ERHVERVSSTYRELSEN

OIOUBL Guideline

OIOUBL Document Reference

UBL 2.0 Dokument Reference

G21

Version 1.4

Colophon

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Contents

1. Preface

These guidelines form of a series describing the purpose and use of the business documents that comprise the Danish localization of UBL 2.0, known as OIOUBL.

As well as guidelines describing the use of commonly used elements, a separate guideline has been prepared for each business document.

1.1. Purpose of this document

This guideline describes the methods for referencing other documents from within an OIOUBL document (*DocumentReference*).

1.2. General Points

In the *DocumentReference* class different options are available for referring either internally to embedded documents, or to external documents.

The most frequently used reference type is to external documents. This typically means specifying a path to another document using the *DocumentReference/Attachment/ExternalReference/URI*.

For the requirements of specific documents' use of document references, refer to the individual document guidelines.

1.3. Changes in version 1.4

In this latest update of this guideline the following has been changed:

- Update to align with GDPR rules for personal data protection
- Added allowed document types (table 2) to align with EU eInvoice standard.

2. Relevant UBL Classes and Elements

A *DocumentReference* class exists in all OIOUBL business documents, but it is used in different situations.

The type of document reference can be seen either from the specific class it is present in e.g. *ContractReference/DocumentReference*, or by it's naming (as in *ContractDocumentReference*). In the above cases the document references are said to be qualified, and the document type is not specified. In those cases where the document references are not qualified e.g. *AdditionalDocumentReference*, the document type must be specified in the attribute *DocumentTypeCode*.

A *DocumentReference* is typically used to reference other documents in a shared business process. For example, a *DocumentReference* is within the order reference of an invoice. It is also possible to reference a contract (*ContractDocumentReference*), despatch documents (*DespacthDocumentReference*), etc. for an invoice.

In this guideline special attention is given to the use of *DocumentReference* for different reference types.

2.1. DK names and cardinality

In the table below the *DocumentReference* class and its elements are identified together with their cardinality.

2.1.1. DocumentReference

The *DocumentReference* class contains the following elements:

UK-name	DK-name	Use	Remarks
ID	ID	1	An identifier for the document (or file) referred to. If reference is made to another OIOUBL document, the ID referred to is that defined at the document level of the document in question.
CopyIndicator	KopiIndikator	0..1	It must be specified whether the referenced document is a copy (true) or it is the original (false). If nothing else is specified the default value is false.
UUID	UniversalUnikID	0..1	Computer-generated unique ID of the document instance referred to.
IssueDate	UdstedelsesDato	0..1	The date corresponding to the date specified by the issuer of the referenced document.
DocumentTypeCode	DokumentTypeKode	0..1	When the element name or the context indicates which type of document is being referenced (such as ContractDocumentReference), a DocumentTypeCode must not be specified. If the document type is not indicated by the name, then certain other document types may be indicated using values from a code list (see below). Note that special rules exist for specifying personal information (as described in a later

			section).
DocumentTypeCode@listID			In this attribute the code list for DocumentTypeCode is specified: UN/ECE 1001 or urn:oioubl:codelist:responsedocumenttypecode-1.1
DocumentTypeCode@listAgencyID			If UN/ECE 1001 is used as value for listID, listAgencyID is specified as 6. Otherwise the value is specified as 320.
DocumentType	DokumentType	0..1	When the fieldname or the context indicates which document is referenced, e.g. ContractDocumentReference, a DocumentType **must not** be specified. If the document type cannot be found in a codelist, the document type may be specified in text.
XPath	XPath	0..n	An internal reference to another part of the same document specified by an XPath. XPath and Attachment are mutually exclusive, so internal and external references cannot occur within the same DocumentReference.
Attachment	Vedhæftet	0..1	If the document referred to is actually attachment to this document it is specified by the Attachment class. XPath and Attachment are mutually exclusive, so internal and external references cannot occur within the same DocumentReference.
Attachment/EmbeddedDocumentBinaryObject	IndlejretDokument	0..1	An embedded document may, for example, be specified by Base64 encoding, but are only to be used by appointment, if the document type can be seen from the fieldname or the context. EmbeddedDocumentBinaryObject and ExternalReference are mutually exclusive. Note that in NES profile 8, embedded documents are only possible in documentreferences of type AdditionalDocumentReference.
Attachment/ExternalReference	EksternReference	0..1	Reference to an external document. EmbeddedDocumentBinaryObject and ExternalReference are mutually exclusive.
Attachment/ExternalReference/URI	URI	1	The reference is always defined as a URI.
Attachment/ExternalReference/DocumentHash	DokumentHash	0..1	The hash code for the checking the integrity of a referenced document.
Attachment/ExternalReference/ExpiryDate	UdløbsDato	0..1	Date when the referenced document will no longer be available at the specified URI.
Attachment/ExternalReference/ExpiryTime	UdløbsTid	0..1	Time when the referenced document will no longer be available at the specified URI.

3. Description

In the sections below the use of *DocumentReference* is described in further detail.

3.1. DocumentReference

With *DocumentReference* three different referencing options are available. It is possible to reference:

- an internal segment within the document in question,
- a document embedded with the current document, or
- an external document.

The three reference types are mutually exclusive. For example, internal and external references cannot occur within the same *DocumentReference* class.

Frequently, several document references may be required for different contexts within a single business documents. If more references are required, it should be investigated whether there are any references particular suited for the purpose, in the specific documents.

As mentioned earlier, the element name may specify that a document reference has a specific purpose, such as *ContractDocumentReference*. In such cases there might be additional requirements to which reference type is used. For example, in relation to a contract a reference will typically point to an external document, which may be referenced by use of an *URI*.

3.1.1. XPath

An internal reference to within the document in question is specified using its *XPath*. This makes it possible to reference any other classes or elements in the document.

Only rarely will internal references be required. They may, for example, be used by digital signatures to refer to the parts of the document that are signed.

3.1.2. EmbeddedDocumentBinaryObject

One or more referenced documents can be embedded into the original document as a binary object. The *DocumentReference* class is repeated for each embedded document.

Note that only by appointment can binary objects be embedded in qualified document references, thus, when the document type can be seen from the name or context. The value defined in *EmbeddedDocumentBinaryObject* is the binary code, and the attributes are used to specify which format is being applied (see also the guideline on Data types (Ref. G29), the section about Binary objects):

Attribute	Description
mimeCode	The type of the embedded document, e. g. "application/pdf". The document receiver uses this information to determine how to display the document. See the list of allowed mimeCodes below.
encodingCode	Information about the code used (e. g. Base64) to let the receiver know which algorithm should be applied to decode the document.
characterSetCode	The character set used in the embedded document, e. g. UTF-8.

Table 1. Binary object attributes

The following file types can be embedded in OIOUBL:

File types	mimeCode
tiff	image/tiff
tif	image/tiff
png	image/png
jpg	image/jpeg
jpeg	image/jpeg
gif	image/gif
pdf	application/pdf
csv	text/csv
xlsx	application/vnd.openxmlformats-officedocument.spreadsheetml.sheet
ods	application/vnd.oasis.opendocument.spreadsheet

Table 2. List of permitted embedded file types

See XML examples on embedded documents on Digitaliser.dk

3.1.3. ExternalReference

Any external reference is defined as a hypertext link (*URI*) to the referenced document.

A hash value may also be defined to ensure that no changes have been made to the referenced document. And a date and time may be specified to define when the referenced document will no longer be available.

3.2. Entering personal data

At document level in the Order and Invoice documents an *AdditionalDocumentReference* is available. This is used to specify whether an additional document is containing personal data covered by GDPR.

There information can be regular (specified by ID = 1) or personal data (ID = 2):

- 1: regular personal information such as name, address, economy, tax, debt, married status, social issues etc.
- 2: personal sensitive information such as
  - race, ethnicity, religion, health and sexual issues, politics, philosophy, trade union, genetics etc.
  - other confidential information such as violation and Social security number (CPR-number)

In these circumstances, the *AdditionalDocumentReference* is used as described in the following example:

```
<cac:AdditionalDocumentReference>
  <cbc:ID>2</cbc:ID>
  <cbc:DocumentTypeCode listAgencyID="320" listID="urn:oioubl:codelist:responsedocumenttypecode-
1.1">PersonalSecure</cbc:DocumentTypeCode>
```

```
 </cac:AdditionalDocumentReference>
```

Figure 1. Example of how to enter personal data

In *ID*, the value "1" or "2" indicates the security level.

CPR (Social security number) that now belongs to level 2 before belonged to level 1 and there is no longer a level 3.

In *DocumentTypeCode*, the code “PersonalSecure” is taken from the official code list.

3.3. Specification of Record number, Project number etc.

AdditionalDocumentReference can also be used to specify Record numbers, Case numbers, Project numbers, Policy numbers etc.

The number is specified in *cbc:ID* and *cbc:DocuemtnTypeCode* is given the value ZZZ. The type of number e.g. Project number is written in text in *cbc:DocumentType* as in the example below.

The number can be specified on both header level and/or line level. On line level the class *cac:DocumentReference* is used.

```
<cac:AdditionalDocumentReference>
   <cbc:ID>2755776-02</cbc:ID>
   <cbc:DocumentTypeCode listID="urn:oioubl:codelist:responsedocumenttypecode-1.1"
listAgencyID="320">ZZZ</cbc:DocumentTypeCode>
   <cbc:DocumentType>Project number</cbc:DocumentType>
</cac:AdditionalDocumentReference>
```

Figure 2. Example of how to enter number specifications

4. Examples

This section contains examples on how to use the different reference types available in *DocumentReference*.

4.1. Xpath in DocumentReference

The following example shows the use of *XPath* within a *DocumentReference* to reference another section of the same document.

```
<cac:DocumentReference>
   <cbc:ID>TELE-1-CON</cbc:ID>
   <cbc:CopyIndicator>true</cbc:CopyIndicator>
   <cbc:XPath>../../cbc:Description</cbc:XPath>
</cac:DocumentReference>
```

Figure 3

4.2. EmbeddedDocumentBinaryObject in AdditionalDocumentReference

The following example shows the use of *EmbeddedDocumentBinaryObject* within an *AdditionalDocumentReference* to embed the data within the document.

```
<cac:DocumentReference>
   <cbc:ID>TELE-1-CON</cbc:ID>
   <cbc:CopyIndicator>true</cbc:CopyIndicator>
   <cbc:DocumentTypeCode  listAgencyID="6" listID="UN/ECE 1001">380</cbc:DocumentTypeCode>
   <cac:Attachment>
       <cbc:EmbeddedDocumentBinaryObject
           mimeCode="application/pdf"
           encodingCode="Base64"
           characterSetCode="UTF-8">
           brIG0Ng53KHKaoOQNQYcpyFHKa9UhkgzjkPBTaFJDIBUTHyB4KY5SYM5BZcpMkshU0UzJoLH///
           ///ymA0U6I4HgktoCyOiOjYZIWWuLoujyI8R0XAzDXI7L5cWWolMjgaA2GER8jxeMZjIaL5dEdF8
           4ZHiOMui4QRPnLSFcjxHDLI4GgIRxC7I+XRHy+YjGRPPI2MzRHRiI7I4YERERERERERFuWYWI4ZH
           RHAzA3I5EfLxHCGMwjCLmXRhEdEdEeNo2iPkcjccIzR8yOiPGiI7EREREREREREENy0LRHwhHAzDN
           L5dEcyOGcjojojghcZsMCIiIiIiIiIiIiIiIi8shWiRl0R0RwM2R4uyOGcjjI6I4ahdkPERERERb
           mS2jeYi4EEcNhHA1Bgvl42jCI6I8XjTI+bRHIj5HGR2RwQzxERERFud6o2i7LxHA1AkLil0R0YzC
           OIwELo+BBHzkR8REREREREREeUsDMDcuHI4QjojsjouDkdEdFxkdEcyOyOiOGw4RuNGR48xERERE
       </cbc:EmbeddedDocumentBinaryObject>
   </cac:Attachment>
</cac:DocumentReference>
```

Figure 4.

4.3. ExternalReference in DocumentReference

The example below shows the use of *ExternalReference* within *DocumentReference* to describe an external PDF file.

```
<cac:ContractDocumentReference>
   <cbc:ID>TELE-1-CON</cbc:ID>
   <cbc:CopyIndicator>true</cbc:CopyIndicator>
   <cac:Attachment>
      <cac:ExternalReference>
        <cbc:URI>http://www.teleeksperten.dk/aftale_TELE-1-CON.pdf</cbc:URI>
        <cbc:DocumentHash>82164824</cbc:DocumentHash>
        <cbc:ExpiryDate>2006-12-31</cbc:ExpiryDate>
        <cbc:ExpiryTime>12:00:00</cbc:ExpiryTime>
      </cac:ExternalReference>
   </cac:Attachment>
</cac:ContractDocumentReference>
```

Figure 5

5. Relevant code lists

Code list:	Agency:	URN:	Example value:
ResponseDocumentTypeCode	320	urn:oioubl:codelist:responsedocumenttypecode-1.1	Invoice
DocumentTypeCode	6	UN/ECE 1001	380

6. Terms and abbreviations

Listed below are the most important terms and abbreviations:

Term:	Explanation:
Document level	Elements at document level are found directly under the root element (the top element) in the XML structure. elements at the document level apply to the whole document.
Line level	Elements at line level, unlike elements at the document level, only apply to a specific item line
Class	A class is a collection of elements. For example, the Price class contains elements such as PriceAmount, BaseQuantity, etc.
Element	An element is an information entity in an XML structure. For example, the PriceAmount is the element containing the price in an invoice line.
Attributes	In an XML element, it is possible to specify a property as an attribute, e. g. the attribute unitCode in which the unit for a quantity may be specified, as in the example: <cbc:BaseQuantity unitCode="BO">1</cbc:BaseQuantity> Attributterne benyttes også til at angive kodelister f.eks. listID="urn:oioubl:codelist:addressformatcode-1.1"