

Business Service

Exchange collective settlement request

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Document management

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Referenced documents

Requirements model

No.	Description	Version	Date	Author
1.	BRS Settlement electricity	1.0	13-01-2023	Working group C1 Allocatie 2.0 Tranche 3

Design frameworks and guidelines

No.	Description	Version	Date	Author
2.	NEDU EDSN Ontwerpkeuzes	3.9	15-04-2021	NEDU/EDSN

Service descriptions and data model

No.	Description	Version	Date	Author
4.	EDSN Complex Data Type Specificatie	2.4	07-06-2023	EDSN
5.	EDSN Logisch Data Type Specificatie	3.0	07-06-2023	EDSN
6.	ebIX® Code list	1.2A	May 2023	ebIX TC
7.	ISO 8601 voor datum- en tijdsnotatie	1:2019	2019	ISO
9.	ENTSO-E Code list	V84	27-10-2022	ENTSO-E.

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1 Introduction

1.1 Service description

The service description describes agreements about exchanging the *collective settlement request* that is sent by the System Operator (SO) to the Supplier (SUP).

To give the reader a good idea of the exchange, a detailed process description is included as well as an indication of the notifications to be used. For a functional description of the process that supports this exchange, please refer to the *Business Requirement Specification Settlement electricity* [1].

1.2 Reading guide

This document describes the following aspects, including:

- Process *Exchange collective settlement request*;
- Exchange of the collective settlement request via MES;
- Checks on the collective settlement request by consumers (SUP);
- Confirmation/rejection of the collective settlement request by the consumers (SUP)
- XML message definitions.

For the syntactic validations of MES, please refer to the design choices[2].

1.3 Starting points

The following principles were used when designing the *Exchange* collective settlement requests service:

- Date/time notation in XML notifications according to NEDU EDSN *Design Choices*[2]
- The start and end date are in UTC and in accordance with the notation: YYYY-MM-DDThh:mm:ssZ;
 - Example start and end date time calendar month (November 2024, winter time):
2024-10-31T23:00:00Z / 2024-11-30T23:00:00Z;
 - Example start and end date time calendar month (June 2024, summer time):
2024-05-31T22:00:00Z / 2024-06-30T22:00:00Z;
 - Example start and end date calendar day (9 February 2024, winter time):
2024-02-08T23:00:00Z / 2024-02-09T23:00:00Z;
 - Example start and end date calendar day (31 March 2024, change winter time to summer time):
2024-03-30T23:00:00Z / 2024-03-31T22:00:00Z;
 - Example start and end date calendar day (09 June 2024, summer time):
2024-06-08T22:00:00Z / 2024-06-09T22:00:00Z;
 - Example start and end date calendar day (27 October 2024, change summer time to winter time):
2024-10-26T22:00:00Z / 2024-10-27T23:00:00Z;
- Wherever this service description refers to "system operator" or "SO", this can be read as distribution system operator, transmission system operator and "CDS operator";
- A collective settlement request only contains gas connections or only electricity allocation points. This means that a collective settlement request cannot contain gas connections as well as electricity allocation points.

1.4 Use of the *Exchange collective settlement request service*

This is the monthly process where the SO sends a collective settlement request to the SUP with the settlements of all relevant connections. This monthly process is described in the use case A20.341 of the BRS Settlement Data[1].

1.5 List of terms and abbreviations

Term	Description
Allocation point	Virtual point at the transfer point of a connection, where the energy exchange between an installation and the system is administratively allocated to a market party as if measurement had taken place at the transfer point of the connection (Electricity 1.1 Glossary).
BPMN	BPMN (Business Process Modelling and Notation)
BRS	Business Requirements Specification
EDSN	Energie Data Services Nederland B.V.
GDS	Closed distribution system
SUP	Supplier
MES	Message Exchange Services (formerly PUD, Exchange Services Portal)
SO	System operator All references to SO can also be read as distribution system operator, transmission system operator or GDS operator.
PUD	Exchange Services portal, see MES
Volumes	A volume relating to a period of at least one calendar day.
Tariff zone	Indication in the register of connections for the characteristic of a counter, i.e. normal, total or low count In the case of a single counter, the 'normal count' indication will always be used.

2 Roles and responsibilities

2.1 Consumer

This service description describes how the consumers (SUP) receive the collective settlement requests.

2.2 Provider

This service description describes how the provider (SO) offers the collective settlement request.

2.3 RACI

The RACI below shows the roles and responsibilities for this service:

R (Responsible, NL: Verantwoordelijk)	EDSN Business Integration
A (Accountable, NL: Eindverantwoordelijk)	To be determined!
C (Consulted, NL: Raadplegen)	Core team system operators, BAS, A2.0 working group C1, EDSN, ebIX Technical Commission
I (Informed, NL: Informeren)	BAS, MFF, EDSN

3 BPMN Exchange collective settlement request

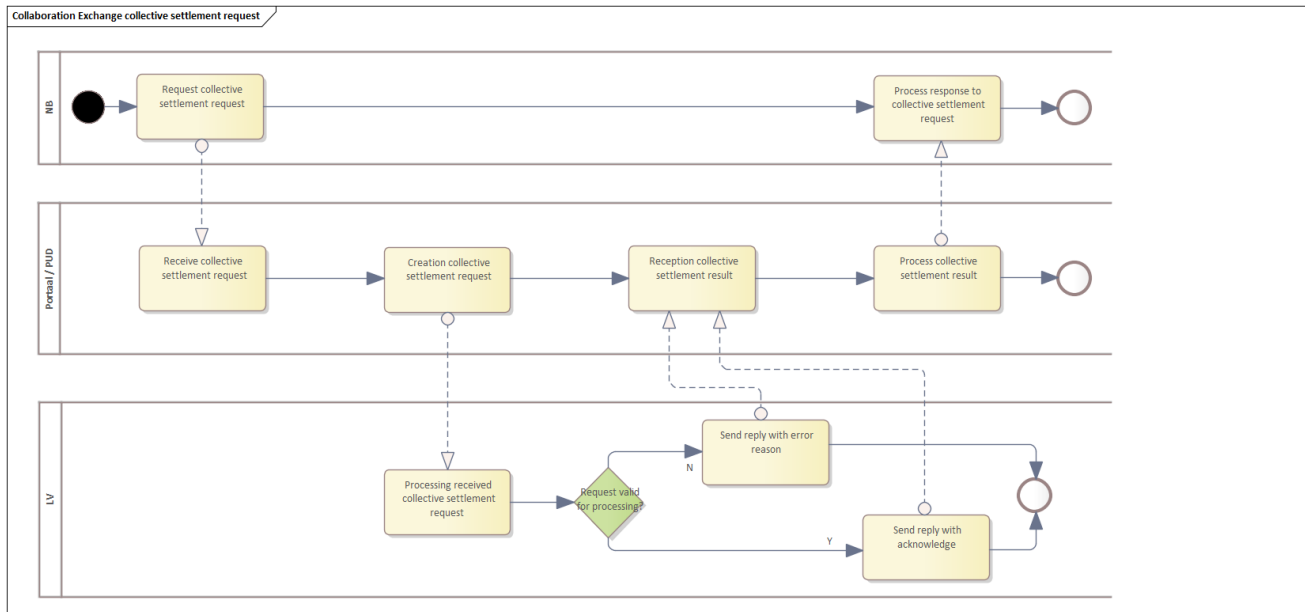


Figure 1 For detailed information about this process, see BRS Settlement electricity[1]

3.1 Exchange of the collective settlement request

The process for exchanging the collective settlement requests is based on the following scenario:

- 1 The *collective settlement request* is submitted by a system operator that is authorised and authenticated to do so.
 - a Via XML notification, SettlementProposalNotification;
- 2 The received *collective settlement request* is first syntactically validated by MES. The other MES validations described in paragraph 3.2 also take place. In case of inaccuracies, the *collective settlement request* is immediately rejected and the submitter is expected to correct the errors and, if relevant, to resubmit the *collective settlement request*;
- 3 If the received *collective settlement request* is successfully validated by MES, the system operator will receive confirmation of receipt.
- 4 MES processes the *collective settlement request* and prepares the *collective settlement request* for the supplier in question;
- 5 The *collective settlement request* is prepared by MES for the concerned supplier.
- 6 The supplier will collect the *collective settlement request* and have a number of options:
 - a Via GUI;
 - b Via XML Request, SettlementProposalRequest;
 If a *collective settlement request* has not been prepared by MES, the supplier will receive an empty notification.
- 7 The received *collective settlement request* is checked by the concerned supplier as described in paragraph 3.3;
- 8 Based on these checks, the concerned supplier sends a response to the MES. This may be a confirmation or a rejection:
 - a Confirmation/acceptance that the *collective settlement request* has been successfully validated and accepted;
 - b A rejection which indicates that the *collective settlement request* contains semantic inaccuracies using an error code, see paragraph 3.3;
- 9 This rejection or approval of the *collective settlement request* is sent by the concerned supplier who is

authorized and authenticated to do so, using a number of possibilities:

- a Via GUI;
 - b Via XML notification, SettlementProposalResultNotification;
- 10 The received rejection or approval of *collective settlement request* is first syntactically validated by MES. The other MES validations described in paragraph 3.2 also take place. In the event of inaccuracies, the rejected or confirmed *collective settlement request* will be immediately rejected and the submitting party will be expected to correct the errors and to resubmit the rejected or approved *collective settlement request*;
- 11 The rejected or approved *collective settlement request* is prepared by MES for the system operator. The system operator shall retrieve the rejected or confirmed *collective settlement request*;
- a Via XML Request, SettlementProposalResultRequest;
- 12 If a rejected or approved *collective settlement request* has not been prepared by MES, the system operator will receive an empty notification.

3.2 Validations by MES for collective settlement request

The MES checks the following after the submitted Settlement Proposal Notification:

Control	Error notification	XML code
The submitted Settlement Proposal Notification is complete and syntactically correct.	Notification incomplete or syntactically incorrect notification	200
Is the receiving supplier known in the Market Party Register?	EAN code supplier unknown	204

The MES checks the following after the submitted rejected or approved Settlement Proposal Result Notification:

Control	Error notification	XML code
The submitted Settlement Proposal Result Notification is complete and syntactically correct.	Notification incomplete or syntactically incorrect notification	200
Is the receiving system operator known in the Market Party Register?	EAN code system operator unknown	230

3.3 Checks for notification “Exchange collective settlement request” (BSCMF0090)

In response to the “Exchange collective settlement request” notification, the following checks and error notifications shall be available to the supplier and shall be carried out insofar as they are mandatory or relevant for processing by the supplier:

Control	Error notification	Role	Code
Exchange collective settlement request			
According to the connection register, the SUP is registered on the connection during the concerned consumption period.	The SUP is not registered as an SUP on the connection.	SUP	788
The process month is exactly 1 calendar month.	Invalid period process month.	SUP	794
The reference in the notification is unique.	A notification with this reference has been received in the past.	SUP	670
The product type of all connections in the collective settlement request is identical.	Collective settlement request contains more than one product type.	SUP	827
Completeness and accuracy of the collective settlement request			
The collective settlement request contains all connections for which one or more relevant measurement notifications have been received in the process month ¹ .	Connections are missing in the collection request.	SUP	820
A measurement notification in the process month was received for each connection in the collective settlement request ² .	Unexpected connections are present in the collective settlement request.	SUP	821
All settlements per connection are correct ³ .	There are one or more connections with rejection(s).	SUP	830
Per connection			
The EAN code-18 of the connection is a valid EAN code.	EAN code-18 is not valid.	SUP	650
The EAN code-18 of the grid area is a valid EAN code.	EAN code-18 is not valid.	SUP	651
The product type in the notification corresponds to the product type of the connection in the connection register.	The product type does not correspond to the product type of the connection.	SUP	659
All products match the product type.	One or more products do not fit the product type.	SUP	667
All energy units match the products.	One or more energy units do not fit the product(s).	SUP	668
The prize zone matches the product	Price zone does not match the product	SUP	809
The volume has a correct number of decimal places.	Volume has an incorrect number of decimal places.	SUP	776
For each consumption period, a volume type old and a volume type new is included for each energy direction/price zone combination. Price zone is only mandatory for electricity.	Invalid combination of volumes.	SUP	812
The price is included for each calendar month, and for each combination of energy direction and price zone, the volume to be settled and the amount. Price zone is only mandatory for electricity.	Supplied data is incomplete.	SUP	819
All calendar months are wholly or partly within the consumption period.	Calendar month is not wholly or partly within the consumption period.	SUP	807
The period from start date calendar month to end date calendar month is exactly 1 calendar month.	Period is not equal to a calendar month.	SUP	804
The amount has the correct number of decimal places.	Amount has the wrong number of decimal places.	SUP	803

1 Error code 820 is returned as a general error code (without mentioning the EAN 18 code) and with the EAN 18 code of each missing connection.

2 Error code 821 is returned as a general error code (without mentioning the EAN 18 code) and with the EAN 18 code of each unexpected connection.

3 Error code 830 is returned as a general error code. In addition, one or more relevant errors codes must be returned with each rejected connection, see checks per connection.

Control	Error notification	Role	Code
The price has the correct number of decimal places.	Price has an wrong number of decimal places.	SUP	829
All old and new volumes correspond to the volumes reported in the corresponding metering correction report.	Volumes do not match the metering correction report.	SUP	814
All calculations for the to-be-settled amounts are correct.	Incorrect amount to be settled.	SUP	815
The price per calendar month corresponds to the published price for the calendar month.	The price per calendar month does not correspond.	SUP	822
For each settlement, the difference between the old and new volume has been correctly determined.	Incorrect volume to settle.	SUP	823
None of the settlements exceed the statutory limitation period	Settlement exceeds the statutory limitation period.	SUP	824
None of the settlements need to be processed via the settlement or reconciliation process with the BRP.	There is no obligation to settle against the SUP.	SUP	825
All settlements will be based on the most recent measurement notification related to the same consumption period and received in the process month.	Settlement is out of date.	SUP	826
Notification header			
The NotificationId in the SOAP header is unique.	A previous notification has already been received with the same NotificationID.	SUP	669
No notification with a more recent creation date/time stamp has been received.	A notification has already been received with a more recent creation date/time stamp.	SUP	704
Entire notification			
Notification is complete, correct and directed to the correct recipient ⁴ .	[free text field] ⁵	SUP	999

⁴ Check and error notification if a received notification is not correct or not intended for that recipient and cannot be caught by one of the above checks.

⁵ An explanation for error code 999 should be entered in this text field.

4 Functional parameters

4.1 Submission notification Collective settlement request by system operator

The *collective settlement request* will contain the following data in relation to the settlement period for connections that exchanged information in the settlement request:

Given	Elec	Gas	1/n	Note	XML code
Notification Reference	V	V	1	A UUID as a unique identifier of the notification.	
Total amount	V	V	1	Total amount of the collective settlement request in Euro (excl VAT) as a decimal number. Always to 2 decimal places. If the amount is negative, it is an amount in favour of the SUP. If the amount is positive, it is an amount in favour of the SO.	
Note	O	O	1	Explanation for the collective settlement request.	
Reference	O	O	1	Reference of the collective settlement request;	
Start date/time process month	V	V	1	Start date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
End date/time process month	V	V	1	End date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ The process month is the calendar month during which the measurement notifications that form the basis of the collective settlement request are processed;	
Connection					
EAN code connection	V	V	1	EAN 18 allocation point electricity or gas connection.	
EAN code grid area	V	V	1	EAN 18 grid area.	
Product type	V	V	1	Allowed values (from ebIX Code list[6] and including a leading zero): Electricity Gas	023 027
Volume of consumption period⁶					
Volume	V	V	1	Volume in whole numbers (without decimal places).	
Type volume	V	V	1	Characterisation of the volume. A collective settlement request will always include an old volume and a new volume for each combination of consumption period, energy direction and price zone (price zone only for electricity). Permitted values (from ENTSO-E Code list[9]): Old volume New volume	A36 A40
Product ID	V	V	1	Allowed values (from ebIX Code list[6]): Electricity: Active energy Gas: Natural gas	8716867000030 5410000100016
Energy unit	V	V	1	Permissible active energy value: kWh Permissible value of natural gas: m ³ (n)	KWH NM3
Energy direction	V	V	1	Allowed values (from ebIX Code list[6]): Consumption Production	E17 E18
Tariff zone	V	-	1	Allowable values for electricity (from ebIX Code list[6]): Low Normal Total	E10 E11 E29
Start date/time consumption	V	V	1	Start date time is in UTC and in accordance with ISO 8601	

6 Number of volumes per connection per consumption period:

- Electricity: Max. 8 (an old volume and a new volume per price zone and energy direction).
- Gas: Max. 4 (an old volume and a new volume per energy direction).

Given	Elec	Gas	1/n	Note	XML code
period				notation[7]: YYYY-MM-DDThh:mm:ssZ	
End date/time consumption period	V	V	1	End date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ The period from start date/time to end date/time is the period of the measurement notification.	
Settlement calendar month^{7 8}			n		
Volume	V	V	1	Difference in volume in whole numbers (without decimal places). The volume to be settled (kWh and m ³ (n;35,17) respectively), is determined as the new volume minus the old volume for the energy direction consumption and the old volume minus the new volume for the energy direction production.	
Type volume	V	V	1	Characterisation of the volume. Permitted values (from ENTSO-E Code list[9]): Volume to be settled	A32
Product ID	V	V	1	Allowed values (from ebIX Code list[6]): Electricity: Active energy Gas: Natural gas	8716867000030 5410000100016
Energy unit	V	V	1	Permissible active energy value: kWh Permissible value of natural gas: m ³ (n)	KWH NM3
Energy direction	V	V	1	Allowed values (from ebIX Code list[6]): Consumption Production	E17 E18
Tariff zone	V	-	1	Allowable values for electricity (from ebIX Code list[6]): Low Normal Total	E10 E11 E29
Amount	V	V	1	The amount to be settled (volume x transfer price) in Euro and as a decimal number. Always to 2 decimal places. If the amount is negative, it is an amount in favour of the SUP. If the amount is positive, it is an amount in favour of the SO.	
Settlement price	V	V	1	Settlement price for that calendar month in Euro per kWh and m ³ (n;35,17) (excl VAT) as a decimal number. Always to 2 decimal places.	
Start date/time calendar month	V	V	1	Start date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
End date/time calendar month	V	V	1	End date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ The period from start date/time to end date is exactly 1 calendar month.	

Mandatory fields (V) are always filled; optional fields (O) or dependent fields (A) if required for the context of the concerned notification.

⁷ The number of data sets for the settlement per calendar month for **electricity is up to 5**:

- 1 times the dataset containing only the transfer price for the calendar month;
- max. 4 times a dataset with volume and amount to be settled for the calendar month (per energy direction per price zone).

⁸ Number of data sets for the settlement per calendar month for **gas is up to 3**:

- 1 times the dataset containing only the transfer price for the calendar month;
- max. 2 times a dataset with volume and amount to be settled for the calendar month (per energy direction).

4.2 Response submitted Collective Settlement request to system operator

The response from MES to the submitted *collective settlement request* is a rejection or approval.

Given	Elec	Gas	1/n	Note	XML code
Reference response notification	V	V	1	A UUID as a unique identifier of the notification.	
Date/time response notification	V	V	1	Date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
Confirmation/rejection code	V	V	n	If confirmed (not rejected!), code "000" must be shared in the response. If rejected, at least one code for rejection must be shared in the response (see paragraph 3.2).	000 Code for rejection: see paragraph 3.2
Explanation of the rejection	A	A	n	Optional explanation of the rejection. <u>Only mandatory</u> for error code 999.	

4.3 Request Retrieve prepared Collective settlement request by supplier

Request retrieve prepared *collective settlement request*:

Given	Elec	Gas	1/n	Note
The request does not contain any specific functional parameters.				

4.4 Response Retrieve prepared Collective settlement request to supplier

The following functional parameters apply for the response retrieve prepared *collective settlement request*:

Given	Elec	Gas	1/n	Note	XML code
Notification Reference	V	V	1	A UUID as a unique identifier of the notification ⁹ .	
Total amount	V	V	1	Total amount of the collective settlement request in Euro (excl VAT) as a decimal number. Always to 2 decimal places. If the amount is negative, it is an amount in favour of the SUP. If the amount is positive, it is an amount in favour of the SO.	
Note	O	O	1	Explanation for the collective settlement request.	
Reference	O	O	1	Reference of the collective settlement request;	
Start date/time process month	V	V	1	Start date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
End date/time process month	V	V	1	End date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ The process month is the calendar month during which the measurement notifications that form the basis of the collective settlement request are processed;	
Connection			n		
EAN code connection	V	V	1	EAN 18 allocation point electricity or gas connection	
EAN code grid area	V	V	1	EAN 18 grid area.	
Product type	V	V	1	Allowed values (from ebIX Code list[6] and including a leading zero): Electricity Gas	023 027
Volume of consumption period¹⁰			n		
Volume	V	V	1	Volume in integers (without decimal places)	
Type volume	V	V	1	Characterisation of the volume. A collection request shall always include an old volume and a new volume for each combination of energy direction and tariff zone (tariff zone only for electricity). Permitted values (from ENTSO-E Code list[9]): Old volume New volume	A36 A40
Product ID	V	V	1	Allowed values (from ebIX Code list[6]): Electricity: Active energy Gas: Natural gas	8716867000030 5410000100016
Energy unit	V	V	1	Permissible active energy value: kWh Permissible value of natural gas: m ³ (n)	KWH NM3
Energy direction	V	V	1	Allowed values (from ebIX Code list[6]): Consumption Production	E17 E18
Tariff zone	V	-	1	Allowable values for electricity (from ebIX Code list[6]): Low Normal Total	E10 E11 E29
Start date/time consumption period	V	V	1	Start date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
End date/time consumption period	V	V	1	End date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	

⁹ Is the SettlementProposal_Series.mRID of the concerned collective settlement request.

¹⁰ Number of volumes per connection per consumption period:

- Electricity: Max. 8 (an old volume and a new volume per price zone and energy direction).
- Gas: Max. 4 (an old volume and a new volume per energy direction).

Given	Elec	Gas	1/n	Note	XML code
				The period from start date/time to end date/time is the period of the measurement notification.	
Settlement Calendar month¹¹ 12			n		
Volume	V	V	1	Volume difference in whole numbers (without decimal places) The volume to be settled (kWh and m ³ (n;35,17) respectively), is determined as the new volume minus the old volume for the energy direction consumption and the old volume minus the new volume for the energy direction production.	
Type volume	V	V	1	Characterisation of the volume. Permitted values (from ENTSO-E Code list[9]): Volume to be settled	A32
Product ID	V	V	1	Allowed values (from ebIX Code list[6]): Electricity: Active energy Gas: Natural gas	8716867000030 5410000100016
Energy unit	V	V	1	Permissible active energy value: kWh Permissible value of natural gas: m ³ (n)	KWH NM3
Energy direction	V	V	1	Allowed values (from ebIX Code list[6]): Consumption Production	E17 E18
Tariff zone	V	-	1	Allowable values for electricity (from ebIX Code list[6]): Low Normal Total	E10 E11 E29
Amount	V	V	1	The amount to be settled (volume x transfer price) in Euro and as a decimal number. Always to 2 decimal places. If the amount is negative, it is an amount in favour of the SUP. If the amount is positive, it is an amount in favour of the SO	
Settlement price	V	V	1	Settlement price for that calendar month in Euro per kWh and m ³ (n;35,17) (excl VAT) as a decimal number. Always to 2 decimal places.	
Start date time	V	V	1	Start date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
End date time	V	V	1	End date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ The period from start date/time to end date is exactly 1 calendar month.	

11 The number of data sets for the settlement per calendar month for **electricity is up to 5**:

- 1 times the dataset containing only the transfer price for the calendar month;
- max. 4 times a dataset with volume and amount to be settled for the calendar month (per energy direction per price zone).

12 Number of data sets for the settlement per calendar month for **gas is up to 3**:

- 1 times the dataset containing only the transfer price for the calendar month;
- max. 2 times a dataset with volume and amount to be settled for the calendar month (per energy direction).

4.5 Submission Result Exchange collective settlement request by supplier

The result *collective settlement request* will contain the following data in relation to the settlement period for connections that exchanged information in the settlement request:

Given	Elec	Gas	1/n	Note	XML code
Notification Reference	V	V	1	A UUID as a unique identifier of the notification.	
Reference collective settlement request notification	A ¹³	A ¹³	1	A UUID as unique identifier for the approved or rejected collective settlement request notification ¹⁴ .	
Date/time response notification	V	V	1	Date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
Confirmation/rejection code	V	V	n	If confirmed (not rejected!), code "000" must be returned in the response. If rejected, at least one code for rejection must be returned in the response (see section 3.3). If general error code is: 820, 821 or 830, then the appropriate EAN 18 code(s) and relevant rejection(s) per EAN 18 is returned in the response (see section 3.3).	Code for rejection: see paragraph 3.3
Explanation of the rejection	O	O	n	Optional explanation of the rejection.	
Connection					
EAN code connection	O	O	1	The receiver of the collective settlement request must optionally include one or more EAN 18 codes allocation point electricity or gas connection incl. the start date of the respective consumption period in the confirmation or rejection of any relevant collective settlement request if the generic error code is: 820., 821 or 830.	
Confirmation/rejection code	A	A	n	Rejection for an allocation point electricity or gas connection. At least one code for rejection must be returned in the response (see section 3.3).	Code for rejection: see paragraph 3.3
Explanation of the rejection	O	O	n	Optional explanation of the rejection.	
Use period					
Start date/time consumption period	A	A	1	Start date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ <u>Mandatory</u> if EAN code allocation point electricity or connection gas is included in the result. <u>Mandatory empty</u> if no EAN code allocation point electricity or connection gas is included in the result.	

Mandatory fields (V) are always filled; optional fields (O) or dependent fields (A) if required for the context of the concerned notification.

¹³ If the integrity and/or confidentiality of the XML notification cannot be guaranteed, the recipient must be able to send a rejection to the sender of the corresponding notification without the reference of the received notification. Due to compromised integrity or confidentiality there is no proper way to retrieve this information.

¹⁴ Is the SettlementProposal_Series.mRID of the concerned collective settlement request.

4.6 Explanation about correlating the result of the collective settlement request

Correlation on the following levels:

1. The EDSNBusinessDocumentHeader shows the technical correlation between Request and Response (and between Notification and Acknowledgement) if entered into the Request (or Notification) by the provider¹⁵;
2. To establish the relationship between the submitted CSR and the corresponding reply to the CSR, the attribute of the notification (element mRID, to be filled with a UUID) is used. This is a mandatory procedural connection and the only possibility to establish a relationship between the submission of the CSR and the submitted result of the CSR.

4.7 Reply submitted Result collective settlement request to the supplier

The answer from MES to the submitted result *collective settlement request* is a rejection or approval.

Given	Elec	Gas	1/n	Note	XML code
Reference response notification	V	V	1	A UUID as a unique identifier of the notification.	
Date/time response notification	V	V	1	Date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
Confirmation/rejection code	V	V	n	If confirmed (not rejected!), code "000" must be shared in the response. If rejected, at least one code for rejection must be shared in the response (see paragraph 3.2).	000 Code for rejection: see paragraph 3.2
Explanation of the rejection	A	A	n	Optional explanation of the rejection. <u>Only mandatory</u> for error code 999.	

4.8 Request retrieve prepared results collective settlement request by system operator

Request retrieve prepared result *collective settlement request*:

Given	Elec	Gas	1/n	Note
The request does not contain any specific functional parameters.				

¹⁵ CorrelationID can be filled by the supplier of the collective settlement request (provider). If filled, the receiving party (consumer) must specify this CorrelationID in the response to the provider. See Design Choices[2] for an explanation of the use of CorrelationID.

4.9 Reply Retrieve prepared result collective settlement request to system operator

The response Retrieve prepared *collective settlement request* is a rejection or approval.

Given	Elec	Gas	1/n	Note	XML code
Notification Reference	V	V	1	A UUID as a unique identifier of the notification.	
Reference collective settlement request notification	A ¹⁶	A ¹⁶	1	A UUID as unique identifier for the approved or rejected collective settlement request notification ¹⁷ .	
Date/time response notification	V	V	1	Date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ	
Confirmation/rejection code	V	V	n	If confirmed (not rejected!), code "000" must be returned in the response. If rejected, at least one code for rejection must be returned in the response (see section 3.3). If general error code is: 820, 821 or 830, then the appropriate EAN 18 code(s) and relevant rejection(s) per EAN 18 is returned in the response (see section 3.3).	Code for rejection: see paragraph 3.3
Explanation of the rejection	O	O	n	Optional explanation of the rejection.	
Connection			n		
EAN code connection	O	O	1	The receiver of the collective settlement request must optionally include one or more EAN 18 codes allocation point electricity or gas connection incl. the start date of the respective consumption period in the confirmation or rejection of any relevant collective settlement request if the generic error code is: 820., 821 or 830.	
Confirmation/rejection code	A	A	n	Rejection for an allocation point electricity or gas connection. At least one code for rejection must be returned in the response (see section 3.3).	Code for rejection: see paragraph 3.3
Explanation of the rejection	O	O	n	Optional explanation of the rejection.	
Use period			1		
Start date/time consumption period	A	A	1	Start date time is in UTC and in accordance with ISO 8601 notation[7]: YYYY-MM-DDThh:mm:ssZ <u>Mandatory</u> if EAN code allocation point electricity or connection gas is included in the result. <u>Mandatory empty</u> if no EAN code allocation point electricity or connection gas is included in the result.	

¹⁶ If the integrity and/or confidentiality of the XML notification cannot be guaranteed, the recipient must be able to send a rejection to the sender of the corresponding notification without the reference of the received notification. Due to compromised integrity or confidentiality there is no proper way to retrieve this information.

¹⁷ Is the SettlementProposal_Series.mRID of the concerned collective settlement request.

5 Sequence Diagram

5.1 Note

The sequence diagram shows the parties and services as an object with a so-called "lifeline". The interaction between these objects is shown by arrows as one or more notifications between objects. The notifications in the sequence diagram are explained in more detail in the chapter Information Model. Further details about notification standards and application methods are described in NEDU EDSN Design Choices[2].

5.2 Exchange collective settlement request (BSCMF0090)

The sequence diagram below concerns the supply of Exchange collective settlement request by the system operator to MES. MES takes care of routing, preparation and forwarding of the relevant notification for the supplier.

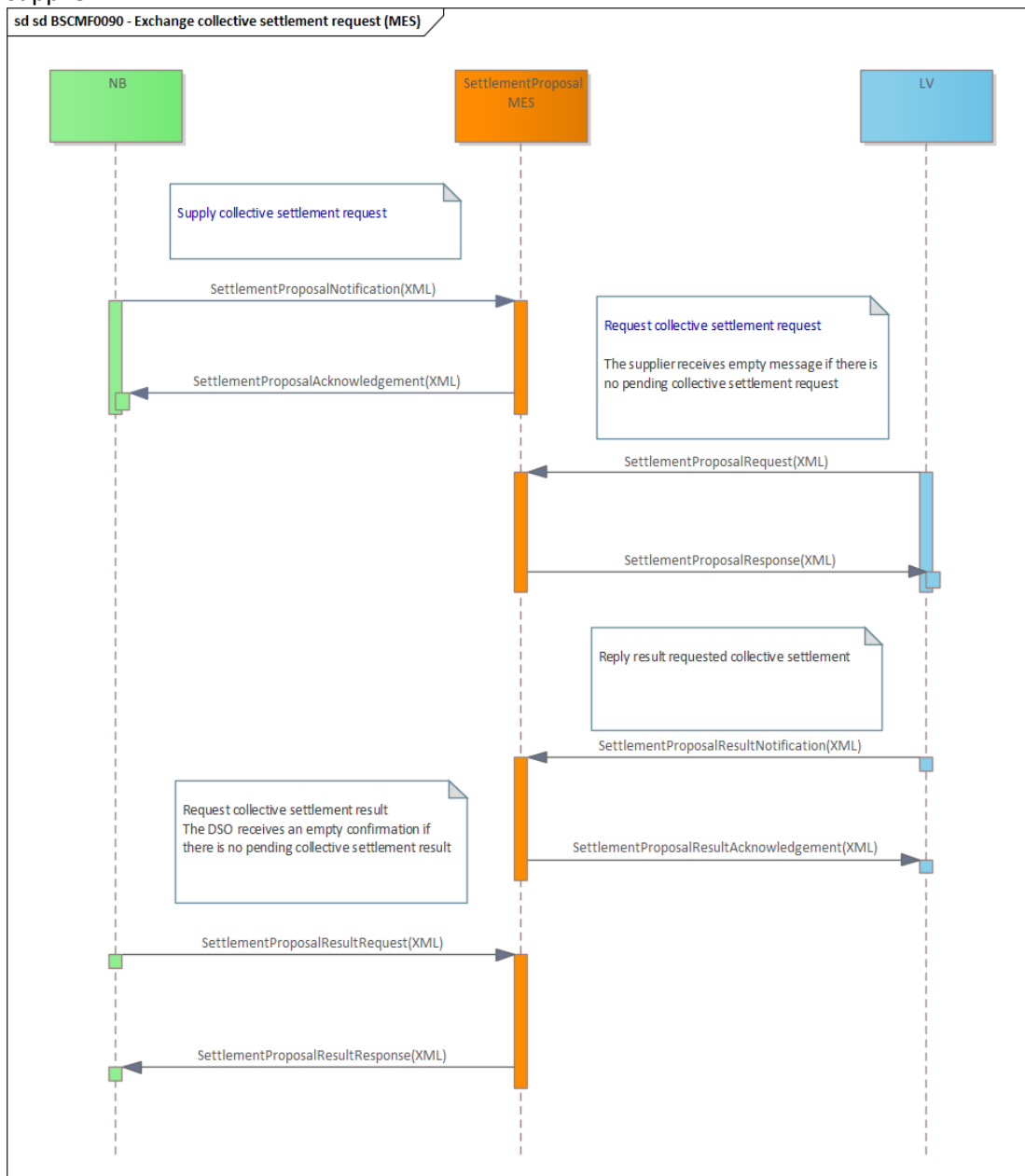


Figure 2 The sequence diagram for Exchange collective settlement request between SO and SUP via MES

6 Properties service exchange collective settlement request

6.1 Exchange collective settlement request (BSCMF0090)

Exchange collective settlement request (SettlementProposal)	
Service	SettlementProposal – Exchange collective settlement request
SO service ID	BSCMF0090
Description	The exchange of collective settlement request between SO (provider) and the SUP (consumer)
Service transaction pattern	Notification/Acknowledgement and Request/Response (synchronous)
Precondition(s)	The collective settlement request will be submitted by a party that is authorised and authenticated to do so.
Trigger	SO offers the <i>collective settlement request</i> to MES.
Post condition(s)	• <i>Collective settlement request rejected;</i> - or • <i>Collective settlement request in progress.</i>
Service use	
Pattern of use	N/a.
Average load	N/a.
Peak load	N/a.
Period peak load	N/a.
Period of inactivity	N/a.
Max. consumer response time	100% of the incoming collective settlement requests (SettlementProposalResponse) must be answered by the consumer by means of an approval/rejection (SettlementProposalResultNotification).
Max. response time Soap response MES	N/a.
Time-out	In case of a time-out (SOAP Fault 5): 1. Offer again every 5 minutes (with a new UUID) for 15 minutes; 2. If the request cannot be completed successfully, it is recommended to wait a certain period before offering it again (with new UUID). If this “retry” fails, then escalate. It is recommended to contact EDSN Administration in this case.
Web service	
WSDL	SettlementProposal_1.wsdl
Version	1.0.0 standard
Date	03-02-2023
Soap address	../b2b/synchroon/ResponderSettlementProposalRespondingActivity
Operation	
User	SO and SUP
Function	Submission <i>collective settlement request</i>

Soap action	SettlementProposal
Input notification	SettlementProposalNotificationEnvelope
XSD	SettlementProposalNotification_1p0.xsd
Output notification	SettlementProposalAcknowledgementEnvelope
XSD	SettlementProposalAcknowledgement_1p0.xsd
Input notification	SettlementProposalRequestEnvelope
XSD	SettlementProposalRequest_1p0.xsd
Output notification	SettlementProposalResponseEnvelope
XSD	SettlementProposalResponse_1p0.xsd
Input notification	SettlementProposalResultNotificationEnvelope
XSD	SettlementProposalResultNotification_1p0.xsd
Output notification	SettlementProposalResultAcknowledgementEnvelope
XSD	SettlementProposalResultAcknowledgement_1p0.xsd
Input notification	SettlementProposalResultRequestEnvelope
XSD	SettlementProposalResultRequest_1p0.xsd
Output notification	SettlementProposalResultResponseEnvelope
XSD	SettlementProposalResultResponse_1p0.xsd

7 Information model

7.1 Note

The information model is shown as a class diagram. Each class diagram is followed by a table with the description of the elements, except for the class diagrams of "empty" notifications exchanged for acknowledgement.

Multiplicities are indicated with the elements. Notation 0..1 means that the element optionally occurs once, 1..1 means that the element occurs once (mandatory). Notation 0...* means that the element may optionally occur more than once. Notation 1..* means that the element may occur one or more times (mandatory).

Data types determine which type of value an element can contain. The data types are subdivided into:

- **Composite data types** (CDT): a composition of several (fixed) elements, which are reused more often (e.g. address)[4].
- **Logical data types** (LDT): a defined set of properties of the element such as minimum length, maximum length, pattern[5].

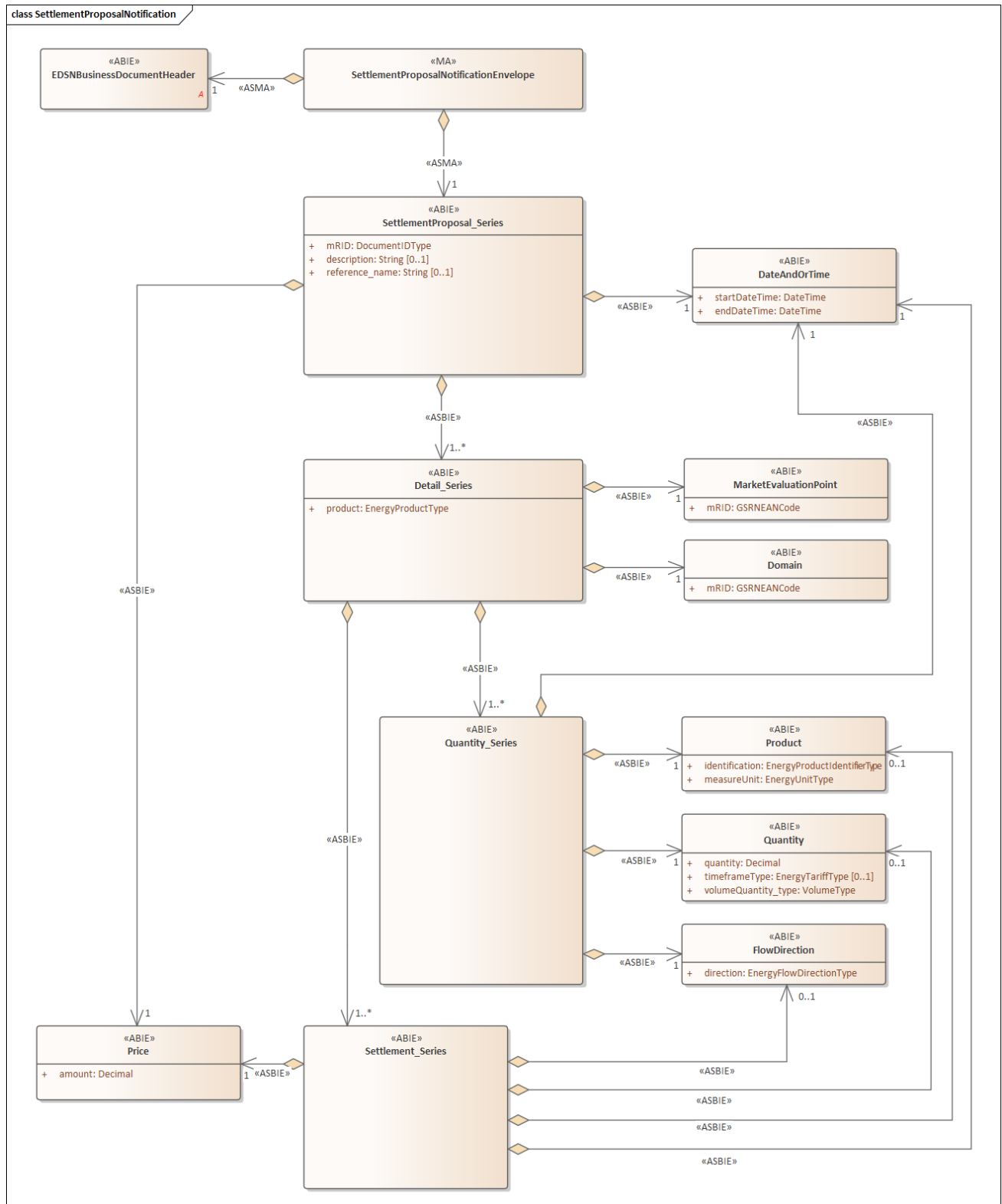
For more information on data types, please refer to NEDU EDSN Design Choices[2].

Detailed information on the values of the data types is available as a PDF document on mijnEDSN:

- EDSN Complex Data Type Specification (CDT).
- EDSN Logical Data Type Specification (LDT).

These documents also describe the values of the data types used in other information models.

7.2 Submission collective settlement request (SettlementProposalNotification)



DateAndOrTime

XML element	Data type	Multiplicity	Description	Functional parameter
startDateTime	DateTime	1..1	Start date/time of the period as per ISO 8601 YYYY-MM-DDThh:mm:ssZ.	Start date/time process month, Start date/time consumption period, Start date/time calendar month
endDateTime	DateTime	1..1	End date/time of the period as per ISO 8601 YYYY-MM-DDThh:mm:ssZ.	End date/time process month, End date/time consumption period, End date/time calendar month

Detail_Series

XML element	Data type	Multiplicity	Description	Functional parameter
product	EnergyProduct Type	1..1	The identification of the energy product (electricity, gas etc.)	Product type

Domain

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	GSRNEANCode	1..1	The unique identification of the domain. 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. 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.	EAN code grid area

FlowDirection

XML element	Data type	Multiplicity	Description	Functional parameter
direction	EnergyFlowDirectionType	1..1	The identification of the direction.	Energy direction

MarketEvaluationPoint

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	GSRNEANCode	1..1	The identification of the evaluation point.	EAN code connection

Price

XML element	Data type	Multiplicity	Description	Functional parameter
amount	Decimal	1..1	A number of monetary units specified in a unit of currency.	Amount

Product

XML element	Data type	Multiplicity	Description	Functional parameter
identification	EnergyProductIdentifierType	1..1	The unique identification of the product.	Product ID
measureUnit	EnergyUnitType	1..1	The identification of the measure unit.	Energy unit

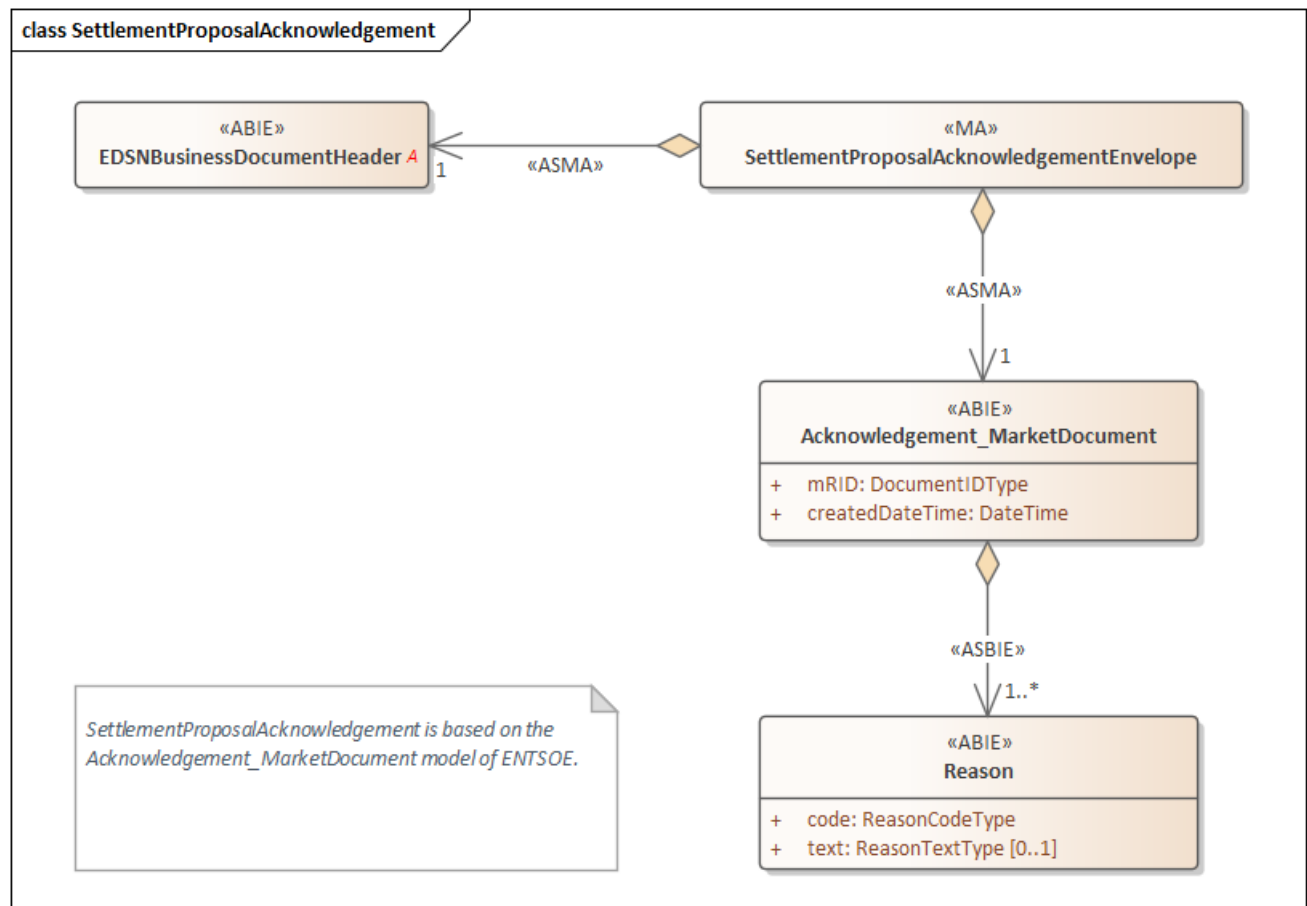
Quantity

XML element	Data type	Multiplicity	Description	Functional parameter
quantity	Decimal	1..1	The quantity value. The association role provides the information about what is expressed.	Volume
timeframeType	EnergyTariffType	0..1	The coded identification of the timeframe.	Tariff zone
volumeQuantity_type	VolumeType	1..1	The description of the type of the quantity.	Type volume

SettlementProposal_Series

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	DocumentIDType	1..1	A unique identification of the time series.	Notification Identifier (UUID)
description	String	0..1	Explanation for this revision request	Note
reference_name	String	0..1	Reason for this revision request	Reference

7.3 Ontvangstbevestiging collective settlement request (SettlementProposalAcknowledgement)



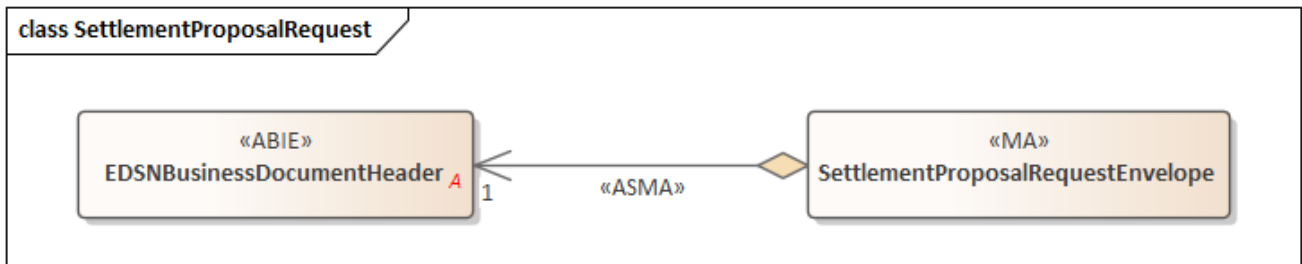
Acknowledgement_MarketDocument

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	DocumentIDType	1..1	The unique identification of the document being exchanged within a business process flow.	Notification Identifier (UUID)
createdDateTime	DateTime	1..1	The date and time of the creation of the document.	Date/time notification

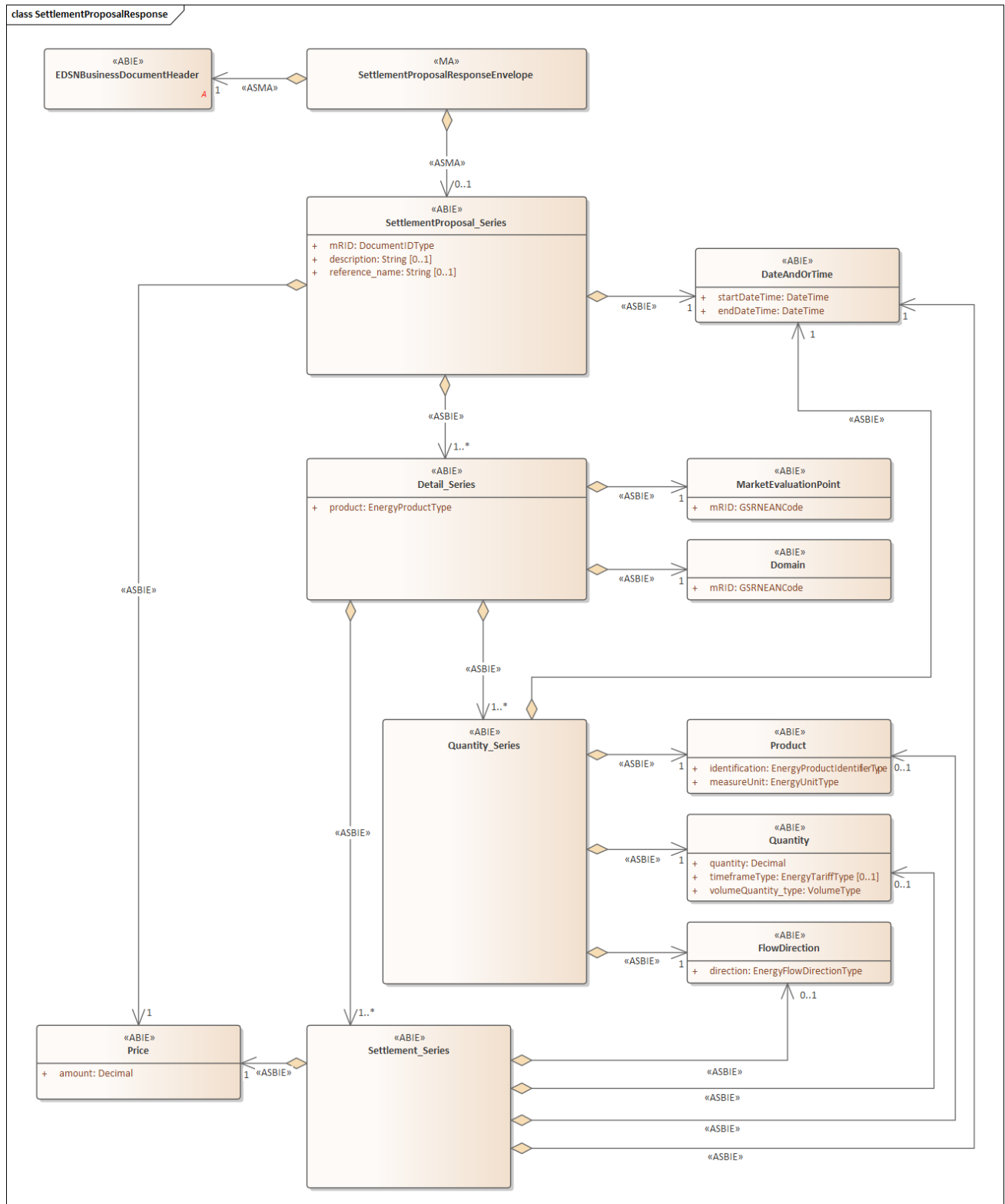
Reason

XML element	Data type	Multiplicity	Description	Functional parameter
code	ReasonCodeType	1..1	The motivation of an act in coded form.	Confirmation/rejection code
text	ReasonTextType	0..1	The textual explanation corresponding to the reason code.	Explanation of confirmation/rejection

7.4 Request retrieve collective settlement request (SettlementProposalRequest)



7.5 Response collective settlement request (SettlementProposalResponse)



DateAndOrTime

XML element	Data type	Multiplicity	Description	Functional parameter
startDateTime	DateTime	1..1	Start date/time of the period as per ISO 8601 YYYY-MM-DDThh:mm:ssZ.	Start date/time process month, Start date/time consumption period, Start date/time calendar month
endDateTime	DateTime	1..1	End date/time of the period as per ISO 8601 YYYY-MM-DDThh:mm:ssZ.	End date/time process month, End date/time consumption period, End date/time calendar month

Detail_Series

XML element	Data type	Multiplicity	Description	Functional parameter
product	EnergyProduct Type	1..1	The identification of the energy product (electricity, gas etc.)	Product type

Domain

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	GSRNEANCode	1..1	The unique identification of the domain. 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. 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.	EAN code grid area

FlowDirection

XML element	Data type	Multiplicity	Description	Functional parameter
direction	EnergyFlowDirectionType	1..1	The identification of the direction.	Energy direction

MarketEvaluationPoint

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	GSRNEANCode	1..1	The identification of the evaluation point.	EAN code connection

Price

XML element	Data type	Multiplicity	Description	Functional parameter
amount	Decimal	1..1	A number of monetary units specified in a unit of currency.	Amount

Product

XML element	Data type	Multiplicity	Description	Functional parameter
identification	EnergyProductIdentifierType	1..1	The unique identification of the product.	Product ID
measureUnit	EnergyUnitType	1..1	The identification of the measure unit.	Energy unit

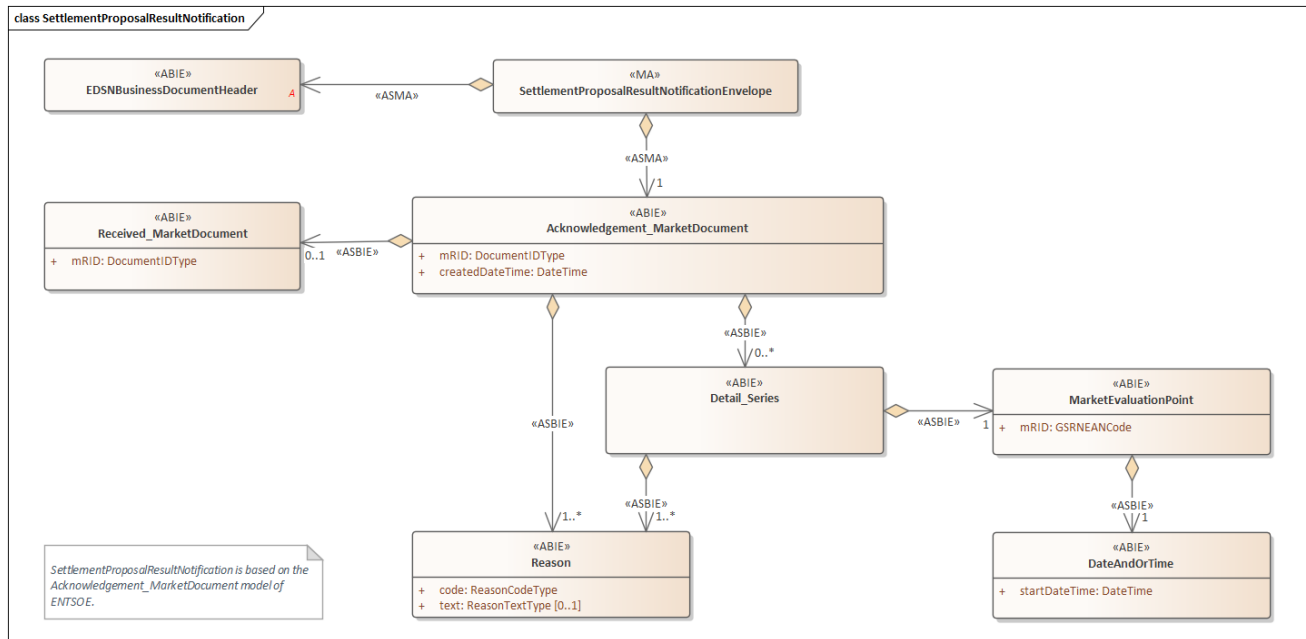
Quantity

XML element	Data type	Multiplicity	Description	Functional parameter
quantity	Decimal	1..1	The quantity value. The association role provides the information about what is expressed.	Volume
timeframeType	EnergyTariffType	0..1	The coded identification of the timeframe.	Tariff zone
volumeQuantity_type	VolumeType	1..1	The description of the type of the quantity.	Type volume

SettlementProposal_Series

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	DocumentIDType	1..1	A unique identification of the time series.	Notification Identifier (UUID)
description	String	0..1	Explanation for this revision request	Note
reference_name	String	0..1	Reason for this revision request	Reference

7.6 Submission confirmation/rejection Result collective settlement request (SettlementProposalResultNotification)



Acknowledgement_MarketDocument

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	DocumentIDType	1..1	The unique identification of the document being exchanged within a business process flow.	Notification Identifier (UUID)
createdDateTime	DateTime	1..1	The date and time of the creation of the document.	Date/time notification

DateAndOrTime

XML element	Data type	Multiplicity	Description	Functional parameter
startDateTime	DateTime	1..1	Start date/time of the period as per ISO 8601 YYYY-MM-DDThh:mm:ssZ.	Start date period

MarketEvaluationPoint

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	GSRNEANCode	1..1	The identification of the evaluation point.	EAN code connection

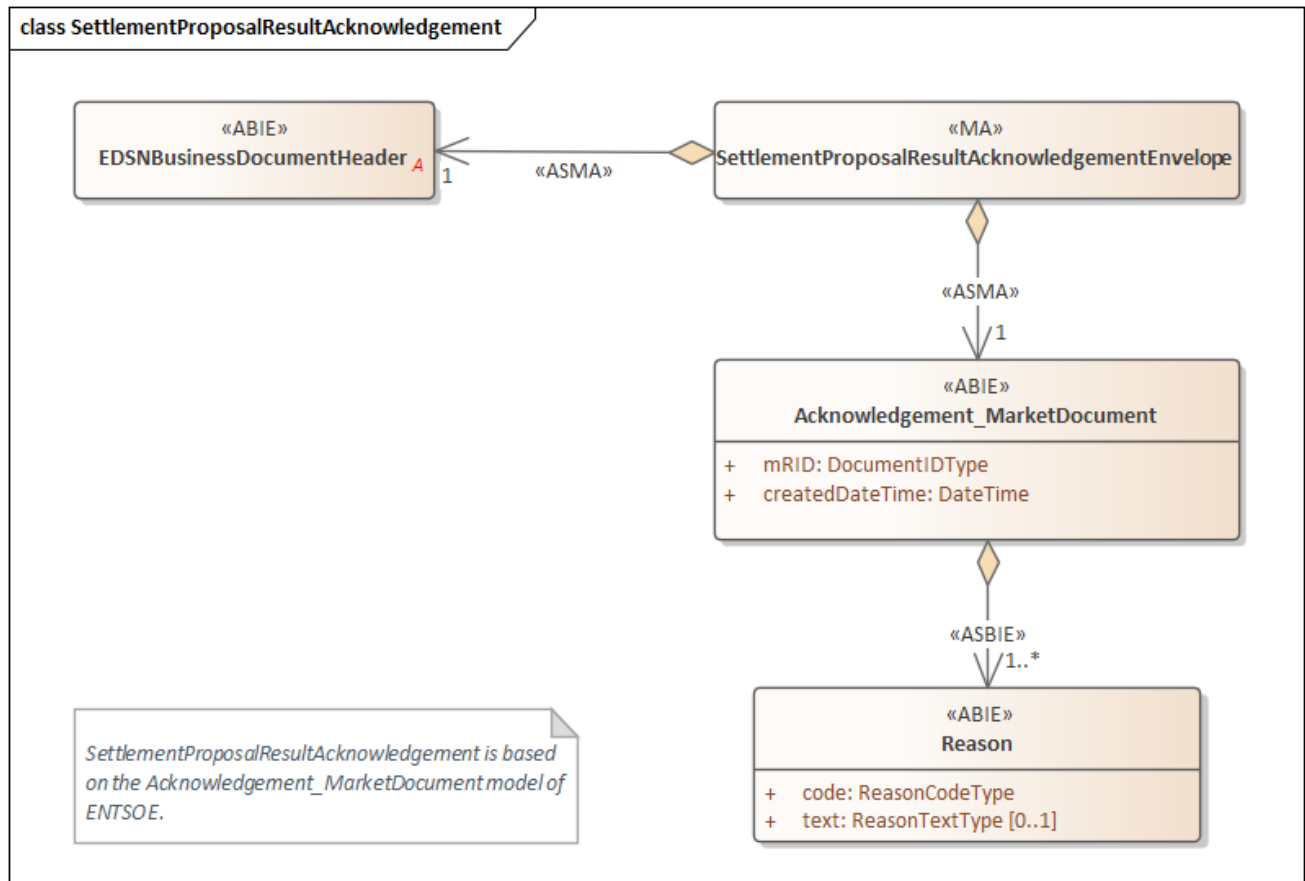
Reason

XML element	Data type	Multiplicity	Description	Functional parameter
code	ReasonCodeType	1..1	The motivation of an act in coded form.	Confirmation/rejection code
text	ReasonTextType	0..1	The textual explanation corresponding to the reason code.	Explanation of confirmation/rejection

Received_MarketDocument

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	DocumentIDType	1..1	The unique identification of the document being exchanged within a business process flow.	Reference collective settlement request notification (UUID)

7.7 Acknowledgement Result collective settlement request (SettlementProposalResultAcknowledgement)



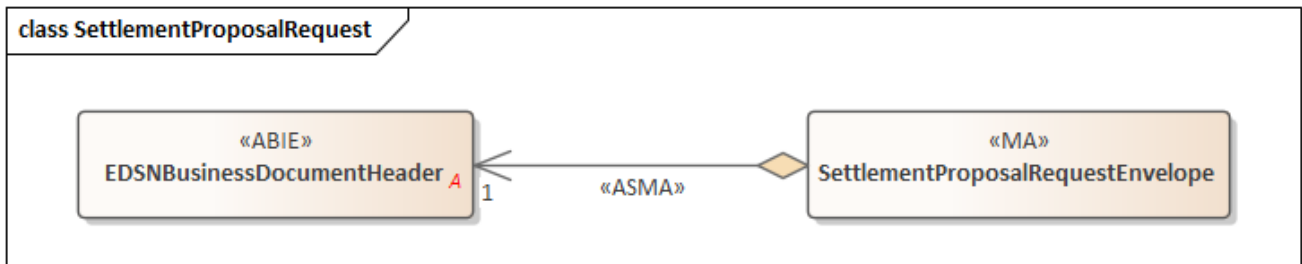
Acknowledgement_MarketDocument

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	DocumentIDType	1..1	The unique identification of the document being exchanged within a business process flow.	Notification Identifier (UUID)
createdDateTime	DateTime	1..1	The date and time of the creation of the document.	Date/time notification

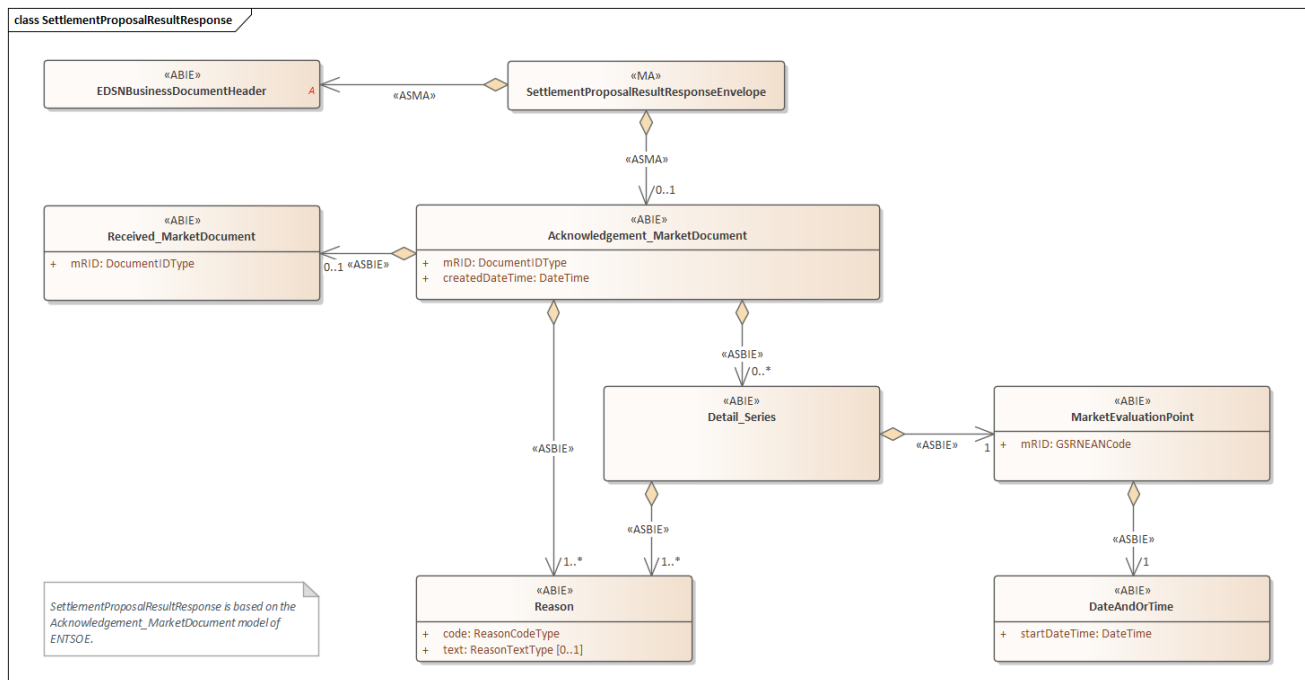
Reason

XML element	Data type	Multiplicity	Description	Functional parameter
code	ReasonCodeType	1..1	The motivation of an act in coded form.	Confirmation/rejection code
text	ReasonTextType	0..1	The textual explanation corresponding to the reason code.	Explanation of confirmation/rejection

7.8 Request Result collective settlement request (SettlementProposalResultRequest)



7.9 Response Result collective settlement request (SettlementProposalResultResponse)



Acknowledgement_MarketDocument

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	DocumentIDType	1..1	The unique identification of the document being exchanged within a business process flow.	Notification Identifier (UUID)
createdDateTime	DateTime	1..1	The date and time of the creation of the document.	Date/time notification

DateAndOrTime

XML element	Data type	Multiplicity	Description	Functional parameter
startDateTime	DateTime	1..1	Start date/time of the period as per ISO 8601 YYYY-MM-DDThh:mm:ssZ.	Start date period

MarketEvaluationPoint

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	GSRNEANCode	1..1	The identification of the evaluation point.	EAN code connection

Reason

XML element	Data type	Multiplicity	Description	Functional parameter
code	ReasonCodeType	1..1	The motivation of an act in coded form.	Confirmation/rejection code
text	ReasonTextType	0..1	The textual explanation corresponding to the reason code.	Explanation of confirmation/rejection

Received_MarketDocument

XML element	Data type	Multiplicity	Description	Functional parameter
mRID	DocumentIDType	1..1	The unique identification of the document being exchanged within a business process flow.	Reference collective settlement request notification (UUID)