Specification

OpenPEPPOL AISBL

Transport Infrastructure
Coordinating Community

ICT - Models

PEPPOL Business Message
Envelope (SBDH)

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Status: In Use

Statement of originality

This deliverable contains original unpublished work except where clearly indicated otherwise.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

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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 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 AS2 or AS4. The creation of the Message Envelope is RECOMMENDED to be done already in the system issuing the

12 business document but it may also be created by a service provider who is preparing the document for
13 transportation to the receiver's Access Point. This specification does not recommend any particular setup
14 with regard to this when the Message Envelope is not created in the issuing system.

1.1   Terminology

16 The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT",
17 "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC
18 2119 [RFC2119].

1.2   Normative references

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

22 [PEPPOL_Policy3] PEPPOL Policy for use of Identifiers v3.x,
23   https://github.com/OpenPEPPOL/documentation/blob/master/TransportInfrastructure/
24   PEPPOL_Policy%20for%20use%20of%20identifiers-310.pdf

25 [PEPPOL_Policy4] PEPPOL Policy for use of Identifiers v4.x,
26   https://github.com/OpenPEPPOL/documentation/blob/master/TransportInfrastructure/
27   PEPPOL%20Policy%20for%20use%20of%20identifiers%20v4.0.pdf

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

1.3   When to use the envelope

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

34 • Business Message Envelope MUST be applied for all messages exchanged with AS2

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

2   SBDH Usage

2.1   Party identifiers

38 The required Receiver party identifier in the Message Envelope header is the one that corresponds to a
39 PEPPOL Participant registered in the SML/SMP. Also the Sender party identifier is required. The structure of
40 the identifier MUST follow the:

41 • "PEPPOL Policy for use of Identifiers v3.x" [PEPPOL_Policy3] for BIS v1 and v2 documents
42 • "PEPPOL Policy for use of Identifiers v4.x" [PEPPOL_Policy4] for BIS v3 or later

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

45 Non-normative example:

```
46  <Sender>
47    <Identifier Authority="iso6523-actorid-upis">0088:7315458756324</Identifier>
48  </Sender>
49  <Receiver>
50    <Identifier Authority="iso6523-actorid-upis">0088:4562458856624</Identifier>
51  </Receiver>
```

52   2.2   XML considerations

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

56   2.3   Non-XML Payloads

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

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

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

64
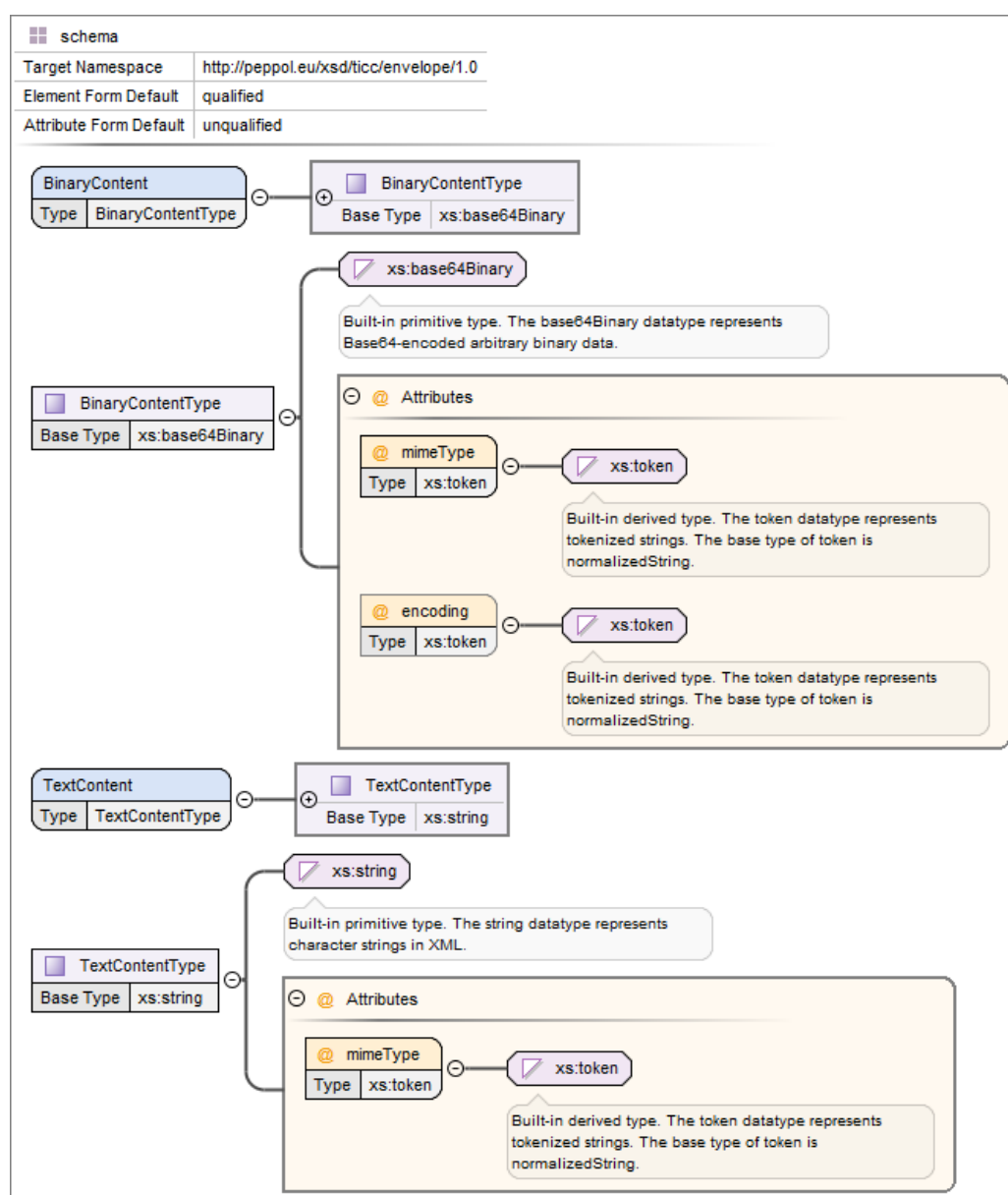
2.3.1 Binary Payloads

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:

116 `StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope/Inst`
117 `anceIdentifier`

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

119 `StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope/Iden`
120 `tifier`

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

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

128 Non-normative example without identifier schemes:

```
129 <BusinessScope>
130   <Scope>
131     <Type>DOCUMENTID</Type>
132     <InstanceIdentifier>urn:oasis:names:specification:ubl:schema:xsd:Invoice-
133 2::Invoice##urn:www.cenbii.eu:transaction:biitrns010:ver2.0:extended:urn:www.peppol.eu:bis:peppol4a:
134 ver2.0::2.1</InstanceIdentifier>
135   </Scope>
136   <Scope>
137     <Type>PROCESSID</Type>
138     <InstanceIdentifier>urn:www.cenbii.eu:profile:bii04:ver1.0</InstanceIdentifier>
139   </Scope>
140 </BusinessScope>
```

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

```
142 <BusinessScope>
143   <Scope>
144     <Type>DOCUMENTID</Type>
145     <InstanceIdentifier>urn:oasis:names:specification:ubl:schema:xsd:Invoice-
146 2::Invoice##urn:www.cenbii.eu:transaction:biitrns010:ver2.0:extended:urn:www.peppol.eu:bis:peppol4a:
147 ver2.0::2.1</InstanceIdentifier>
148     <Identifier>busdox-docid-qns</Identifier>
149   </Scope>
150   <Scope>
151     <Type>PROCESSID</Type>
152     <InstanceIdentifier>urn:www.cenbii.eu:profile:bii04:ver1.0</InstanceIdentifier>
153     <Identifier>cenbii-procid-ubl</Identifier>
154   </Scope>
155 </BusinessScope>
```

156 2.5 Additional attributes

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

159 Each additional attribute is represented as a
160 `/StandardBusinessDocument/StandardBusinessDocumentHeader/BusinessScope/Scope`
161 element.

162 The attribute key must be contained in the child element `Type`. All attribute keys listed in chapter 2.5.1 are
163 reserved and cannot be used as an additional attribute key. The attribute key MUST be unique within an
164 SBDH. The attribute key MUST be handled case sensitive.

165 The attribute value must be contained in the child element `InstanceIdentifier`. The attribute value
166 MAY be omitted.

167 Non-normative example with two additional attributes:

```
168 <BusinessScope>
169   <!-- Document type and process ID -->
```

```
170    <Scope>
171      <Type>TECHNICAL VALIDATION_URL</Type>
172      <InstanceIdentifier>http://peppol.example.org/as4</InstanceIdentifier>
173    </Scope>
174    <Scope>
175      <Type>TECHNICAL_VALIDATION_REQUIRED</Type>
176      <InstanceIdentifier>true</InstanceIdentifier>
177    </Scope>
178  </BusinessScope>
```

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

```
180  <BusinessScope>
181    <!-- Document type and process ID -->
182    <Scope>
183      <Type>IndicatorAttribute</Type>
184      <InstanceIdentifier />
185    </Scope>
186  </BusinessScope>
```

2.5.1 Reserved attributes

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

Attribute key	Description
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.

2.6 Message Envelope Schema

Element/Attribute	Annotation	
StandardBusinessDocument	Type	StandardBusinessDocument
└ xs:sequence	Occurence	1 .. 1
StandardBusinessDocumentHeader	Occurence	1 .. 1
	Type	StandardBusinessDocumentHeader
└ xs:sequence	Occurence	1 .. 1
HeaderVersion	Occurence	1 .. 1
	Type	xs:string
	Fixed	1.0
	Description	**Always value 1.0**
Sender	Occurence	1 .. 1
	Type	Partner
└ xs:sequence	Occurence	1 .. 1
Identifier	Occurence	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	Occurence	1 .. 1
	Type	Partner
└ xs:sequence	Occurence	1 .. 1
Identifier	Occurence	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	Occurence	1 .. 1
	Type	DocumentIdentification
└ xs:sequence	Occurence	1 .. 1
Standard	Occurence	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	Occurence	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	Occurence	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 AS2 or AS4).** **The InstanceIdentifier MUST be globally unique and it is RECOMMENDED to use UUID (such as 118e3040-51d2-11e3-8f96-0800200c9a66)**
Type	Occurence	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**	Occurence	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**	Occurence	1 **..** 1
	Type	BusinessScope
	Description	**Elements used to identify the ProcessID and DocumentID.**
└ xs:sequence	Occurence	1 **..** 1
└ **Scope**	Occurence	2 **..** unbounded
	Type	Scope
	Description	**Repeat at least twice - once for DocumentID once for ProcessID**
└ xs:sequence	Occurence	1 **..** 1
└ ScopeAttributes	Occurence	1 **..** 1
└ xs:sequence	Occurence	1 **..** 1
└ **Type**	Occurence	1 **..** 1
	Type	xs:string
	Description	**Qualifier of how to understand the InstanceIdentifier element. Codes.**
	Applicable Codes	
	DOCUMENTID	
	PROCESSID	
└ **InstanceIdentifier**	Occurence	1 **..** 1
	Type	xs:string
	Description	**The ProcessID (profile ID) or DocumentID corresponding to PEPPOL SMP for which the enveloped payload is intended to be used for. (the type of value is qualified by the ScopeAttributes/ Type element)**
	Description	**For senders - this value can be used to retrieve the correct set of PEPPOL service metadata.**
	Description	**For receivers - this value can be used to verify that the receiving PEPPOL Participant has published support for this DocumentID or ProcessID.**
└ **Identifier**	Occurence	0 **..** 1
	Type	xs:string
	Description	**Identification scheme used for the Document type identifier/Process identifier.**
	Description	**Use value "busdox-docid-qns" for Document type identifier**
	Description	**Identification scheme for Process identifier may differ depending on the Document type.**
└ **xs:any**	Occurence	1 **..** 1
	Description	**Business message goes here!**

192

193 # 3 Appendix

3.1   Example instance document (non-normative)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<StandardBusinessDocument xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.unece.org/cefact/namespaces/StandardBusinessDocumentHeader">
    <StandardBusinessDocumentHeader>
        <HeaderVersion>1.0</HeaderVersion>
        <Sender>
            <Identifier Authority="iso6523-actorid-upis">0088:7315458756324</Identifier>
        </Sender>
        <Receiver>
            <Identifier Authority="iso6523-actorid-upis">0088:4562458856624</Identifier>
        </Receiver>
        <DocumentIdentification>
            <Standard>urn:oasis:names:specification:ubl:schema:xsd:Invoice-2</Standard>
            <TypeVersion>2.1</TypeVersion>
            <InstanceIdentifier>123123</InstanceIdentifier>
            <Type>Invoice</Type>
            <CreationDateAndTime>2019-02-01T15:42:10Z</CreationDateAndTime>
        </DocumentIdentification>
        <BusinessScope>
            <Scope>
                <Type>DOCUMENTID</Type>
                <InstanceIdentifier>urn:oasis:names:specification:ubl:schema:xsd:Invoice-
2::Invoice##urn:cen.eu:en16931:2017#compliant#urn:fdc:peppol.eu:2017:poacc:billing:3.0::2.1</I
nstanceIdentifier>
                <Identifier>busdox-docid-qns</Identifier>
            </Scope>
            <Scope>
                <Type>PROCESSID</Type>
              <InstanceIdentifier>urn:fdc:peppol.eu:2017:poacc:billing:01:1.0</InstanceIdentifier>
                <Identifier>cenbii-procid-ubl</Identifier>
            </Scope>
        </BusinessScope>
    </StandardBusinessDocumentHeader>
    <Invoice xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
xmlns:cac="urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2"
xmlns="urn:oasis:names:specification:ubl:schema:xsd:Invoice-2">
        <!-- reduced instance file -->
    </Invoice>
</StandardBusinessDocument>
```

3.2   Message Envelope Extension XML Schema

The normative version of the Message Envelope Extension XML Schema can be found at
https://github.com/OpenPEPPOL/documentation/tree/master/TransportInfrastructure