

# Ediel

## Currency Exchange Rate

### Document

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## 1 Introduction

### 1.1 Background

Today the Nordic TSOs exchange documents based on several different formats and standards, such as Ediel (DELFOR/MSCONS), NOIS XML documents based on ENTSO-E IGs and Excel documents. In addition, the Nordic TSOs have communications towards other European countries, such as Germany, the Netherlands and Poland, using even more standards, such as NorNed xml and ENTSO-E standards.

Among others for efficiency and harmonisation reasons the four Nordic TSOs have made a strategic decision to migrate to CIM XML, hence CIM XML schemas will be provided when needed.

This document describes the CIM based XML document; Currency Exchange Rated Document. The document is made by NMEG (Nordic Market Expert Group) and is expected to be used in the “Trade domain”, see [12]. The aim of NMEG is to define document exchange models that can be used for all document exchanges between the actors in the Nordic energy market, Nordic TSOs and Market Operators.

### 1.2 Nordic Energy Domain Model

A Nordic Energy Market Domain model, giving an overall overview of the structure and processes used in the Nordic Energy market, can be found in [12].

### 1.3 Project organisation

The document is written by NMEG (Nordic Market Expert Group).

## 1.4 References

- [1] [ENTSO-E Electronic Data Interchange \(EDI\) Library](#)
  - Implementation Guides
  - CIM XML schemas
  - MADES specifications
  - Etc.
- [2] [The Harmonised Role Model, ENTSO-E, ebIX® and EFET](#)
- [3] [UN/CEFACT Unified Modelling Methodology \(UMM\)](#)
- [4] [UN/CEFACT XML Naming and Design Rules \(NDR\)](#)
- [5] ebIX Modelling methodology and process models (EMD), see <http://www.ebix.org/>
- [6] Ediel Implementation guides, see <http://www.ediel.org/>
- [7] Ediel Common Nordic XML rules and recommendations, see <http://www.ediel.org/>
- [8] Ediel BRS for the Nordic TSO Determine transfer capacity model, see <http://www.ediel.org/>
- [9] Ediel BRS for the Nordic TSO Scheduling and Ancillary Services Process, see <http://www.ediel.org/>
- [10] Ediel BRS for the Nordic Trading System, see <http://www.ediel.org/>
- [11] Ediel BRS for the Nordic Balance Settlement and BRS for the Nordic Balance Settlement between NBS and TSOs/Market Operators, see <http://www.ediel.org/>
- [12] Nordic Energy Market Domain Model, see <http://www.ediel.org/>
- [13] Agreement regarding operation of the interconnected Nordic power system (System Operation Agreement)  
[http://www.entsoe.eu/fileadmin/user\\_upload/library/publications/nordic/operations/060613\\_entsoe\\_nordic\\_SystemOperationAgreement\\_EN.pdf](http://www.entsoe.eu/fileadmin/user_upload/library/publications/nordic/operations/060613_entsoe_nordic_SystemOperationAgreement_EN.pdf)

## 1.5 Terms and notations

The term *document* is used instead of *message*, when this is applicable. However, when referencing ENTSO-E document names, the ENTSO-E name will be used, e.g. message, report or document.

Documents are described by a class diagram showing the full set of attributes in the related xml schema. In addition, the usage of the document is described by one or more tables detailing the usage of each attribute. Optional attributes from the class diagram, not used in the specific data exchange, are omitted from the table.

## 1.6 Change log

Ver/rel/rev	Changed by	Date	Changes
1.0.A	Ove Nesvik	20180418	First published version

## 2 Currency Exchange Rate contextual model

### 2.1 Overview of the model

Figure 1 shows the model.

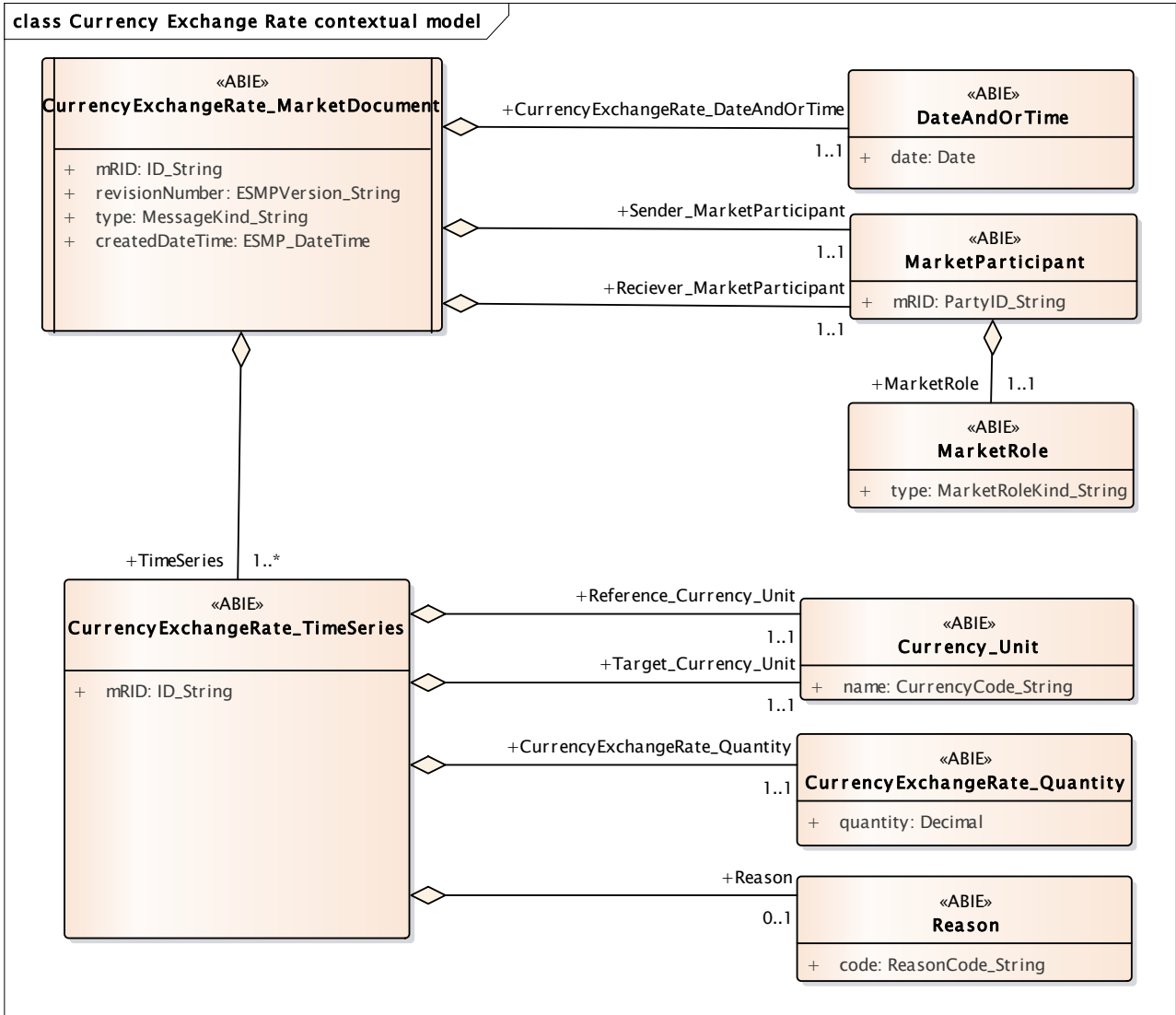


Figure 1 – Currency Exchange Rate contextual model

## 2.2 IsBasedOn relationships from the European style market profile

Table 1 shows the traceability dependency of the classes used in this package towards the upper level.

Name	Complete IsBasedOn Path
Currency_Unit	TC57CIM::IEC62325::MarketManagement::Unit
CurrencyExchangeRate_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
CurrencyExchangeRate_Quantity	TC57CIM::IEC62325::MarketManagement::Quantity
CurrencyExchangeRate_TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries
DateAndOrTime	TC57CIM::IEC62325::MarketManagement::DateAndOrTime
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Reason	TC57CIM::IEC62325::MarketManagement::Reason
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

**Table 1** – IsBasedOn dependency

2.3 Currency Exchange Rate assembly model

2.3.1 Overview of the model

Figure 2 shows the model.

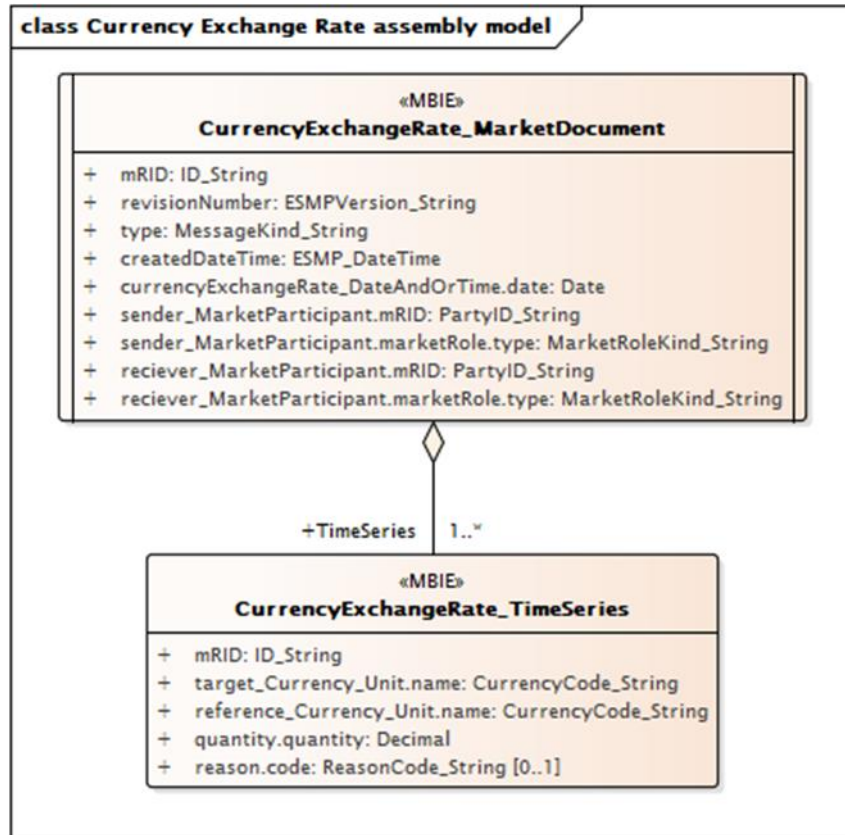


Figure 2 – Currency Exchange Rate assembly model

2.3.2 IsBasedOn relationships from the European style market profile

Table 2 shows the traceability dependency of the classes used in this package towards the upper level.

Name	Complete IsBasedOn Path
CurrencyExchangeRate_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
CurrencyExchangeRate_TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

Table 2 – IsBasedOn dependency

### 2.3.3 [Detailed Currency Exchange Rate assembly model](#)

#### 2.3.3.1 *CurrencyExchangeRate\_MarketDocument root class*

An electronic document containing the information necessary to satisfy the requirements of a given business process.

Table 3 shows all attributes of CurrencyExchangeRate\_MarketDocument.

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	The unique identification of the document being exchanged within a business process flow. In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides an identification in the context of a business exchange such as document identification, ... Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
1	[1..1]	revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another.
2	[1..1]	type MessageKind_String	The coded type of a document. The document type describes the principal characteristic of the document.
3	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
4	[1..1]	currencyExchangeRate_DateAndOrTime.date Date	The date as "YYYY-MM-DD", which conforms with ISO 8601.



Order	mult.	Attribute name / Attribute type	Description
5	[1..1]	sender_MarketParticipant.mRID PartyID_String	<p>The identification of a party in the energy market. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.</p> <p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context.</p> <p>Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.</p> <p>For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p> <p>--- The MarketParticipant associated with an electronic document header.</p>
6	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	<p>The identification of the role played by a market player.</p> <p>--- The MarketParticipant associated with an electronic document header.</p> <p>--- The role associated with a MarketParticipant.</p>
7	[1..1]	reciever_MarketParticipant.mRID PartyID_String	<p>The identification of a party in the energy market. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.</p> <p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context.</p> <p>Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.</p> <p>For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p> <p>--- The MarketParticipant associated with an electronic document header.</p>
8	[1..1]	reciever_MarketParticipant.marketRole.type MarketRoleKind_String	<p>The identification of the role played by a market player.</p> <p>--- The MarketParticipant associated with an electronic document header.</p> <p>--- The role associated with a MarketParticipant.</p>

**Table 3** – Attributes of Currency Exchange Rate assembly model:  
CurrencyExchangeRate\_MarketDocument

Table 4 shows all association ends of CurrencyExchangeRate\_MarketDocument with other classes.

Order	mult.	Class name / Role	Description
9	[1..*]	CurrencyExchangeRate_TimeSeries TimeSeries	The time series that is associated with an electronic document. Association Based On : Currency Exchange Rate contextual model::CurrencyExchangeRate_MarketDocument.[] ----- Currency Exchange Rate contextual model::CurrencyExchangeRate_TimeSeries.TimeSeries[1..*]

**Table 4** – Association ends of Currency Exchange Rate assembly model:: CurrencyExchangeRate\_MarketDocument with other classes

**2.3.3.2 CurrencyExchangeRate\_TimeSeries**

A set of time-ordered quantities being exchanged in relation to a product.

In the ESMP profile, the TimeSeries provides not only time-ordered quantities but also time-ordered information.

Table 5 shows all attributes of CurrencyExchangeRate\_TimeSeries.

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series. In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides a unique identification in the context of a business exchange such as time series identification, bid identification, ... Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
1	[1..1]	target_Currency_Unit.name CurrencyCode_String	The identification of the formal code for a currency (ISO 4217). --- The currency associated with a TimeSeries.

Order	mult.	Attribute name / Attribute type	Description
2	[1..1]	reference_Currency_Unit.name CurrencyCode_String	The identification of the formal code for a currency (ISO 4217). --- The currency associated with a TimeSeries.
3	[1..1]	quantity.quantity Decimal	The quantity value. The association role provides the information about what is expressed. --- The quantity information associated to a TimeSeries.
4	[0..1]	reason.code ReasonCode_String	The motivation of an act in coded form. --- The reason information associated with a TimeSeries providing motivation information.

**Table 5** – Attributes of Currency Exchange Rate assembly  
model::CurrencyExchangeRate\_TimeSeries

#### 2.3.4 [Datatypes](#)

The list of datatypes used for the Currency Exchange Rate assembly model is as follows:

- CurrencyCode\_String datatype, codelist CurrencyTypeList
- ESMP\_DateTime datatype
- ESMPVersion\_String datatype
- ID\_String datatype
- MarketRoleKind\_String datatype, codelist RoleTypeList
- MessageKind\_String datatype, codelist MessageTypeList
- PartyID\_String datatype, codelist CodingSchemeTypeList
- ReasonCode\_String datatype, codelist ReasonCodeTypeList

## 2.4 Usage of the Currency Exchange Rated Document in the Nordic countries

### 2.4.1 Attribute usage; Ediel Currency Exchange Rate Document

Document	Attribute	Cl.	Code and description
Ediel Currency exchange rate document	<b><i>CurrencyExchangeRate_MarketDocument</i></b>		
	mRID	[1]	Unique identification of the document
	revisionNumber	[1]	Fixed 1
	type	[1]	<b>Z07</b> Currency exchange rate document
	createdDateTime	[1]	Date and time for creation of the document
	currencyExchangeRate_ DateAndOrTime.date	[1]	The day for which the Currency Exchange Rate is valid
	sender_MarketParticipant.mRID	[1]	Identification of the party who is sending the document
	sender_MarketParticipant. marketRole.type	[1]	<b>A11</b> Market operator
	reciever_MarketParticipant.mRID	[1]	Identification of the party who is receiving the schedules
	reciever_MarketParticipant. marketRole.type	[1]	<b>A04</b> System operator <b>Z05</b> Trader (Used for non-balance responsible traders) <b>A08</b> Balance responsible party
	<b><i>CurrencyExchangeRate_TimeSeries</i></b>		
	mRID	[1]	Identification of this occurrence of the Currency Exchange Rate Time Series class, given by the sender of the document.
	target_Currency_Unit.name	[1]	Target currency  Any valid ISO 3 letter currency code, such as: <b>DKK</b> Danish Kroner <b>EUR</b> EURO <b>NOK</b> Norwegian Kroner <b>RUB</b> Russian Ruble <b>SEK</b> Swedish Kronor
	reference_Currency_Unit.name	[1]	Reference currency  Any valid ISO 3 letter currency code, such as: <b>DKK</b> Danish Kroner <b>EUR</b> EURO <b>NOK</b> Norwegian Kroner <b>RUB</b> Russian Ruble <b>SEK</b> Swedish Kronor
	quantity.quantity	[1]	Currency Exchange Rate
	<b><i>Reason</i></b>		
	code	[1]	<b>B17</b> Price based on preliminary exchange rate (The exchange rate is preliminary and will be updated when an official currency exchange rate is available) <b>B21</b> Official exchange rate approved (The official exchange rate has been approved)

**Table 6:** Usage of Ediel Currency Exchange Rate Document