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# **e2b Header Definition**

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## ***Message description***

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## Revision history

DATE	VER	MADE BY	CHANGE
16.12.2011	1.1	Petter Sandvik, Edisys Consulting	Change in specification of embedded attachment – Base64, chapter 3.1.
26.01.2006	1.0	Vidar Wethal	First version of a standard document header. The draft is copied from a document made by Sven Christiansen and Hans Jørgen Kjørstad - Ergo

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## 1 Introduction

### 1.1 General

This document is a textual description of a format that is used for addressing electronic business documents.

An interchange can be divided in 3 different main sections:

1. Interchange level.  
This level should always be put first in the interchange. The e2b schema definition does not require the header, but if the interchange is a part of a transmission that uses more than one Message Provider, the Interchange level must be included.
2. Message level.  
This level should be placed in front of all business documents, and contain elements that describes the document that follows the header. This header is not mandatory in the e2b schema definition, but if the interchange is a part of a transmission that uses more than one Message Provider, the Message level must be included.
3. Document level.  
The actual document/message that should be sent as a part of the interchange. As per today, the Invoice is the only document described in e2b

This document covers the first 2 levels.

### 1.2 Format descriptions

The detailed description is given as a XML-schema that also contains any rules that is applied. The XML-schemas for the headers are described in the documents:

- Interchange\_Header\_1.1.xsd  
This is the general structure for InterchangeHeader, and is used for addresses and as carrier for information on interchange level.
- Message\_Header\_1.1.xsd  
That describes the general structure for MessageHeader and is used for addressing and carrier for information on message level.

In addition to elements for addresses and references, it also contains groups of elements that can be used to determine how the message should be processed on the receiving side. The way to build The instruction is regulated by an agreement between the sender and receiver, and the structure that is used (ANY-elements) allows for the parties to use their own defined elements within these groups. The only limitation is to avoid using element names that is already defined in the headers or in the message itself since; there is no use of namespace in the headers.

Every Message provider operator will have implemented their own use of free elements, and there will be a separate implementation guide that describes this.

The rules for use of elements types as dates, time, decimal numbers etc. all follow normal e2b notation.

Because the format is very flexible defined, special documentations that describe the specific use for a specific implementation could be needed. This always will be the case if the parties decide to use the any structure in the headers to exchange information that is not described in this document.

## 2 High level description

### 2.1 General

This chapter describes the main structure that is used in the headers and where the different groups of information is used on different levels in the interchange. The description is partly given as plain textual description, and partly as examples. The headers are divided into 2 different levels.

#### Interchange level (InterchangeHeader):

The InterchangeHeader is used once for each interchange and contains as a rule, the address to the first receiver.

#### Message level (MessageHeader):

The MessageHeader contains generic elements for the actual business document. The MessageHeader should be placed in front of every business document. The address information for this header will be from the first sender to the end receiver.

### 2.2 InterchangeHeader (generic)

#### 2.2.1 Elements with a special content

**InterchangeId** is a reference that is used as a unique reference for the interchange, and it must be unique for the certain issuer for all the interchanges and type of interchanges from this issuer. The InterchangeId is used also for receipts that are sent to the issuer, and the issuer need to relate to this ID.

The use of the address elements is strictly defined, and the content of Address, SubAddress and AddressQualifier must be known by the recipient, and also by any intermediate points in the communication line. The use of the content in Address and Sub address is determined by the content of the element Address qualifier

#### 2.2.2 Examples

Two examples are described below. The first example includes required elements only. The second example includes all optional elements too (used for specific requirements).

As previously mentioned the processing options are used if the issuer needs the interchange to be treated in a special way at the receiving point. If specified on the interchange level, the instructions are valid for all interchanges, but could be overruled on the message level.

#### **Example (required elements):**

```
<?xml version="1.0" encoding="UTF-8"?>
<InterchangeHeader>
  <!--The formatversion -->
  <Version>1.1</Version>
  <!-- Unique (pr issuer) reference for this interchange. All later messages
  (receipts+++) that refer to this interchange will use this reference. The reference
  must be unique for all interchanges from the same issuer. -->
  <InterchangeId>UTV-1234567890</InterchangeId>
```

```
<!--      Date and time for the creation for the interchange

<InterchangeTime>2011-12-16T23:00:00</InterchangeTime>

<!--      Information about the issuer
      Address:          Usually the organization number (Brønnøysund)
      SubAddress:       Usually department (if used)
      AddressQualifier:  Code that tell which type of address that is used.

      The default is "OrgNr-Avd" that means that the address is put together of an
      organization number and optionally use of department/unit. The way to use the
      address elements when communicating via several Message Providers is described
      in a specific chapter.      -->

<Originator>
  <Address>987654321</Address>
  <SubAddress>Avdeling 1</SubAddress>
  <AddressQualifier>OrgNr-Avd</AddressQualifier>
</Originator>

<!--Information about the receiver of the interchange
      The same rules apply to the elements as above.      -->
<Recipient>
  <Address>976117840</Address>
  </SubAddress>
  <AddressQualifier>OrgNr-Avd</AddressQualifier>
</Recipient>

</InterchangeHeader>
```

**Example (with optional elements):**

```
<?xml version="1.0" encoding="UTF-8"?>
<InterchangeHeader>

  <Version>1.1</Version>
  <InterchangeId>UTV-1234567890</InterchangeId>
  <InterchangeTime>2006-01-15T23:00:00</InterchangeTime>
  <Originator>
    <Address>987654321</Address>
    <SubAddress>Avdeling 1</SubAddress>
    <AddressQualifier>OrgNr-Avd</AddressQualifier>
  </Originator>

  <Recipient>
    <Address>976117840</Address>
```

```
        </SubAddress>
        <AddressQualifier>OrgNr-Avd</AddressQualifier>
    </Recipient>
    <!-- Receiptnotification (YES/NO) -->
    <ReceiptNotificationRequest>YES</ReceiptNotificationRequest>

    <!--      When a receipt is asked for, the sender could ask for another reference
               than the interchange reference used in the receipt. The element is only
used if the interchange reference should not be used.
    -->
    <ReceiptNotificationType>

    <ReceiptNotificationReference>UTV-1234567890</ReceiptNotificationReference>

    <!--      Customer specific processing instructions must be defined between the
               parties in the      specific interchange relation.
    -->
    <ProcessInstructions/>

</InterchangeHeader>
```

## 2.3. MessageHeader, generic elements

### 2.3.1 Elements with a specific content

**MessageReference** is a reference to the documents in the interchange and should at least be unique within the interchange. Message reference is often used for tracking purposes by the Message Provider.

The use of the address elements is strictly defined, and the content in Address, Subaddress and Addressqualifier must be known by the receiver. The content of Address and Subaddress is controlled by the content in AddressQualifier.

### 2.2.3 Example of Use

In the MessageHeader there are defined some generic elements that is common and not dependant of the business document that is a part of the interchange. These generic elements are described in this chapter. Also for this header we describe the structure with an example using only the mandatory elements, and one example showing the optional elements.

#### Example (minimum):

```
<MessageHeader>

  <!-- Type of business document that follows.
  -->
  <DocumentType>
    <DocumentCode>380</DocumentCode>
    <DocumentDescriptiveName>FAKTURA</DocumentDescriptiveName>
  </DocumentType>

  <!-- Unique (At least within the interchange) message reference
  -->
  <MessageReference>8912739</MessageReference>

  <!-- What committee responsible for the message definition -->
  <MessageOwner>e2b</MessageOwner>

  <!-- The type of message for the business document to follow -->
  <MessageType>e2bInvoice</MessageType>

  <!-- The message version for the message definition in use -->
  <MessageVersion>3.4.1</MessageVersion>

  <!--Language used in the business document -->
  <language>NO</language>
```



```
<!-- Sender ("Invoice Issuer")
-->

<MessageOriginator>
  <Address>987654321</Address>
  <SubAddress>Department 1</SubAddress>
  <AddressQualifier>OrgNr-Avd</AddressQualifier>
</MessageOriginator>

<!-- Receiver ("Invoicee")
-->

<MessageRecipient>
  <Address>987654322</Address>
  <SubAddress>Department 2</SubAddress>
  <AddressQualifier>OrgNr-Avd</AddressQualifier>
</MessageRecipient>

</MessageHeader>
```

**Example (with options):**

```
<MessageHeader>

  <!-- Type of businessdocument that follow.
  -->
  <DocumentType>
    <DocumentCode>380</DocumentCode>
    <DocumentDescriptiveName>FAKTURA</DocumentDescriptiveName>
  </DocumentType>

  <!-- Unique (At least within the interchange) message reference
  <MessageReference>8912739</MessageReference>

  <!-- What committee responsible for the message definition -->
  <MessageOwner>e2b</MessageOwner>

  <!-- The type of message for the business document to follow -->
  <MessageType>e2bInvoice</MessageType>

  <!-- The message version for the message definition in use -->
  <MessageVersion>3.4.1</MessageVersion>

  <!-- Language used in the business document -->
  <language>NO</language>
```

```
<!--Type of document that follow, K = CostInvoice, V = GoodsInvoice,
T = ServiceInvoice-->

<DocumentContent>K</DocumentContent>

    <!--Code to state if any particular business line is used for the business
document. The legal values are: 1=Kort 2=Reise 3=Telecom 4=Transport 5=Frakt
6=Energi 9=Generelle varer
    <LineOfBusiness>Telecom</LineOfBusiness>

<!-- Sender ("InvoiceIssuer" FU) -->
<MessageOriginator>
    <Address>987654321</Address>
    <SubAddress>Department 1</SubAddress>
    <AddressQualifier>OrgNr-Avd</AddressQualifier>
</MessageOriginator>

<!-- Receiver ("Invoicee" FM) -->
<MessageRecipient>
    <Address>987654322</Address>
    <SubAddress>Department 2</SubAddress>
    <AddressQualifier>OrgNr-Avd</AddressQualifier>
</MessageRecipient>

<!--      Processing instructions negotiated between the parties exchanging
documents. The use must be documented in every single setup.
-->
<ProcessInstructions/>

    <!--      The element FormatOptions, can contain any structured content. This could
be information that is to be exchanged between the parties regardless of the type of
business document used in the exchange.
-->
<FormatOptions/>

    <!--      The use and rules for attachments is defined in chapter 3.2
-->
<Attachment/>

</MessageHeader>
```

### 3 Additions and Options

Detailed definition of the structure can be seen in the schema definitions. This chapter defines the functional use of these additional elements.

- Format Options
  - f* These elements are used to give options that is format/customer related and that is transported transparently thru any Message Providers. An Invoice issuer should not expect an Invoice receiver to understand the meaning of these elements. The use of these options must in all cases be defined directly between two parties.
- Process Instructions
  - f* These elements are used to give options related to the way that the interchange should be processed by the Message Provider. The instructions could be used by the issuer to reclaim a certain treatment that is not the standard way to process the document by the Message Provider
- Attachment
  - f* This element group is used to pass references to any attachment that is connected to the business document. It is used to tell what attachment that follows, and what characteristics these attachment have.

#### 3.1 Attachment

An Invoice issuer could send attachment connected to the business document in several ways.

The structure of the MessageHeader is defined in a way that makes it possible to reference one or more attachments that is transported as separate files.

##### 3.1.1 Attachment reference

Below follows examples on how to reference attachments in the interchange. Attachment is placed in the MessageHeader.

Below is an example of how to use attachments in an invoice. (There are three different attachments where the attachments are referenced alternatively).

```
<!-- Attachment can be referenced in 3 different ways:
      1. Files that are referenced by name, that must be unique for an issuer
      2. As an URL to an external source
      3. Included in the format as CDATA
```

```
<!-- File example (first attachment) -->
<Attachment type="FILE">
    <!-- A running number for each attachment. It is used to inform the receiver
    if the attachment should be sorted in a special way.
    -->
    <AttachmentNumber>1</AttachmentNumber>

    <!-- Used to tell if the attachment is a visual copy for the business document. --
>
    <CopyIndicator>NO</CopyIndicator>

    <!--Type of attachment (MIME standard)
    * This is used as a parameter to choose the application for reading the
    attachment -->
    <AttachmentType>application/msword</AttachmentType>

    <!-- Attachment name where the extension could be used to tell the
    application to use for reading. The name must be unique for this issuer. The standard
    for the attachment name is <OrgNumber_issuer>##<Unique filename> -->
    <AttachmentName>9999999999#Vedlegg_1.doc</AttachmentName>
    <AttachmentLocation/>
</Attachment>

<!--Example with reference to URL -->
<Attachment type="EXTERNAL">
    <!-- <Number for the attachment, used for ordering the attachments -->
    <AttachmentNumber>2</AttachmentNumber>

    <!--Set to YES if the attachment is a visual copy of the business document -->
    <CopyIndicator>NO</CopyIndicator>

    <!--Attachment type (MIME standard)
    * This element could be used to tell what application that should be used
    for reading the attachment -->
    <AttachmentType>text/html</AttachmentType>

    <!-- EXTERNAL url that is a reference to an attachment-->
    <AttachmentLocation>https://eeb.no/attachments?attach019823901
    </AttachmentLocation>
</Attachment>

<!--Example where attachment is included as a part of the message -->
<Attachment type="INCLUDED">
    <AttachmentNumber>3</AttachmentNumber>
    <CopyIndicator>NO</CopyIndicator>
```

```
<AttachmentType>application/excel</AttachmentType>
<AttachmentName>Trafikkoversikt-jan-04.xls</AttachmentName>

<!-- The attachment is inside Custom Content, coded as Base64 -->
    <CustomContent>
        <Base64>String</Base64>
    </CustomContent>
</Attachment>
```

### 3.2 Special options used for attachment archive

The parties in an interchange could thru the use of format options and process instructions give information if there should be a special treatment of the attachments referenced in the header. The use of these elements must be documented between the specific parties.

## 4 Special rules for headers, when used in intermediate transfer

When an interchange takes place between parties that require interconnection between Message Providers, there are defined special rules to take care of the address information.

### 4.1 Use of address elements

#### 4.1.1 Addressing in the InterchangeHeader

```
<Originator>
  <Address>ID for FMS as sender</Address>
  <SubAddress></SubAddress>
  <AddressQualifier>OrgNr-Avd</AddressQualifier>  -- Fixed value
</Originator>

<Recipient>
  <Address>ID for FMS as receiver</Address>
  <SubAddress></SubAddress>
  <AddressQualifier>OrgNr-Avd</AddressQualifier>
</Recipient>
```

#### 4.1.2 Addressing in the MessageHeader

This way of addressing makes it possible for a Message Provider to avoid the registration of the Invoice issuer that belongs to another Message Provider. The address elements should be used in this way.

```
<MessageOriginator>
  <Address> ID for FMS as sender</Address>
  <SubAddress>ID for invoice issuer</SubAddress>
  <AddressQualifier>samtrafikknode</AddressQualifier>  -- Fixed value
</MessageOriginator>

<MessageRecipient>
  <Address>ID for Invoicee</Address>
  <SubAddress>Optional unit for the Invoicee</SubAddress>
  <AddressQualifier>OrgNr-Avd</AddressQualifier>
</MessageRecipient>
```

## 4.2 Message type and version

The following elements, indicating which format that is used for the business content, must be filled out with the version that is currently in use. Here is an example:

```
<MessageHeader>  
  <MessageType>e2bInvoice</MessageType>  
  <MessageVersion>3.4.1</MessageVersion>
```

## 4.3 Format for message content when exchanging invoices

e2b version 3.4.1 (with future upgrades), will be used as format for message content. Complete documentation of e2b format, including header definitions are provided as separate XML Schemas.