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CEN/ISSS WS/BIIGL05

Exchange Rate and Currency

GUIDELINE

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1   Introduction

The CEN/ISSS Workshop on business interoperability interfaces for public procurement in Europe (CEN/ISSS WS/BII) is established in order to

– Identify and document the required business interoperability interfaces related to pan-European electronic transactions in public procurement expressed as a set of technical specifications, developed by taking due account of current and emerging UN/CEFACT standards in order to ensure global interoperability;

– Co-ordinate and provide support to pilot projects implementing the technical specifications in order to remove technical barriers preventing interoperability.

To facilitate implementation of electronic commerce in a standardized way, thereby enabling the development of standardized software solutions as well as efficient connections between business partners without case by case specification of the data interchange, the workshop agreed to document the required business interoperability interfaces as profile descriptions. The end goal is to reduce the cost of implementing electronic commerce to a level that is economical for small and medium size companies and institutions.

The main focus of the profile description and the associated transaction data models is to address generally expressed business requirements applicable throughout the European market. Although the profile description and associated transaction data model are designed to meet generally expressed requirements, it is still the responsibility of the users to ensure that the actual business transactions exchanges meets all the legal, fiscal and commercial requirements relevant to their business.

This guideline is one of a series of documents providing detailed guidance on the purpose and use of some key elements of the transaction data models developed by CEN/ISSS WS/BII.

All cardinalities shown in this document represent elements and associations at from the full data models; see 'Profile Architecture' for further information.

1.1   Purpose

 The purpose of this guideline is to specify the use of classes and elements used to specify exchange rates and currency.

1.2   Summary

- Exchange Rate contains information about rates of exchange between currencies

- Alternative currencies to the document currency, when required, are qualified and stated at document level.

- Currency exchange is floating up to 4 decimals.

2 Exchange rate classes and elements

Exchange Rate describes the rate of exchange between two currencies; a source currency and a target currency. As well as the basis on which the exchange is calculated, Exchange Rate may also provide information about:

- The date on which the rate is set,

- The source of the rate (exchange market),

- A contract for the exchange.

In BII, Exchange Rate information may be provided in Invoice and Credit Note at document level. In these documents, Exchange Rate is qualified to specify a rate of exchange between:

- The document currency and a currency for tax amounts (TaxExchangeRate).

- The document currency and a currency for price amounts (PricingExchangeRate).

- The document currency and a currency for payment amounts (PaymentExchangeRate).

- The document currency and an alternative currency for payment amounts (PaymentAlternativeExchangeRate).

In the BII full data models, all four qualifications are available for use. In the BII core transactions, only Tax Exchange Rate may be used.

Note: Exchange Rate may also be provided in Debit Note, Self Billed Invoice, Self Billed Credit Note and Reminder at document level and in Remittance Advice and Statement at line level.

2.1 Exchange Rate

Exchange Rate is described in the Exchange Rate Class. Associated information is described in Foreign Exchange Contract.

The Calculation Rate in Exchange Rate should be floating up to 6 decimals using the point (.) as decimal separator. An exchange rate must not be zero or negative.

2.2 Foreign Exchange Contract

Foreign Exchange Contract describes a contract for currency exchange.

3   Use of Currency Code

As well as its use in the Exchange Rates classes, Currency Code must also be specified for all amount elements using the currencyID attribute.

A Currency Code element may also be specified optionally as follows:

3.1   Currency Code

Name	Definition	Used in
DocumentCurrencyCode	The explicit default currency for the document.	Order Order Change Order Response Invoice Credit Note Debit Note Reminder Self Billed Invoice Self Billed Credit Note Remittance Advice Statement
TaxCurrrencyCode	The currency for tax amounts.	Order * Order Change * Order Response Invoice Credit Note Debit Note Reminder Self Billed Invoice Self Billed Credit Note Remittance Advice
PricingCurrencyCode	The currency for Price amounts.	Request for Quotation * * Quotation Order (not in BII) Order Change Order Response Invoice (BII full data model) Credit Note (BII full data model) Debit Note Reminder Self Billed Invoice Self Billed Credit Note

		Remittance Advice
PaymentCurrencyCode	The currency for payment amounts.	Invoice (BII full data model)
		Credit Note BII full data model)
		Debit Note
		Reminder
		Self Billed Invoice
		Remittance Advice
PaymentAlternativeCurrencyCode	An alternative currency for payment amounts.	Invoice (BII full data model)
		Credit Note (BII full data model)
		Debit Note
		Reminder
		Self Billed Invoice
		Remittance Advice
RequestedInvoiceCurrencyCode	A requested currency for an Invoice (associated with an Order document).	Order
		Order Change
TaxScheme.CurrencyCode	The currency in which the tax is collected and reported, expressed as a code.	TaxScheme
FinancialAccount.CurrencyCode	The currency in which the Financial Account is held, expressed as a code.	FinancialAccount
* Order and Order Change documents use Tax Currency Code to specify that associated Invoices have tax amounts expressed in the tax currency (not relevant in Self Billing arrangements).		
* * The Request for Quotation document uses Pricing Currency Code to specify that associated Quotations have price amounts expressed in the pricing currency.		

4 Examples for UBL syntax.

4.1 Declaration of Document Currency

Document Currency is specified at document level as follows:

`<cbc:DocumentCurrencyCode>DKK</cbc:DocumentCurrencyCode>`

4.2 Currency Code for an Amount element

All amounts in BII documents must be specified with a Currency Code. This is achieved using the "currencyID" attribute in which the Currency Code is entered according to the ISO 4217 code list e.g.

`<cbc:LineExtensionTotalAmount currencyID="SEK">720.00</cbc:LineExtensionTotalAmount>`

4.3 Exchange Rate

The example below shows that, when converting from Euro to Danish Kroner, the amount is multiplied by a factor of 7.4438, and that the exchange rate was established on September 10th 2009.

```
<cac:ExchangeRate>
    <cbc:SourceCurrencyCode>EUR</cbc:SourceCurrencyCode>
    <cbc:TargetCurrencyCode>DKK</cbc:TargetCurrencyCode>
    <cbc:CalculationRate>7.4438</cbc:CalculationRate>
    <cbc:OperatorCode>multiply</cbc:OperatorCode>
    <cbc:Date>2009-09-10</cbc:Date>
</cac:ExchangeRate>
```

4.4 Exchange Rate with reference to a contract

The example below is the same as in 4.3 above with a reference to an exchange market and a Foreign Exchange Contract.

```
<cac:ExchangeRate>
    <cbc:SourceCurrencyCode>EUR</cbc:SourceCurrencyCode>
    <cbc:TargetCurrencyCode>DKK</cbc:TargetCurrencyCode>
    <cbc:ExchangeMarketID>DenStoreBank</cbc:ExchangeMarketID>
    <cbc:CalculationRate>7.4438</cbc:CalculationRate>
    <cbc:OperatorCode>multiply</cbc:OperatorCode>
    <cbc:Date>2009-09-10</cbc:Date>
    <cac:ForeignExchangeContract>
            <cbc:ID>700345</cbc:ID>
            <cbc:ContractType>Valuta aftale</cbc:ContractType>
    <cac:ForeignExchangeContract>
</cac:ExchangeRate>
```

4.5 Tax Exchange Rate

Tax Exchange Rate should be specified at document level when a TaxCurrencyCode is specified.

The example below illustrates an invoice with the document currency "SEK", and settlement of VAT in "DKK".

```
…
<cbc:DocumentCurrencyCode>SEK</cbc:DocumentCurrencyCode>
…
<cbc:TaxCurrencyCode>DKK</cbc:TaxCurrencyCode>
…
```

```
<cac:TaxExchangeRate>
      <cbc:SourceCurrencyCode>SEK</cbc:SourceCurrencyCode>
      <cbc:TargetCurrencyCode>DKK</cbc:TargetCurrencyCode>
      <cbc:CalculationRate>0.8070</cbc:CalculationRate>
      <cbc:OperatorCode>multiply</cbc:OperatorCode>
      <cbc:Date>2006-11-20</cbc:Date>
</cac:TaxExchangeRate>
…
<cac:TaxTotal>
      <cbc:TaxAmount currencyID="DKK">581.04</cbc:TaxAmount>
      …
      <cac:TaxSubtotal>
          …
          <cbc:TaxAmount currencyID="DKK">581.04</cbc:TaxAmount>
          <cbc:TransactionCurrencyTaxAmount currencyID="SEK">720.00</cbc:TransactionCurrencyTaxAmount>
      </cac:TaxSubtotal>
</cac:TaxTotal>
```

4.6   Tax Currency – alterative expressions

Tax Currency in a document can be expressed in two ways:

1. Using the Tax Currency Code at document level (recommended)
2. Using the Currency Code in Tax Scheme (see 'BII Guideline - Tax' for more detailed tax information)

Tax Exchange Rate should also be specified at document level when a Tax Currency Code is specified (see below)

Example 1 - Using Tax Currency Code

```
...
<cbc:TaxCurrencyCode>GBP</cbc:TaxCurrencyCode>
...
```

Example 2 - using Tax Scheme

```
...
<cac:TaxScheme>
      ...
      <cbc:CurrencyCode>GBP</cbc:CurrencyCode>
      ...
</cac:TaxScheme>
```

4.7   Pricing Exchange Rate

Pricing Exchange Rate can be specified at document level.

The example below illustrates an invoice with the document currency "DKK" and the prices specified in "USD".

Note that if Pricing Exchange Rate is specified, Pricing Currency Code must also be specified.

```
…
<cbc:DocumentCurrencyCode>DKK</cbc:DocumentCurrencyCode>
…
<cbc:PricingCurrencyCode>USD</cbc:PricingCurrencyCode>
…
<cac:PricingExchangeRate>
        <cbc:SourceCurrencyCode>USD</cbc:SourceCurrencyCode>
```

```
        <cbc:TargetCurrencyCode>DKK</cbc:TargetCurrencyCode>
        <cbc:CalculationRate>0.5928</cbc:CalculationRate>
        <cbc:OperatorCode>multiply</cbc:OperatorCode>
        <cbc:Date>2006-11-20</cbc:Date>
</cac:PricingExchangeRate>
…
<cac:InvoiceLine>
        …
        <cbc:LineExtensionAmount currencyID="DKK">59.28</cbc:LineExtensionAmount>
    …
    <cac:Price>
        <cbc:PriceAmount currencyID="USD">10.00</cbc:PriceAmount>
        …
        </cac:Price>
</cac:InvoiceLine>
```

4.8   Payment and Payment Alternative Exchange Rates

Payment and Payment Alternative Exchange Rate can be specified at document level.

The example below illustrates a Danish Invoice is payable in Euros. Note that the actual Euro amount is not stated in the document; the calculated Euro value is EUR 11,440.00 (DKK 88,000.00 x 0.1300)

Note also that if Payment Exchange Rate and Payment Alternative Exchange Rate are specified, Payment Currency Code and Payment Alternative Currency Code respectively must also be specified.

```
…
<cbc:DocumentCurrencyCode>DKK</cbc:DocumentCurrencyCode>
…
<cbc:PaymentCurrencyCode>EUR</cbc:PaymentCurrencyCode>
…
<cac:PaymentExchangeRate>
    <cbc:SourceCurrencyCode>DKK</cbc:SourceCurrencyCode>
    <cbc:TargetCurrencyCode>EUR</cbc:TargetCurrencyCode>
    <cbc:CalculationRate>0.1300</cbc:CalculationRate>
    <cbc:OperatorCode>multiply</cbc:OperatorCode>
    <cbc:Date>2006-11-20</cbc:Date>
</cac:PaymentExchangeRate>
…
<cac:LegalMonetaryTotal>
    …
    <cbc:PayableAmount currencyID="DKK">88000.00</cbc: PayableAmount>
</cac:LegalMonetaryTotal>
```