements, one that states the names of the property and the second that gives its value. These values are usually agreed upon bi-laterally or provided by a wider community.

```xml
<cac:InvoiceLine>
…
   <cbc:Note languageID="EN">Scratch on box</cbc:Note>
…
   <cbc:AccountingCost>BookingCode001</cbc:AccountingCost>
…
   <cac:OrderLineReference>
      <cbc:LineID>2</cbc:LineID>
   </cac:OrderLineReference>
…
   <cac:Item>

      <cac:StandardItemIdentification>
         <cbc:ID schemeID="GTIN" schemeAgencyID="9">1234567890124</cbc:ID>
      </cac:StandardItemIdentification>

      <cac:CommodityClassification>
         <cbc:ItemClassificationCode listAgencyID="113"
                  listID="UNSPSC">12344321</cbc:ItemClassificationCode>
      </cac:CommodityClassification>

      <cac:CommodityClassification>
         <cbc:ItemClassificationCode listAgencyID="2"
                  listID="CPV">65434568</cbc:ItemClassificationCode>
      </cac:CommodityClassification>

      <cac:AdditionalItemProperty>
         <cbc:Name>Color</cbc:Name>
         <cbc:Value>Black</cbc:Value>
      </cac:AdditionalItemProperty>

   </cac:Item>

</cac:InvoiceLine>
```

2.20 Allowance and charge on line (L05)

Individual invoice lines may carry additional charges or allowances that are included in calculation of line extension amount. These should be restricted to occasional cost or discounts that are not part of the unit price, but relate directly to the item itself. Examples are volume discount and service charge. Line level Allowances and Charges must carry the same VAT as the item itself and if they carry different VAT they are best expressed on header level or as additional line items.
Discount and charges that are part of calculation of unit price are expressed in the Unit Price class.
   ▶ Allowance and charges on line level must fall under the same VAT category as the item.
   ▶ Allowance and charges on line level are included in Line Extension Amount calculation.

```
<cac:InvoiceLine>
    <cac:AllowanceCharge>
        <cbc:ChargeIndicator>false</cbc:ChargeIndicator>
        <cbc:AllowanceChargeReason>Damage</cbc:AllowanceChargeReason>
        <cbc:Amount currencyID="EUR">12</cbc:Amount>
    </cac:AllowanceCharge>
</cac:InvoiceLine>
```

The Charge Indicator specifies whether the class instance represents an allowance or a charge and must be in lowercase letters.

2.21 Pricing details and VAT amount (L06)

Pricing

The price of items is given as net price including any discounts or taxes that may apply, excluding VAT.

It may be contractually required to give detailed information about discounts or charges that have been applied to list price, to enable comparison to prices and discounts stated in contracts. This information is informative and should not be considered in the calculation of the Line extension amount or invoice totals.

```
<cac:Price>
    <cac:AllowanceCharge>
        <cbc:ChargeIndicator>false</cbc:ChargeIndicator>
        <cbc:AllowanceChargeReason>Contract</cbc:AllowanceChargeReason>
        <cbc:MultiplierFactorNumeric>0.15</cbc:MultiplierFactorNumeric>
        <cbc:Amount currencyID="EUR">225</cbc:Amount>
        <cbc:BaseAmount currencyID="EUR">1500</cbc:BaseAmount>
    </cac:AllowanceCharge>
</cac:Price>
```

VAT amount

Where required the amount of VAT on the line can be stated in the following way. This is informative since the VAT scheme is used in calculation of totals.

```
<cac:TaxTotal>
    <cbc:TaxAmount currencyID="EUR">254.60</cbc:TaxAmount>
</cac:TaxTotal>
```

3 Implementation support package

PEPPOL provides a package of supportive files that includes among others, the following files. The PEPPOL extension is identified as: eugen. Further information on implementation support can be found at [PEPPOL_PostAward].

3.1 Test files

See the "test files" directory.

Invoice
- BIS04-Invoice-1
- BIS04-Invoice-2

3.2 Stylesheets

See the "stylesheets" directory.

Invoice
- PEPPOL BIS-4a stylesheet.xsl
- BiiCoreInvoice.xslt

3.3 Rule binding

See the relevant "businessrules" directory.

Invoice
- biicore-T10-BusinessRules-v01.ods
- biiprofiles-T10-BusinessRules-v01.ods
- biirules-T10-BusinessRules-v02.ods
- eugen-T10-BusinessRules-v01.ods

3.4 List of artefacts

The following artefacts have been developed and made available for applying the above specification.

3.4.1 Context Value Association Files

See the relevant "cva" directory.

Invoice:
- BIIRULESCodesT10.cva
- EUGENCodesT10.cva

3.4.2 Genericode Files

See the relevant "gc" directory.
Bii
- AccountTypeCode.gc
- AddressFormatCode.gc
- AllowanceChargeReasonCode.gc
- BinaryObjectMimeCode.gc
- ChannelCode.gc
- CountryIdentificationCode.gc
- CountrySubentityCode.gc
- CurrencyCode.gc
- DeliveryTermsID.gc
- DiscrepancyResponseCode.gc
- DocumentTypeCode.gc
- InvoiceTypeCode.gc

- ParentDocumentTypeCode.gc
- PartyID.gc
- PaymentChannelCode.gc
- PaymentMeansCode.gc
- ResponseCode.gc
- StatusCode.gc
- TaxCategoryID.gc
- TaxExemptionReasonCode.gc
- TaxSchemeID.gc
- TaxTypeCode.gc
- UnitOfMeasureCode.gc

Eugen:
- CommodityClassificationCode.gc
- FinancialInstitutionIdentifier.gc
- ItemIdentifier.gc
- LocationIdentifier.gc
- PartyID.gc
- PartyIdentifier.gc
- PostalAddressIdentifier.gc

3.4.3 Schematron Files

See the relevant "schematron" directory.

Invoice:
- BIICORE-UBL-T10.sch
- BIIPROFILES-UBL-T10.sch
- BIIRULES-UBL-T10.sch
- EUGEN-UBL-T10.sch

3.4.3.1 Abstract fragment

See the relevant "Schematron/abastract" directory.

Invoice:
- BIICORE-T10.sch
- BIIPROFILES-T10.sch
- BIIRULES-T10.sch
- EUGEN-T10.sch

3.4.3.2 Codelist fragment

See the relevant "Schematron/codelist" directory.

Invoice:
- BIIRULESCodesT10.sch
- EUGENCodesT10.sch

3.4.3.3 Ubl syntax binding

See the relevant "Schematron/UBL" directory.

Invoice:
- BIICORE-UBL-T10.sch
- BIIPROFILES-UBL-T10.sch
- BIIRULES-UBL-T10.sch

▶ EUGEN-UBL-T10.sch

3.4.4 Validation XSLT

See the relevant "Schematron/validation-xslt" directory.

Invoice:
- ▶ BIICORE-UBL-T10.xsl
- ▶ BIIPROFILES-UBL-T10.xsl
- ▶ BIIRULES-UBL-T10.xsl
- ▶ EUGEN-UBL-T10.xsl