Specification

OpenPeppol AISBL

Peppol Transport Infrastructure

ICT - Models

Peppol Business Message Envelope (SBDH)

Version: 2.0.1

Status: In use

Statement of originality

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Version History

Version	Date	Change log
1.0.0	2014-01-15	Initial version
1.1	2018-08-31	Added the possibility to specify document type identifier scheme and process identifier scheme Added the possibility to specify additional attributes
1.1.1	2018-09-28	Fixed error in chapter 2.5 in the example of an additional attribute without a value Added note on attribute case sensitivity in chapter 2.5
1.2	2019-02-01	Added section for non-XML payloads
1.2.1	2020-03-11	Added chapter 2.6 on the Internet Media Type Remove the references to the Peppol Policy for use of Identifiers 3.x Updated to the new branding
2.0	2023-03-13	Added chapter 2.5 on country code Removed the reference to AS2
2.0.1	2023-08-17	Fixed lower bound cardinality of "Scope" element in chapter 2.8

1   Introduction

The Peppol Message Envelope is a customization of the UN/CEFACT Standard Business Document Header (SBDH) [SBDH]. The customization represents a true subset of the standard XML Schemas and any instance conformant to this specification is also conformant to the SBDH.

The Peppol Message Envelope makes it possible for Access points to:

- Route messages without having to access to the business message/data
- Always use the same way of identifying sender/receiver, document type and process
- Overcome issues with namespace or versioning of the payload
- Provide additional attributes that help processing the payload

The Message Envelope can also carry some of the infrastructure elements when using protocols like AS4. The creation of the Message Envelope is RECOMMENDED to be done already in the system issuing the business document but it may also be created by a service provider who is preparing the document for transportation to the receiver's Access Point. This specification does not recommend any particular setup with regard to this when the Message Envelope is not created in the issuing system.

1.1 Terminology

The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

1.2 Normative references

[RFC2119]   "Key words for use in RFCs to Indicate Requirement Levels",
               https://www.ietf.org/rfc/rfc2119.txt

[Peppol_Policy4] "Peppol Policy for use of Identifiers v4.2.0",
               https://docs.peppol.eu/edelivery/policies/PEPPOL-EDN-Policy-for-use-of-identifiers-4.2.0-2023-06-19.pdf

[SBDH]   "Standard Business Document Header Technical Specification",
               https://www.gs1.org/standards/edi-xml-gdsn-gs1-uncefact-xml-profiles/sbdh-technical-specifications/1-3

1.3 When to use the envelope

Unless other policies are decided for the Peppol infrastructure, the following principals describe when the envelope is to be applied.

- Business Message Envelope MUST be applied for all messages exchanged with AS4

2 SBDH Usage

2.1 Party identifiers

The required Receiver party identifier in the Message Envelope header is the one that corresponds to a Peppol Participant registered in the SML/SMP. Also, the Sender party identifier is required. The structure of the identifier MUST follow the "Peppol Policy for use of Identifiers v4.x" [Peppol_Policy4].

In cases where the sender is not registered in SML/SMP the identifier of the sender MUST be used as if the sender would be registered.

Non-normative example:

```
<Sender>
  <Identifier Authority="iso6523-actorid-upis">0088:7315458756324</Identifier>
</Sender>
<Receiver>
  <Identifier Authority="iso6523-actorid-upis">0088:4562458856624</Identifier>
</Receiver>
```

46 2.2 XML considerations

47 Since the envelope and included business document becomes one single XML instance, both the envelope
48 and the business document MUST have the same character encoding. The included business document
49 MUST be well-formed. The Message Envelope MUST NOT contain another Message Envelope.

50 2.3 Non-XML Payloads

51 Several processes that are supported in Peppol require the transportation of binary data and non-XML text
52 as payload. In order for Peppol to support the transmission of non-XML payloads, an XML wrapper has
53 been defined that MUST be used for wrapping these payloads.

54 The XML wrapper defined in this document MUST NOT be used to wrap another XML wrapper neither as
55 binary nor as text payload.

56 The following picture depicts the XML schema of the XML wrapper (see chapter 3.2 for the full XML
57 schema):

58
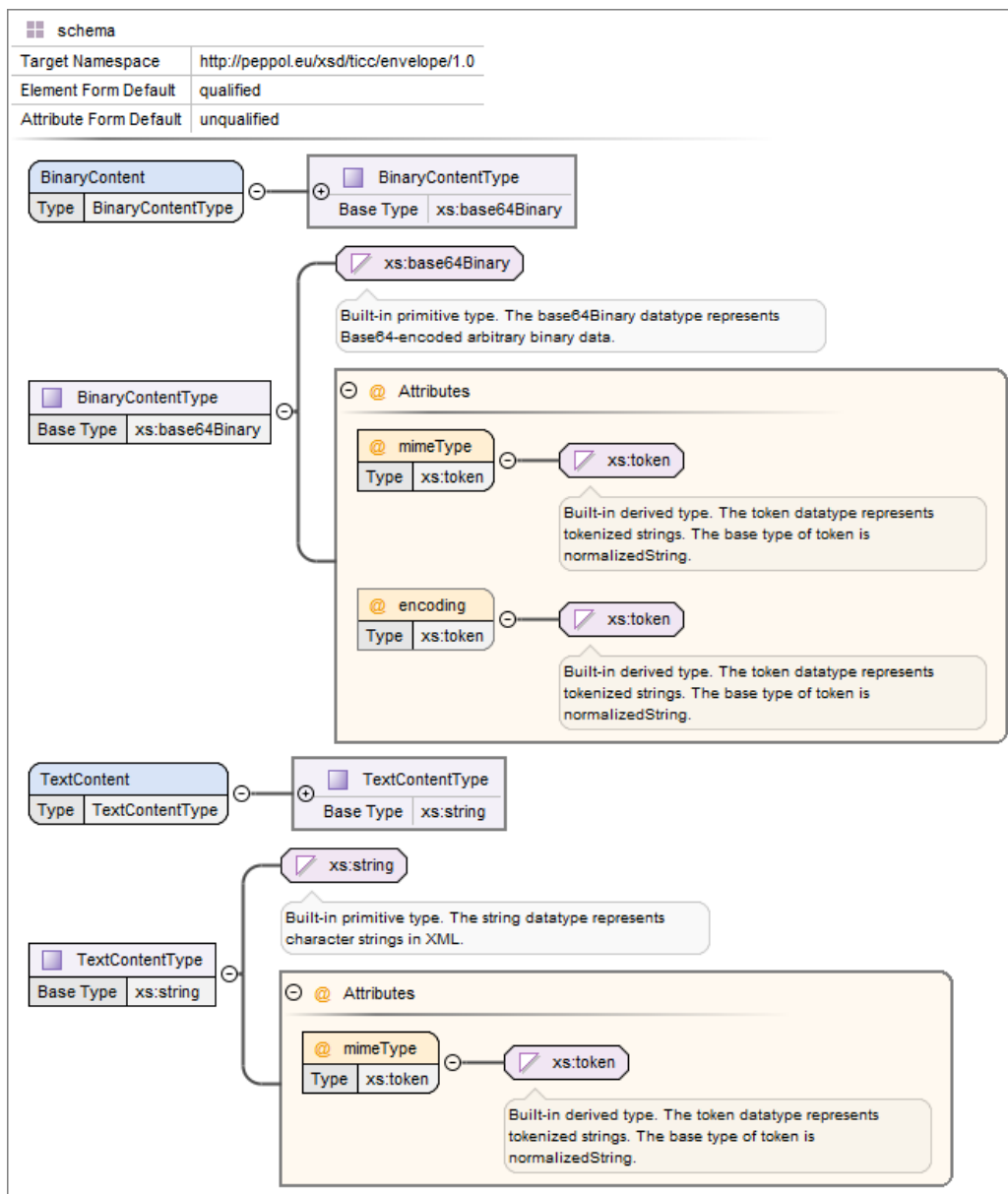
2.3.1 Binary Payloads

In order to support the transmission of binary payloads they should be transformed and packaged as follows:

1. The binary payload must be Base64-encoded
2. The encoded payload MUST be included inside the XML element `BinaryContent`. The XML namespace URI for this element MUST be `http://peppol.eu/xsd/ticc/envelope/1.0`.
3. The attribute `mimeType` MUST be set to the respective payload MIME type.
4. For text-based payloads, the optional `encoding` attribute MUST be used if the source encoding is different than the encoding of the surrounding XML document. At least the "UTF-8" encoding MUST be supported.

Non-normative example:

```xml
<?xml version="1.0" encoding="iso-8859-1"?>
<StandardBusinessDocument
xmlns="http://www.unece.org/cefact/namespaces/StandardBusinessDocumentHeader">
    <StandardBusinessDocumentHeader>
        ...
    </StandardBusinessDocumentHeader>
    <BinaryContent xmlns="http://peppol.eu/xsd/ticc/envelope/1.0"
                   mimeType="application/vnd.etsi.asic-e+zip"
                   encoding="UTF-8">
        ABCD45678922 ...
    </BinaryContent>
</StandardBusinessDocument>
```

2.3.2 Non-XML Text Payloads

For text data, there is no need of a container, as it can be placed directly as payload inside a `TextContent` XML element. The XML namespace URI for this element must be `http://peppol.eu/xsd/ticc/envelope/1.0`. The attribute `mimeType` MUST be set to the respective payload MIME type.

Note:

- If the text payload contains XML special characters (e.g. '<' or '>'), they MUST be escaped using XML encoding or alternatively the data needs to be wrapped inside a CDATA element so the XML remains well formed.
- If a text payload is embedded inside the `TextContent` element, it MUST use the same character encoding as the surrounding XML, otherwise the `BinaryContent` data element SHOULD be used.

Non-normative example:

```xml
<?xml version="1.0" encoding="iso-8859-1"?>
<StandardBusinessDocument
xmlns="http://www.unece.org/cefact/namespaces/StandardBusinessDocumentHeader">
    <StandardBusinessDocumentHeader>
        ...
    </StandardBusinessDocumentHeader>
    <TextContent xmlns="http://peppol.eu/xsd/ticc/envelope/1.0"
                 mimeType="Application/EDIFACT">
UNB+UNOA:2+9930711378399:14+7798032711116:14+160927:2252+EW861380947'UNH+186453437+CONTRL
:D:96A:UN:EAN002'UCI+F6GVY+7658032710006:14+9930711378111:14+8'UCM+3HHL0+ORDERS:D:96A:UN:
EAN008+7'UNT+4+186453437'UNZ+1+EW861380947'
    </TextContent>
</StandardBusinessDocument>
```

2.4 Peppol Process ID and Document Type ID

The values of Process ID and Document Type ID are necessary in the SML/SMP discovery process to retrieve the relevant service metadata. Both values should be mapped to the element located at:

110 `StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope/Inst`
111 `anceIdentifier`

112 The respective identifier schemes are to be located in the following element (new in v1.1):

113 `StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope/Iden`
114 `tifier`

115 For backwards compatibility reasons (from version 1.1 to 1.0) – if the identifier schemes are missing – the
116 default process scheme identifier `cenbii-procid-ubl` and the default document type identifier scheme
117 `busdox-docid-qns` MUST be used.

118 The qualifier located at
119 `/StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope/Typ`
120 `e` is used to distinguish the meaning of the values by using codes: `DOCUMENTID` (for a document type
121 identifier) and `PROCESSID` (for process identifiers).

122 Non-normative example without identifier schemes:

```
123     <Scope>
124       <Type>DOCUMENTID</Type>
125       <InstanceIdentifier>urn:oasis:names:specification:ubl:schema:xsd:Invoice-
126 2::Invoice##urn:www.cenbii.eu:transaction:biitrns010:ver2.0:extended:urn:www.peppol.eu:bis:peppol4a:
127 ver2.0::2.1</InstanceIdentifier>
128     </Scope>
129     <Scope>
130       <Type>PROCESSID</Type>
131       <InstanceIdentifier>urn:www.cenbii.eu:profile:bii04:ver1.0</InstanceIdentifier>
132     </Scope>
```

133 Non-normative example including identifier schemes (possible since v1.1 of this specification):

```
134     <Scope>
135       <Type>DOCUMENTID</Type>
136       <InstanceIdentifier>urn:oasis:names:specification:ubl:schema:xsd:Invoice-
137 2::Invoice##urn:www.cenbii.eu:transaction:biitrns010:ver2.0:extended:urn:www.peppol.eu:bis:peppol4a:
138 ver2.0::2.1</InstanceIdentifier>
139       <Identifier>busdox-docid-qns</Identifier>
140     </Scope>
141     <Scope>
142       <Type>PROCESSID</Type>
143       <InstanceIdentifier>urn:www.cenbii.eu:profile:bii04:ver1.0</InstanceIdentifier>
144       <Identifier>cenbii-procid-ubl</Identifier>
145     </Scope>
```

146 2.5 Country codes of the End Users

147 To satisfy the reporting requirements for traffic statistics, the country code of the business level sender
148 MUST be provided. The business-level sender is the C1 node in the 4-corner model. The information
149 provided in the envelope complements the identifier information on the messaging level.

150 The country code MUST be provided in every instance of the envelope. The value of the country code
151 MUST be provided according to ISO-3166-1 in the Alpha-2 notation (e.g. "BE" representing Belgium). Other
152 notations MUST NOT be used. The value MUST follow this case-sensitive regular expression:

153   `[A-Z0-9][A-Z0-9]`

154 Kosovo is a special case: It can be represented using either the code `XK`[1] or the code `1A`[2].

155 The country code of C1 MUST be known by the creator of the envelope.

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[1] XK is a "user assigned" ISO 3166 code not designated by the standard, but used by the European Commission, Switzerland, the Deutsche Bundesbank and other organisations.
[2] 1A is used by the Publications Office of the EU and part of the Peppol PoAC code lists

156 The qualifier located at
157 `/StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope/Typ`
158 `e` is used to distinguish the meaning of values by using codes: `COUNTRY_C1` MUST be used for C1 country
159 code. The country code value itself is mapped to the element located at:

160 `StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope/Inst`
161 `anceIdentifier`

162 Non-normative example for an exchange of a business document from a business level sender in Belgium:

```
163    <Scope>
164      <Type>COUNTRY_C1</Type>
165      <InstanceIdentifier>BE</InstanceIdentifier>
166    </Scope>
```

167 2.6   Additional attributes

168 Additional attributes MAY be provided that can be used to support the processing of the payload. These
169 additional attributes are represented as key-value-pairs.

170 Each additional attribute is represented as a
171 `/StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope`
172 element.

173 The attribute key must be contained in the child element `Type`. All attribute keys listed in chapter 2.6.1 are
174 reserved and cannot be used as an additional attribute key. The attribute key MUST be unique within an
175 SBDH. The attribute key MUST be handled case sensitive.

176 The attribute value must be contained in the child element `InstanceIdentifier`. The attribute value
177 MAY be omitted.

178 Non-normative example with two additional attributes:

```
179  <BusinessScope>
180    <!-- other mandatory values -->
181    <Scope>
182      <Type>TECHNICAL_VALIDATION_URL</Type>
183      <InstanceIdentifier>http://peppol.example.org/as4</InstanceIdentifier>
184    </Scope>
185    <Scope>
186      <Type>TECHNICAL_VALIDATION_REQUIRED</Type>
187      <InstanceIdentifier>true</InstanceIdentifier>
188    </Scope>
189  </BusinessScope>
```

190 Non-normative example with one additional attribute that has no value:

```
191  <BusinessScope>
192    <!-- other mandatory values -->
193    <Scope>
194      <Type>IndicatorAttribute</Type>
195      <InstanceIdentifier />
196    </Scope>
197  </BusinessScope>
```

198 2.6.1   Reserved attributes

199 The following additional attribute keys are reserved for internal use in the Peppol network and MUST NOT
200 be used for other purposes than the intended ones.

Attribute key	Description
COUNTRY_C1	Country code of original sender of the document (C1) (see chapter 2.5). Reserved since v2.0 of this specification.
COUNTRY_C4	Reserved for potential future use.

DOCUMENTID	Specifies the Peppol Document Type Identifier value (see chapter 2.3)
PROCESSID	Specifies the Peppol Process Identifier value (see chapter 2.3)
TECHNICAL_VALIDATION_URL	Reserved for potential future use.
TECHNICAL_VALIDATION_REQUIRED	Reserved for potential future use.

201   ## 2.7   Internet Media Type

202   The MIME type or Content-Type for Peppol Message Envelope documents MUST be either
203   `application/xml` or `text/xml` (they can be used interchangeably[3]).

204   ## 2.8   Message Envelope Schema

205

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[3] See https://tools.ietf.org/html/rfc7303#section-9.2

Element/Attribute	Annotation	
StandardBusinessDocument	Type	StandardBusinessDocument
└ xs:sequence	Occurrence	1 .. 1
StandardBusinessDocumentHeader	Occurrence	1 .. 1
	Type	StandardBusinessDocumentHeader
└ xs:sequence	Occurrence	1 .. 1
HeaderVersion	Occurrence	1 .. 1
	Type	xs:string
	Fixed	1.0
	Description	**Always value 1.0**
Sender	Occurrence	1 .. 1
	Type	Partner
└ xs:sequence	Occurrence	1 .. 1
Identifier	Occurrence	1 .. 1
	Type	PartnerIdentification
	Description	**Use the format XXXX:AAAAAAAA where XXXX is the type of identifer (such as 0088 for GS1 GLN) and AAAAAAAA the actual identifier.**
└ *Authority*	Type	xs:string
	Use	required
	Description	**Use fixed value "iso6523-actorid-upis"**
Receiver	Occurrence	1 .. 1
	Type	Partner
└ xs:sequence	Occurrence	1 .. 1
Identifier	Occurrence	1 .. 1
	Type	PartnerIdentification
	Description	**Use the format XXXX:AAAAAAAA where XXXX is the type of identifer (such as 0088 for GS1 GLN) and AAAAAAAA the actual identifier.**
└ *Authority*	Type	xs:string
	Use	required
	Description	**Use fixed value "iso6523-actorid-upis"**
DocumentIdentification	Occurrence	1 .. 1
	Type	DocumentIdentification
└ xs:sequence	Occurrence	1 .. 1
Standard	Occurrence	1 .. 1
	Type	xs:string
	Description	**The standard of the enveloped business message, normally described by use of the XML namespace of the business message root element (such as urn:oasis:names:specification: ubl:schema:xsd:Order-2)**
TypeVersion	Occurrence	1 .. 1
	Type	xs:string
	Description	**The version number of the enveloped business message (such as the value "2.1" for OASIS UBL 2.1 or "2.0" for OASIS UBL 2.0)**
InstanceIdentifier	Occurrence	1 .. 1
	Type	xs:string
	Description	**An informative unique ID created by the issuer of the envelope. The InstanceIdentifier MUST be unique for each Business Message Envelope being created. This ID is not the same as the ID of the business message (such as the Invoice Number). It is not the same as a transmission Message ID generated by the application sending the message (as defined in AS4).** **The InstanceIdentifier MUST be globally unique and it is RECOMMENDED to use UUID (such as 118e3040-51d2-11e3-8f96-0800200c9a66)**
Type	Occurrence	1 .. 1
	Type	xs:string
	Description	**Message type - mandatory in SBDH. XML local element name of the root-element in the business message.**

Element/Attribute	Annotation		
└ **CreationDateAndTime**	Occurrence	1 **..** 1	
	Type	xs:dateTime	
	Description	**The date and time for when this envelope was created. It is NOT necessarily the same as the issue date of the business document (such as the invoice) being enveloped. It is NOT necessarily the date time for transmission.**	
		The format of the value of this MUST include timezone information.	
		Use this format for UTC: 2014-01-17T09:30:00Z (Where the "Z" indicates UTC) Or specify offset from UTC by adding the time difference: 2014-01-17T09:30:00+02:00 (Where +02:00 indicates 2 hours positive offset to UTC)	
└ **BusinessScope**	Occurrence	1 **..** 1	
	Type	BusinessScope	
	Description	**Elements used to identify the ProcessID and DocumentID.**	
└ xs:sequence	Occurrence	1 **..** 1	
└ **Scope**	Occurrence	3 **..** unbounded	
	Type	Scope	
	Description	**Repeat for each mandatory qualifier. See chapters 2.4 and 2.5**	
└ xs:sequence	Occurrence	1 **..** 1	
└ ScopeAttributes	Occurrence	1 **..** 1	
└ xs:sequence	Occurrence	1 **..** 1	
┝ **Type**	Occurrence	1 **..** 1	
	Type	xs:string	
	Description	**Qualifier of how to understand the InstanceIdentifier element. Codes.**	
┝ **InstanceIdentifier**	Occurrence	1 **..** 1	
	Type	xs:string	
	Description	**The values matching the type qualified by the ScopeAttributes/ Type element.**	
└ **Identifier**	Occurrence	0 **..** 1	
	Type	xs:string	
	Description	**Identification scheme used for the Document type identifier/Process identifier. See chapter 2.4**	
└ **xs:any**	Occurrence	1 **..** 1	
	Description	**Business message goes here!**	

206

207 # 3 Appendix

208 3.1 Example instance document (non-normative)

```
209  <?xml version="1.0" encoding="UTF-8"?>
210  <StandardBusinessDocument xmlns:xs="http://www.w3.org/2001/XMLSchema"
211  xmlns="http://www.unece.org/cefact/namespaces/StandardBusinessDocumentHeader">
212      <StandardBusinessDocumentHeader>
213          <HeaderVersion>1.0</HeaderVersion>
214          <Sender>
215              <Identifier Authority="iso6523-actorid-upis">0088:7315458756324</Identifier>
216          </Sender>
217          <Receiver>
218              <Identifier Authority="iso6523-actorid-upis">0088:4562458856624</Identifier>
219          </Receiver>
220          <DocumentIdentification>
221              <Standard>urn:oasis:names:specification:ubl:schema:xsd:Invoice-2</Standard>
222              <TypeVersion>2.1</TypeVersion>
223              <InstanceIdentifier>123123</InstanceIdentifier>
224              <Type>Invoice</Type>
225              <CreationDateAndTime>2019-02-01T15:42:10Z</CreationDateAndTime>
226          </DocumentIdentification>
227          <BusinessScope>
228              <Scope>
229                  <Type>DOCUMENTID</Type>
230                  <InstanceIdentifier>urn:oasis:names:specification:ubl:schema:xsd:Invoice-
231  2::Invoice##urn:cen.eu:en16931:2017#compliant#urn:fdc:peppol.eu:2017:poacc:billing:3.0::2.1</I
232  nstanceIdentifier>
233                  <Identifier>busdox-docid-qns</Identifier>
234              </Scope>
235              <Scope>
236                  <Type>PROCESSID</Type>
237              <InstanceIdentifier>urn:fdc:peppol.eu:2017:poacc:billing:01:1.0</InstanceIdentifier>
238                  <Identifier>cenbii-procid-ubl</Identifier>
239              </Scope>
240              <Scope>
241                  <Type>COUNTRY_C1</Type>
242                  <InstanceIdentifier>BE</InstanceIdentifier>
243              </Scope>
244          </BusinessScope>
245      </StandardBusinessDocumentHeader>
246      <Invoice xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
247  xmlns:cac="urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2"
248  xmlns="urn:oasis:names:specification:ubl:schema:xsd:Invoice-2">
249          <!-- reduced instance file -->
250      </Invoice>
251  </StandardBusinessDocument>
```

252 3.2 Message Envelope Extension XML Schema

253 The normative version of the Message Envelope Extension XML Schema can be found at
254 https://docs.peppol.eu/edelivery/