



Business Interoperability Specification



OpenPEPPOL AISBL



Post Award
Coordinating Community

ICT - Models

BIS 18A – Punch Out



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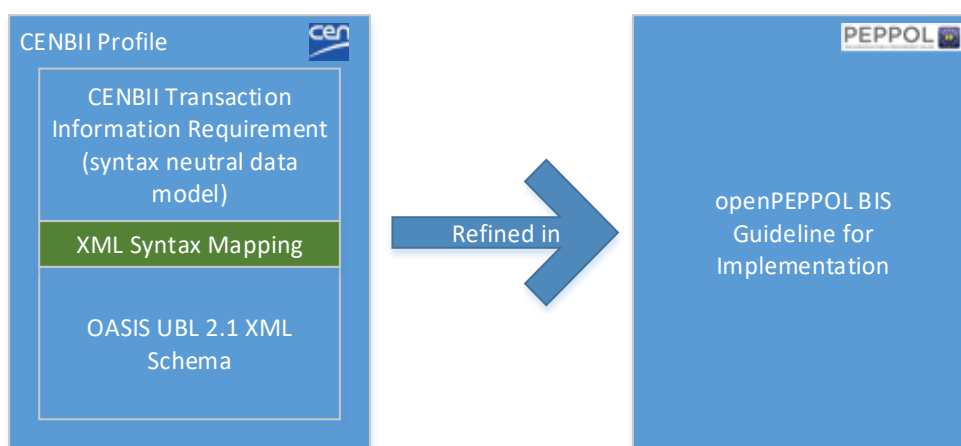
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1 Introduction to openPEPPOL and BIS

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

This PEPPOL BIS provides a set of specifications for implementing a PEPPOL business process. The document is concerned with clarifying requirements for ensuring interoperability of pan-European Public eProcurement and provides guidelines for supporting these requirements and how to implement them. This PEPPOL BIS is based on the CEN WS/BII Profile “BII Profile 18 Punch out CWA 17029-110” [CENBII].

The purpose of this document is to describe a common format for the shopping cart in the European market, and to facilitate an efficient implementation and increased use of electronic collaboration regarding the ordering process based on this format.



1.1 Audience

The audience for this document is organizations wishing to be PEPPOL enabled for retrieving item information through a punch out process, 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

For further information on PEPPOL/OpenPEPPOL please see [PEPPOL].

2 References

[PEPPOL]	http://www.peppol.eu/
[PEPPOL_Transp]	http://www.peppol.eu/ressource-library/technical-specifications/infrastructure-resources
[PEPPOL_Identifiers]	https://joinup.ec.europa.eu/svn/peppol/TransportInfrastructure/PEPPOL_Policy for use of identifiers-300.pdf
[CENBII]	http://www.cenbii.eu , specifically http://www.cenbii.eu/
[UBL]	http://docs.oasis-open.org/ubl/UBL-2.1.html
[UBL_Catalogue]	http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.html#T-CATALOGUE
[Schematron]	http://www.schematron.com http://www.schematron.com
[XSLT]	http://www.w3.org/TR/xslt20/
[GS1]	http://www.gs1.org/barcodes/technical/id_keys
[EIF]	http://ec.europa.eu/idabc/en/document/2319/5644.html

3 Document history

3.1 Revision history

Version	Date	Author	Organisation	Description
1.0	2017-04-01	Georg Birgisson	Midran Limited	First version

3.2 Contributors

The following individuals and their organizations have contributed to the development of this PEPPOL BIS document by participation in team meetings, discussion and by providing expert input and review.

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4 Principles and prerequisites

This chapter describes the principles and assumptions that underlie the use of PEPPOL Punch out. It is based on the CENBII 18 Punch out. See [CENBII].

This document identifies, explains and justifies the business requirements for the Punch Out-process. It provides syntax bindings to OASIS UBL 2.1. It also includes a syntax implementation guide.

The Punch Out BIS describes a process where the buyer accesses the seller’s web-based catalogue, and adds and/or configures items (such as a PC) to a product or service list. The product- or service lists are sent to the buyer’s procurement system, and can later be used as a basis for an order or an item comparison in the buyer’s catalogue tool. The order is prepared and sent from the buyers’s procurement system, not from the seller’s website.

4.1 Scope

The intention of this BIS is the synchronization of the Punch Out catalogue information between the selling and the buying side in a business relationship, where the selling side is the source of the information and the buying side the receiver. In this BIS, the selling side can be any Economic Operator and the buying side any Contracting Authority. The intended scope for this BIS includes business-to-government (B2G) and business-to-business (B2B) relationships. Although this BIS is a basis for an EDI agreement between two parties, it does not address all business level details of such an agreement. It is the provider's responsibility that data contained in the shopping cart transaction is valid from a technical, as well as a business point of view.

The transaction, specified in this BIS are intended to be exchanged between the procurement systems of contracting authorities and systems for shopping cart transactions of economic operators. This document recognizes that when using Punch Out it is common to use synchronous message transfer methods but technical specification of that including the login- and logout transactions are outside scope of this BIS.

In this BIS, synchronization of shopping cart transaction information covers the submission of new information, no update or deletion of information is covered by this BIS. In case of an update/change, the buyer will simply generate a new product- or service list by repeating the process.

The information sourced with the Punch Out BIS may be used in following business process, such as ordering. The order transaction is outside scope of this BIS, we then refer to BISs PEPPOL BIS 3A Order Only or PEPPOL BIS 28A Ordering.

4.2 Goals and Objectives

The following main business goals to be gained by implementing a BII Punch out profile are the following and apply to this BIS.

ID	Description
G18-001	This profile enables quick and easy comparison of different products/services, from different sellers, in the buyer’s procurement system or catalogue tool.
G18-002	The profile enables buyers to receive up to date information on the products/services, such as price and availability.
G18-003	The effort to distribute catalogue information can be substantially reduced for sellers with large catalogues.
G18-004	This profile enables the buyer to use their normal ordering approval procedure.
G18-005	The profile enables buyers to configure their own products (i.e. PC:s or chemical products) on the seller’s website, and receive product-/service-information back to their own system.
G18-006	Increased order accuracy by ensuring high data quality in the procurement system of the buyer.
G18-007	Personalize shopping experience - the sellers' product/services can be presented with photos, customized promotions and recommended accessories.
G18-008	This profile enables the buyer to use their catalogue tool with up-date information

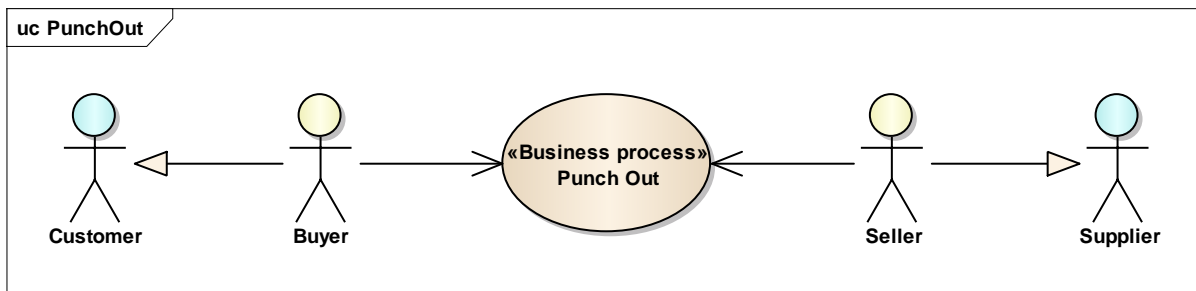
transferred from the sellers system.

4.3 Parties and roles

The table below gives the definitions of the parties and roles of the punch out process.

Business partners	Description
Customer	The customer is the legal person or organization who is in demand of a product or service. Examples of customer roles: buyer, consignee/delivery part, debtor, contracting body.
Supplier	The supplier is the legal person or organization who provides a product or service. Examples of supplier roles: seller, consignor, creditor, economic operator.
Role/actor	Description
Buyer (ReceiverParty)	The buyer is the legal person or organization acting on behalf of the customer and who buys or purchases the goods or services. In the Punch Out BIS the buyer accesses the punch out system, selects the items and quantities he wants and completes the action by punching-out.
Seller (ProviderParty)	The seller is the legal person or organization acting on behalf of the supplier and who sells goods or services to the customer. In the Punch Out BIS the seller provides the punch out system into which the buyer logs on. The seller is responsible for providing up-to-date information on items and other relevant information in the punch out system.

The following diagram links the business processes to the roles performed by the Business Partners.



4.4 Benefits

Based on success with automation of invoicing there is a growing interest in automation of ordering. This approach has two dimensions: Support further automation of invoicing and using structured catalogues as basis for ordering. The Punch Out process is a sourcing process that precedes and supports the ordering. It enables the buyer to retrieve information from the seller and use that information to place an order that can then be used in an order-to-invoice matching process. The Punch Out is a specific type of a sourcing process that supports the growing use of purchasing web portals offered by sellers. Implementing this BIS is an important step for many companies and government agencies towards full procurement automation.

For the sellers, the buyers automated purchasing process can be integrated into their web portals to provide up to date information on items, quantities and prices.

For the procuring agency, up to date item information and prices can be retrieved when required and used for comparison and selection and input to ordering.

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

- ▶ 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 a cost/benefit approach.
- ▶ SME can offer their trading partners the option of exchanging standardized documents in a uniform way and thereby move all procurement sourcing information into electronic form.
- ▶ Large companies can implement this BIS as standardized documents for general operations.
- ▶ Can be used as basis for restructuring of in-house processes of sourcing and ordering.
- ▶ Significant saving can be realized by the procuring agency by automating and streamlining in-house processing.
- ▶ Significant saving can be realized by the sellers 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, sourcing and ordering can be structured.

4.5 Interoperability

This PEPPOL BIS structure is based on the European Interoperability Framework 2.0 [EIF]. PEPPOL BIS applies the Framework as follows:

1. Legal Interoperability
 - ▶ Legal:
 - In implementations supporting public sector buyers, the use of the Punch out BIS has to be monitored in order to secure that the buyers act in line with EU procurement directives.
2. Organizational interoperability
 - ▶ 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 component in an EDI agreement within a trading community.
 - This PEPPOL BIS supports linking of business processes within the sending and receiving organization. The 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 is assumed to be supported by most enterprises whether public or private. These are processes that are used widely or understood as being relevant for most companies.

3. Semantic interoperability

▶ Semantic:

The set of information elements is assumed to be sufficient to support organizational business and processing requirements stated above.

- A CORE business cart message:
 - 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. Issuers and receivers can verify that the exchanged document conforms to the rules of this BIS.

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 invoices.

4. Technical interoperability

▶ Technical Interaction (Process and semantic implementation):

- Binding to OASIS UBL 2.1, 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.

5 Transaction business requirements

Based on the goals and scope of this BIS, the following set of High level requirements are found. Each requirement is connected to a goal.

<i>Req. ID</i>	<i>Requirement statement</i>	<i>Ref. to goal</i>
BR-18-001	The shopping cart transaction should be regarded as the seller's standing offer, and the Seller is thereby obligated to supply the items according to the terms identified in the shopping cart transaction.	G-18-002
BR-18-002	The shopping cart transaction must contain real time information	G-18-002
BR-18-003	The shopping cart transaction must contain sufficient information to enable the buyer to place an order based on the information. Examples being quantity, price, units and sellers item identification.	G-18-004 & G-18-006
BR-18-004	It must be possible to compare information in the shopping cart transaction with that of a static catalogue.	G-18-001
BR-18-005	The shopping cart transaction includes only items added to cart by the buyer.	G-18-003
BR-18-006	The transaction must contain information to identify configured items	G-18-005
BR-18-007	It must be possible to identify the transaction, and ensure it is authentic.	G-18-002
BR-18-008	It should be possible to reference the shopping cart transaction to a single framework agreement, DPS agreement or any other contract or agreement.	G-18-001
BR-18-009	The party exchanging the shopping cart must be specified.	G-18-008

5.1 Specific OpenPEPPOL requirements

ID:	Business term:	Description:
	HEADER LEVEL:	
OP-T77-001	ProviderParty/EndpointID	The seller should be identified with an end point identifier. ¹
OP-T77-002	ReceiverParty/EndpointID	The buyer should be identified with an end point identifier.
	LINE LEVEL:	
		The shopping cart MUST be able to identify which attachment contains the items main image so that it can be processed accordingly.
OP-T77-003	Attachment image identifier	The item main image MUST have an identifier.
OP-T77-004	Attachment image description	The item main image may have a description.
OP-T77-005	Attachment image description code	The item main image MUST be authenticated as such with the code value item_image
OP-T77-006	Attached image document	The item main image MUST be included in the message as a binary object.

¹ In a Punch Out profile the shopping cart transaction may be exchanged by other means than through the PEPPOL network and does not require the identification of the endpoint. It is nevertheless recommended to provide the endpoint ID for parties.

6 Code lists

6.1 Code lists for coded elements

Table of the code lists used in the shopping cart transaction:

Business Term	Allowed SchemeID	Applicable Xpath	Note
Currency Code	ISO4217	//cbc:PriceAmount@currencyID	
MIME Media Type Code	MIME	//cbc:EmbeddedDocumentBinaryObject@mimeTypeCode	See link to codelist below.
Item country of origin	ISO3166-1:Alpha2	//cac:OriginCountry/cbc:IdentificationCode@listID	See link to codelist below.
Unit Of Measure	UNECERec20	//cbc:ValueQuantity@unitCode //cbc:BaseQuantity@unitCode //cbc:BatchQuantity@unitCode cbc:LeadTimeMeasure@unitCode	See link to codelist below.
Item VAT category code	UNCL5305 SUBSET	//cac:TaxCategory/cbc:ID@schemeID //cac:ClassifiedTaxCategory/cbc:ID@schemeID	Subset values are given below
Commodity code	See CENBII COMMODITY_SCHEME_ID	//cbc:CommodityCode/@listID	Note: The CENBII Codelist used for Commodity Scheme Identifier contains commonly used classification systems as listed below. It may be extended with other values.

6.1.1 Links to code lists

CEN BII3 subsets for VAT Code

Subset values are:

Code Value

AE VAT Reverse Charge

E Exempt from tax

S Standard rate

Z Zero rated goods

H Higher Rate, can be used to identify a rate above the standard rate.

AA Lower Rate, can be used to identify a rate below the standard rate.

ISO 4217

<http://www.currency-iso.org/en/home/tables/table-a1.html>

IANA

<http://www.iana.org/assignments/media-types>

ISO 3166-1 alpha2:

http://www.iso.org/iso/home/standards/country_codes.htm

UN/ECE Rec 20:

<http://www.unece.org/tradewelcome/un-centre-for-trade-facilitation-and-e-business-uncefact/outputs/cefactrecommendationsrec-index/list-of-trade-facilitation-recommendations-n-16-to-20.html>

COMMODITY_SCHEME_ID – CENBII

<u>Code</u>	<u>Value</u>
CV	Customs Article Number
GN	National Product Group Code
HS	Harmonised System
CPV	Common Procurement Vocabulary
UNSPSC	UNSPSC
eCLASS	eCLASS
GPC	GS1 Global Product Classification

6.2 Codelists for identifier schemes

Table of the code lists used to constrain the values of schemeID for identifiers in the order transaction:

Business Term	Allowed SchemeID	Applicable Xpath	Note
Party Identifier	See chapter 10.1	cbc:EndpointID/@schemeID cac:PartyIdentification/cbc:ID/@schemeID	Mandatory Mandatory
Business process type identifier	Set value see chapter 10.3	cbc:ProfileID	Mandatory
Specification identification	Set value see chapter 10.4	cbc:CustomizationID	Mandatory

7 Business Rules

7.1 Punch Out business rules

The following rules apply to the implementation and general use of the Punch Out BIS.

RuleID	Rule
BII3-P18-R001	The shopping cart transaction includes only items added to cart by the buyer.
BII3-P18-R002	The method of exchanging the transaction must enable the buyer to ensure it's authentic.
BII3-P18-R003	Seller is obligated to supply the items according to the terms and quantity stated in the shopping cart transaction.

7.2 Punch Out PEPPOL business rules

The following additional rules apply to the implementation and general use of the Punch Out BIS in the PEPPOL environment.

RuleID	Rule
OP-P18-R001	Information for configured products supersedes information for its component items.
OP-P18-R002	Cart lines that contain additional item property name as ConfiguredProductIdentifier may not be ordered individually.
OPP18-R003	IssueDate may not be backdated.

7.3 BII Shopping cart transaction rules

The following rules apply to the shopping cart transaction as it is used in the Punch Out BIS.

Rule ID	Rule	Target	Error level
BII3-T77-R001	A shopping cart MUST have a customization identifier.	tir77-007	fatal
BII3-T77-R002	A shopping cart MUST have a profile identifier.	tir77-006	fatal
BII3-T77-R003	A shopping cart MUST contain the date of issue.	tir77-002	fatal
BII3-T77-R004	A shopping cart MUST contain the time of issue.	tir77-003	fatal
BII3-T77-R005	A shopping cart MUST contain the shopping cart identifier.	tir77-001	fatal
BII3-T77-R006	A shopping cart MUST specify the buying party.	tir77-010	fatal
BII3-T77-R007	A shopping cart MUST specify the selling party.	tir77-013	fatal
BII3-T77-R008	A shopping cart MUST have at least one shopping cart line.	tir77-015	fatal
BII3-T77-R009	A shopping cart line MUST contain a unique line identifier.	tir77-015	fatal
BII3-T77-R010	Shopping cart line quantities MUST be greater than ZERO.	tir77-017	fatal
BII3-T77-R011	Prices of items MUST not be negative.	tir77-032	fatal
BII3-T77-R012	An item in a shopping cart MUST be uniquely identifiable by either "item sellers identifier" or "item standard identifier"	tir77-022 tir77-023	fatal
BII3-T77-R013	An item in a shopping cart MUST have a name.	tir77-021	fatal
BII3-T77-R014	If item labelling is used, both label name and type MUST be present.	tir77-030 tir77-031	fatal

Rule ID	Rule	Target	Error level
BII3-T77-R015	A shopping cart line MUST specify line VAT information.	tir77-034 tir77-035	fatal
BII3-T77-R016	A shopping cart MUST contain the shopping cart currency	tir77-032	fatal
BII3-T77-R017	A validity period MUST contain the "shopping cart validity period end date" at most once	tir77-009	fatal
BII3-T77-R018	A seller MUST contain the full name and it should be at most once	tir77-013	fatal
BII3-T77-R019	A seller id MUST be at most one	tir77-014	fatal
BII3-T77-R020	A buyer MUST contain the full name and it should be at most once	tir77-010	fatal
BII3-T77-R021	A shopping cart line MUST contain a shopping cart line quantity and it should be at most one	tir77-017	fatal
BII3-T77-R022	A shopping cart line MUST contain configured product identifier at most once	tir77-018	fatal
BII3-T77-R023	An item in a shopping cart line SHOULD have at most one description	tir77-039	warning
BII3-T77-R024	An item in a shopping cart line SHOULD have at most one manufacturers item identification	tir77-024	warning
BII3-T77-R025	An item in a shopping cart line SHOULD have at most one attachment	tir77-036	warning
BII3-T77-R026	An item in a shopping cart line SHOULD have at most one attachment document description	tir77-037	warning
BII3-T77-R027	An item in a shopping cart line SHOULD have at most one manufacturer party name	tir77-025	warning
BII3-T77-R028	An item in a shopping cart line SHOULD have one and at most one line item VAT category code	tir77-34	warning
BII3-T77-R029	An item in a shopping cart line SHOULD have one and at most one line item VAT rate	tir77-35	warning
BII3-T77-R030	An item in a shopping cart line SHOULD have at most one commodity classification	tir77-028	warning
BII3-T77-R031	Classification codes SHOULD contain the Classification scheme Identifier (e.g. CPV or UNSPSC)	tir77-028	warning

7.4 Peppol specific transaction rules

Following rules have been defined by OpenPeppol in addition to the rules adopted from the BII specifications. These rules apply in all implementations that follow this PEPPOL BIS.

Rule ID	Rule	Target	Error level
EUGEN-T77-R001	CustomizationID MUST be urn:www.cenbii.eu:transaction:biitrns077:ver2.0: extended: www.peppol.eu:bis:peppol18a:ver1.0	tir77-007	fatal
EUGEN-T77-R002	ProfileID MUST be urn:www.cenbii.eu:profile:bii18:ver1.0	tir77-006	fatal
EUGEN-T77-R003	The validity period end date MAY not be earlier than the issue date.	tir77-008	fatal
EUGEN-T77-R004	Complete cart indicator MAY only be "true" or "false"	tir77-005	fatal
EUGEN-T77-R006	The shopping cart message SHOULD contain the	OP-T77-001	warning

Rule ID	Rule	Target	Error level
	Sellers end point id.		
EUGEN-T77-R007	The shopping cart message SHOULD contain the Buyers end point id.	OP-T77-002	warning
EUGEN-T77-R008	Unit code for price base quantity MUST be same as for batch quantity.	tir77-033	fatal
EUGEN-T77-R009	Each line MUST have a price.	tir77-032	fatal
EUGEN-T77-R010	For AdditionalItemProperties where name is ServiceIndicator the value MUST be "true" OR "false".	tir77-026	fatal
EUGEN-T77-R011	LeadTimeMeasure unitCode MUST only be DAY meaning calendar day.	tir77-016	fatal
EUGEN-T77-R012	Only one attachment MAY be identified as main image.	OP-T77-005	fatal
EUGEN-T77-R013	Each item label MUST have an item label name.	tir77-030	fatal
EUGEN-T77-R014	Each item label MUST have an item label value.	tir77-031	fatal
EUGEN-T77-R015	UBLVersionID MUST be 2.1		fatal
EUGEN-T77-R017	Item classification codes MUST include code list value (listID).	tir77-028	fatal

7.5 Codelists business rules

Identifier	Business Rule
CL-T77-R002	Unit code for BatchQuantity MUST be coded according to the UN/ECE Recommendation 20
CL-T77-R003	Unit code for Price/BaseQuantity MUST be coded according to the UN/ECE Recommendation 20
CL-T77-R004	currencyID for Amounts MUST be coded using ISO code list 4217.
CL-T77-R005	Item VAT category code MUST be coded using UNCL 5305 code list BII3 subset.
CL-T77-R006	For Mime code in attribute use MIME Media Types.
CL-T77-R007	An Endpoint Identifier Scheme MUST be from the list of PEPPOL Party Identifiers described in the "PEPPOL Policy for using Identifiers".
CL-T77-R008	A Party Identifier Scheme MUST be from the list of PEPPOL Party Identifiers described in the "PEPPOL Policy for using Identifiers".
CL-T77-R009	A standard item identifier scheme MUST be coded according to the list Item Identifier Scheme ID defined by PEPPOL.
CL-T77-R010	Commodity code schemes MUST be according to CENBII3 COMMODITY_SCHEME_ID.

8 Process and typical use cases

The Punch Out BIS includes the sending of Shopping cart information from a Seller to a Buyer.

8.1 Process flow

The Punch Out process flow can be described as follows:

The Buyer is “re-directed” from his procurement system to the seller’s Punch Out enabled website. The buyer searches the website.

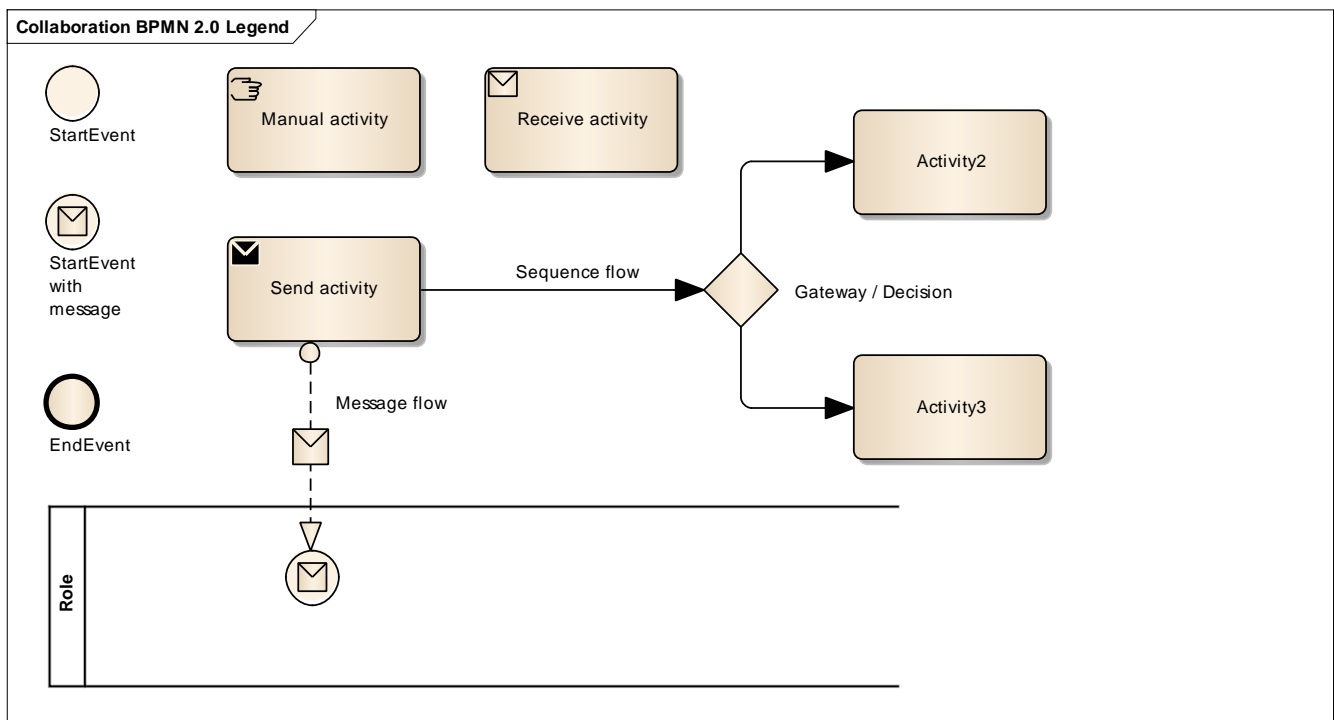
At the website the buyer search and select articles which are added to a shopping cart.

When the the buyer checks out of the website, a transaction (Punch Out) with item information of the selected item is sent to the buyer’s procurement system.

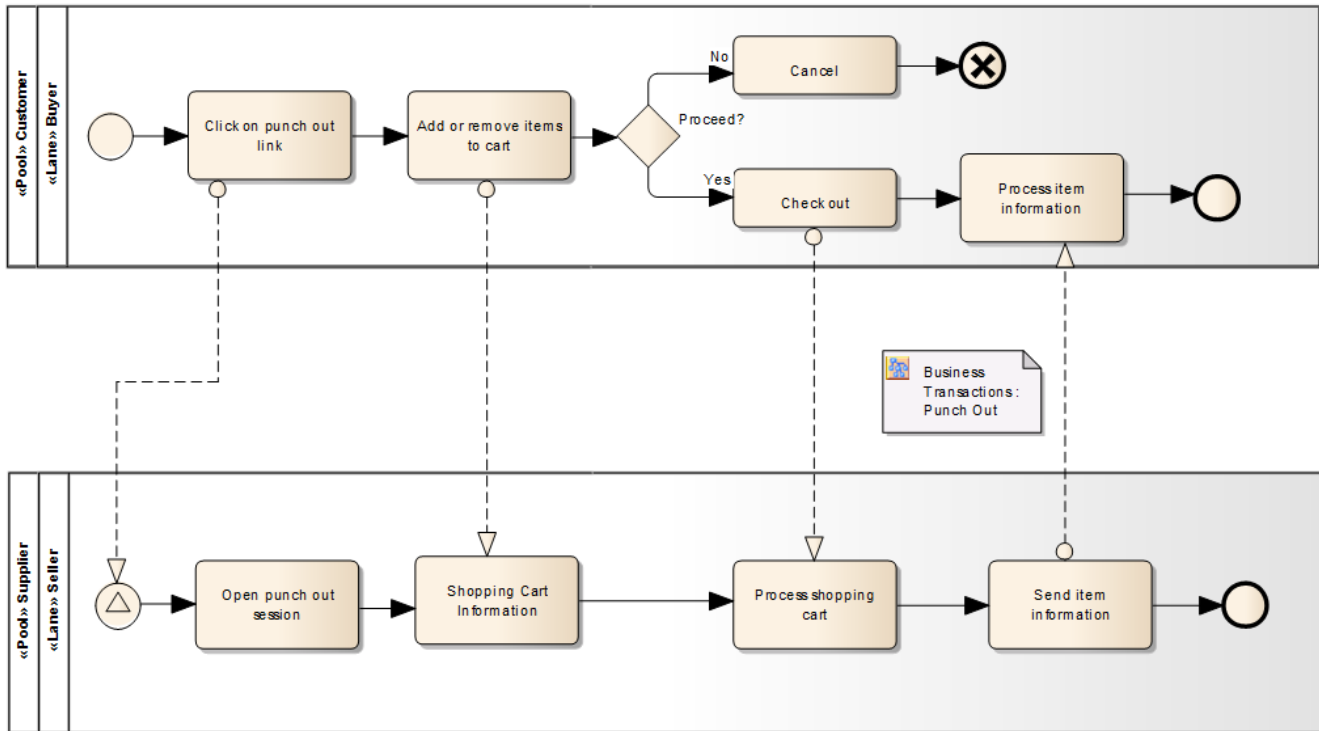
8.2 Business process Diagram

8.2.1 Legend for BPMN diagrams

The diagrams are expressed in the BPMN notation. The diagram below serves as an explanation for the diagrams used in the process descriptions.



The following diagram shows the choreography of the business process implemented by the BIS.



8.3 Use case 1 – Punch out used for ordering

This use case describes when a buyer uses the Punch out to retrieve item information that he can use in his procurement systems for ordering.

Use Case number	1
Use Case Name	Punch Out used for ordering
Use Case Description	The customer/buyer is working in the in-house procurement system, selects a seller that has a Punch Out Catalogue, and clicks to see that seller’s products. The procurement system then automatically sends a login request to the seller’s website, and the procurement system opens the remote website.
Parties involved	Buyer Seller
Assumptions	The Seller has a website that allows the customer/buyer to automatically log into from his purchasing system. The seller’s website shows what items are contracted.
The flow	The buyer searches the website for items needed, and chooses to add some to the shopping cart. It is clearly visible which items are contracted. After selecting all required items, the buyer then chooses to check out. A transaction with information of the selected items is sent to the buyer’s procurement system, all information being real time, resulting in correct and up to date information on price, availability and lead-time. Seller’s website logs out the buyer, and the buyer is redirected back to the procurement system. The buyer then follows the normal order approval procedure, and places an order based on the items in the cart.
Result	The buyer has received information about the items that he selected into his cart in a message that is structured like a catalogue that can be imported into his purchasing system and used as basis for an order.
XML example file	See Appendix A for a sample file illustrating Use Case 1.

8.4 Use case 2 – User cancels session

This use case describe when, after having selected items into a shopping cart, the buyer cancels.

Use Case number	2
Use Case Name	User cancels session
Use Case Description	After having logged into a website which allows Punch Out and selected items into a shopping cart, the buyer cancels the process.
Parties involved	Buyer Seller
Assumptions	The Seller has a website that allows the customer/buyer to automatically log into from his purchasing system.
The flow	<p>The customer/buyer is working in their procurement system, looking for a seller of office supplies.</p> <p>The buyer selects a seller to see that seller’s products. The selected seller provides Punch Out catalogue. The procurement system then automatically sends a login request to the seller’s website, and the procurement system opens the website.</p> <p>The buyer searches the website for the items needed, and add these to the shopping cart. After selecting some items, the buyer chooses to cancel instead of doing a check out.</p> <p>The procurement system automatically logout of the seller’s website, and the buyer is redirected back to the procurement system.</p>
Result	Buyer has aborted his connection to the website. The shopping cart has been cleared and no commitments have been made.
XML example file	None specific for this use case.

8.5 Use case 3 – User configures product/services

This use case describes a process where a buyer uses a punch out system to configure a product by selecting several components and features from a catalogue.

Use Case number	3
Use Case Name	User configures product/services
Use Case Description	The buyer uses the functionality in the sellers website to configure a product or a service.
Parties involved	Buyer Seller
Assumptions	The Seller has a website that allows the customer/buyer to automatically log into from his purchasing system.
The flow	<p>The customer/buyer is working in their procurement system, and is searching for a seller of PC’s.</p> <p>The buyer selects a seller to see that seller’s products. The selected seller’s catalogue is Punch Out enabled. The procurement system then automatically sends a login request to the seller’s website, and the procurement system opens the website.</p> <p>The buyer then use the functionality in the seller’s website to select and configure a PC. When the buyer checks out of the website the item information of the configured item is automatically sent to the buyer’s procurement system. The procurement</p>

	system automatically logout of the seller’s website, and the buyer is redirected back to the procurement system. From the procurement system, the buyer follows the normal ordering procedures when ordering the PC, using the identifier of the configured item as a reference for the seller.
Result	The buyer has retrieved information about a configured item.
XML example file	See Appendix A for a sample file illustrating Use Case 4.

9 Description of selected parts of the shopping cart message

A shopping cart message must at minimum contain the following information:

- ▶ The cart identifier.
- ▶ The date and time when the shopping cart message was created.
- ▶ Identifier of the business process that it belongs to.
- ▶ Identifier of the message specification that applies to the shopping cart message.
- ▶ The name of the party that provides the cart message, i.e. the seller.
- ▶ The name of the party that receives the cart message, i.e. the buyer.
- ▶ One or more message lines each of which contains at minimum the following:
 - a. A line identifier.
 - b. The line quantity.
 - c. The name of the item.
 - d. The price of the item.
 - e. The VAT category and percentage rate for the item.

In addition to the mandatory information the shopping cart may optionally contain additional information details. The following sections detail how different parts of the shopping cart message are used.

9.1 The Shopping Cart

9.1.1 Identification and dates.

In the beginning of the shopping cart message there is information that identifies the shopping cart itself which allows for managing it in a processing flow as well as referencing it from other documents and processes. This is given by an identifier as well as the date and time when the shopping cart message is created. This would normally be the time when the buyer punches out from the sellers web store.

The identifier is created by the seller and may be of any format. The date and time must not be in the future.

```
<cbc:ID>1387</cbc:ID>
<cbc:IssueDate>2016-08-01</cbc:IssueDate>
<cbc:IssueTime>09:00:00</cbc:IssueTime>
```

The shopping cart also includes two identifiers that identify the process that the shopping cart is used in. The specification that define how the shopping cart message is structured and how its information shall be processed is stated with the customization ID. This ID is always the same for all shopping cart messages that comply to this version of PEPPOL BIS 18A. Each shopping cart messaga must comply to the specification referenced .

```
<cbc:CustomizationID>urn:www.cenbii.eu:transaction:biitrns077:ver2.0:extended:
www.peppol.eu:bis:peppol18a:ver1.0</cbc:CustomizationID>
```

The process it self is the Punch Out process as defined in this BIS specification. This given in the message as follows and is always the same for all message instances that comply to this version of PEPPOL BIS 18A.

```
<cbc:ProfileID>urn:www.cenbii.eu:profile:bii18:ver1.0</cbc:ProfileID>
```

Rule: ProfileID = urn:www.cenbii.eu:profile:bii18:ver1.0

9.1.2 Sellers conditions

The shopping cart allows the seller to set conditions on how the buyer may order.

The seller may set a limit of the validity time for the information in the shopping cart. A shopping cart is valid from the time it is issued until the time stated in the validity period. That time may not be before the time when the cart is issued. If only validity end date is given the cart is valid until end of that day in the sellers time zone. The seller may also set validity time for individual lines. Validity end time is given as follows.

```
<cac:ValidityPeriod>
  <cbc:EndDate>2016-08-31</cbc:EndDate>
  <cbc:EndTime>18:00:00</cbc:EndTime>
</cac:ValidityPeriod>
```

The seller may set the condition that the offer made in the shopping cart is only valid if all item in the cart are ordered. That is the buyer may not select only certain items or change the quantities of the items listed in the cart. This is given by the complete cart indicator. If the value of the indicator is "true" the buyer must either order all or none of the cart. The default value of the indicator is "false" meaning that if the element is not included in the message the buyer may order part of the cart. Following is an example.

```
<cbc:ActionCode>true</cbc:ActionCode>
```

The seller may reference a contract that governs the offer made in the shopping cart. The terms and conditions of a referenced contract supersedes the information given in individual shopping carts. Following is an example:

```
<cac:ReferencedContract>
  <cbc:ID>CRT1387</cbc:ID>
</cac:ReferencedContract>
```

9.1.3 Parties

The following parties/roles may be specified in the message:

9.1.3.1 Seller

The seller is the legal person or organization acting on behalf of the supplier and who sells goods or services to the buyer. The seller is given as the Provider Party in UBL [UBL_Catalogue] and is mandatory in the PEPPOL BIS Shopping Cart message. The seller must be identified with a name but may additionally be identified with an identifier.

The end point identifier is the PEPPOL network address [PEPPOL_Transp] and the schemeID identifies the governance of the identifier used, in line with PEPPOL specifications on the use of identifiers [PEPPOL_Identifiers].

Example:

```
<cac:ProviderParty>
  <cbc:EndpointID schemeID="NO:ORGNR">965678996</cbc:EndpointID>
  <cac:PartyIdentification>
    <cbc:ID schemeID="GLN">5790000435951</cbc:ID>
  </cac:PartyIdentification>
  <cac:PartyName>
    <cbc:Name>ABC Supplier Ltd.</cbc:Name>
```

```
</cac:PartyName>
</cac:ProviderParty>
```

9.1.3.2 Buyer

The buyer is the legal person or organization acting on behalf of the customer who buys or purchases the goods or services. The buyer is given as the ReceiverParty in UBL [UBL_Catalogue] and is mandatory in the PEPPOL BIS Shopping cart message.

The endpoint identifier is the PEPPOL network address [PEPPOL_Transp] and the schemeID identifies the governance of the identifier used, in line with PEPPOL specifications on the use of identifiers [PEPPOL_Identifiers]. The buyer must be identified with his name but may additionally be identified with the sellers customer identifier and/or a registered identifier.

Example:

```
<cac:ReceiverParty>
  <cbc:EndpointID schemeID="NO:ORGNR">984661185</cbc:EndpointID>
  <cac:PartyIdentification>
    <cbc:ID schemeID="GLN">5790000435944</cbc:ID>
  </cac:PartyIdentification>
  <cac:PartyIdentification>
    <cbc:ID schemeID="ZZZ">SELLERASSIGNEDID</cbc:ID>
  </cac:PartyIdentification>
  <cac:PartyName>
    <cbc:Name>DEF Customer Ltd.</cbc:Name>
  </cac:PartyName>
</cac:ReceiverParty>
```

9.2 The shopping cart line

Each shopping cart line must have an id to support processing and referencing of individual lines . The ID is created by the seller and may be of any structure but a line id must be unique within the shopping cart message. Example of a series of line identifiers is 1, 2, 3, 4, 5 ... or any other structure. The lines do not need to be ordered in the message. An example of a line identifier is below:

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

9.2.1 Configured products

The seller may define a configured product in a shopping cart and then list the individual items that are part of the configured product in a structured way as described in this clause. The seller may also describe a configured product in an unstructured way as item description. The items that are part of a configured product reference the Sellers Item number for the configured product that it is part of. No reference is made from the configured product to the item.

A shopping cart line that is part of a configured product can not be ordered individually. If configured products are part of a shopping cart that has complete cart indicator as true then a full ordering of the cart means purchase of its configured products only but not additionally the individual items that are part of them. These items can be offered individually with additional lines in the cart where the item is not statet as "part of" the configured product. If information for individual items conflict with the information given for the configured items the configured item supersedes. An example of an item that is part of a configured product.

```
<cac:AdditionalItemProperty>
  <cbc:Name>PartOf</cbc:Name>
  <cbc:Value>PC01</cbc:Value>
</cac:AdditionalItemProperty>
```

Example: Item ConfXX02 is configured by 1 of item 12345 and 2 of item 6789. The order will be ONLY on Item ConfXX02.

Catalogue line 1 – the configured product

```

<cac:CatalogueLine>
  <cbc:ID>1</cbc:ID>
...
  <cac:RequiredItemLocationQuantity>
    <cac:Price>
      <cbc:PriceAmount currencyID="EUR">1000.00</cbc:PriceAmount>
    </cac:Price>
    <cac:DeliveryUnit>
      <cbc:BatchQuantity unitCode="C62">1</cbc:BatchQuantity>
    </cac:DeliveryUnit>
  </cac:RequiredItemLocationQuantity>

  <cac:Item>
...
    <cac:SellersItemIdentification>
      <cbc:ID>ConfXX02</cbc:ID>
    </cac:SellersItemIdentification>

  </cac:Item>
</cac:CatalogueLine>

```

Catalogue line 2 – an item that is part of the configured product.

```

<cac:CatalogueLine>
  <cbc:ID>2</cbc:ID>
...
  <cac:RequiredItemLocationQuantity>
    <cac:Price>
      <cbc:PriceAmount currencyID="EUR">1100.00</cbc:PriceAmount>
    </cac:Price>
    <cac:DeliveryUnit>
      <cbc:BatchQuantity unitCode="C62">1</cbc:BatchQuantity>
    </cac:DeliveryUnit>
  </cac:RequiredItemLocationQuantity>

  <cac:Item>
...
    <cac:SellersItemIdentification>
      <cbc:ID>12345</cbc:ID>
    </cac:SellersItemIdentification>
    <cac:AdditionalItemProperty>
      <cbc:Name>PartOf</cbc:Name>
      <cbc:Value>ConfXX02</cbc:Value>
    </cac:AdditionalItemProperty>

  </cac:Item>
</cac:CatalogueLine>

```

Catalogue line 3 – another item, two of which are part of the configured product.

```

<cac:CatalogueLine>
  <cbc:ID>3</cbc:ID>
...
  <cac:RequiredItemLocationQuantity>

```

```

        <cac:Price>
            <cbc:PriceAmount currencyID="EUR">20.00</cbc:PriceAmount>
        </cac:Price>
        <cac:DeliveryUnit>
            <cbc:BatchQuantity unitCode="C62">2</cbc:BatchQuantity>
        </cac:DeliveryUnit>
    </cac:RequiredItemLocationQuantity>

```

...

```

    <cac:Item>

        <cac:SellersItemIdentification>
            <cbc:ID>6789</cbc:ID>
        </cac:SellersItemIdentification>
        <cac:AdditionalItemProperty>
            <cbc:Name>INST01</cbc:Name>
            <cbc:Value>PC01</cbc:Value>
        </cac:AdditionalItemProperty>

    </cac:Item>

```

```

</cac:CatalogueLine>

```

Note that the sum of the price multiplied by quantity of the items contained in the configured item does not have to equal the price of the configured product. The price of the contained items may show the pr. unit price but the configured price may include a price reduction.

9.2.2 Availability dates and lead time

A shopping cart line may state the item availability date which is first day before the end of which the particular item can and will be shipped from the seller. If availability date is before the cart issue date then the item is immediately available. The availability of all items in the cart ends when the validity period of the cart ends. Availability date for an item is given as follows.

```

<cac:CatalogueLine>
...
    <cac:LineValidityPeriod>
        <cbc:StartDate>2016-08-07</cbc:StartDate>
    </cac:LineValidityPeriod>

```

A shopping cart line may state the lead time for the item. This is the maximum number of working days that may pass from the day the seller receives an order until the day the item is shipped from the seller. The seller may ship earlier. A lead day of one (1) means that an item will be shipped no later than the end of next working day according to the sellers regional calendar. The delivery lead time is given as follows:

```

    <cac:RequiredItemLocationQuantity>
        <cbc:LeadTimeMeasure unitCode="DAY">10</cbc:LeadTimeMeasure>
    </cac:RequiredItemLocationQuantity>

```

When an availability start date is earlier than the end of the lead time the seller may ship at or before the end of the lead time.

9.2.3 Contract reference

An individual line may reference a contract. Different lines may reference different contracts. If a contract is referenced on the cart level that contract applies to all items in the shopping cart and is only superseded by the line reference where there is a conflict. As example, if a cart level contract reference give payment terms and the line level contrac only states delivery conditions for the item then the payment terms apply as well. An example of line level contract reference is as follows. "Contracted item indicator", should be used when shopping from sellers webshop under framework agreements.

```

<cac:CatalogueLine>
...

```



```
<cbc:ContractSubdivision>CRT1387</cbc:ContractSubdivision>
```

9.2.4 Item information

9.2.4.1 Product identification

Which identifier to use depends on what is known at the time of ordering or what is commonly used in the relevant business sector.

Each cart line MUST have an item name and an identifier. Product identification must be done using one or both of the identifiers described below:

- Sellers ID
- Standard ID, e.g. the GS1 Global Trade Item Number (GTIN) used by the seller [GS1]

Manufacturers item identification can not be used alone to identify a product. The Product name must be sent in tag Item/Name on line level.

Example of an PEPPOL BIS Shopping Cart item using both Sellers ID, Manufacturers ID and Standard ID (GTIN):

```
<cac:Item>
....
    <cac:SellersItemIdentification>
        <cbc:ID>PC01</cbc:ID>
    </cac:SellersItemIdentification>
    <cac:ManufacturersItemIdentification>
        <cbc:ID>PC01349087993</cbc:ID>
    </cac:ManufacturersItemIdentification>
    <cac:StandardItemIdentification>
        <cbc:ID schemeID="GTIN">1234567890123</ID>
    </cac:StandardItemIdentification>
...
</cac:Item>
```

The name of the manufacturing party may also be given as follows:

```
<cac:ManufacturerParty>
    <cac:PartyName>
        <Name>The PC Manufacturing Party</cbc:Name>
    </cac:PartyName>
</cac:ManufacturerParty>
```

9.2.4.2 Item name and description

Description of a product can be sent in Item/Description.

The Product name is sent in the shopping cart from buyer to seller.

Example in an PEPPOL BIS Shopping Cart message:

The Name is preferably short so that it is suitable for use in a order or invoice line or as a heading. A description allows for longer text that describes the item in detail.

```
<cac:Item>
    <cbc:Description>One Personal Computer package with a monitor
    and setup service</cbc:Description>
    <cbc:Name>PC omputer package</cbc:Name>
...
</cac:Item>
```

9.2.4.3 Item properties

A shopping cart line may state if the item described in the line is a service by stating the item property ServiceIndicator as true. The line may also identify that the item is not a service with the value false. There is no default value so if the ServiceIndicator is not given the item may be either a service or not. An item that is a service is identified as follows:

```
<cac:AdditionalItemProperty>
  <cbc:Name>ServiceIndicator</cbc:Name>
  <cbc:Value>>true</cbc:Value>
</cac:AdditionalItemProperty>
```

A shopping cart line may give a list of various attributes of an item such as size, color and so on for an item. For each property the property name and value must be given. Additionally the seller may give a property classification code to support automation in comparison of attribute and if the attribute value can be quantified it may be restated with the Unit of measure as an attribute. As example an items property may be that it has 16 GB of RAM memory.

```
<cac:AdditionalItemProperty>
  <cbc:Name>RAM memory</cbc:Name>
  <cbc:NameCode>Item property classification code</cbc:NameCode>
  <cbc:Value>16 GB</cbc:Value>
  <cbc:ValueQualifier unitCode="AD">
    17179869184</cbc:ValueQualifier>
</cac:AdditionalItemProperty>
```

9.2.4.4 Item classification and labelling

A shopping cart line may give information about the items

```
<cac:CommodityClassification>
  <cbc:ItemClassificationCode
    listID="UNSPSC">20101601</cbc:ItemClassificationCode>
</cac:CommodityClassification>
```

A shopping cart line may give information about labels and certifications that apply to the item. Examples of such are environmental, health, social, quality, cultural and so forth. For each label the name of the label must be given and the certificate of the label as well. If a label has no levels it is recommended to set the type as active. Due to UBL syntax requirements [UBL_Catalogue] the tags CertificateTypeCode and IssuerParty must also be included when the certificate class is used. These elements are not required by this PEPPOL BIS but in order to comply with the syntax requirement it is recommended to fill in the elements with the word "NA". As example

```
<cac:Certificate>
  <cbc:ID>EU Ecolabel</cbc:ID>
  <cbc:CertificateTypeCode>NA</cbc:CertificateTypeCode>
  <cbc:CertificateType>active</cbc:CertificateType>
  <cac:IssuerParty>
    <cac:PartyName>
      <cbc:Name>NA</cbc:Name>
    </cac:PartyName>
  </cac:IssuerParty>
</cac: Certificate >
```

9.2.4.5 Tax information

For correctly handling taxes for the item the line must state the items VAT category and percentage rate as follows where the standard rate of VAT is 18 percent:

```
<cac:ClassifiedTaxCategory>
  <cbc:ID schemeID="UNCL5305">S</cbc:ID>
  <cbc:Percent>18</cbc:Percent>
```

```

        <cbc:TaxScheme>
            <cbc:ID schemeID="UNCL5153">VAT</cbc:ID>
        </cbc:TaxScheme>
    </cac:ClassifiedTaxCategory>

```

Additionally the item country of origin may be given as follows:

```

        <cac:OriginCountry>
            <cbc:IdentificationCode listID="ISO3166-1:Alpha2">CH
            </cbc:IdentificationCode>
        </cac:OriginCountry>

```

9.2.4.6 Prices and quantities

Each line in the Shopping Cart must show the number of items that have been selected by the buyer. For each item there must be a price. The price must be given for the same units as the quantity but the number of units that the price is based on may be different than the quantity.

As example. A buyer may select 360 pieces of an item where the price is €24 for each dozen (12 pieces). In this case the item unit is pieces, and the price for each piece is €24/12 or €2 for each item. Base quantity is optional, with default value 1; when someother base quantity applies it must be stated..

In the shopping cart message this information would be given as follows:

```

...
    <cac:RequiredItemLocationQuantity>
        <Price>
            PriceAmount currencyID="EUR">24.00<PriceAmount>
            BaseQuantity unitCode="C62" >12<BaseQuantity>
        </cac:Price>
        <cac:DeliveryUnit>
            BatchQuantity unitCode="C62">360<BatchQuantity>
        </cac:DeliveryUnit>
    </cac:RequiredItemLocationQuantity>

```

9.2.5 Attached Item Specifications and main image

Non-XML documents can be sent as attachments to the PEPPOL BIS Shopping Cart to further specify the item. This could be pictures, drawings or timesheets or other documents relevant for the order. The attachment can either be sent as a binary object encoded in Base64 embedded in the message or as a URI to an external address as a link.

One of these attachments can be identified specifically as being the main image for the item. Identifying it specifically allows automated retrieval of the image into the image location in the receiving system.

It is recommended to send attachments as embedded, binary objects and not as external references.

Element	Description
Coding	Base64
Document format	Following MIME types are recommended: Pdf – application / pdf TXT – text / plain GIF – image / gif Jpeg –image PNG -image Other MIME types may be used, subject to agreement.
Size	Recommended maximum message size is 100MB <u>including</u> attachments.
Description	It is recommended to use element cac:AdditionalDocumentReference/cbc:DocumentType to send a short description of

the content of the attachment.
NB: Attachments should be used for additional information and not as order copies.

Example of attachment as an embedded, binary object in an PEPPOL BIS Shopping Cart.

```
<cac:ItemSpecificationDocumentReference>
  <cbc:ID>PC01specs</cbc:ID>
  <cbc:DocumentType>PC detailed specifications</cbc:DocumentType>
  <cac:Attachment>
    <cbc:EmbeddedDocumentBinaryObject mimeType="application/pdf">
      UjBsR09EbGhjZ0dTQUxNQUFBUNBRU1tQ1p0dU1GUXhEUzhi</cbc:
      EmbeddedDocumentBinaryObject>
    </cac:Attachment>
  </cac:ItemSpecificationDocumentReference>
```

When sending an object that is the main image for the item the following example applies. The DocumentTypeCode main_image identifies that this is the main image for the item.

```
<cac:ItemSpecificationDocumentReference>
  <cbc:ID>PC01image</cbc:ID>
  <cbc:DocumentTypeCode>MAINIMAGE</cbc:DocumentTypeCode>
  <cbc:DocumentType>Picture of the computer</cbc:DocumentType>
  <cac:Attachment>
    <cbc:EmbeddedDocumentBinaryObject mimeType="image/jpeg">
      UjBsR09EbGhjZ0dTQUxNQUFBUNBRU1tQ1p0dU1GUXhEUzhi</cbc:
      EmbeddedDocumentBinaryObject>
    </cac:Attachment>
  </cac:ItemSpecificationDocumentReference>
```

10 PEPPOL Identifiers

PEPPOL has defined a “Policy for Using Identifiers” [PEPPOL_Transp] that specifies how to use 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 [PEPPOL]. The policies that apply to this BIS are the following:

10.1 Party Identifiers

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.

Examples of usage in PartyIdentification:

```
<cac:PartyIdentification>
  <cbc:ID schemeID="GLN">5790000435951</cbc:ID>
</cac:PartyIdentification>
```

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

Examples of usage in PartyIdentification and Endpoint ID:

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

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

This example demonstrates that the same identifier value may be used repeatedly in an message for different purposes. Here for identifying the party as well as for identifying his endpoint in the PEPPOL network [PEPPOL_Transp].

10.2 Version ID

This BIS is using the UBL 2.1 syntax [UBL_Catalogue]. The namespace of the XML-message does only communicate the major version number. Since it is important for the receiver to also know what minor version of the syntax that is used, the element UBLVersionID must be stated with the value **2.1**:

```
<cbc:UBLVersionID>2.1</cbc:UBLVersionID>
```

10.3 Profile ID

The BISID identifies the process that the business document is part of. PEPPOL BIS uses the identification system according to BII:

The following process identifier is used for —BII18 – Punch Out:

ProfileID: urn:www.cenbii.eu:profile:bii18:ver1.0

Example of usage:

```
<cbc:ProfileID>urn:www.cenbii.eu:profile:bii18:ver1.0</cbc:ProfileID>
```

10.4 Customization ID

The PEPPOL Customization ID identifies the specification of content and rules that apply to the transaction. This BIS has required some minor additions and changes to the CEN BII transaction. Following the CENBII methodology any extension must be communicated by adding an extension ID onto the Customization ID [CENBII]. The full syntax is:

```
<transactionId>:(restrictive|extended|partly):<extensionId>[(restrictive|extended|partly):<extensionId>].
```

Where:

- ▶ CENBII Transaction ID is: urn:www.cenbii.eu:transaction:biitrns077:ver2.0
- ▶ Peppol extension ID is: www.peppol.eu:bis:peppol18a:ver1.0

By combining these according to the identifier syntax the CustomizationID to use in PEPPOL is:

urn:www.cenbii.eu:transaction:biitrns077:ver2.0:**extended**:www.peppol.eu:bis:peppol18a:ver1.0

Example of usage:

```
<cbc:CustomizationID>  
urn:www.cenbii.eu:transaction:biitrns077:ver2.0:extended:www.peppol.eu:bis:peppol18a:ver1.0  
</cbc:CustomizationID>
```

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

10.5 Namespaces

The shopping cart datamodel is in this PEPPOL BIS bound to the UBL version 2.1 of the Catalogue document type [UBL_Catalogue]. The target namespace for the UBL-Catalogue-2.1 is:

`urn:oasis:names:specification:ubl:schema:xsd:Catalogue-2`

11 Message transport

The transactions defined in this BISs need to be transferred from the sending party to the receiving party through an agreed transport network and protocol. The PEPPOL BIS is specified independent of a transport network but it is designed with the requirement of the PEPPOL network in mind and does not specifically support other transport network that may be used.

11.1 The PEPPOL network

The PEPPOL transport network is a four corner transport network that allows senders and receivers to exchange messages from one service provider to another by using a single identifier for the parties. Details about the PEPPOL network can be found at [PEPPOL_Transp]

11.2 Synchronous message transfer

It is recognized that the use of Punch Out often requires synchronous methods for retrieving that data directly from the sellers shopping cart into the buyers purchasing system. Several methods are available including the following:

- ▶ Direct database connections with HTTP using database interface specifications.
- ▶ File download using Wget, HTTP, FTP or similar technology.

The following clauses only briefly introduce these transfer mechanisms. Analysis of what is the most suitable methods and technical specification are not in scope for this BIS and are not provided by PEPPOL.

11.2.1 Direct HTTP database connections

Direct database connection using HTTP are common when retrieving shopping carts. Most commonly these methods retrieve the data directly from the catalogue in structured format using input names as field identifiers. In order to read the data correctly into the buyer's database its structure must be clearly defined.

This PEPPOL BIS provides a detailed structure of the shopping cart data, using UBL XML and detailed semantic specifications and rules. Such an XML message can be retrieved as payload with an HTTP connection. Once that XML file has been retrieved and saved it can be processed in the same way as an XML file that has been delivered, e.g., through the PEPPOL network.

A profile for such a message transfer is specified in the document "PEPPOL synchronous message transfer protocol" provided by OpenPEPPOL and may be used to transfer Punch Out messages.

11.2.2 Internet file transfer

Since the data of the shopping cart generated by using this Punch Out BIS is captured into a single structured XML file, it lends itself to normal file transfer over the Internet. Such a file transfer can be done with several methods including.

- ▶ File Transfer Protocol (FTP).
- ▶ Wget over FTP or HTTP.

12 XML Schema Guideline and information content of the Shopping Cart message.

12.1 Structure of transaction 77 Shopping Cart

Occurrence	Element/Attribute req.	BII Business Term	Business
Catalogue			
1 .. 1	cbe:UBLVersionID		
1 .. 1	cbe:CustomizationID	Specification identification	tir77-007
1 .. 1	cbe:ProfileID	Business process type identifier	tir77-006
1 .. 1	cbe:ID	Shopping cart identifier	tir77-001
0 .. 1	cbe:ActionCode	Complete cart indicator	tir77-005
1 .. 1	cbe:IssueDate	Shopping cart issue date	tir77-002
1 .. 1	cbe:IssueTime	Shopping cart issue time	tir77-003
0 .. 1	cac:ValidityPeriod		
1 .. 1	cbe:EndDate	Period end date	tir77-008
0 .. 1	cbe:EndTime	Period end time	tir77-009
0 .. 1	cac:ReferencedContract		
0 .. 1	cbe:ID	Contract identifier	tir77-020
1 .. 1	cac:ProviderParty		
0 .. 1	cbe:EndpointID	Seller electronic address	OP-T77-001
0 .. 1	cac:PartyIdentification		
1 .. 1	cbe:ID	Seller standard identifier	tir77-014
1 .. 1	cac:PartyName		
1 .. 1	cbe:Name	Seller name	tir77-013
1 .. 1	cac:ReceiverParty		
0 .. 1	cbe:EndpointID	Buyer electronic address	OP-T77-002
0 .. 1	cac:PartyIdentification		
1 .. 1	cbe:ID	Buyer customer account identifier	tir77-011
		Buyer standard identifier	tir77-012
1 .. 1	cac:PartyName		
1 .. 1	cbe:Name	Buyer name	tir77-010
0 .. 1	cac:Contact		
0 .. 1	cbe:ID	Buyer reference identifier	tir77-045
1 .. unbounded	cac:CatalogueLine		
1 .. 1	cbe:ID	Shopping cart line identifier	tir77-015
0 .. 1	cbe:ContractSubdivision	Contracted item indicator	tir77-019
0 .. 1	cac:LineValidityPeriod		
0 .. 1	cbe:StartDate	Item availability date	tir77-027
1 .. 1	cac:RequiredItemLocationQuantity		
0 .. 1	cbe:LeadTimeMeasure	Shopping cart line delivery lead days	tir77-016
1 .. 1	cac:Price		
1 .. 1	cbe:PriceAmount	Item price	tir77-032
0 .. 1	cbe:BaseQuantity	Item price base quantity	tir77-033
1 .. 1	cac:DeliveryUnit		
1 .. 1	cbe:BatchQuantity	Shopping cart line quantity	tir77-017
1 .. 1	cac:Item		
0 .. 1	cbe:Description	Item description as text	tir77-039
1 .. 1	cbe:Name	Item name	tir77-021
0 .. 1	cac:SellersItemIdentification		
1 .. 1	cbe:ID	Item sellers identifier	tir77-022
0 .. 1	cac:ManufacturersItemIdentification		
1 .. 1	cbe:ID	Manufacturers item identifier	tir77-024
0 .. 1	cac:StandardItemIdentification		
1 .. 1	cbe:ID	Item standard identifier	tir77-023
0 .. unbounded	cac:ItemSpecificationDocumentReference		

1 .. 1	cbe:ID	Attachment identifier	tir77-036
0 .. 1	cbe:DocumentTypeCode	Attached image identifier	OP-T77-003
0 .. 1	cbe:DocumentDescription	Attachment description code	tir77-044
		Attached image description code	OP-T77-005
		Attachment description	tir77-037
		Attached image description	OP-T77-004
0 .. 1	cac:Attachment		
0 .. 1	cbe:EmbeddedDocumentBinaryObject	Attached document	tir77-038
		Attached image document	OP-T77-006
0 .. 1	cac:OriginCountry		
0 .. 1	cbe:IdentificationCode	Item country of origin	tir77-029
0 .. unbounded	cac:CommodityClassification		
1 .. 1	cbe:ItemClassificationCode	Item commodity classification	tir77-028
1 .. 1	cac:ClassifiedTaxCategory		
1 .. 1	cbe:ID	Item VAT category code	tir77-034
1 .. 1	cbe:Percent	Item VAT rate	tir77-035
1 .. 1	cac:TaxScheme		
0 .. 1	cbe:ID	Item VAT category code	tir77-034
0 .. 1	cac:AdditionalItemProperty		
1 .. 1	cbe:Name	Configured product identifier	tir77-018
		Item is service indicator	tir77-026
		Item property name	tir77-043
0 .. 1	cbe:NameCode	Item property classification code	tir77-040
1 .. 1	cbe:Value	Item property value	tir77-042
0 .. 1	cbe:ValueQuantity	Item property unit of measure	tir77-041
0 .. 1	cac:ManufacturerParty		
1 .. 1	cac:PartyName		
1 .. 1	cbe:Name	Manufacturers name	tir77-025
0 .. unbounded	cac:Certificate		
1 .. 1	cbe:ID	Item label name	tir77-030
1 .. 1	cbe:CertificateTypeCode	Item label type	tir77-031
1 .. 1	cbe:CertificateType	Item label type	tir77-031
1 .. 1	cac:IssuerParty		
0 .. 1	cac:PartyName		
1 .. 1	cbe:Name	Item label name	tir77-030

Occurrence	Element/Attribute	BII Business Term	Business req.
Catalogue			
1 .. 1	cbc:UBLVersionID		
1 .. 1	cbc:CustomizationID	Specification identification	tir77-007
1 .. 1	cbc:ProfileID	Business process type identifier	tir77-006
1 .. 1	cbc:ID	Shopping cart identifier	tir77-001
0 .. 1	cbc:ActionCode	Complete cart indicator	tir77-005
1 .. 1	cbc:IssueDate	Shopping cart issue date	tir77-002
1 .. 1	cbc:IssueTime	Shopping cart issue time	tir77-003
0 .. 1	cac:ValidityPeriod		
1 .. 1	cbc:EndDate	Period end date	tir77-008
0 .. 1	cbc:EndTime	Period end time	tir77-009
0 .. 1	cac:ReferencedContract		
0 .. 1	cbc:ID	Contract identifier	tir77-020
1 .. 1	cac:ProviderParty		
0 .. 1	cbc:EndpointID	Seller electronic address	OP-T77-001
0 .. 1	cac:PartyIdentification		
1 .. 1	cbc:ID	Seller standard identifier	tir77-014
1 .. 1	cac:PartyName		
1 .. 1	cbc:Name	Seller name	tir77-013
1 .. 1	cac:ReceiverParty		
0 .. 1	cbc:EndpointID	Buyer electronic address	OP-T77-002
0 .. 1	cac:PartyIdentification		
1 .. 1	cbc:ID	Buyer customer account identifier	tir77-011
		Buyer standard identifier	tir77-012
1 .. 1	cac:PartyName		

1 .. 1	cbc:Name	Buyer name	tir77-010
0 .. 1	cac:Contact		
0 .. 1	cbc:ID	Buyer reference identifier	tir77-045
1 .. unbounded	cac:CatalogueLine		
1 .. 1	cbc:ID	Shopping cart line identifier	tir77-015
0 .. 1	cbc:ContractSubdivision	Contracted item indicator	tir77-019
0 .. 1	cac:LineValidityPeriod		
0 .. 1	cbc:StartDate	Item availability date	tir77-027
1 .. 1	cac:RequiredItemLocationQuantity		
0 .. 1	cbc:LeadTimeMeasure	Shopping cart line delivery lead days	tir77-016
1 .. 1	cac:Price		
1 .. 1	cbc:PriceAmount	Item price	tir77-032
0 .. 1	cbc:BaseQuantity	Item price base quantity	tir77-033
1 .. 1	cac:DeliveryUnit		
1 .. 1	cbc:BatchQuantity	Shopping cart line quantity	tir77-017
1 .. 1	cac:Item		
0 .. 1	cbc:Description	Item description as text	tir77-039
1 .. 1	cbc:Name	Item name	tir77-021
0 .. 1	cac:SellersItemIdentification		
1 .. 1	cbc:ID	Item sellers identifier	tir77-022
0 .. 1	cac:ManufacturersItemIdentification		
1 .. 1	cbc:ID	Manufacturers item identifier	tir77-024
0 .. 1	cac:StandardItemIdentification		
1 .. 1	cbc:ID	Item standard identifier	tir77-023
0 .. unbounded	cac:ItemSpecificationDocumentReference		
1 .. 1	cbc:ID	Attachment identifier	tir77-036
		Attached image identifier	OP-T77-003
0 .. 1	cbc:DocumentTypeCode	Attachment description code	tir77-044
		Attached image description code	OP-T77-005
0 .. 1	cbc:DocumentDescription	Attachment description	tir77-037
		Attached image description	OP-T77-004
0 .. 1	cac:Attachment		
0 .. 1	cbc:EmbeddedDocumentBinaryObject	Attached document	tir77-038
		Attached image document	OP-T77-006
0 .. 1	cac:OriginCountry		
0 .. 1	cbc:IdentificationCode	Item country of origin	tir77-029
0 .. unbounded	cac:CommodityClassification		
1 .. 1	cbc:ItemClassificationCode	Item commodity classification	tir77-028
1 .. 1	cac:ClassifiedTaxCategory		
1 .. 1	cbc:ID	Item VAT category code	tir77-034
1 .. 1	cbc:Percent	Item VAT rate	tir77-035
1 .. 1	cac:TaxScheme		
0 .. 1	cbc:ID	Item VAT category code	tir77-034
0 .. 1	cac:AdditionalItemProperty		
1 .. 1	cbc:Name	Configured product identifier	tir77-018
		Item is service indicator	tir77-026
		Item property name	tir77-043
0 .. 1	cbc:NameCode	Item property classification code	tir77-040
1 .. 1	cbc:Value	Item property value	tir77-042
0 .. 1	cbc:ValueQuantity	Item property unit of measure	tir77-041
0 .. 1	cac:ManufacturerParty		
1 .. 1	cac:PartyName		
1 .. 1	cbc:Name	Manufacturers name	tir77-025
0 .. unbounded	cac:Certificate		
1 .. 1	cbc:ID	Item label name	tir77-030
1 .. 1	cbc:CertificateTypeCode	Item label type	tir77-031
1 .. 1	cbc:CertificateType	Item label type	tir77-031
1 .. 1	cac:IssuerParty		
0 .. 1	cac:PartyName		
1 .. 1	cbc:Name	Item label name	tir77-030

12.2 Details of transaction 77 Shopping cart

Element/Attribute	Description	Usage/Rules/Code lists
Catalogue	Type CatalogueType	
— cbc:UBLVersionID	Occurrence 1 .. 1 Type cbc:UBLVersionIDType	Rules [EUGEN-T77-R015] — UBLVersionID MUST be 2.1
— cbc:CustomizationID	Occurrence 1 .. 1 Type cbc:CustomizationIDType Info req.ID tir77-007	Term name Specification identification Definition <i>An identification of the specification containing the total set of rules regarding semantic content, cardinalities and business rules to which the data contained in the instance document conforms.</i> BII Usage <i>The identification may include the version of the specification as well as any customizations applied.</i> Rules [BII3-T77-R001] — A shopping cart MUST have a customization identifier. [EUGEN-T77-R001] — CustomizationID MUST be urn:www.cenbii.eu:transaction:bitrns077:ver2.0:extended:www.peppol.eu:bis:peppol18a:ver1.0
— cbc:ProfileID	Occurrence 1 .. 1 Type cbc:ProfileIDType Info req.ID tir77-006	Term name Business process type identifier Definition <i>Identifies the business process context in which the transaction appears. It enables the buyer to process the document in an appropriate way.</i> Rules [BII3-T77-R002] — A shopping cart MUST have a profile identifier. [EUGEN-T77-R002] — ProfileID MUST be urn:www.cenbii.eu:profile:bii18:ver1.0
— cbc:ID	Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-001 Bus req.ID BR-18-007	Term name Shopping cart identifier Definition <i>An identifier for the shopping cart.</i> Rules [BII3-T77-R005] — A shopping cart MUST contain the shopping cart identifier.
— cbc:ActionCode	Occurrence 0 .. 1 Type cbc:ActionCodeType Info req.ID tir77-005 Bus req.ID BR-18-001	Term name Complete cart indicator Remark Default value is false indicating that cart does not have to be ordered in full (completely) Definition <i>Indicate if only a complete shopping cart can be ordered. That is, that the information and prices in the shopping cart is only valid if the complete cart is ordered.</i> Rules [EUGEN-T77-R004] — Complete cart indicator may only be "true" or "false"
— cbc:IssueDate	Occurrence 1 .. 1 Type cbc:IssueDateType Info req.ID tir77-002 Bus req.ID BR-18-007	Term name Shopping cart issue date Definition <i>The date when the shopping cart was issued.</i> Rules [BII3-T77-R003] — A shopping cart MUST contain the date of issue. [EUGEN-T77-R005] — IssueDate may not be later than today.
— cbc:IssueTime	Occurrence 1 .. 1 Type cbc:IssueTimeType Info req.ID tir77-003 Bus req.ID BR-18-007	Term name Shopping cart issue time Definition <i>The time of day when shopping cart was issued.</i> Rules [BII3-T77-R004] — A shopping cart MUST contain the time of issue.
— cac:ValidityPeriod	Occurrence 0 .. 1 Type cac:PeriodType	

Element/Attribute	Description	Usage/Rules/Code lists
cbc:EndDate	Occurrence 1 .. 1 Type cbc:EndDateType Info req.ID tir77-008 Bus req.ID BR-18-001	Term name Period end date Definition <i>The date on which the period ends.</i> BII Usage <i>The date is the last day of the period.</i> <i>Date until which information and prices stated in the shopping cart are valid.</i> Rules [EUGEN-T77-R003] — The validity period end date may not be earlier than the issue date. [BII3-T77-R017] — A validity period MUST contain the "shopping cart validity period end date" at most once
cbc:EndTime	Occurrence 0 .. 1 Type cbc:EndTimeType Info req.ID tir77-009 Bus req.ID BR-18-001	Term name Period end time BII Usage <i>The end time of the period.</i> <i>Date until which information and prices stated in the shopping cart are valid.</i>
cac:ReferencedContract	Occurrence 0 .. 1 Type cac:ContractType	
cbc:ID	Occurrence 0 .. 1 Type cbc:IDType Info req.ID tir77-020 Bus req.ID BR-18-008	Term name Contract identifier Definition <i>The identification of a contract.</i>
cac:ProviderParty	Occurrence 1 .. 1 Type cac:PartyType	
cbc:EndpointID	Occurrence 0 .. 1 Type cbc:EndpointIDType Info req.ID OP-T77-001	Term name Seller electronic address Definition <i>Identifies the seller's electronic address to which a business document may be delivered.</i> Rules [EUGEN-T77-R006] — The shopping cart message SHOULD contain the Sellers end point id.
schemeID	Type xs:normalizedString Use optional	Rules [CL-T77-R007] — An Endpoint Identifier Scheme MUST be from the list of PEPPOL Party Identifiers described in the "PEPPOL Policy for using Identifiers".
cac:PartyIdentification	Occurrence 0 .. 1 Type cac:PartyIdentificationType	
cbc:ID	Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-014 Bus req.ID BR-18-009	Term name Seller standard identifier Definition <i>An identification of the seller.</i> Rules [BII3-T77-R019] — A seller id MUST be at most one
schemeID	Type xs:normalizedString Use optional	Rules [CL-T77-R008] — A Party Identifier Scheme MUST be from the list of PEPPOL Party Identifiers described in the "PEPPOL Policy for using Identifiers".
cac:PartyName	Occurrence 1 .. 1 Type cac:PartyNameType	
cbc:Name	Occurrence 1 .. 1 Type cbc:NameType Info req.ID tir77-013 Bus req.ID BR-18-009	Term name Seller name Definition <i>The full (formal) name by which the seller is registered in the national registry of legal entities or persons.</i> Rules [BII3-T77-R007] — A shopping cart MUST specify the selling party. [BII3-T77-R018] — A seller MUST contain the full name and it should be at most once
cac:ReceiverParty	Occurrence 1 .. 1 Type cac:PartyType	

Element/Attribute	Description	Usage/Rules/Code lists
cbc:EndpointID	<p>Occurrence 0 .. 1 Type cbc:EndpointIDType Info req.ID OP-T77-002</p>	<p>Term name Buyer electronic address Definition <i>Identifies the buyers electronic address to which the business document should be delivered.</i> Rules [EUGEN-T77-R007] — The shopping cart message SHOULD contain the Buyers end point id.</p>
schemeID	<p>Type xs:normalizedString Use optional</p>	<p>Rules [CL-T77-R007] — An Endpoint Identifier Scheme MUST be from the list of PEPPOL Party Identifiers described in the "PEPPOL Policy for using Identifiers".</p>
cac:PartyIdentification	<p>Occurrence 0 .. 1 Type cac:PartyIdentificationType</p>	
cbc:ID	<p>Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-011 tir77-012 Bus req.ID BR-18-009 BR-18-009</p>	<p>Term name Buyer customer account identifier Remark schemeID = "SellerAssigned" (for the Buyer customer account identifier) Definition <i>A identifier for the buyer that is issued by the party that sends the document in which the identifier is used.</i></p> <p>Term name Buyer standard identifier Definition <i>An identifier for the buyer.</i></p>
schemeID	<p>Type xs:normalizedString Use optional</p>	<p>Rules [CL-T77-R008] — A Party Identifier Scheme MUST be from the list of PEPPOL Party Identifiers described in the "PEPPOL Policy for using Identifiers".</p>
cac:PartyName	<p>Occurrence 1 .. 1 Type cac:PartyNameType</p>	
cbc:Name	<p>Occurrence 1 .. 1 Type cbc:NameType Info req.ID tir77-010 Bus req.ID BR-18-009</p>	<p>Term name Buyer name Definition <i>The full name of the buyer.</i> Rules [BII3-T77-R006] — A shopping cart MUST specify the buying party. [BII3-T77-R020] — A buyer MUST contain the full name and it should be at most once</p>
cac:Contact	<p>Occurrence 0 .. 1 Type cac:ContactType</p>	
cbc:ID	<p>Occurrence 0 .. 1 Type cbc:IDType Info req.ID tir77-045 Bus req.ID BR-18-007, BR-18-008</p>	<p>Term name Buyer reference identifier Definition <i>An identifier assigned by the Buyer used for internal routing purposes.</i> BII Usage <i>The identifier is defined by the buyer (contact ID, department, office id, project code), but provided by the seller in the invoice.</i></p>
cac:CatalogueLine	<p>Occurrence 1 .. unbounded Type cac:CatalogueLineType</p>	
cbc:ID	<p>Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-015 Bus req.ID BR-18-007</p>	<p>Term name Shopping cart line identifier Definition <i>An identifier for an individual line that is unique within a shopping cart.</i> Rules [BII3-T77-R008] — A shopping cart MUST have at least one shopping cart line. [BII3-T77-R009] — A shopping cart line MUST contain a unique line identifier.</p>
cbc:ContractSubdivision	<p>Occurrence 0 .. 1 Type cbc:ContractSubdivisionType Info req.ID tir77-019 Bus req.ID BR-18-008</p>	<p>Term name Contracted item indicator Remark When the item is offered in accordance to an existing contract, the contract information has to be provided in cbc:ContractSubdivision Definition <i>Indicates if the item is offered in accordance to an existing contract.</i></p>
cac:LineValidityPeriod	<p>Occurrence 0 .. 1 Type cac:PeriodType</p>	






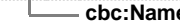
Element/Attribute	Description	Usage/Rules/Code lists
cbc:StartDate	<p>Occurrence 0 .. 1 Type cbc:StartDateType Info req.ID tir77-027 Bus req.ID BR-18-002</p>	<p>Term name Item availability date Definition <i>The date when the item will be available for ordering</i></p>
cac:RequiredItemLocationQuantity	<p>Occurrence 1 .. 1 Type cac:ItemLocationQuantityType</p>	
cbc:LeadTimeMeasure	<p>Occurrence 0 .. 1 Type cbc:LeadTimeMeasureType Info req.ID tir77-016 Bus req.ID BR-18-002</p>	<p>Term name Shopping cart line delivery lead days Remark unitCode = DAY Definition <i>Number of days from order to delivery.</i></p>
unitCode	<p>Type xs:normalizedString Use required</p>	<p>Rules [EUGEN-T77-R011] — LeadTimeMeasure unitCode MAY only be DAY</p>
cac:Price	<p>Occurrence 1 .. 1 Type cac:PriceType</p>	
cbc:PriceAmount	<p>Occurrence 1 .. 1 Type cbc:PriceAmountType Info req.ID tir77-032 Bus req.ID BR-18-003, BR-18-004</p>	<p>Term name Item price Definition <i>The price of an item, exclusive of VAT, after subtracting item price discount.</i> BII Usage <i>"The net price has to be equal with the gross price less the item price discount.</i> Rules [BII3-T77-R011] — Prices of items MUST not be negative. [BII3-T77-R016] — A catalogue MUST contain the shopping cart currency [EUGEN-T77-R009] — Each line must have a price.</p>
currencyID	<p>Type xs:normalizedString Use required</p>	<p>Rules [CL-T77-R004] — currencyID for Amounts MUST be coded using ISO code list 4217 Code List ID: ISO4217</p>
cbc:BaseQuantity	<p>Occurrence 0 .. 1 Type cbc:BaseQuantityType Info req.ID tir77-033 Bus req.ID BR-18-003, BR-18-004</p>	<p>Term name Item price base quantity Definition <i>The number of item units to which the price applies.</i> BII Usage <i>UOM should be stated by using recommendation 20 v10</i> Rules [EUGEN-T77-R008] — Unit code for price base quantity must be same as for batch quantity.</p>
unitCode	<p>Type xs:normalizedString Use optional</p>	<p>Rules [CL-T77-R003] — Unit code for Price/BaseQuantity MUST be coded according to the UNECE Recommendation 20 Code List ID: UNECERec20</p>
cac:DeliveryUnit	<p>Occurrence 1 .. 1 Type cac:DeliveryUnitType</p>	
cbc:BatchQuantity	<p>Occurrence 1 .. 1 Type cbc:BatchQuantityType Info req.ID tir77-017 Bus req.ID BR-18-003, BR-18-004</p>	<p>Term name Shopping cart line quantity Definition <i>The number of item units requested by the buyer.</i> BII Usage <i>UOM should be stated by using recommendation 20 v10</i> Rules [BII3-T77-R010] — Shopping cart line quantities MUST be greater than ZERO. [BII3-T77-R021] — A catalogue line MUST contain a shopping cart line quantity and it should be at most one</p>
unitCode	<p>Type xs:normalizedString Use optional</p>	<p>Rules [CL-T77-R002] — Unit code for BatchQuantity MUST be coded according to the UN/ECE Recommendation 20 Code List ID: UNECERec20</p>
cac:Item	<p>Occurrence 1 .. 1 Type cac:ItemType</p>	

Element/Attribute	Description	Usage/Rules/Code lists
cbc:Description	<p>Occurrence 0 .. 1 Type cbc:DescriptionType Info req.ID tir77-039 Bus req.ID BR-18-004</p>	<p>Term name Item description as text Definition <i>A free text detailed description of an item.</i> Rules [BII3-T77-R023] — An item in a catalogue line SHOULD have at most one description</p>
cbc:Name	<p>Occurrence 1 .. 1 Type cbc:NameType Info req.ID tir77-021 Bus req.ID BR-18-003, BR-18-004</p>	<p>Term name Item name Definition <i>A name for an item.</i> BII Usage <i>One of, Item name, Item identifier or Item description shall be provided.</i> Rules [BII3-T77-R013] — An item in a shopping cart MUST have a name.</p>
cac:SellersItemIdentification	<p>Occurrence 0 .. 1 Type cac:ItemIdentificationType</p>	
cbc:ID	<p>Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-022 Bus req.ID BR-18-003</p>	<p>Term name Item sellers identifier Definition <i>An identifier, assigned by the seller, for the item.</i> Rules [BII3-T77-R012] — An item in a shopping cart MUST be uniquely identifiable by either "item sellers identifier" or "item standard identifier"</p>
schemeID	<p>Type xs:normalizedString Use optional</p>	
cac:ManufacturersItemIdentification	<p>Occurrence 0 .. 1 Type cac:ItemIdentificationType</p>	
cbc:ID	<p>Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-024 Bus req.ID BR-18-004</p>	<p>Term name Manufacturers item identifier Definition <i>The manufacturer's identifier for the item.</i> Rules [BII3-T77-R024] — An item in a catalogue line SHOULD have at most one manufacturers item identification</p>
schemeID	<p>Type xs:normalizedString Use optional</p>	
cac:StandardItemIdentification	<p>Occurrence 0 .. 1 Type cac:ItemIdentificationType</p>	
cbc:ID	<p>Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-023 Bus req.ID BR-18-003</p>	<p>Term name Item standard identifier Definition <i>An item identifier based on a registered scheme.</i> Rules [BII3-T77-R012] — An item in a shopping cart MUST be uniquely identifiable by either "item sellers identifier" or "item standard identifier"</p>
schemeID	<p>Type xs:normalizedString Use optional</p>	<p>Rules [CL-T77-R009] — A standard item identifier scheme MUST be coded according to the list Item Identifier Scheme ID defined by PEPPOL</p>
cac:ItemSpecificationDocumentReference	<p>Occurrence 0 .. unbounded Type cac:DocumentReferenceType</p>	
cbc:ID	<p>Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-036 Bus req.ID OP-T77-003 Bus req.ID BR-18-004</p>	<p>Term name Attachment identifier Definition <i>An identifier that can be used to reference the attached document, such as an unique identifier.</i> Rules [BII3-T77-R025] — An item in a catalogue line SHOULD have at most one attachment Term name Attached image identifier Remark When Attachment description code = MAINIMAGE Definition <i>An identifier that can be used to reference the attached document, such as an unique identifier.</i></p>
schemeID	<p>Type xs:normalizedString Use optional</p>	

Element/Attribute	Description	Usage/Rules/Code lists
	<p>cbc:DocumentTypeCode Occurrence 0 .. 1 Type cbc:DocumentTypeCodeType Info req.ID tir77-044 OP-T77-005</p> <p>listID Type xs:normalizedString Use optional</p> <p>cbc:DocumentDescription Occurrence 0 .. 1 Type cbc:DocumentDescriptionType Info req.ID tir77-037 OP-T77-004 Bus req.ID BR-18-004</p> <p>cac:Attachment Occurrence 0 .. 1 Type cac:AttachmentType</p> <p>cbc:EmbeddedDocumentBinaryObject Occurrence 0 .. 1 Type cbc:EmbeddedDocumentBinaryObjectType Info req.ID tir77-038 OP-T77-006 Bus req.ID BR-18-004</p> <p>mimeCode Type xs:normalizedString Use required</p> <p>cac:OriginCountry Occurrence 0 .. 1 Type cac:CountryType</p> <p>cbc:IdentificationCode Occurrence 0 .. 1 Type cbc:IdentificationCodeType Info req.ID tir77-029 Bus req.ID BR-18-003, BR-18-004</p> <p>listID Type xs:normalizedString Use optional</p> <p>cac:CommodityClassification Occurrence 0 .. unbounded Type cac:CommodityClassificationType</p>	<p>Term name Attachment description code Definition A functional description of the attachment expressed as code. Term name Attached image description code Remark Value = MAINIMAGE Definition A functional description of the attachment expressed as code. Rules [EUGEN-T77-R012] — Only one attachment may be identified as main image.</p> <p>Term name Attachment description Definition A short description of the attached document Rules [BII3-T77-R026] — An item in a catalogue line SHOULD have at most one attachment document description Term name Attached image description Remark When Attachment description code OP-T77-005 = MAINIMAGE Definition A short description of the attached document</p> <p>Term name Attached document Remark If main image, this should be specified using DocumentTypeCode. The DocumentTypeCode has to be MAINIMAGE if this is the main image of the item Definition A Binary Object MIME code attribute MUST be coded using MIME Code Type version 2008 code list Term name Attached image document Remark When Attachment description code OP-T77-005 = MAINIMAGE Definition A Binary Object MIME code attribute MUST be coded using MIME Code Type version 2008 code list</p> <p>Rules [CL-T77-R006] — For Mime code in attribute use MIME Media Types. Code List ID: MIME</p> <p>Term name Item country of origin Definition The code identifying the country from which the item originates. BII Usage The lists of valid countries are registered with the ISO 3166-1 Maintenance agency, "Codes for the representation of names of countries and their subdivisions". It is recommended to use the alpha-2 representation.</p>

Element/Attribute	Description	Usage/Rules/Code lists
cbc:ItemClassificationCode <i>listID</i>	Occurrence 1 .. 1 Type cbc:ItemClassificationCodeType Info req.ID tir77-028 Bus req.ID BR-18-003, BR-18-004	Term name Item commodity classification Definition A code for classifying the item by its type or nature. Classification codes are used to allow grouping of similar items for a various purposes e.g. public procurement (CPV), e-Commerce (UNSPSC) etc. BII Usage Rules [BII3-T77-R030] — An item in a catalogue line SHOULD have at most one commodity classification [BII3-T77-R031] — Classification codes SHOULD contain the Classification scheme Identifier (e.g. CPV or UNSPSC) Rules [EUGEN-T77-R016] — Item classification codes MUST include code list value (listID)
	Type xs:normalizedString Use optional	Rules [CL-T77-R010] — Commodity code schemes MUST be according to CENBII3 COMMODITY_SCHEME_ID Code List ID: COMMODITY_SCHEME_ID
cac:ClassifiedTaxCategory	Occurrence 1 .. 1 Type cac:TaxCategoryType	
cbc:ID <i>schemeID</i>	Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-034 Bus req.ID BR-18-003	Term name Item VAT category code Remark The tax scheme identifier "VAT" has to be informed in UBL. Definition The VAT category code for the item. Rules [BII3-T77-R015] — A shopping cart line MUST specify line VAT information. [BII3-T77-R028] — An item in a catalogue line SHOULD have one and at most one line item VAT category code
	Type xs:normalizedString Use optional	Rules [CL-T77-R005] — Item VAT category code MUST be coded using UNCL 5305 code list BII3 subset Code List ID: UNCL5305 SUBSET
cbc:Percent	Occurrence 1 .. 1 Type cbc:PercentType Info req.ID tir77-035 Bus req.ID BR-18-003	Term name Item VAT rate Definition The VAT rate, represented as percentage that applies to the item. BII Usage A VAT rate of zero percent is applied for calculation purposes even if the item is outside the scope of VAT. Rules [BII3-T77-R015] — A shopping cart line MUST specify line VAT information. [BII3-T77-R029] — An item in a catalogue line SHOULD have one and at most one line item VAT rate
cac:TaxScheme cbc:ID	Occurrence 1 .. 1 Type cac:TaxSchemeType	
	Occurrence 0 .. 1 Type cbc:IDType Info req.ID tir77-034 Bus req.ID BR-18-003	Term name Item VAT category code Remark Tax scheme code MUST be VAT Definition The VAT category code for the item. Rules [BII3-T77-R015] — A shopping cart line MUST specify line VAT information. [BII3-T77-R028] — An item in a catalogue line SHOULD have one and at most one line item VAT category code
cac:AdditionalItemProperty	Occurrence 0 .. 1 Type cac:ItemPropertyType	

Element/Attribute	Description	Usage/Rules/Code lists
<ul style="list-style-type: none"> cbc:Name 	<p>Occurrence 1 .. 1 Type cbc:NameType Info req.ID tir77-018 tir77-026 tir77-043 Bus req.ID BR-18-006 BR-18-003, BR-18-004 BR-18-004</p>	<p>Term name Configured product identifier Remark Name = PartOf and the Value element's value should be the configured product identifier. Definition <i>An identifier for a configured product that the relevant item is a part of.</i> Rules [BII3-T77-R022] — A catalogue line MUST contain configured product identifier at most once Term name Item is service indicator Remark Name = ServiceIndicator and the Value element's value should be either true (if the item is a service) or false. There is not default value so if no indicator is given the item can be either service or not. Definition <i>Indicates if the item is a service.</i> BII Usage <i>OP – May be used to identify if item is nonphysical such as subscriptions, cleaning services etc.</i> Rules [EUGEN-T77-R010] — For AdditionalItemProperties where name is ServiceIndicator the value MUST be "true" OR "false". Term name Item property name Definition <i>The name of the property.</i> BII Usage <i>The name must be sufficiently descriptive to define the value. The definition may be supplemented with the property unit of measure when relevant.</i></p>
<ul style="list-style-type: none"> <ul style="list-style-type: none"> cbc:NameCode 	<p>Occurrence 0 .. 1 Type cbc:NameCodeType Info req.ID tir77-040 Bus req.ID BR-18-004</p>	<p>Term name Item property classification code Definition <i>Code for the item property according to a property code system</i></p>
<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> cbc:Value 	<p>Occurrence 1 .. 1 Type cbc:ValueType Info req.ID tir77-042 Bus req.ID BR-18-004</p>	<p>Term name Item property value Definition <i>The value of the item property.</i></p>
<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> cbc:ValueQuantity 	<p>Occurrence 0 .. 1 Type cbc:ValueQuantityType Info req.ID tir77-041 Bus req.ID BR-18-004</p>	<p>Term name Item property unit of measure Definition <i>The unit of measure in which the property value is stated, if relevant.</i> BII Usage <i>May not be relevant when properties are descriptive.</i></p>
<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> unitCode 	<p>Type xs:normalizedString Use optional</p>	
<ul style="list-style-type: none"> cac:ManufacturerParty 	<p>Occurrence 0 .. 1 Type cac:PartyType</p>	
<ul style="list-style-type: none"> <ul style="list-style-type: none"> cac:PartyName 	<p>Occurrence 1 .. 1 Type cac:PartyNameType</p>	
<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> cbc:Name 	<p>Occurrence 1 .. 1 Type cbc:NameType Info req.ID tir77-025 Bus req.ID BR-18-004</p>	<p>Term name Manufacturers name Definition <i>The name of the manufacturer of the item.</i> Rules [BII3-T77-R027] — An item in a catalogue line SHOULD have at most one manufacturer party name</p>
<ul style="list-style-type: none"> cac:Certificate 	<p>Occurrence 0 .. unbounded Type cac:CertificateType</p>	

Element/Attribute	Description	Usage/Rules/Code lists
	Occurrence 1 .. 1 Type cbc:IDType Info req.ID tir77-030 Bus req.ID BR-18-004	Term name Item label name Definition <i>The name of the product label.</i> Rules [BII3-T77-R014] — If item labelling is used, both label name and type MUST be present. Rules [EUGEN-T77-R013] — Each item label MUST have an item label name.
	Occurrence 1 .. 1 Type cbc:CertificateTypeCodeType Info req.ID tir77-031 Bus req.ID BR-18-004	Term name Item label type Remark Element is required in UBL so must exist in XML. Use letters NA as text. Definition <i>The label type such environmental, quality, social etc.</i> Rules [BII3-T77-R014] — If item labelling is used, both label name and type MUST be present. Rules [EUGEN-T77-R014] — Each item label MUST have an item label value.
	Occurrence 1 .. 1 Type cbc:CertificateTypeType Info req.ID tir77-031 Bus req.ID BR-18-004	Term name Item label type Definition <i>The label type such environmental, quality, social etc.</i> Rules [BII3-T77-R014] — If item labelling is used, both label name and type MUST be present.
	Occurrence 1 .. 1 Type cac:PartyType	
	Occurrence 0 .. 1 Type cac:PartyNameType	
	Occurrence 1 .. 1 Type cbc:NameType Info req.ID tir77-030 Bus req.ID BR-18-004	Term name Item label name Remark Issuer party name is not required in datamodel but required in UBL syntax. Use letters NA Definition <i>The name of the product label.</i> Rules [BII3-T77-R014] — If item labelling is used, both label name and type MUST be present.

13 Appendices

13.1 Appendix A

Sample XML file illustrating full use of the data model:	PEPPOLBisT77-full.xml
Sample XML files illustrating Use Case 1:	PEPPOLBis18T77-case1 and 2.xml
Sample XML files illustrating Use Case 2:	PEPPOLBis18T77-case1 and 2.xml
Sample XML files illustrating Use Case 3:	No relevant case example
Sample XML files illustrating Use Case 4:	PEPPOLBis18T77-case4.xml

13.2 Appendix B

Conformance statement.