



Business Requirements for

Measure

For

Imbalance Settlement

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A. About this document

This document contains ebIX® Business Requirements for the processes regarding the measured data for imbalance settlement, for electricity only.

As a general introduction ebIX® has published a separate document “Introduction to ebIX® Business Requirements and Business Information Models” (*see [4]*). The introduction also includes the generic model elements that are not specific for a particular business process.

In line with UN/CEFACT Modeling Methodology version 2 (UMM-2) ebIX® defines the business requirements before starting the actual modeling. The requirements have been specified by the ebIX® work group “Exchange Metered Data” and are the basis for the Business Information Model which is published in a separate document.

The Business Information Model is in turn the basis for the creation of XML schema’s and is expected to be the basis for the specification of web services in a next version of the model document. Since ebIX® supports both Edifact and XML the model will also serve as the basis for the creation of Message Implementation Guides for the mapping to Edifact UNSM’s. The Business Information Model and the syntax specific structures are specified by the ebIX® “Technical Committee” (ETC).

A.1. Comments to the ebIX® model

If you have comments or suggestions to the requirements please contact any member of the project group or directly to Kees Sparreboom, kees.sparreboom@capgemini.com.

A.2. References

A.2.1. Standards

- [1] UML Profile for UN/CEFACT’s Modeling Methodology (UMM), Base Module 2.0.
(http://www.unece.org/cefact/umm/umm_index.html)
- [2] UML Profile for UN/CEFACT’s Modeling Methodology (UMM), Foundation Module 2.0.
(http://www.unece.org/cefact/umm/umm_index.html)
- [3] The Harmonized Role Model (for the Electricity Market) by ebIX®, ENTSO-E, and EFET
(www.ebix.org)

A.2.2. ebIX® Documents

- [4] Introduction to ebIX® Business Requirements and Business Information Models
(www.ebix.org)
- [5] Recommended Identification Schemes for the European Energy Market (www.ebix.org)
- [6] ebIX® code lists (www.ebix.org)

A.3. Participants in the project

These Business Requirements as part of the ebIX® Model for the European Energy Market (see [4]) are made in a project with the members of EMD. For a list of members of EMD see www.ebix.org.

A.4. Main changes since last version

		Old	New	Clarification	Date
Start of updates for version 2.0.C					
1.	§ 3.1.4.3.1, UseCase definition	Validator sends collected data	Validator sends validated data		2010-09-20
2.	For all class diagrams for validated and aggregated data	Cardinality for Quantity in class Observation was 0..1	Cardinality for Quantity in class Observation is 1	These Business requirements allow only for collected data to miss data for detail periods. From validated data onwards, time series have to be complete	2010-09-22
End of updates for Version 2.0.C					
3.	All document			The lay-out has been brought in line with the ebIX® standard document lay-out	2010-10-15
4.	For all class diagrams for negative response to request	Cardinality for Reference to Request in root class was 0..1	Cardinality for Reference to Request in root class is 1	These Business requirements demand a reference to the rejected request	2010-10-15
End of updates for Version 2.0.D					
5.	Paragraph on references			The list of references has been limited to references directly relevant for a document containing business requirements	2013-07-02

6.	UseCase Measure for Imbalance Settlement included UseCase “Collect”		The included UseCase “Collect” has been replaced by a precondition stating that Collected data are available	In order to bring this process specification with all other processes specified by ebIX® EMD	2013-07-02
7.	UseCase “Validate Measurements”		The generic UseCase “Validate Measurements” replaces specific validation processes.	The generic process for “Validate Measurements” is specified in the document Introduction to ebIX® Business Requirements and Business Information Models (www.ebix.org)	2013-07-02
8.	Various UseCase diagrams		Various include-relations have been replaced by extensions	In order to do justice to the conditionality of processes.	2013-07-02
9.	Various activity diagrams		Various forks have been replaced by decision nodes	In order to do justice to the conditionality of processes and in line with the updates for UseCases (see above)	2013-07-02
10.	All activity diagrams have been brought in line with the rules stated in the Introduction to ebIX models			One-way processes have final node in receiving swim lane; two-way processes have final node in triggering (sending) swim lane	2013-07-02
11.	All activity diagrams have been brought in line with the rules stated in the Introduction			In case of optional “Failure” for processes, the upper level processes in which these processes are used will also show the	2013-07-02

	to ebIX models			option for “Failure”	
12.	All class diagrams		A table with semantic definitions of classes and properties has been added	To bring model documents for ebIX® CuS and ebIX® EMD in line	2013-07-02
13.	All class diagrams, all classes for “....-additions”		The properties Sector and Reason have been deleted	As a consequence of modeling for web services as one of the implementation options	2013-07-02
14.	All class diagrams for “Negative Response”		The list of error codes has been reviewed and updated		2013-07-02
15.	All class diagrams for aggregated data	Last Update Date	Last Update DateTime	In order to facilitate the possibility to update aggregated data more than once per day	2013-07-02
16.	Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible		Balance supplier (optional)	Added on request of Nordic Ediel Group for use in the Nordic market. This property is therefore dependent (on national/regional rules)	2013-07-02
End of updates for Version 2.0.E					
17.	All class diagrams		Class Header and Context Information has been added	To bring class diagrams in line with all other ebIX® BRS-documents	2015-06-05
End of updates for Version 2.0.F					

1. Business Requirements View: Measure for Imbalance Settlement

1.1. Measure for Imbalance Settlement (Business Process UseCase)

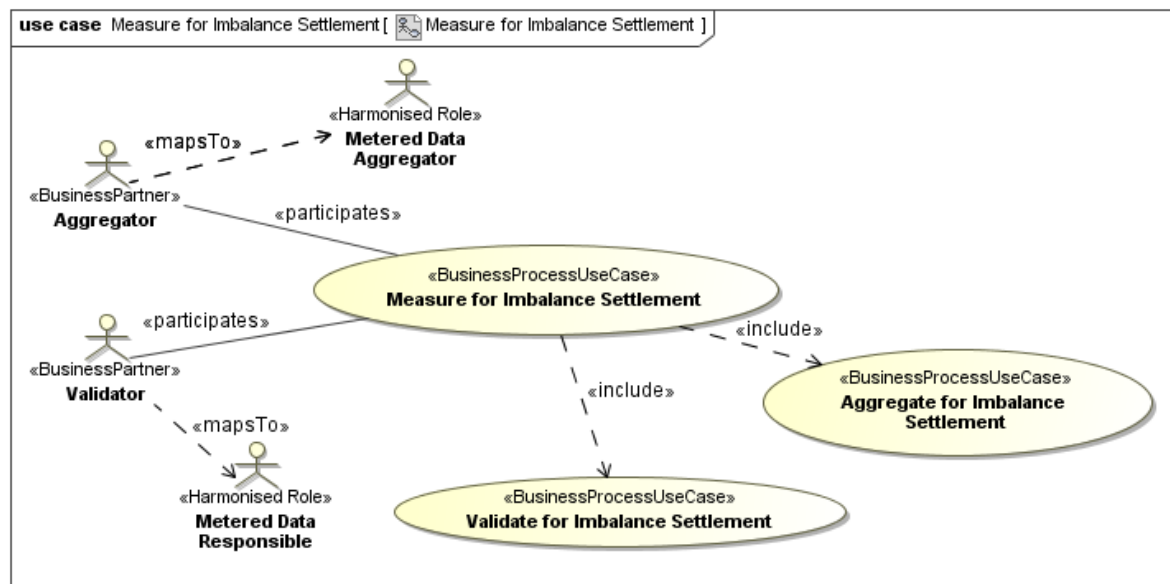


Figure 1 Measure for Imbalance Settlement

1.1.1. Description

UseCase description: Measure for Imbalance Settlement	
definition	Provides validated and aggregated data for use in the imbalance settlement process to partners involved in this process.
beginsWhen	The timing of the various processes is guided by a time schedule (nationally defined). As a general rule can be stated, that the processes are executed on a daily basis.
preCondition	Business partners responsible for the execution of the processes should have access to relevant master data. Collected data are available
endsWhen	All processes included in the time schedule have been executed.
postCondition	All validated and aggregated measured data are available at the business partners so that the imbalance settlement process can be executed and the results can be verified.
Exceptions	No data available
actions	See 1.1.2

1.1.2. Business Process

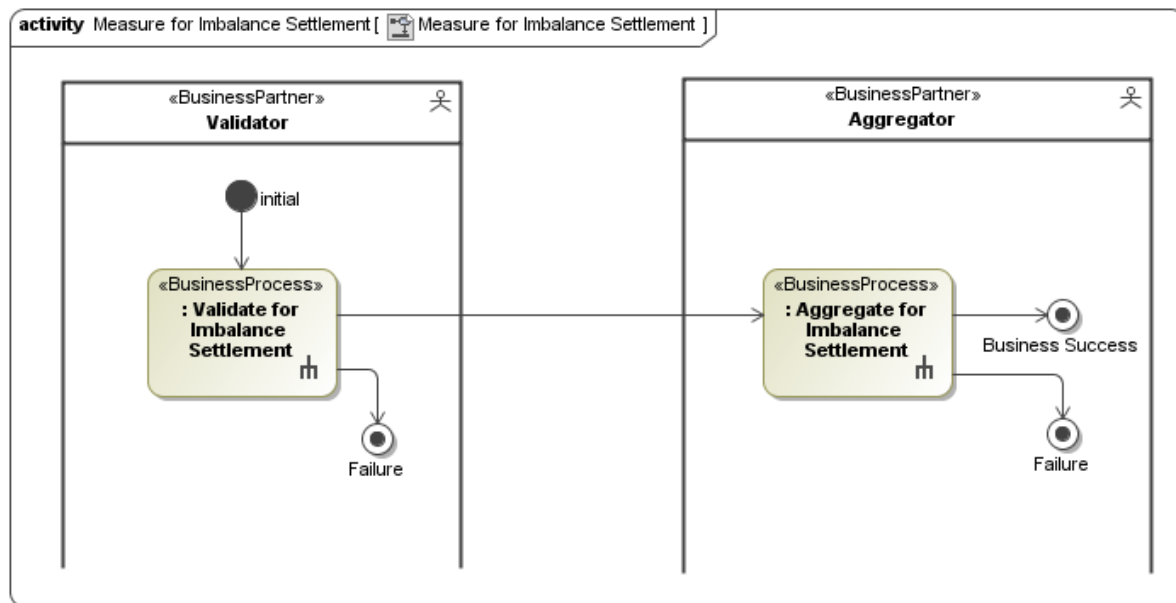


Figure 2 BP Measure for Imbalance Settlement

1.1.3. Validate for Imbalance Settlement (Business Process UseCase)

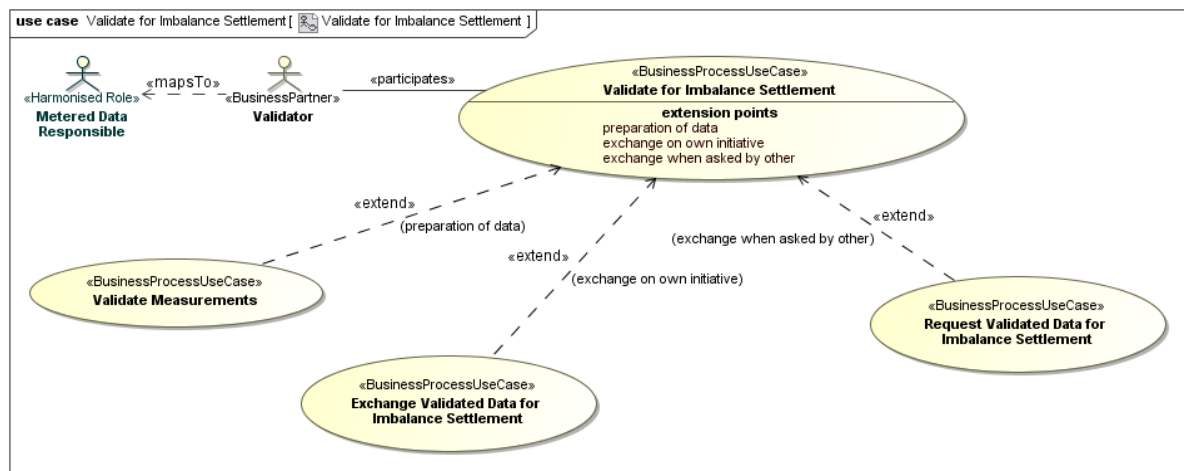


Figure 3 Validate for Imbalance Settlement

1.1.3.1. Description

UseCase description: Validate for Imbalance Settlement	
definition	A Validator validates data for a Metering Point in order to make these available to others.
beginsWhen	The Validator decides to or when the time schedule prescribes him to.
preCondition	The Validator has available:

	<ul style="list-style-type: none"> collected data relevant historic measured data relevant quality standards master data for the exchange of data
endsWhen	<ul style="list-style-type: none"> Measured data have been validated or The validated measured data have been exchanged or The request has been (positively or negatively) answered.
postCondition	<ul style="list-style-type: none"> Validated data for a Metering Point are available at the Validator or The validated measured data for a Metering Point are available for the Aggregator and/or Balance Responsible or The request for validated measured data is rejected
exceptions	<ul style="list-style-type: none"> No collected data available Validated data delivered to wrong addressee For an exchange Metering Point preliminary exchanges are required between Validators at both sides of a connection between grids in order to align the data.
actions	See 1.1.3.2

Note: If preliminary exchanges are required between validators at both sides of the grid connections this is regarded as a bilateral solution. In ebIX® models we limit ourselves to the exchange of the resulting validated measured data.

Examples:

- DE: validators send information to both aggregators at an Exchange Metering Point
- SE: validators send information to both aggregators at an Exchange Metering Point

1.1.3.2. Business Process

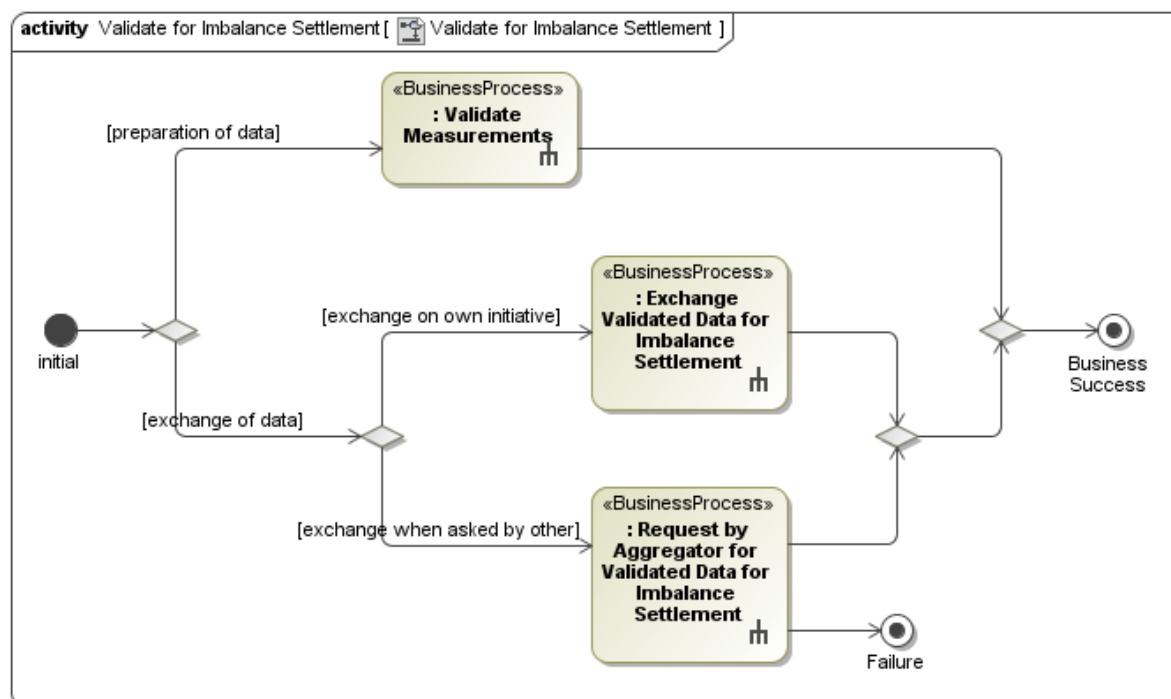


Figure 4 BP Validate for Imbalance Settlement

1.1.3.3. Validate Measurements for Imbalance Settlement (Business Process UseCase)

This Business Process is specified in the document Introduction to ebIX® Business Requirements and Business Information Models (www.ebix.org) [4] as the process “Validate Measurements”.

1.1.3.4. Exchange Validated Data for Imbalance Settlement (Business Process UseCase)

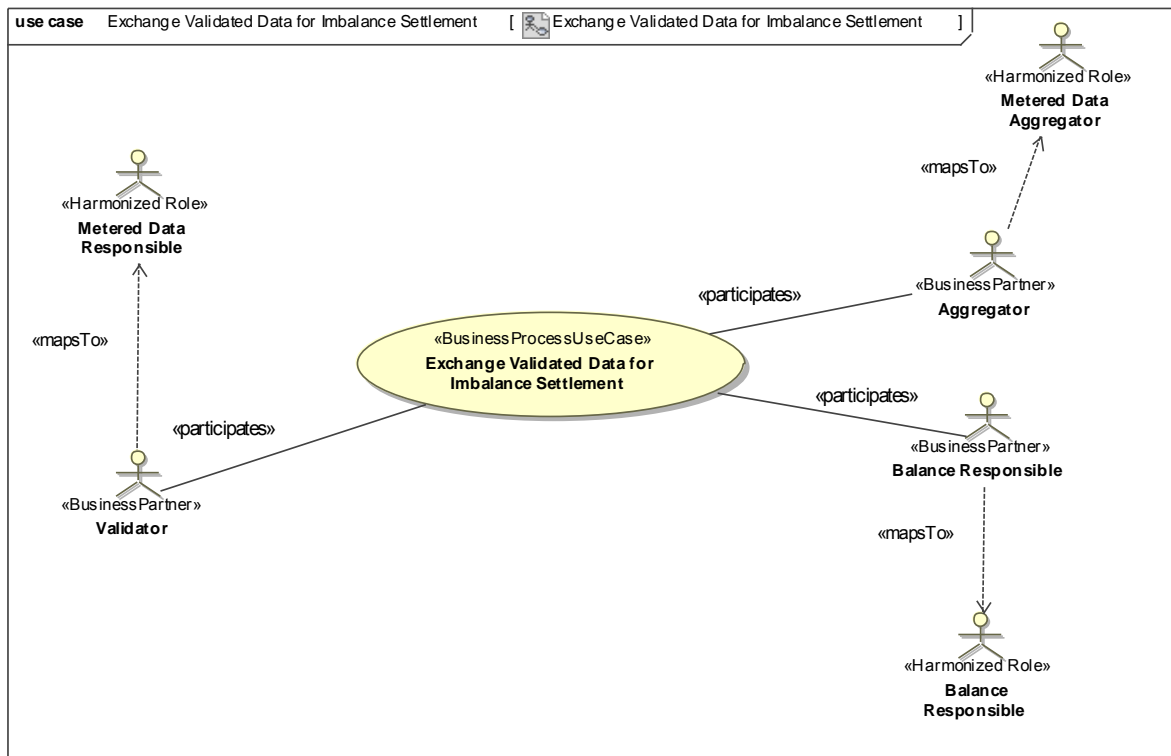


Figure 5 Exchange Validated Data for Imbalance Settlement

1.1.3.4.1. Description

UseCase description: Exchange Validated Data for Imbalance Settlement	
definition	Validator sends validated data to Aggregator and/or Balance Responsible
beginsWhen	Validator decides to.
preCondition	Relation between Validator and Aggregator or Balance Responsible. Validated Data are available.
endsWhen	The distribution of the validated data has been accomplished.
postCondition	Validated Data are available for the Aggregator and/or Balance Responsible.
exceptions	none
actions	See 1.1.3.4.2

1.1.3.4.2. Business Process

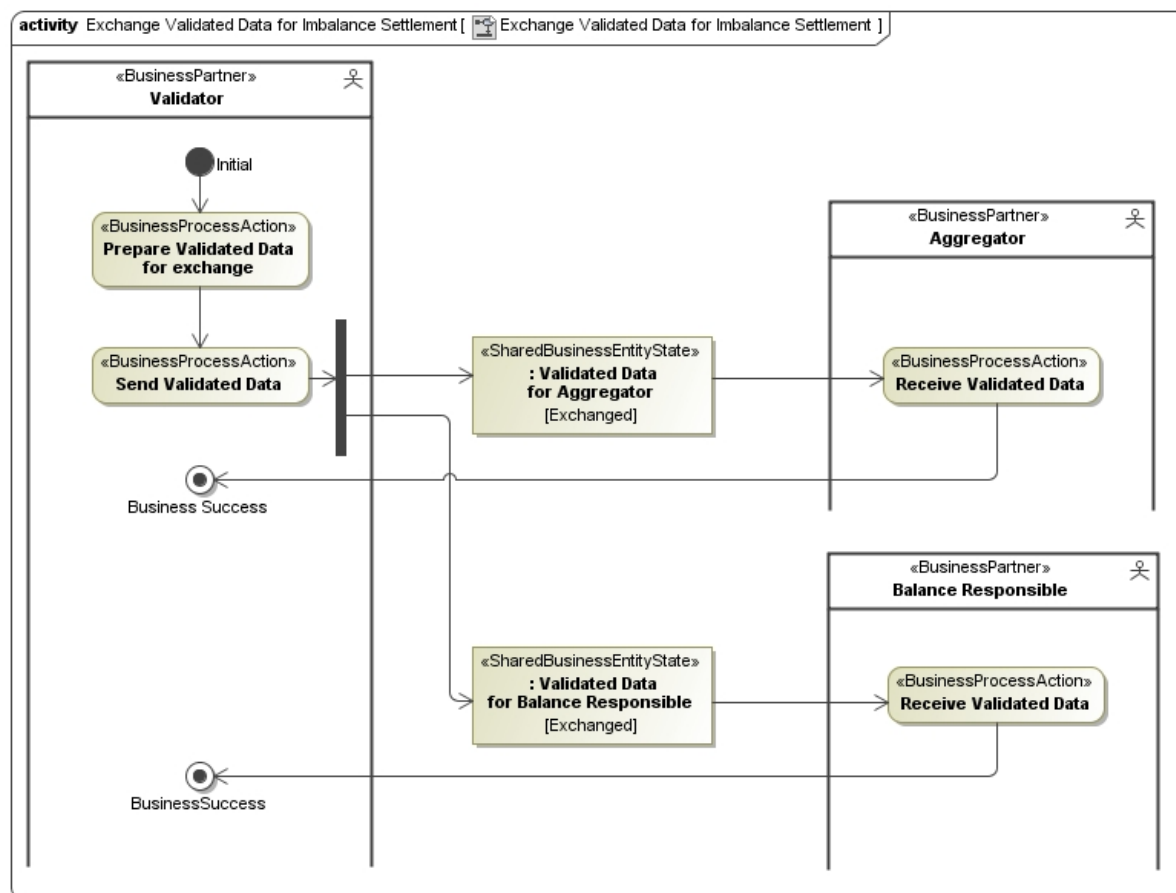


Figure 6 BP Exchange Validated Data for Imbalance Settlement

Remark: the exchange of validated data to the Balance Responsible is not required by all national rules (and then as a consequence not implemented).

1.1.3.5. Request Validated Data for Imbalance Settlement (Business Process UseCase)

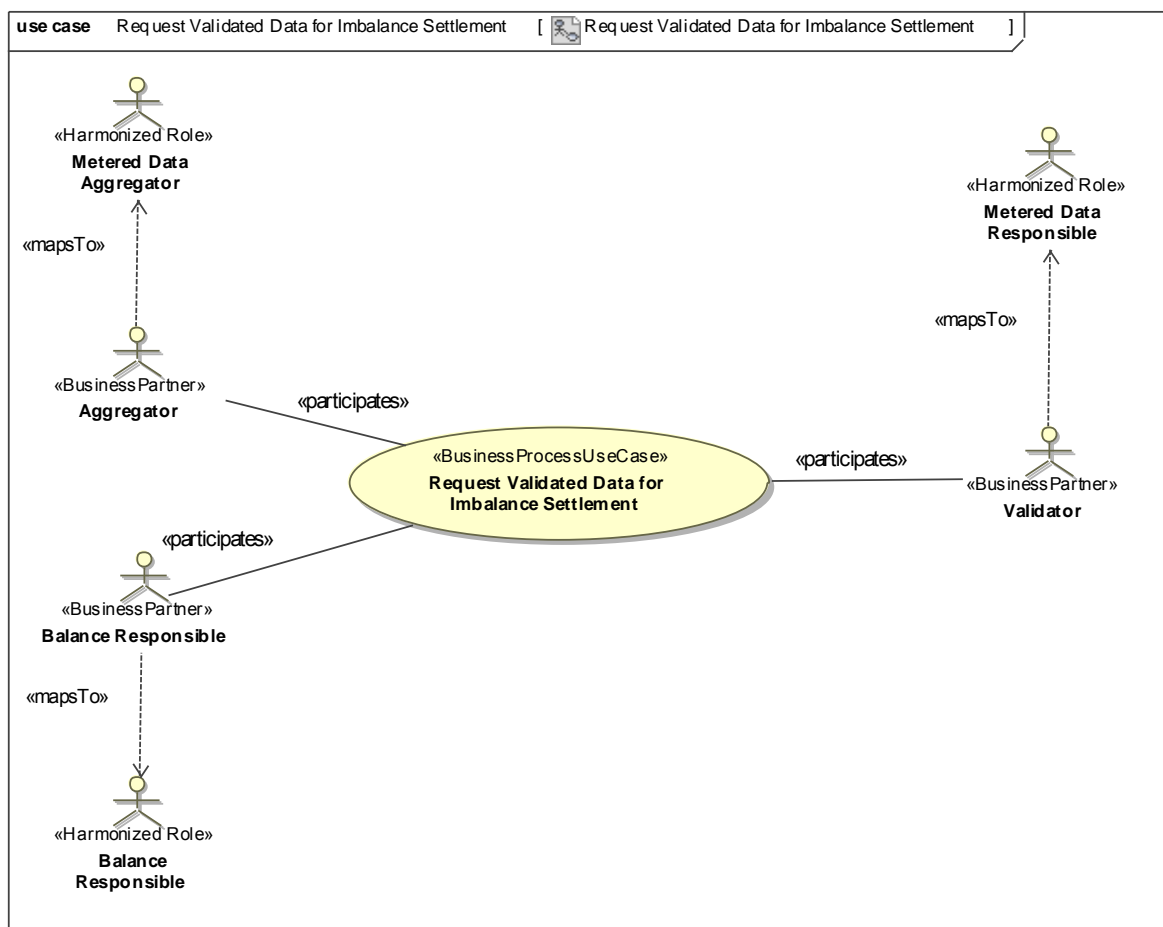


Figure 7 Request Validated Data for Imbalance Settlement

1.1.3.5.1. Description

UseCase description: Request Validated Data for Imbalance Settlement	
definition	Aggregator or Balance Responsible requests Validated Data from the Validator. The request may contain proposed validated measured data.
beginsWhen	Aggregator or Balance Responsible decides to.
preCondition	Relation between Validator and Aggregator or Balance Responsible. Validated Data are available.
endsWhen	The distribution of the validated data has been accomplished.
postCondition	Validated Data are available for the Aggregator or Balance Responsible. The version of the validated data shall be the same for both the Aggregator and the Balance Responsible.

exceptions	<p>Sending a request with proposed data can only be done if validated data have already been received before (and are not in line with the receivers expectation).</p> <p>In case the Validated Data have been updated, the same version shall be made available to both the requestor and the other partner.</p> <p>The implementation of a process for requesting and/or proposing validated data (and the conditions under which it works) is up to national decision.</p>
actions	<i>See 1.1.3.5.2</i>

1.1.3.5.2. Business Process

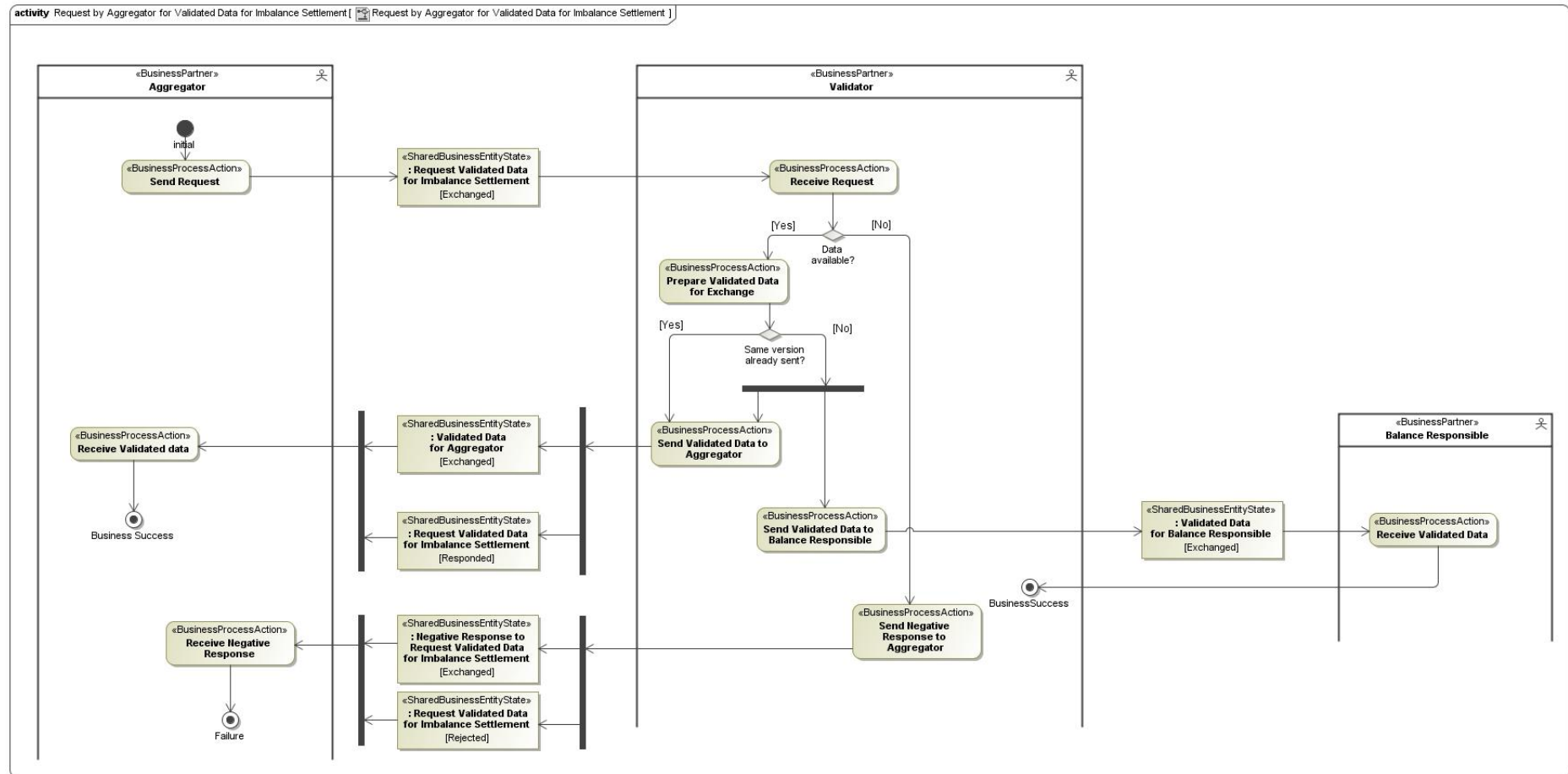


Figure 8 BP Request by Aggregator for Validated Data for Imbalance Settlement

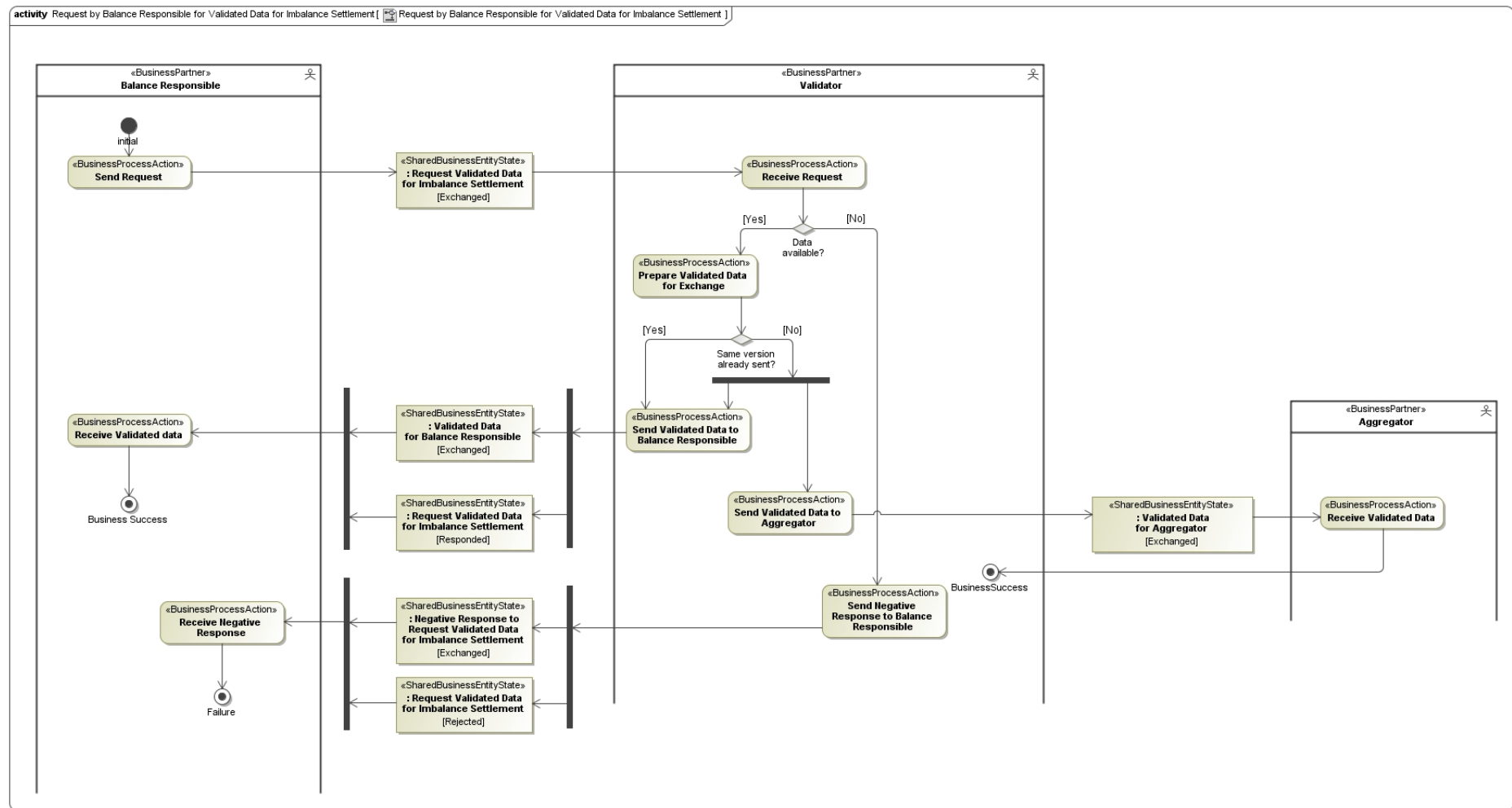


Figure 9 BP Request by Balance Responsible for Validated Data for Imbalance Settlement

1.1.4. Aggregate for Imbalance Settlement (Business Process UseCase)

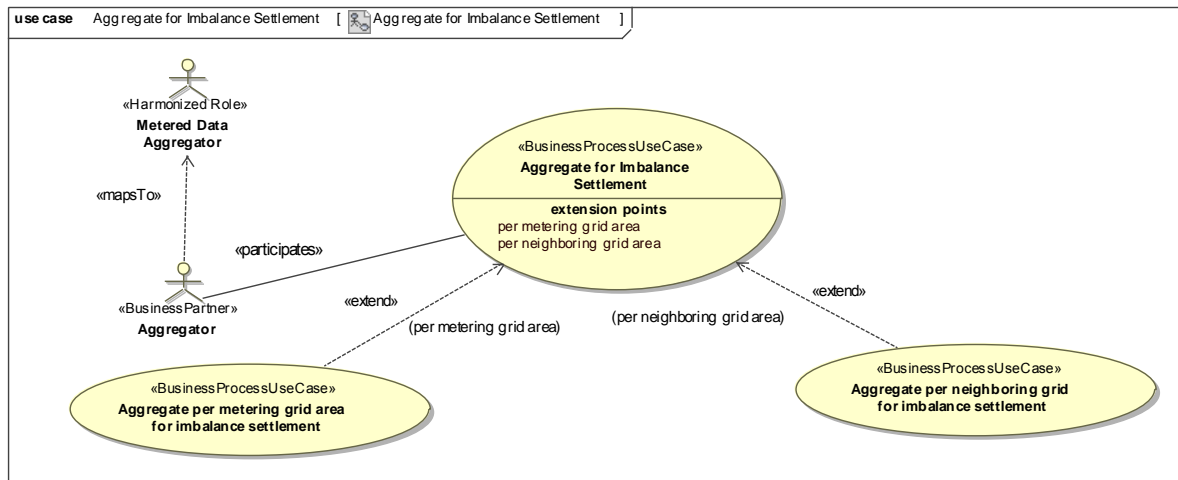


Figure 10 Aggregate for Imbalance Settlement

1.1.4.1. Description

UseCase description: Aggregate for Imbalance Settlement	
definition	An Aggregator aggregates validated data in order to make these available to others.
beginsWhen	The Aggregator decides to or when the time schedule prescribes him to.
preCondition	<p>The Aggregator has available:</p> <ul style="list-style-type: none"> • validated data • master data for the Metering Points within the Metering Grid Area • relevant quality standards • master data for the exchange of data
endsWhen	<ul style="list-style-type: none"> • Validated data have been aggregated per Metering Grid Area or per neighboring grid and/or • The aggregated measured data have been exchanged or • The request for aggregated data is rejected
postCondition	<ul style="list-style-type: none"> • Aggregated data are available for the Aggregator and/or for the receiver or • The request for aggregated data is rejected
exceptions	<ul style="list-style-type: none"> • Not all validated data available

	<ul style="list-style-type: none"> • No master data MP available • Aggregated data delivered to wrong addressee
actions	See 1.1.4.2

1.1.4.2. Business Process

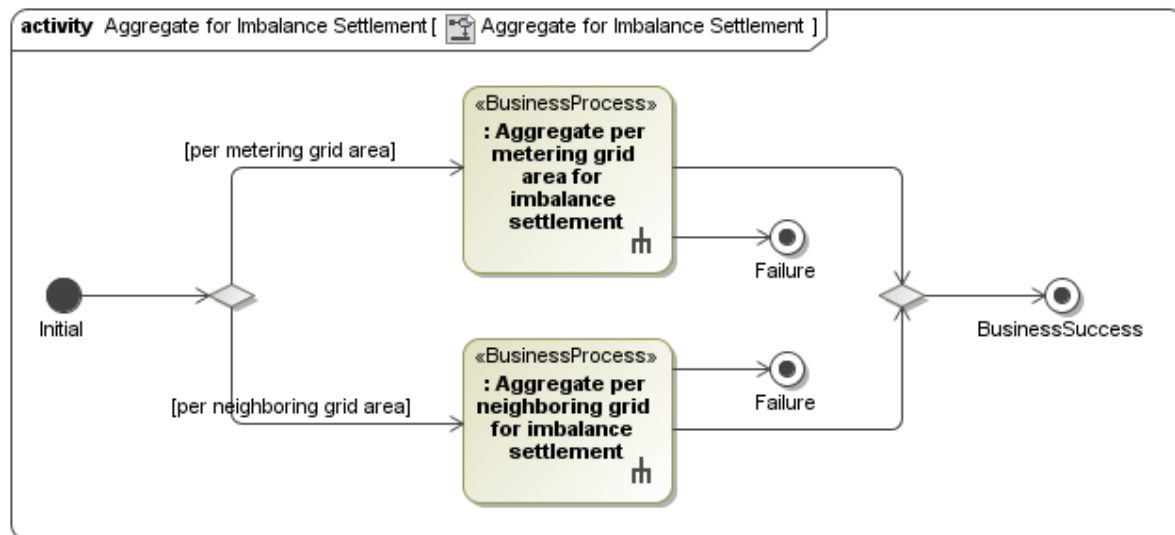


Figure 11 BP Aggregate for Imbalance Settlement

1.1.4.3. Aggregate per Metering Grid Area for Imbalance Settlement (Business Process UseCase)

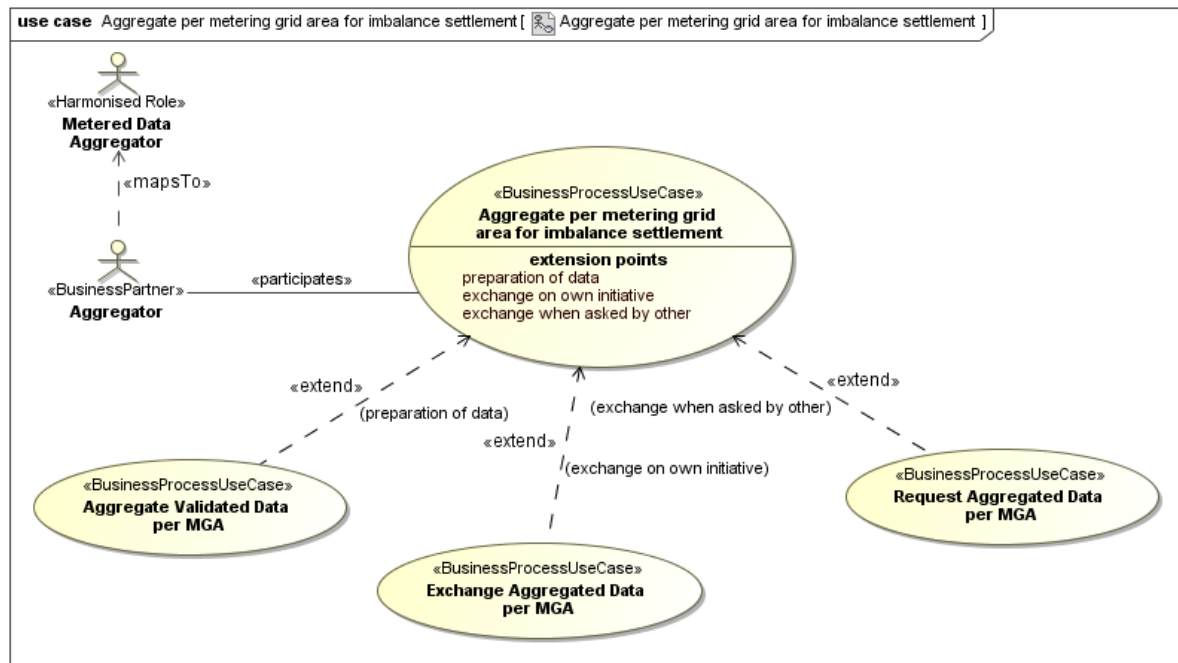


Figure 12 Aggregate per Metering Grid Area for Imbalance Settlement

1.1.4.3.1. Description

UseCase description: Aggregate per Metering Grid Area for Imbalance Settlement	
definition	An Aggregator aggregates validated data in order to make these available to others.
beginsWhen	The Aggregator decides to or when the time schedule prescribes him to.
preCondition	<p>The Aggregator has available:</p> <ul style="list-style-type: none"> • validated data • master data for the Metering Points within the Metering Grid Area • relevant quality standards • master data for the exchange of data
endsWhen	<ul style="list-style-type: none"> • Validated data have been aggregated per Metering Grid Area or • The aggregated measured data have been exchanged or • The request for aggregated data has been answered.

postCondition	<ul style="list-style-type: none">• Aggregated data are available at the Aggregator or• Aggregated measured data are available for Balance Responsible and/or Settlement Responsible or• The request for aggregated data is rejected
exceptions	<ul style="list-style-type: none">• Not all validated data available• No master data MP available• Aggregated data delivered to wrong addressee
actions	<i>See 1.1.4.3.2</i>

Note: If preliminary exchanges are required between aggregators for neighboring metering grid areas, this is regarded as a bilateral solution. In ebIX[®] models we limit ourselves to the exchange of the resulting aggregated measured data.

Examples:

- DE: both aggregators are expected to align on their own initiative before sending their respective aggregated data to other parties.
- SE: each aggregator sends the aggregated data to the settlement responsible who in turn responds with a notification of the differences (delta values) to each aggregator.

1.1.4.3.2. Business Process

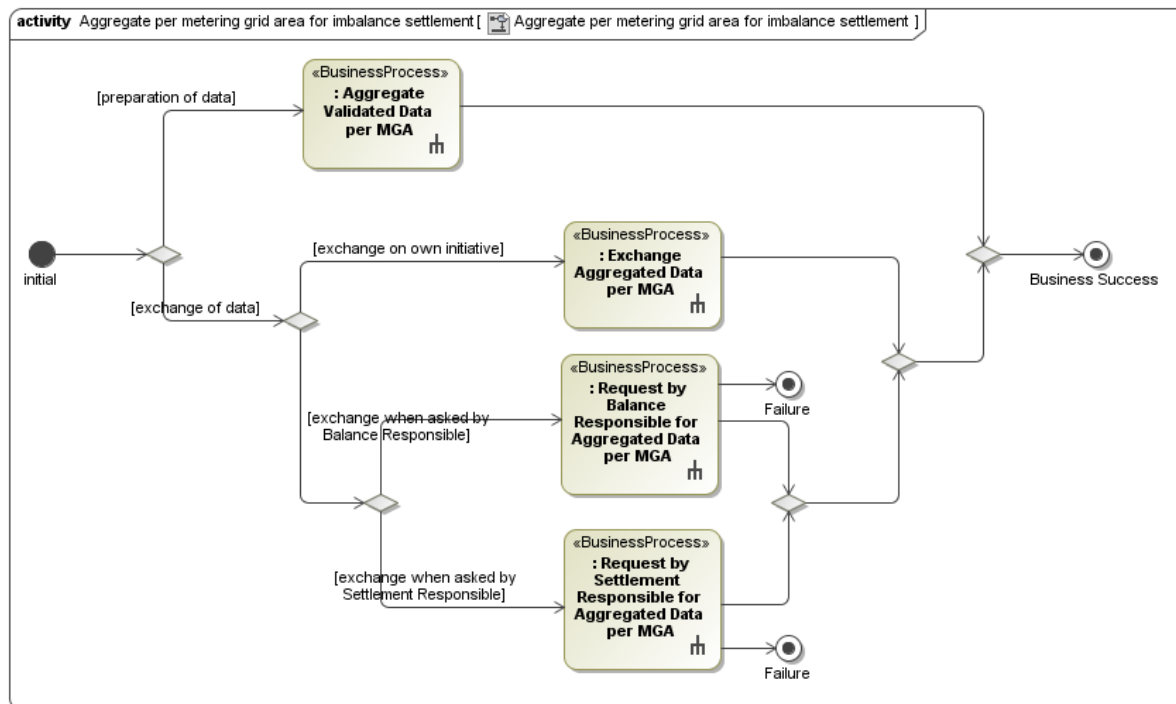


Figure 13 BP Aggregate per Metering Grid Area for Imbalance Settlement

1.1.4.3.3. Aggregate Validated Data per MGA (Business Process UseCase)

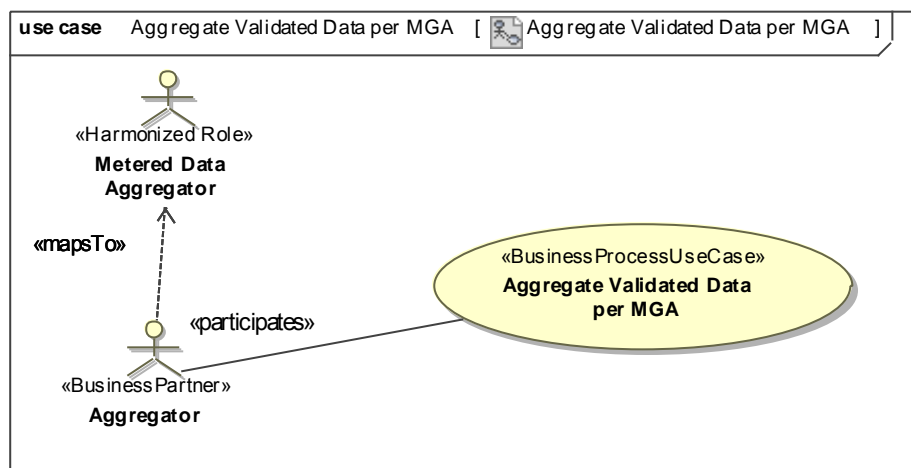


Figure 14 Aggregate Validated Data per MGA

1.1.4.3.3.1. Description

UseCase description: Aggregate Validated Data per MGA	
definition	An Aggregator processes validated data into aggregated data per metering grid area.

beginsWhen	The Aggregator decides to.
preCondition	Aggregator should have received validated data and have access to relevant master data.
endsWhen	The data have been aggregated and stored into a system.
postCondition	The aggregated data are available for exchange.
exceptions	<ul style="list-style-type: none"> • No validated data available • No master data for the metering points within the MGA available • No (national) rules for aggregation available
actions	See 1.1.4.3.3.2

1.1.4.3.3.2. Business Process

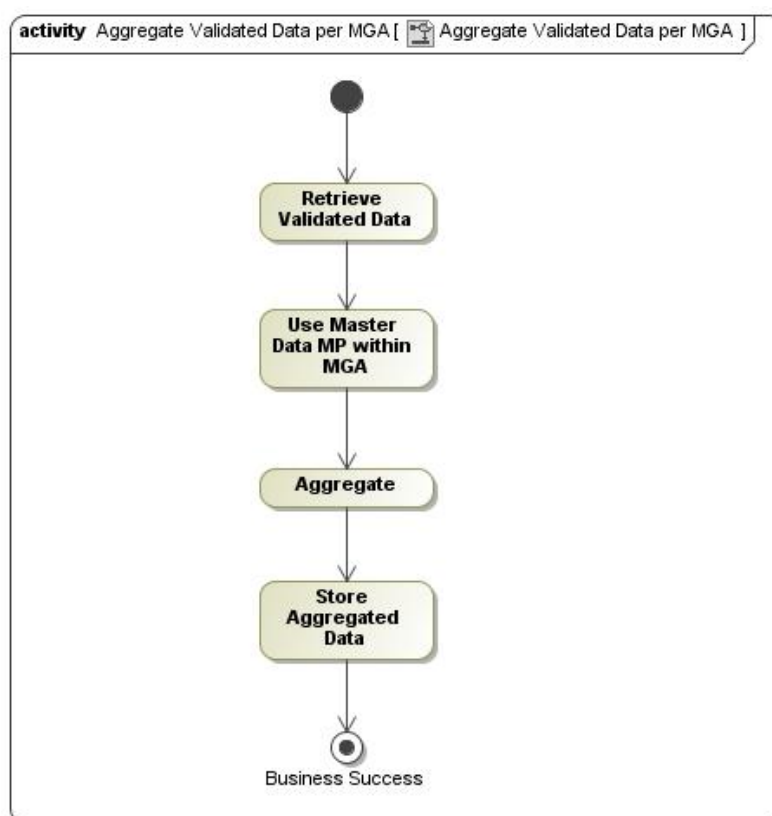


Figure 15 BP Aggregate Validated Data per MGA

1.1.4.3.4. Exchange Aggregated Data per MGA (Business Process UseCase)

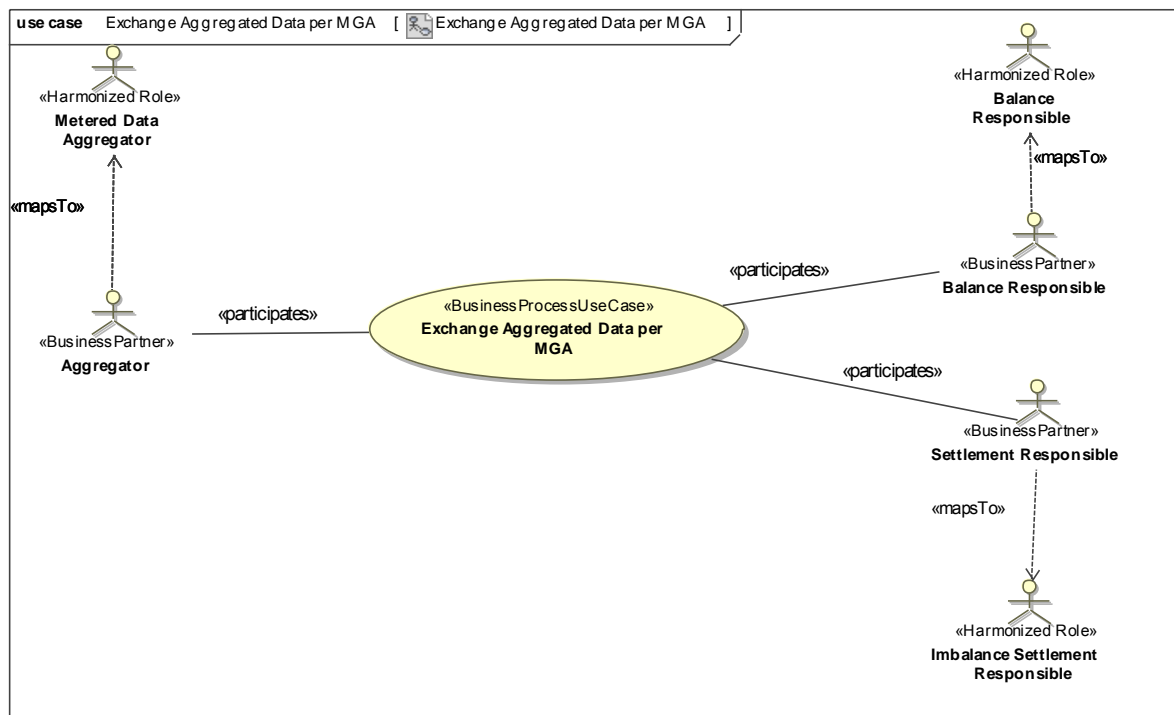


Figure 16 Exchange Aggregated Data per MGA

1.1.4.3.4.1. Description

UseCase description: Exchange Aggregated Data per MGA	
definition	Aggregator sends aggregated data to Aggregator and/or Balance Responsible
beginsWhen	Aggregator decides to.
preCondition	<ul style="list-style-type: none"> Aggregated Data are available Master Data of exchange partner(s) are available
endsWhen	The exchange of the aggregated data has been accomplished .
postCondition	Aggregated Data are available for the Settlement Responsible and/or Balance Responsible.
exceptions	none
actions	See 1.1.4.3.4.2

1.1.4.3.4.2. Business Process

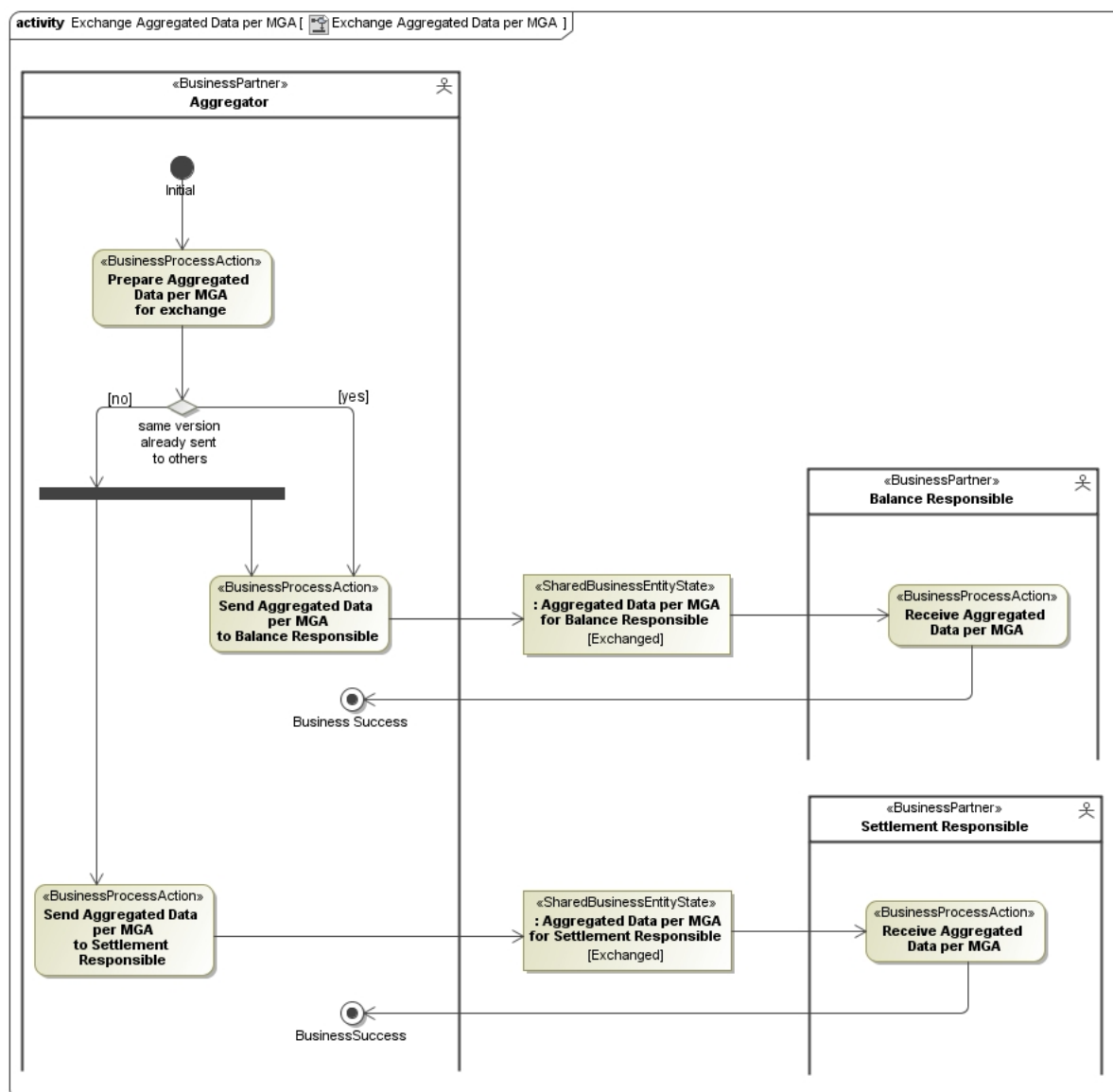


Figure 17 BP Exchange Aggregated Data per MGA

1.1.4.3.5. Request Aggregated Data per MGA (Business Process UseCase)

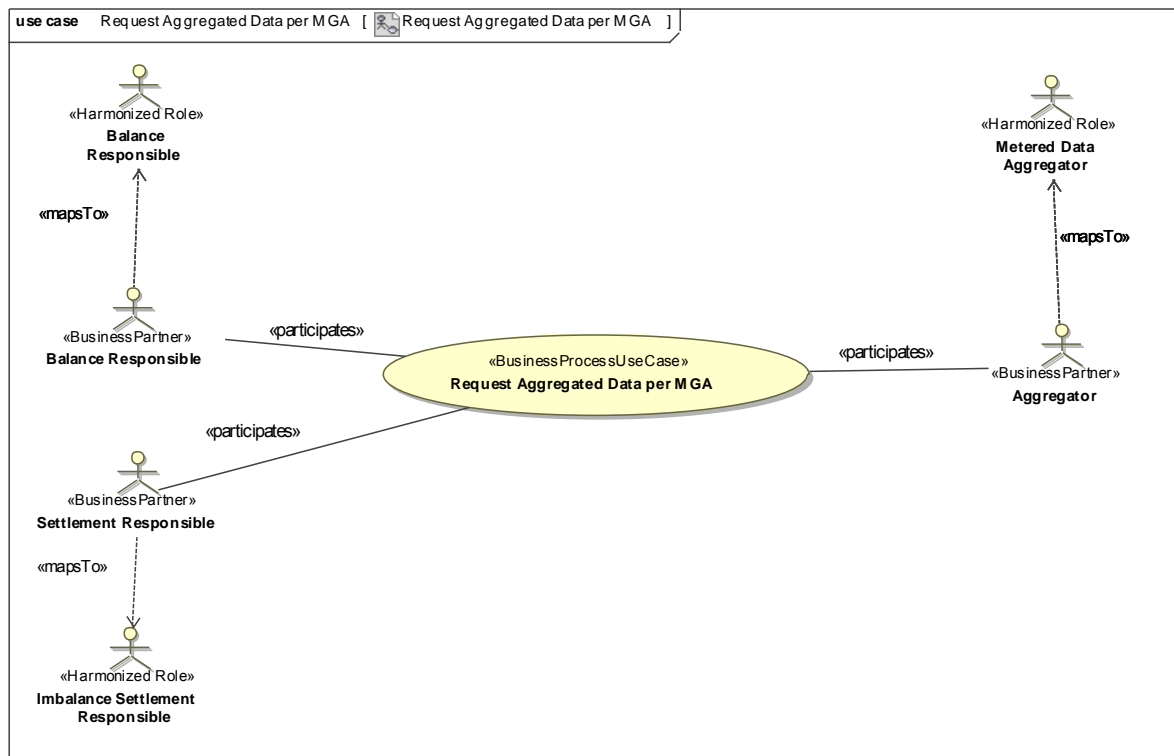


Figure 18 Request Aggregated Data per MGA

1.1.4.3.5.1. Description

UseCase description: Request Aggregated Data per MGA	
definition	Settlement Responsible or Balance Responsible requests Aggregated Data from the Aggregator. The request may contain proposed aggregated data.
beginsWhen	Settlement Responsible or Balance Responsible decides to.
preCondition	Relation between Aggregator and Settlement Responsible or Balance Responsible.
endsWhen	<ul style="list-style-type: none"> The distribution of the aggregated data has been accomplished or The negative response to the request for aggregated data has been received by the sender of the request
postCondition	<ul style="list-style-type: none"> Aggregated Data are available for the Settlement Responsible or Balance Responsible. The version of the aggregated data shall be the same for both the Settlement Responsible and the Balance Responsible or The request has been rejected.

	.
exceptions	<p>Sending a request with proposed data can only be done if aggregated data have already been received before (and are not in line with the receivers expectation)</p> <p>In case the Aggregated Data have been updated, the same version shall be made available to both the requestor and the other partner.</p> <p>The implementation of a process for requesting and/or proposing aggregated data (and the conditions under which it works) is up to national decision.</p>
actions	<i>See 1.1.4.3.5.2</i>

1.1.4.3.5.2. Business Process

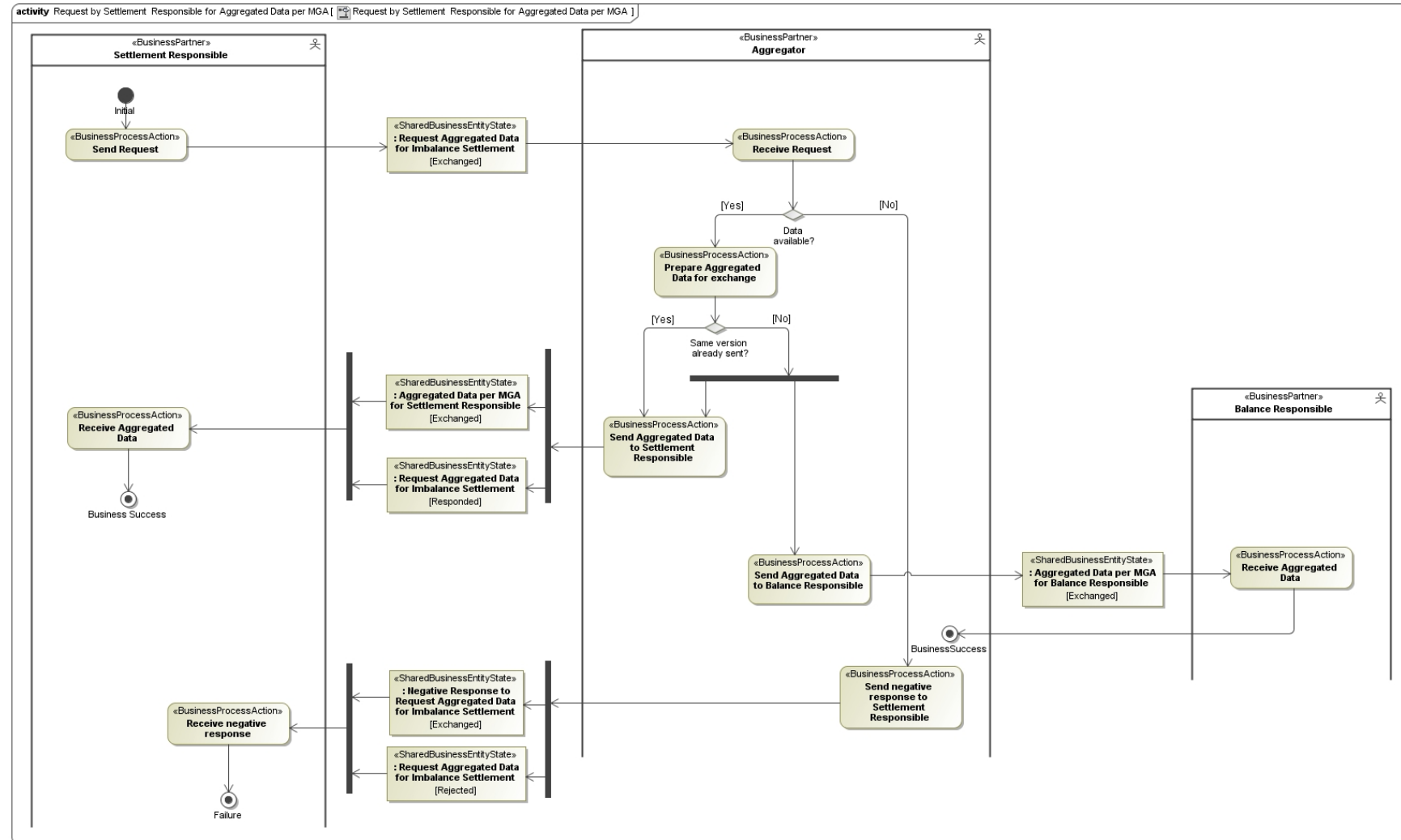


Figure 19 BP Request by Settlement Responsible for Aggregated Data per MGA

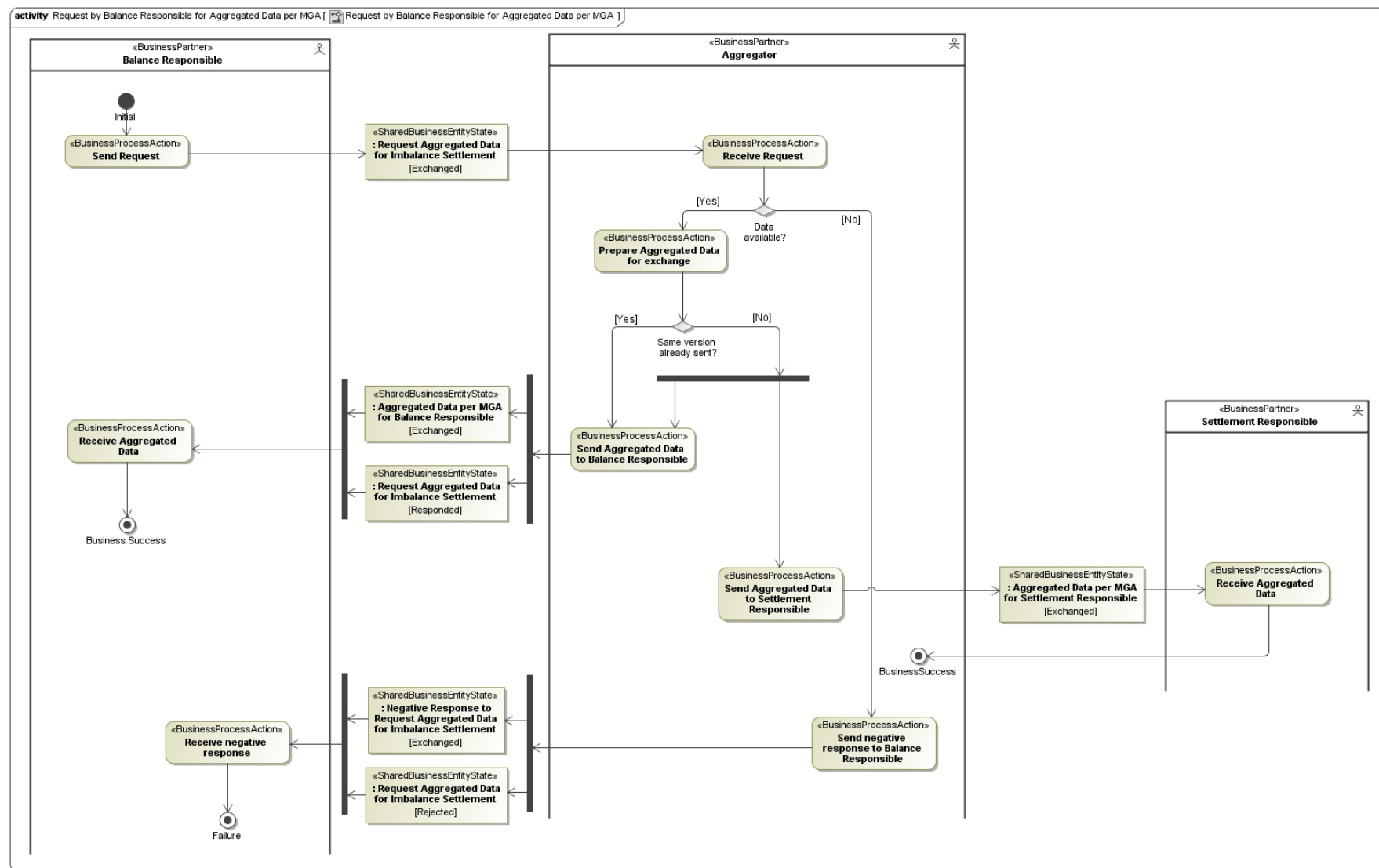


Figure 20 BP Request by Balance Responsible for Aggregated Data per MGA

1.1.4.4. Aggregate per Neighboring Grid for Imbalance Settlement (Business Process UseCase)

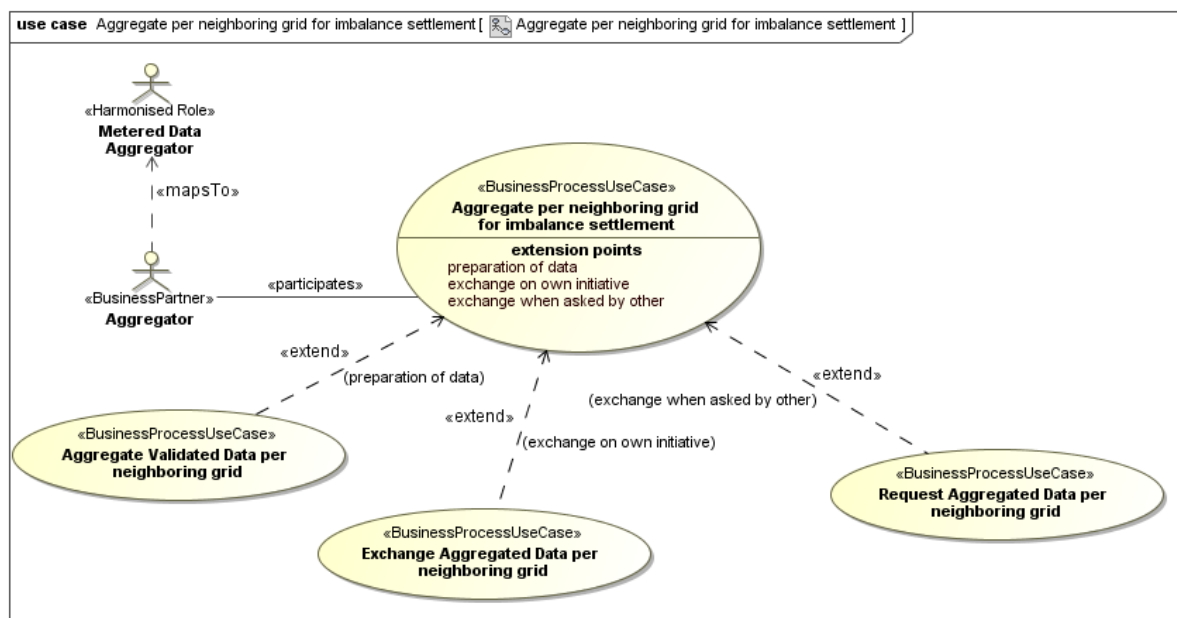


Figure 21 Aggregate per Neighboring Grid for Imbalance Settlement

1.1.4.4.1. Description

UseCase description: Aggregate per neighboring grid for Imbalance Settlement	
definition	The Aggregator aggregates validated data in order to make these available to others.
beginsWhen	The Aggregator decides to or when the time schedule prescribes him to.
preCondition	<p>The Aggregator has available:</p> <ul style="list-style-type: none"> • validated data • master data for the Exchange Metering Points within the Metering Grid Area • relevant quality standards • master data for the exchange of data
endsWhen	<ul style="list-style-type: none"> • Validated data have been aggregated per neighboring Metering Grid Area or • The aggregated data have been exchanged or • The request for aggregated data has been answered.measured

postCondition	<ul style="list-style-type: none"> • Aggregated data are available at the Aggregator or • Aggregated data are available for the neighboring Aggregator and/or Settlement Responsible or • The request for aggregated data is rejectedmeasured
exceptions	<ul style="list-style-type: none"> • Not all validated data available • No master data for the Exchange MP available • Aggregated data delivered to wrong addressee
actions	See 1.1.4.4.2

1.1.4.4.2. Business Process

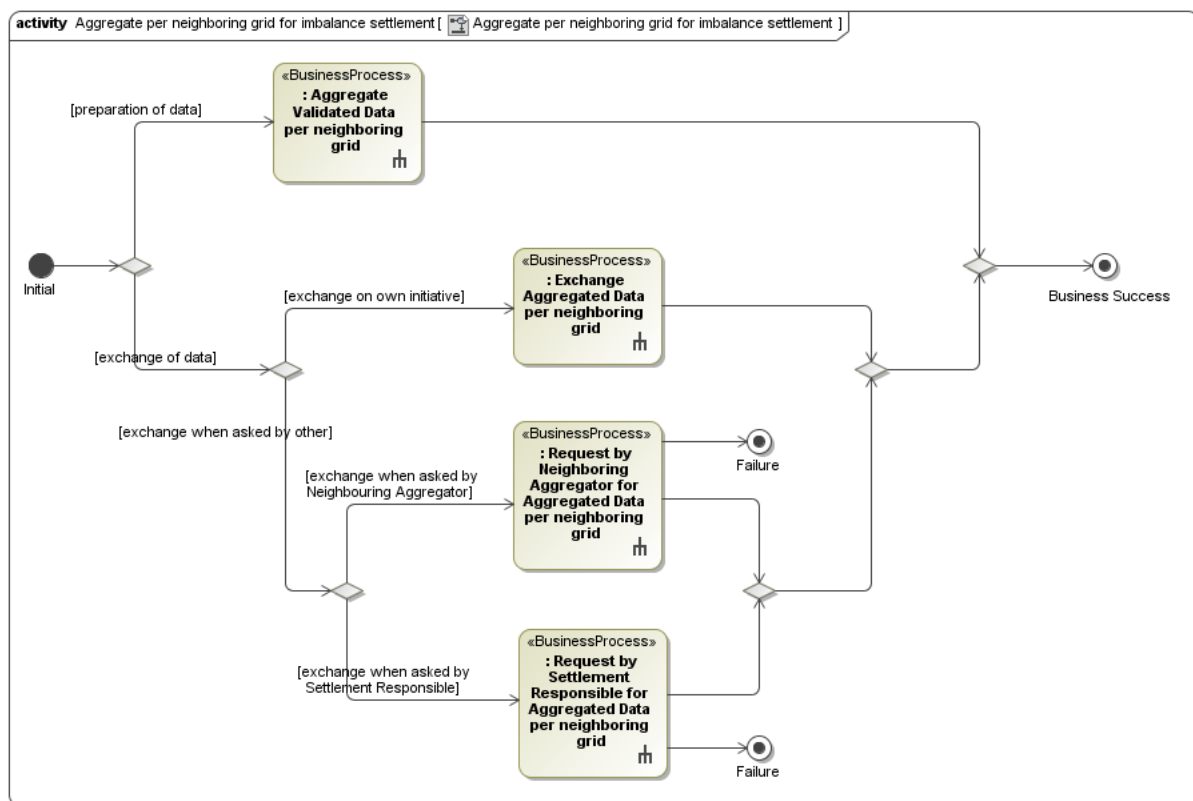


Figure 22 BP Aggregate per Neighboring Grid for Imbalance Settlement

1.1.4.4.3. Aggregate Validated Data per neighboring grid (Business Process UseCase)

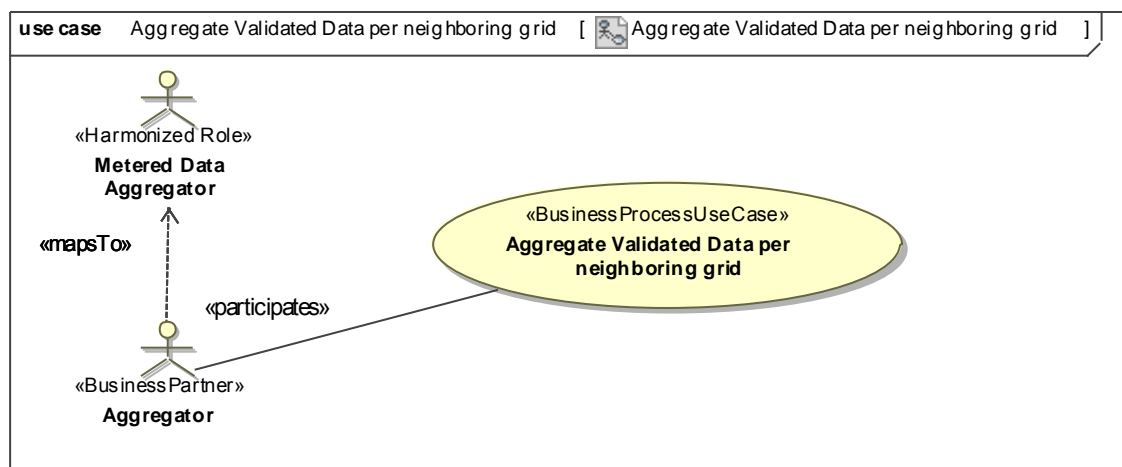


Figure 23 Aggregate Validated Data per neighboring grid

1.1.4.4.3.1. Description

UseCase description: Aggregate Validated Data per neighboring grid	
definition	The Aggregator processes validated data into aggregated data per neighboring grid.
beginsWhen	The Aggregator decides to.
preCondition	Aggregator should have received validated data and have access to relevant master data.
endsWhen	The data have been aggregated and stored into a system.
postCondition	The aggregated data are available for exchange.
exceptions	<ul style="list-style-type: none"> • Not all validated data available • No master data for the exchange metering points within the MGA available • No (national) rules for aggregation available
actions	See 1.1.4.4.3.2

1.1.4.4.3.2. Business Process

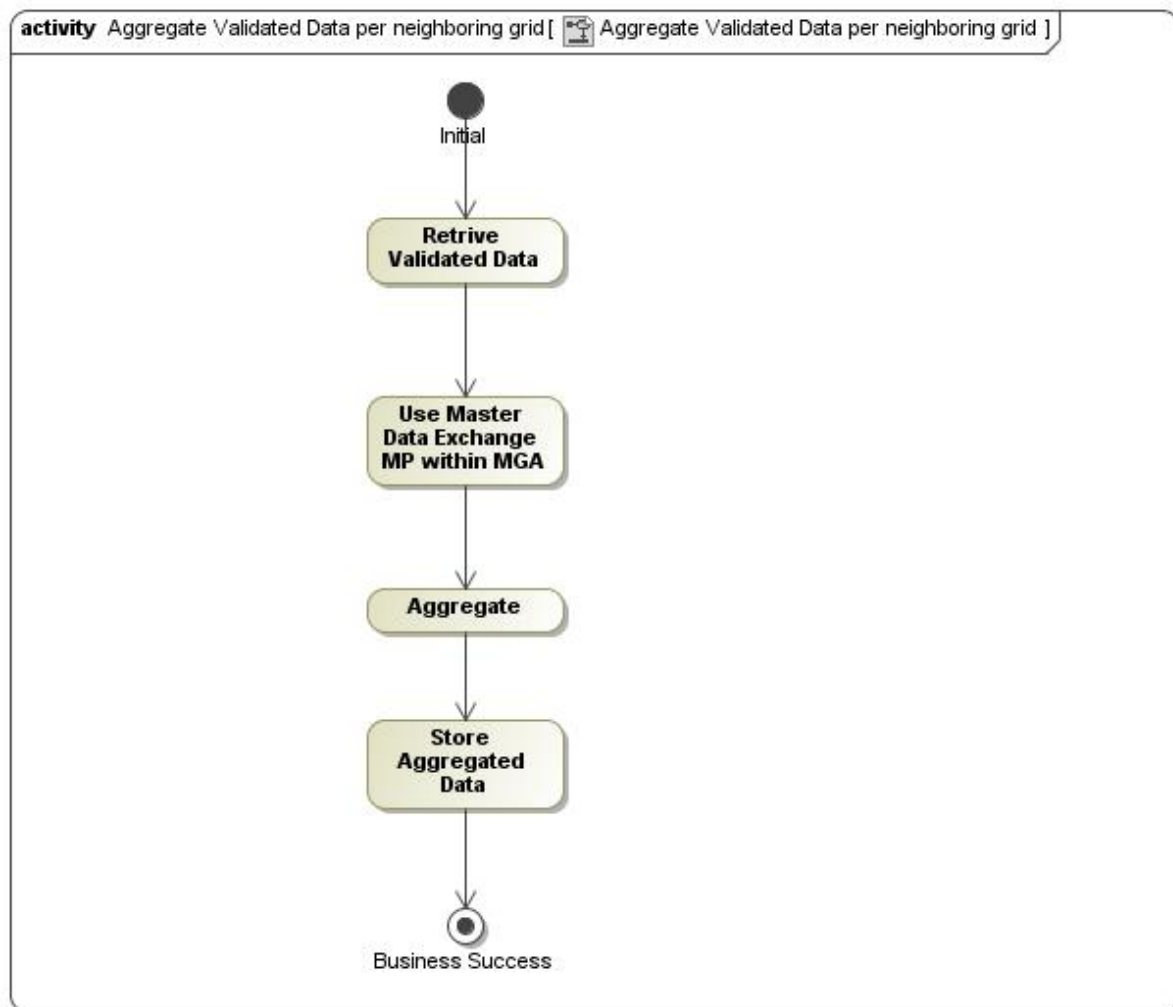


Figure 24 BP Aggregate Validated Data per neighboring grid

1.1.4.4.4. Exchange Aggregated Data per neighboring grid (Business Process UseCase)

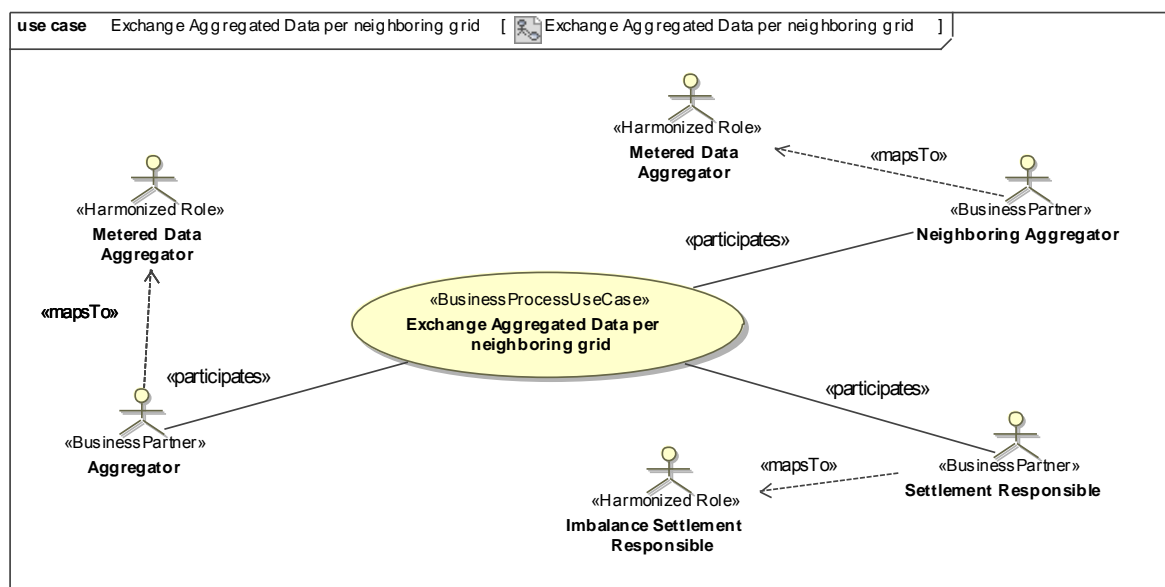


Figure 25 Exchange Aggregated Data per neighboring grid

1.1.4.4.4.1. Description

UseCase description: Exchange Aggregated Data per neighboring grid	
definition	Aggregator sends aggregated data to neighboring Aggregator and/or to “own” Settlement Responsible.
beginsWhen	Aggregator decides to.
preCondition	<ul style="list-style-type: none"> Aggregated Data are available Master Data exchange partner are available
endsWhen	The distribution of the aggregated data has been accomplished.
postCondition	Aggregated Data are available for the neighboring Aggregator and for “own” Settlement Responsible.
exceptions	none
actions	See 1.1.4.4.4.2

1.1.4.4.2. Business Process

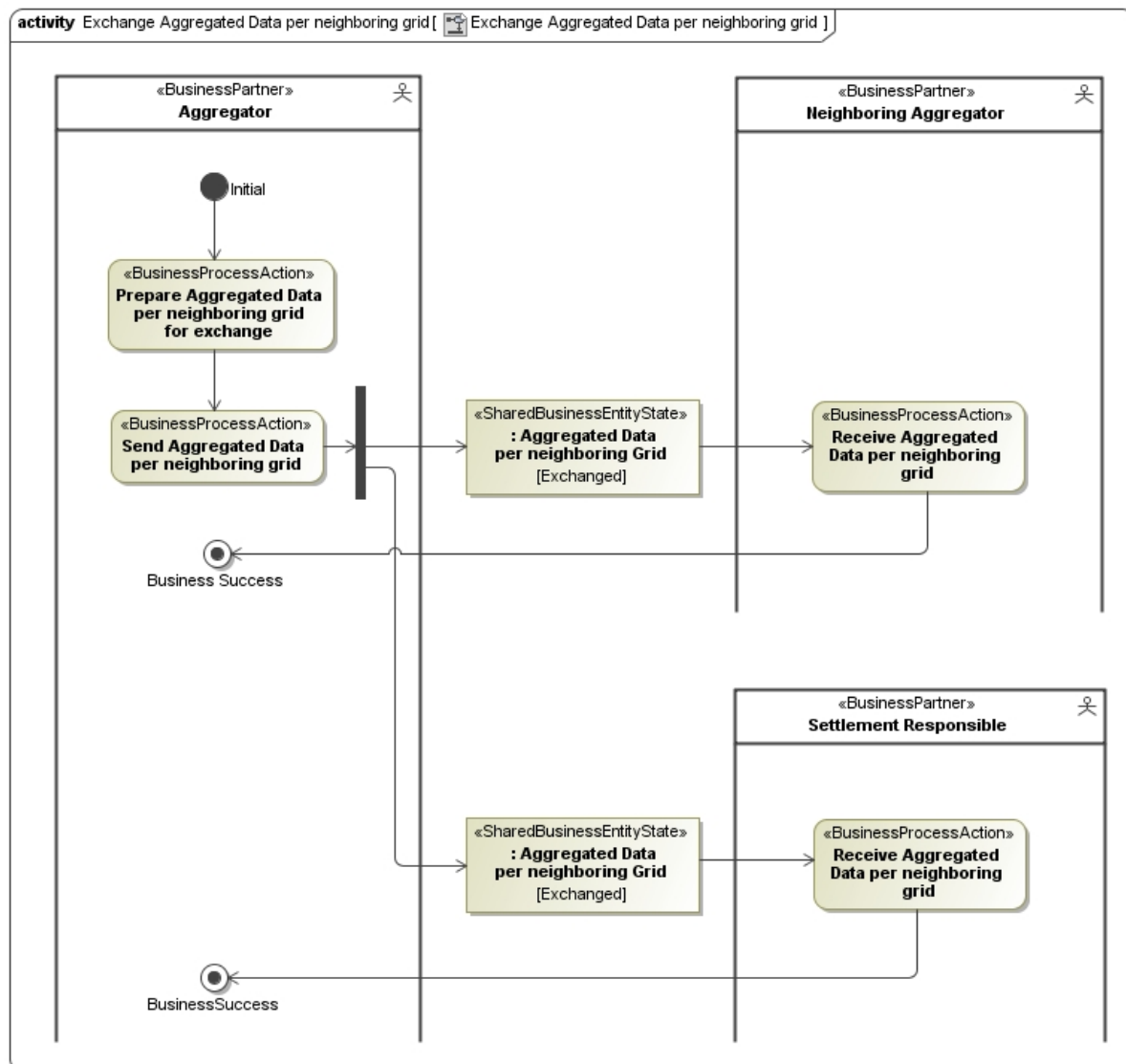


Figure 26 BP Exchange Aggregated Data per neighboring grid

1.1.4.4.5. Request Aggregated Data per neighboring grid (Business Process UseCase)

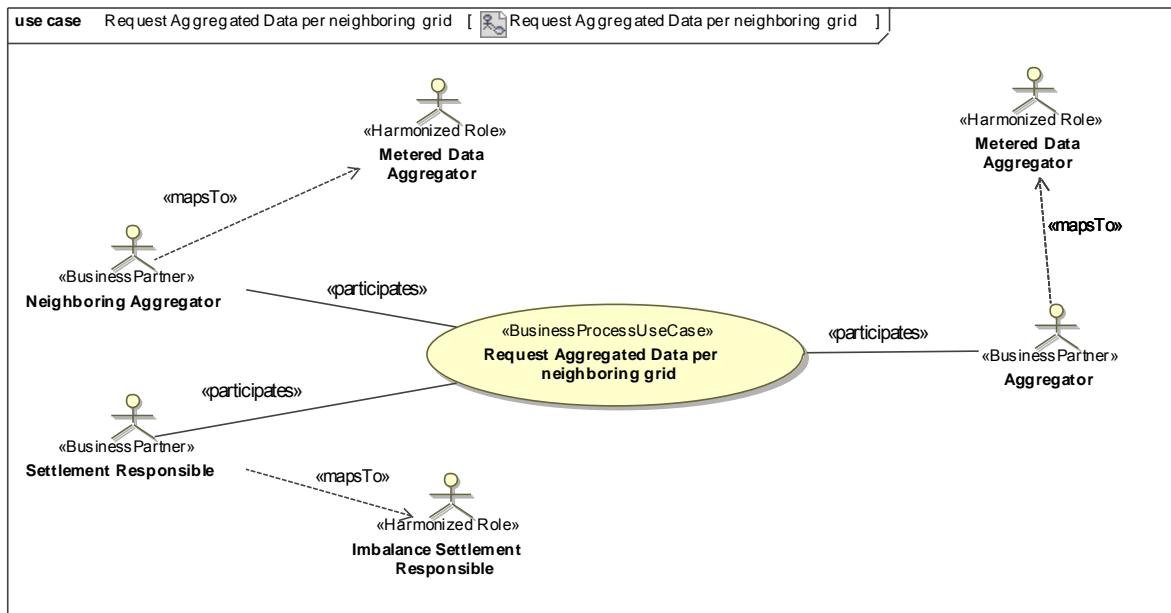


Figure 27 Request Aggregated Data per neighboring grid

1.1.4.4.5.1. Description

UseCase description: Request Aggregated Data per neighboring grid	
definition	Neighboring Aggregator or “own” Settlement Responsible requests Aggregated Data from the Aggregator
beginsWhen	Neighboring Aggregator or “own” Settlement Responsible decides to.
preCondition	Relation Aggregator with Neighboring Aggregator and/or “own” Settlement Responsible.
endsWhen	<ul style="list-style-type: none"> The distribution of the aggregated data has been accomplished or The negative response to the request has been received.
postCondition	<ul style="list-style-type: none"> Aggregated Data are available for the Neighboring Aggregator and for the “own” Settlement Responsible. The version of the aggregated data shall be the same for both the Neighboring Aggregator and the Settlement Responsible; or Request for aggregated data is rejected.
exceptions	<p>Sending a request with proposed data can only if aggregated data have already been received before (and are not in line with the receivers expectation)</p> <p>In case the Aggregated Data have been updated, the same version shall be</p>

	<p>made available to both the requestor and the other partner.</p> <p>The implementation of a process for requesting and/or proposing validated data (and the conditions under which it works) is up to national decision.</p>
actions	<i>See 1.1.4.4.5.2</i>

1.1.4.4.5.2. Business Process

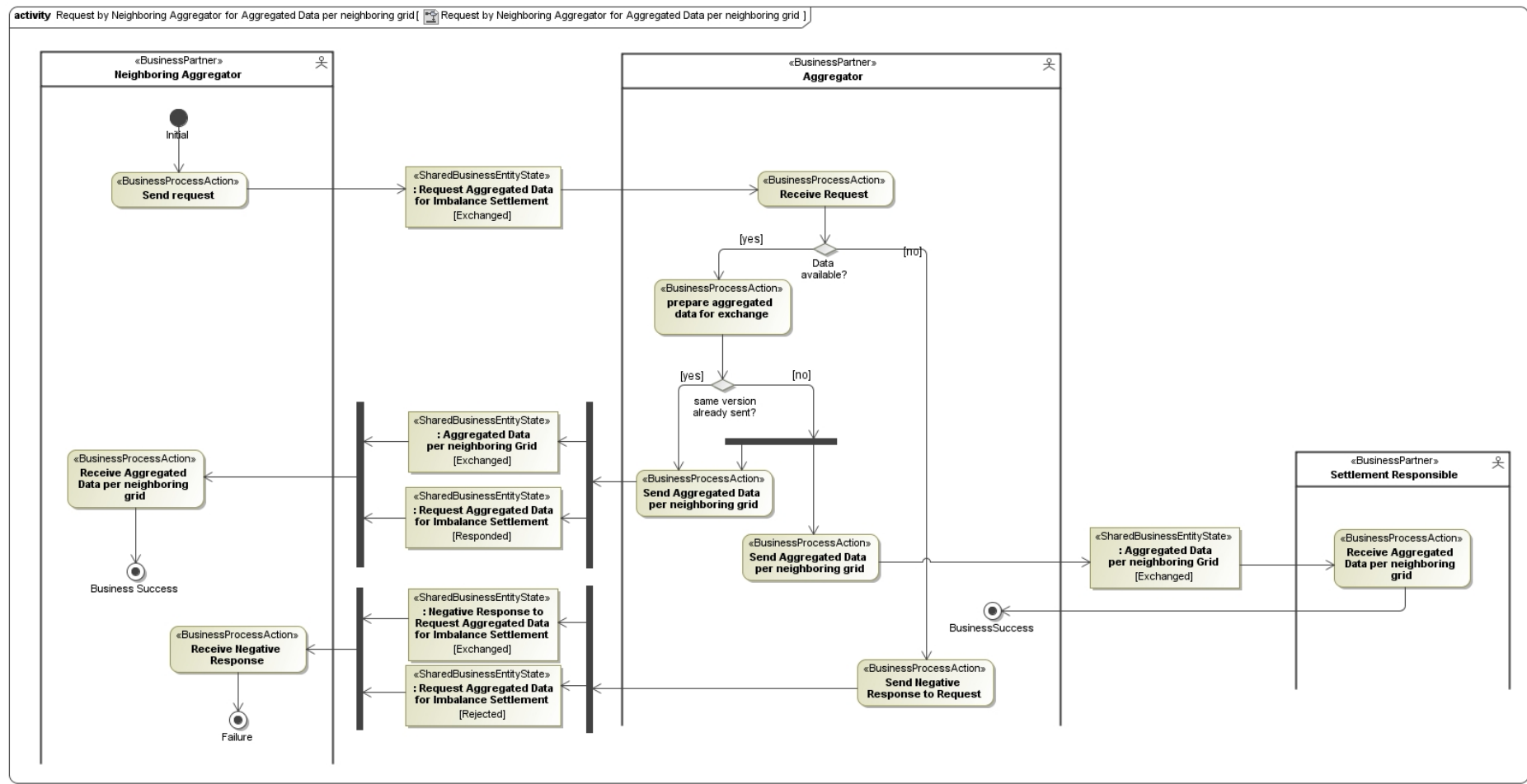


Figure 28 BP Request by Neighboring Aggregator for Aggregated Data per neighboring grid

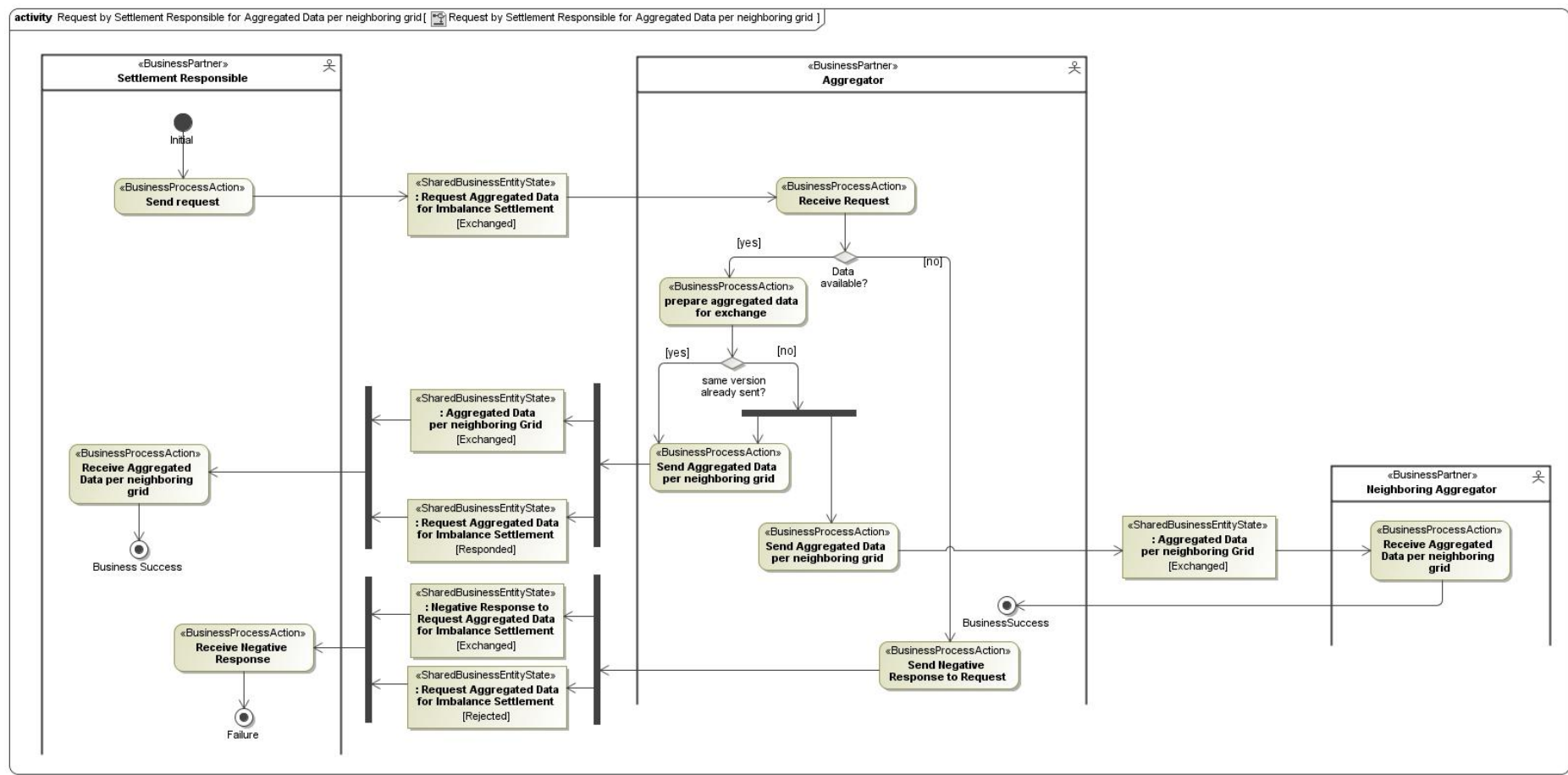


Figure 29 BP Request by Settlement Responsible for Aggregated Data per neighboring grid

1.2. Business Partner View

1.2.1. Business Partners Measure for Imbalance Settlement

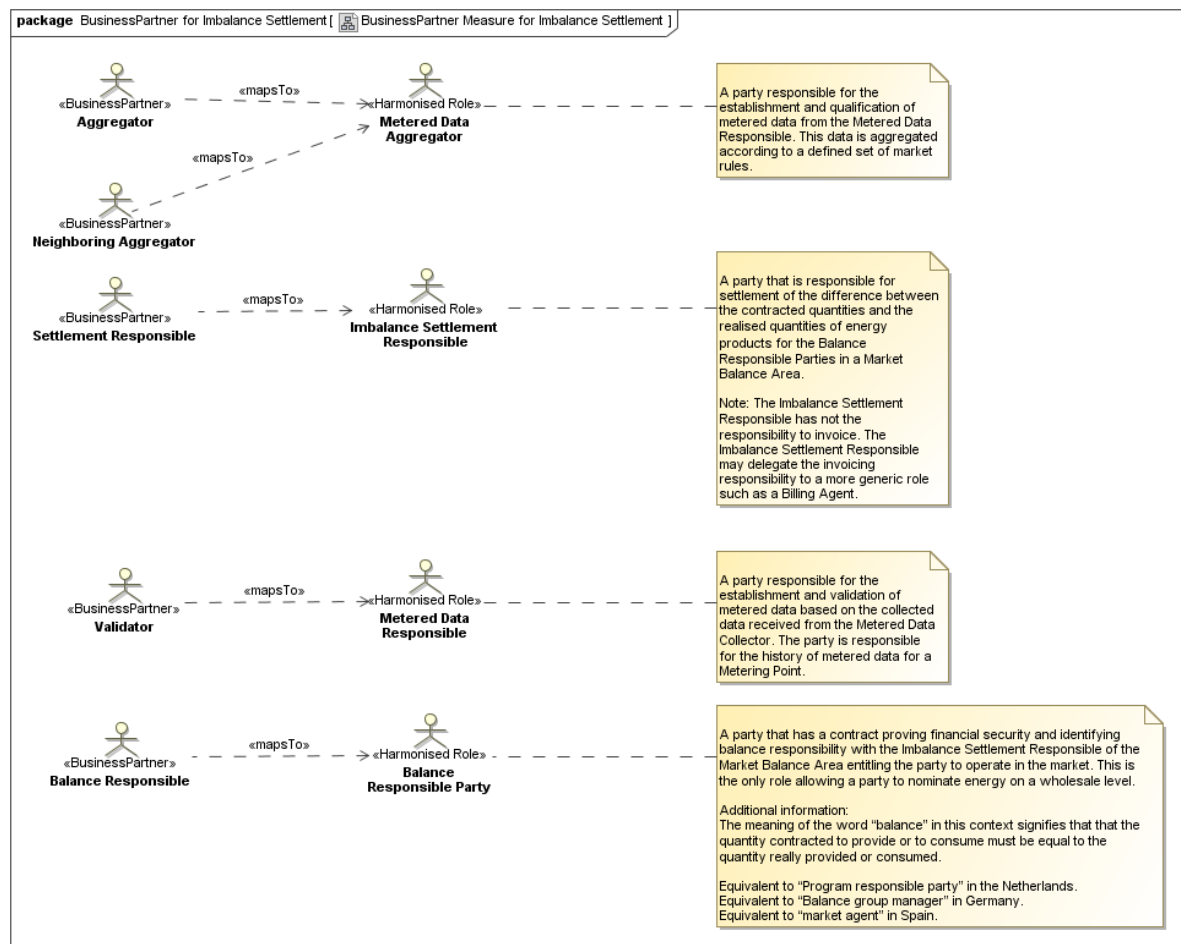


Figure 30 Business Partners Measure for Imbalance Settlement

1.3. Business Entity View

1.3.1. Validated Data for Imbalance Settlement to Aggregator (Class Diagram)

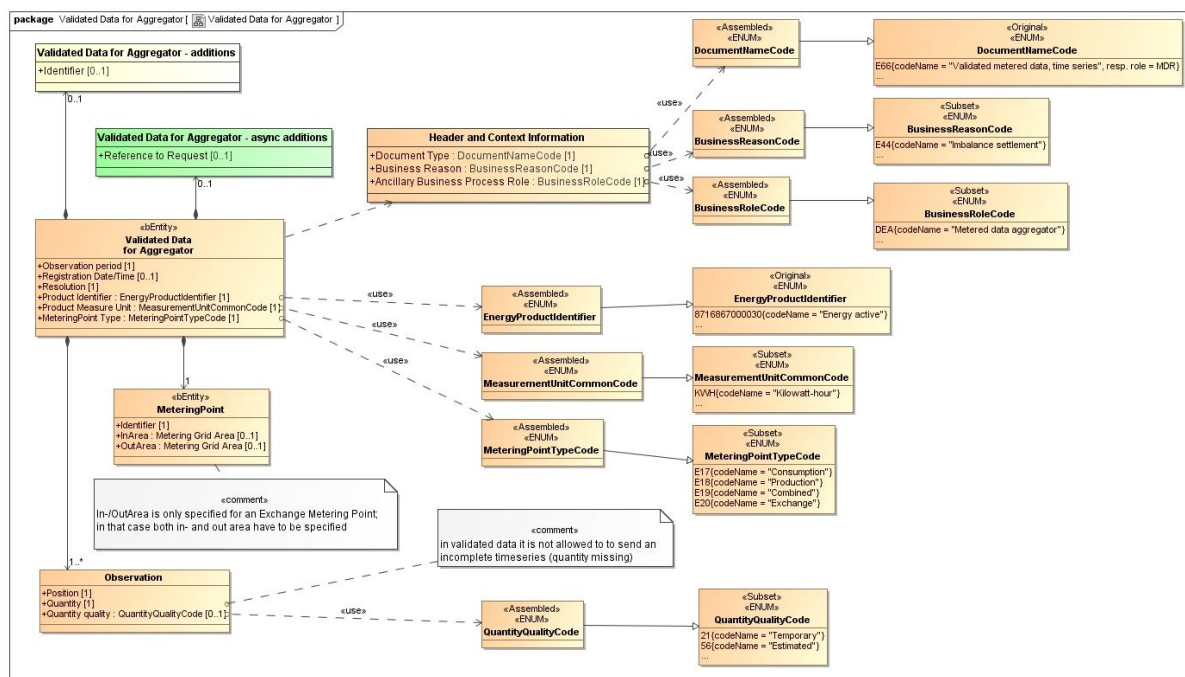


Figure 31 Validated Data for Imbalance Settlement to Aggregator

Element definitions, Validated Data for Imbalance Settlement to Aggregator	
«Business entity» Validated Data for Imbalance Settlement to Aggregator	The information set sent by a Validator responsible for the validation of measured data for a Metering Point, to the aggregator in charge of the Metering Grid Area to which this Meter Point belongs.
Observation Period	A specific period of time describing the duration of this set of validated data.
Registration Date/Time	The date time of the validation (and storage in the database) of this set of validated data.
Resolution	The resolution of this set of validated data expressed as a duration between the start and end of subsequent observations within this set of validated data.
Product Identifier	A code specifying the energy product for the quantity in this time series.
Product Measure Unit	The unit of measure used for the quantity in this time series.
MeteringPoint Type	A code specifying the direction of the active energy flow in this Metering Point, such as consumption, production or combined.
«Business entity» Metering Point	An entity where energy products are measured or computed.

Identifier	The unique identification of the Metering Point to which the validated data are attributed.
«Business entity» Metering Grid Area, In Area	A physical area where consumption, production and exchange can be metered and from which energy flows towards the Metering Point.
Identifier	The unique identification of this Metering Grid Area.
«Business entity» Metering Grid Area, Out Area	A physical area where consumption, production and exchange can be metered and to which energy flows from the Metering Point.
Identifier	The unique identification of this Metering Grid Area.
Observation	One validated value as part of this set of validated data.
Position	The ordinal position of this observation in this set of validated data.
Quantity	The validated quantity of energy for this observation.
Quantity Quality	A code specifying the quality of this quantity.
Validated Data for Imbalance Settlement to Aggregator Additions	Additional information, related to Validated Data for Imbalance Settlement to Aggregator, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this set of information as given by the Validator.
Validated Data for Imbalance Settlement to Aggregator Async Additions	Additional information, related to Validated Data for Imbalance Settlement to Aggregator, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.
Reference to Request	Information about the request for this set of validated data which uniquely identifies it.
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.
Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.1.1. Validated Data for Imbalance Settlement to Aggregator (State Diagram)

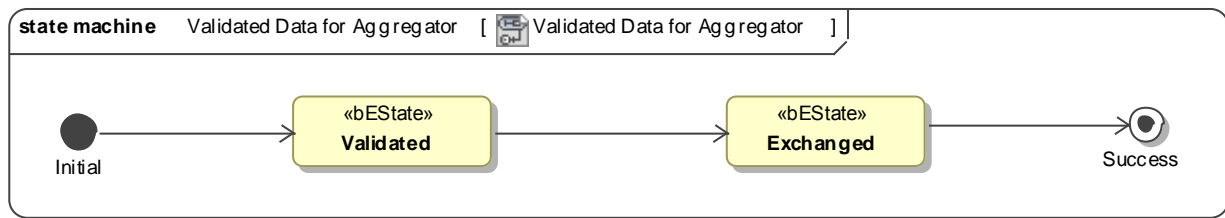


Figure 32 SD Validated Data for Imbalance Settlement to Aggregator

1.3.2. Validated Data for Imbalance Settlement to Balance Responsible (Class Diagram)

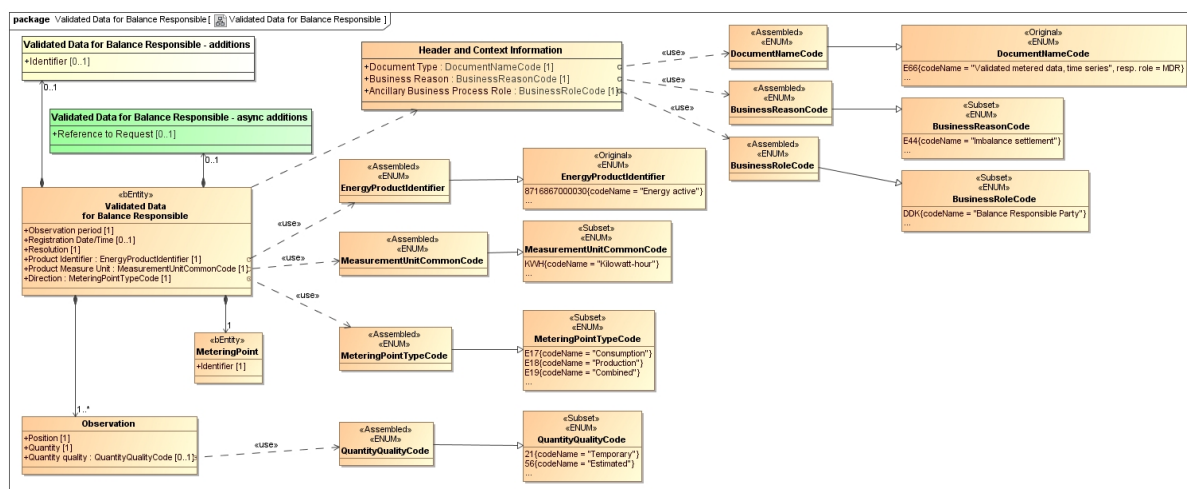


Figure 33 Validated Data for Imbalance Settlement to Balance Responsible

Element definitions, Validated Data for Imbalance Settlement to Balance Responsible

«Business entity» Validated Data for Imbalance Settlement to Balance Responsible	The information set sent by a Validator responsible for the measured data validation for a Metering Point, to the aggregator in charge of the Metering Grid Area to which this Meter Point belongs.
Observation Period	A specific period of time describing the duration of this set of validated data.
Registration Date/Time	The date time of the validation (and storage in the database) of this set of validated data.
Resolution	The resolution of this set of validated data expressed as a duration between the start and end of subsequent observations within this set of validated data.
Product Identifier	A code specifying the energy product for the quantity in this time series.
Product Measure Unit	The unit of measure used for the quantity in this time series.
MeteringPoint Type	A code specifying the direction of the active energy flow in this Metering Point, such as consumption, production or combined.
«Business entity» Metering Point	An entity where energy products are measured or computed.
Identifier	The unique identification of the Metering Point to which the validated data are attributed.
«Business entity» Metering Grid Area, In Area	A physical area where consumption, production and exchange can be metered and from which energy flows towards the Metering Point.

Identifier	The unique identification of this Metering Grid Area.
«Business entity» Metering Grid Area, Out Area	A physical area where consumption, production and exchange can be metered and to which energy flows from the Metering Point.
Identifier	The unique identification of this Metering Grid Area.
Observation	One validated value as part of this set of validated data.
Position	The ordinal position of this observation in this set of validated data.
Quantity	The validated quantity of energy for this observation.
Quantity Quality	A code specifying the quality of this quantity.
Validated Data for Imbalance Settlement to Aggregator Additions	Additional information, related to Validated Data for Imbalance Settlement to Aggregator, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this set of information as given by the Validator.
Validated Data for Imbalance Settlement to Aggregator Async Additions	Additional information, related to Validated Data for Imbalance Settlement to Aggregator, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.
Reference to Request	Information about the request for this set of validated data which uniquely identifies it.
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.
Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.2.1. Validated Data for Imbalance Settlement to Balance Responsible (State Diagram)

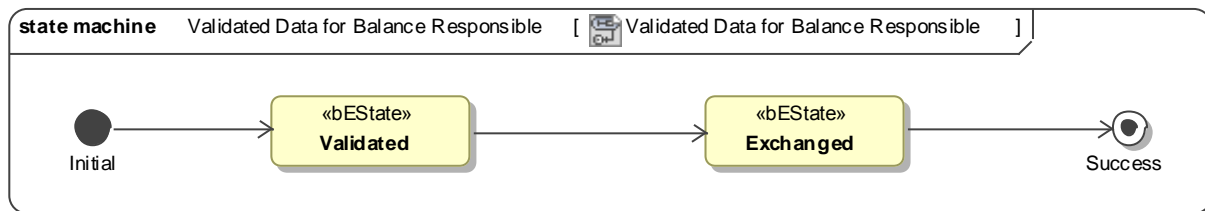


Figure 34 SD Validated Data for Imbalance Settlement to Balance Responsible

1.3.3. Request Validated Data for Imbalance Settlement (Class Diagram)

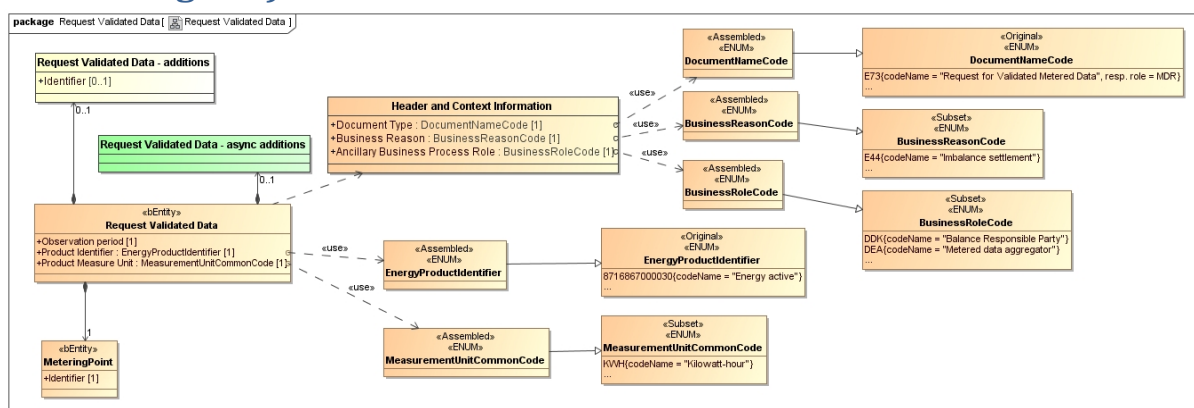


Figure 35 Request Validated Data for Imbalance Settlement

Element definitions, Request Validated Data for Imbalance Settlement

«Business entity» Request Validated Data for Imbalance Settlement	The information set to be sent by a Requesting Role, i.e.: <ul style="list-style-type: none"> Balance Responsible Neighboring Aggregator to the Validator in charge of the Metering Point when requesting validated measured data for imbalance settlement.
Observation Period	A specific period of time describing the duration of the requested set of validated data.
Product Identifier	A code specifying the energy product for the quantity in the requested time series.
Product Measure Unit	The unit of measure used for the quantity in the requested time series.
«Business entity» Metering Point	An entity where energy products are measured or computed.
Identifier	The unique identification of the Metering Point to which the validated data are attributed.

Request Validated Data for Imbalance Settlement Additions	Additional information, related to Request Validated Data for Imbalance Settlement the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this request as given by the Requesting Role.
Request Validated Data for Imbalance Settlement Async Additions	Additional information, related to Request Validated Data for Imbalance Settlement, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.
	none
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.
Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.3.1. Request Validated Data for Imbalance Settlement (State Diagram)

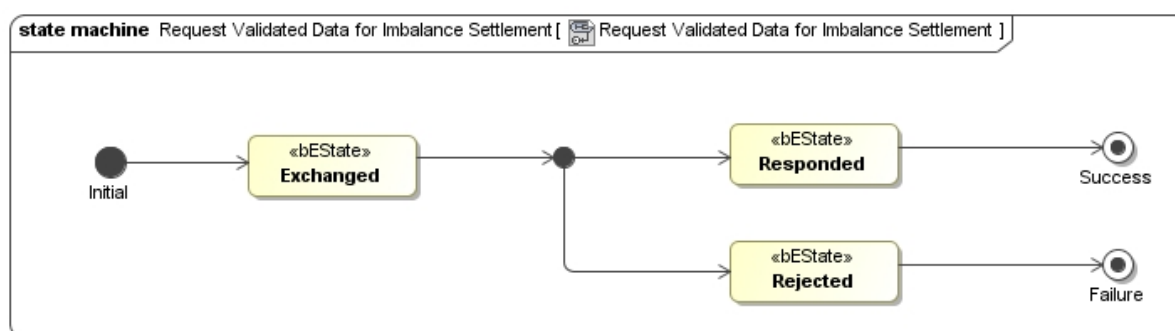


Figure 36 SD Request Validated Data for Imbalance Settlement

package Negative Response to Request Validated Data for Imbalance Settlement [26] Negative Response to Request Validated Data for Imbalance Settlement [1]

```
classDiagram
    class NRSync["Negative Response to Request Validated Data for Imbalance Settlement - async additions"] {
        +Reference to Request {1}
    }
    class NRValidated["Negative Response to Request Validated Data for Imbalance Settlement"] {
        +Reason for Failure : ResponseReasonDescriptionCode {1}
    }
    class NRSyncValidated["Negative Response to Request Validated Data for Imbalance Settlement - additions"] {
        +Identifier {0..1}
    }
    class Header["Header and Context Information"] {
        +Document Type : DocumentNameCode {1}
        +Business Reason : BusinessReasonCode {1}
        +Ancillary Business Process Role : BusinessRoleCode {1}
    }
    class ResponseReason["ResponseReasonDescriptionCode"] {
        <<Assembled>>
        <<ENUM>>
    }
    class DocumentName["DocumentNameCode"] {
        <<Assembled>>
        <<ENUM>>
    }
    class BusinessReason["BusinessReasonCode"] {
        <<Assembled>>
        <<ENUM>>
    }
    class BusinessRole["BusinessRoleCode"] {
        <<Assembled>>
        <<ENUM>>
    }
    class Original["Original"] {
        <<Subset>>
        <<ENUM>>
        +DocumentNameCode
    }
    class BusinessReasonCode["BusinessReasonCode"] {
        <<Subset>>
        <<ENUM>>
        +BusinessReasonCode
    }
    class BusinessRoleCode["BusinessRoleCode"] {
        <<Subset>>
        <<ENUM>>
        +BusinessRoleCode
    }
    class ResponseReasonDescription["ResponseReasonDescriptionCode"] {
        <<Subset>>
        <<ENUM>>
    }

    NRSync --> NRValidated : 0..1
    NRSyncValidated --> NRValidated : 0..1
    Header --> NRValidated : 0..1
    ResponseReason --> NRValidated : 0..1
    DocumentName --> Header : <<USE>>
    BusinessReason --> Header : <<USE>>
    BusinessRole --> Header : <<USE>>
    Original --> DocumentName : <<USE>>
    BusinessReasonCode --> BusinessReason : <<USE>>
    BusinessRoleCode --> BusinessReasonCode : <<USE>>
    ResponseReasonDescription --> ResponseReason : <<USE>>
```

The diagram illustrates the structure of a Negative Response to Request Validated Data for Imbalance Settlement. It includes several classes and their relationships:

- Negative Response to Request Validated Data for Imbalance Settlement - async additions** (Green box):
 - Attributes: +Reference to Request {1}
- Negative Response to Request Validated Data for Imbalance Settlement - additions** (White box):
 - Attributes: +Identifier {0..1}
- Negative Response to Request Validated Data for Imbalance Settlement** (Orange box):
 - Attributes: +Reason for Failure : ResponseReasonDescriptionCode {1}
 - Generalization: «Entity»
- Header and Context Information** (Orange box):
 - Attributes: +Document Type : DocumentNameCode {1}, +Business Reason : BusinessReasonCode {1}, +Ancillary Business Process Role : BusinessRoleCode {1}
- ResponseReasonDescriptionCode** (Orange box):
 - Generalization: «Assembled», «ENUM»
- DocumentNameCode** (Orange box):
 - Generalization: «Assembled», «ENUM»
- BusinessReasonCode** (Orange box):
 - Generalization: «Assembled», «ENUM»
- BusinessRoleCode** (Orange box):
 - Generalization: «Assembled», «ENUM»
- Original** (Orange box):
 - Generalization: «Subset», «ENUM»
 - Attributes: ERR(codeName = "Processability Error Report")
- BusinessReasonCode** (Orange box):
 - Generalization: «Subset», «ENUM»
 - Attributes: E44(codeName = "Imbalance settlement")
- BusinessRoleCode** (Orange box):
 - Generalization: «Subset», «ENUM»
 - Attributes: DDK(codeName = "Balance Responsible Party"), DEA(codeName = "Metered data aggregator")
- ResponseReasonDescriptionCode** (Orange box):
 - Generalization: «Subset», «ENUM»
 - Attributes: E10(codeName = "Metering point not identifiable"), E18(codeName = "Unauthorised balance responsible"), E23(codeName = "Product code unknown or not related to MP"), E49(codeName = "Metering grid area not identifiable"), E50(codeName = "Invalid period"), E73(codeName = "Incorrect measure unit"), E04(status = "draft", codeName = "Unauthorised Metered Data Aggregator")

Relationships:

- Negative Response to Request Validated Data for Imbalance Settlement - async additions (0..1) to Negative Response to Request Validated Data for Imbalance Settlement
- Negative Response to Request Validated Data for Imbalance Settlement - additions (0..1) to Negative Response to Request Validated Data for Imbalance Settlement
- Header and Context Information (0..1) to Negative Response to Request Validated Data for Imbalance Settlement
- ResponseReasonDescriptionCode (0..1) to Negative Response to Request Validated Data for Imbalance Settlement
- DocumentNameCode «USE» Header and Context Information
- BusinessReasonCode «USE» Header and Context Information
- BusinessRoleCode «USE» Header and Context Information
- Original «USE» DocumentNameCode
- BusinessReasonCode «USE» BusinessReasonCode
- BusinessRoleCode «USE» BusinessReasonCode
- ResponseReasonDescriptionCode «USE» ResponseReasonDescriptionCode

Element definitions, Negative Response to Request Validated Data for Imbalance Settlement	
«Business entity» Negative Response to Request Validated Data for Imbalance Settlement	The response sent by a Collector to the Validator requesting validated data when not in the position to respond with the requested validated data.
Reason for Failure	A code specifying the reason for this negative response.
Negative Response to Request Validated Data for Imbalance Settlement - Additions	Additional information, related to Negative Response to Request Validated Data for Imbalance Settlement the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this response as given by the Validator.
Negative Response to Request Validated Data for Imbalance Settlement - Async Additions	Additional information, related to Negative Response to Request Validated Data for Imbalance Settlement, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.
Reference to Request	Information about the request leading to this response, which uniquely identifies it.
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.

Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.4.1. Negative Response to Request (State Diagram)

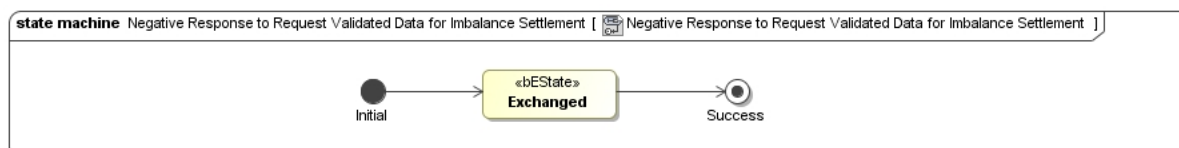


Figure 38 SD Negative Response to Request Validated Data for Imbalance Settlement

1.3.5. Aggregated Data per MGA for Imbalance Settlement to Balance Responsible (Class Diagram)

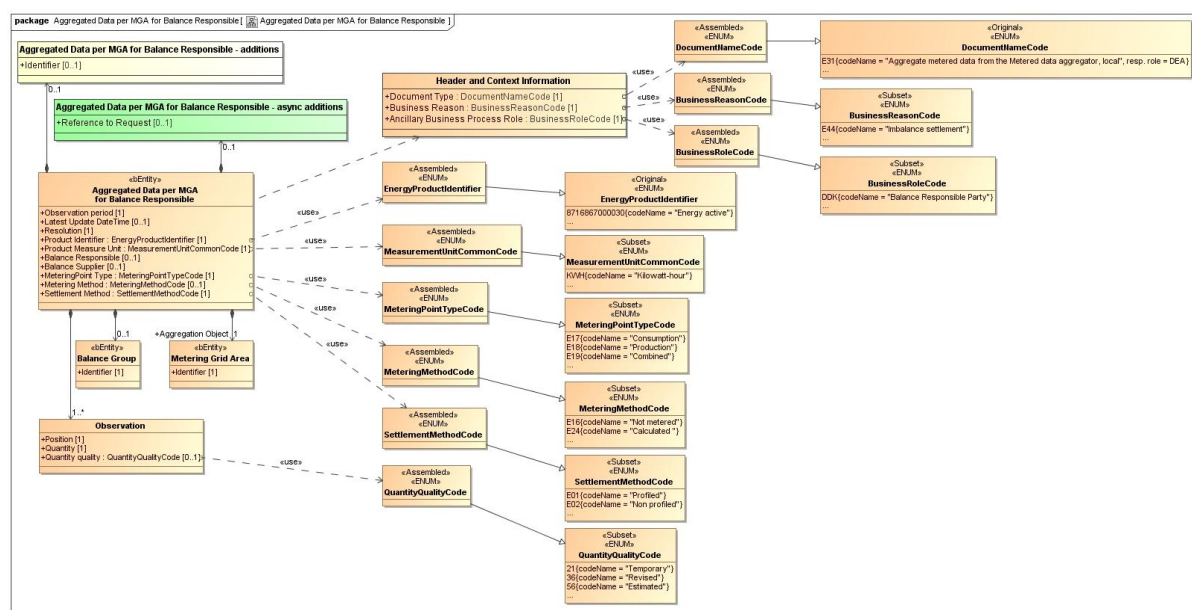


Figure 39 Aggregated Data per MGA for Imbalance Settlement to Balance Responsible

Remark:

- When a balance group is specified, there is no need for specifying the balance responsible.
- The combination of Metering Method = not-metered and Settlement Method = profiled specifies net loss.
- The structure of the Aggregated Data per MGA could also be used for the exchange of preliminary load shares that are to be used in the balancing process for profiled Metering Points.

Element definitions, Aggregated Data per MGA for Imbalance Settlement to Balance Responsible

«Business entity» Aggregated Data per MGA for Imbalance Settlement to Balance Responsible	The information set sent by an Aggregator in charge of a Metering Grid Area, to the Balance Responsible that is responsible for one or more Metering Points / Balance Groups within this Metering Grid area.
Observation Period	A specific period of time describing the duration of this set of aggregated data.
Latest Update DateTime	The latest date and time on which one or more of the volumes of validated data included in the aggregation have been updated.
Resolution	The resolution of this set of aggregated data expressed as a duration between the start and end of subsequent observations within this set of aggregated data.

Product Identifier	A code specifying the energy product for the quantity in this time series.
Product Measure Unit	The unit of measure used for the quantity in this time series.
Balance Responsible	The unique identification of the Balance Responsible, here used as an aggregation criterion.
Balance Supplier	The unique identification of a Balance Supplier, here used as an aggregation criterion.
MeteringPoint Type	A code specifying the direction of the active energy flow in this Metering Point, such as consumption, production or combined.
Metering Method	A code specifying how the energy volumes are established for this Metering Point, such as continuous- non-continuous- or not-metered, here used as an aggregation criterion.
Settlement Method	A code specifying how the energy volumes are treated for settlement for this Metering Point, such as profiled or non-profiled, here used as an aggregation criterion.
«Business entity» Metering Grid Area, Aggregation Object	A physical area where consumption, production and exchange can be metered, here used as the aggregation object.
Identifier	The unique identification of this Metering Grid Area.
«Business entity» Balance Group	A collection of Metering Points for imbalance settlement, here used as an aggregation criterion.
Identifier	The unique identification of this Balance Group.
Observation	One aggregated volume as part of this set of aggregated data.
Position	The ordinal position of this observation in this set of aggregated data.
Quantity	The aggregated quantity of energy for this observation.
Quantity Quality	A code specifying the quality of this quantity.
Aggregated Data per MGA for Imbalance Settlement to Balance Responsible Additions	Additional information, related to Aggregated Data per MGA for Imbalance Settlement to Balance Responsible, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this set of information as given by the Aggregator.
Aggregated Data per MGA for Imbalance Settlement to Balance Responsible Async Additions	Additional information, related to Aggregated Data per MGA for Imbalance Settlement to Balance Responsible, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.

Reference to Request	Information about the request for this set of aggregated data which uniquely identifies it.
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.
Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.5.1. Aggregated Data per MGA for Imbalance Settlement to Balance Responsible (State Diagram)

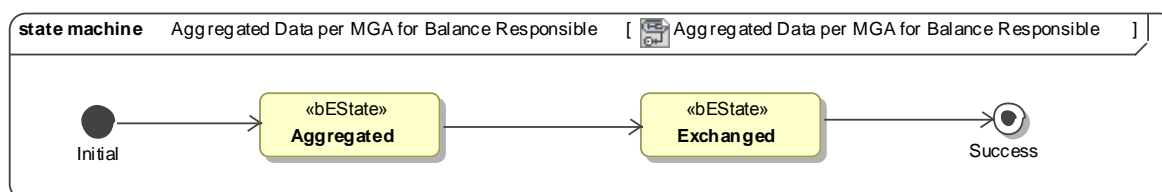


Figure 40 SD Aggregated Data per MGA for Imbalance Settlement to Balance Responsible

1.3.6. Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible (Class Diagram)

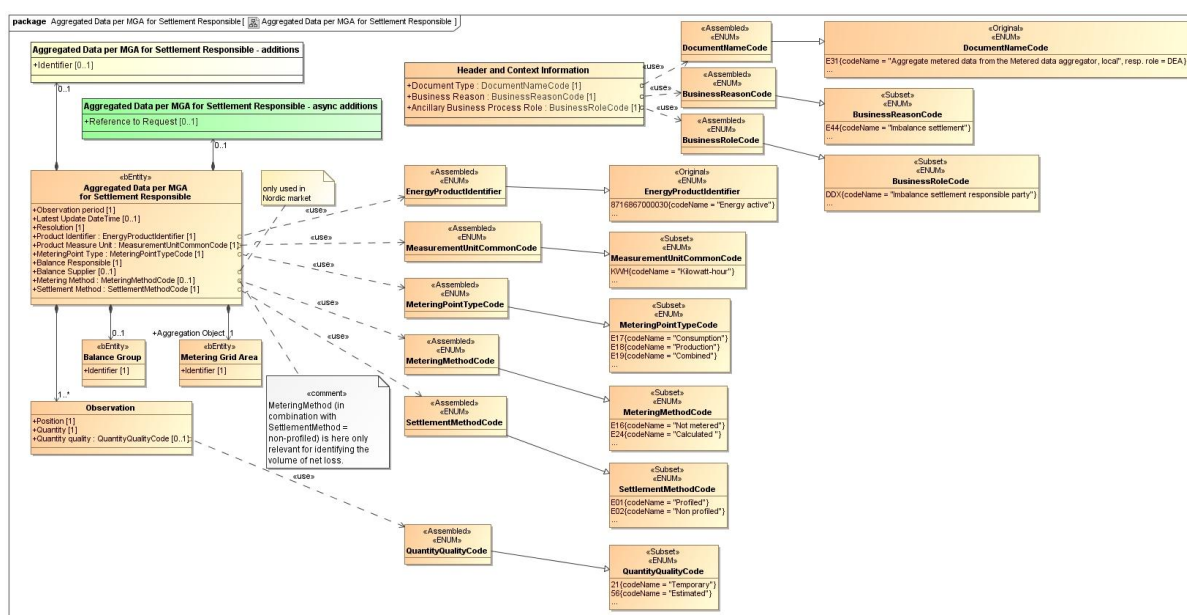


Figure 41 Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible

Element definitions, Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible	
«Business entity» Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible	The information set sent by an Aggregator in charge of a Metering Grid Area, to the Settlement Responsible in charge of the imbalance settlement for an area to which this Metering Grid area belongs.
Observation Period	A specific period of time describing the duration of this set of aggregated data.
Latest Update DateTime	The latest date and time on which one or more of the volumes of validated data included in the aggregation have been updated.
Resolution	The resolution of this set of aggregated data expressed as a duration between the start and end of subsequent observations within this set of aggregated data.
Product Identifier	A code specifying the energy product for the quantity in this time series.
Product Measure Unit	The unit of measure used for the quantity in this time series.
Balance Responsible	The unique identification of the Balance Responsible, here used as an aggregation criterion.
Balance Supplier	The unique identification of a Balance Supplier, here used as an aggregation criterion. Balance Supplier is dependent: only used in Nordic market.
MeteringPoint Type	A code specifying the direction of the active energy flow in this Metering Point, such as consumption, production or combined.
Metering Method	A code specifying how the energy volumes are established for this Metering Point, such as continuous- non-continuous- or not-metered, here used as an aggregation criterion.
Settlement Method	A code specifying how the energy volumes are treated for settlement for this Metering Point, such as profiled or non-profiled, here used as an aggregation criterion.
«Business entity» Metering Grid Area, Aggregation Object	A physical area where consumption, production and exchange can be metered, here used as the aggregation object.
Identifier	The unique identification of this Metering Grid Area.
«Business entity» Balance Group	A collection of Metering Points for imbalance settlement, here used as an aggregation criterion.
Identifier	The unique identification of this Balance Group.
Observation	One aggregated volume as part of this set of aggregated data.

Position	The ordinal position of this observation in this set of aggregated data.
Quantity	The aggregated quantity of energy for this observation.
Quantity Quality	A code specifying the quality of this quantity.
Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible Additions	Additional information, related to Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this set of information as given by the Aggregator.
Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible Async Additions	Additional information, related to Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.
Reference to Request	Information about the request for this set of aggregated data which uniquely identifies it.
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.
Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.6.1. Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible (State Diagram)

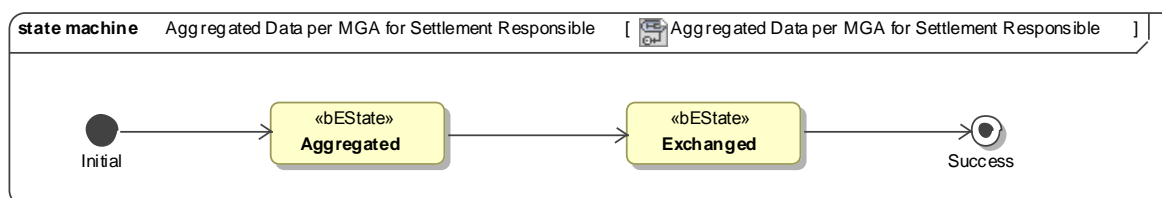


Figure 42 SD Aggregated Data per MGA for Imbalance Settlement to Settlement Responsible

1.3.7. Aggregated Data per neighboring grid for Imbalance settlement to neighboring aggregator and to settlement responsible (Class Diagram)

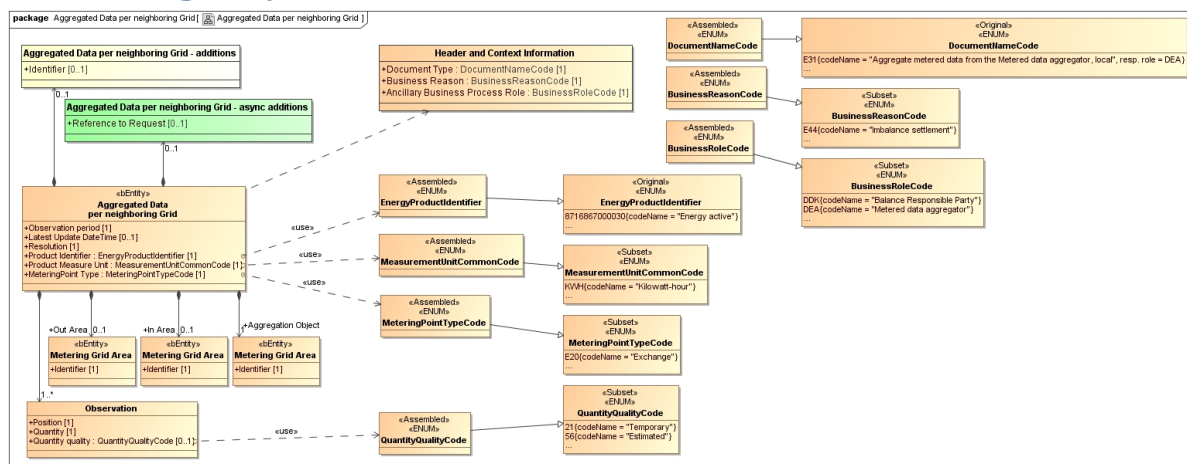


Figure 43 Aggregated Data per neighboring grid

Element definitions, Aggregated Data per neighboring grid

«Business entity» Aggregated Data per neighboring grid	<p>The information set containing the aggregated volumes for exchange of energy with a neighboring grid, sent by the Aggregator in charge of a Metering Grid Area, to the Settlement Responsible in charge of the imbalance settlement for an area to which this Metering Grid area belongs and to the Aggregator in charge of a neighboring Metering Grid Area.</p> <p><i>Note: this regards only aggregation for exchange Metering Points</i></p>
Observation Period	A specific period of time describing the duration of this set of aggregated data.
Latest Update DateTime	The latest date and time on which one or more of the volumes of validated data included in the aggregation have been updated.
Resolution	The resolution of this set of aggregated data expressed as a duration between the start and end of subsequent observations within this set of aggregated data.
Product Identifier	A code specifying the energy product for the quantity in this time series.
Product Measure Unit	The unit of measure used for the quantity in this time series.
MeteringPoint Type	A code specifying the type of the Metering Point for which energy volumes are aggregated: metering point for exchange with a neighboring grid.

«Business entity» Metering Grid Area, Aggregation Object	A physical area where consumption, production and exchange can be metered, here used as the aggregation object.
Identifier	The unique identification of this Metering Grid Area.
«Business entity» Metering Grid Area, In Area	A physical area where consumption, production and exchange can be metered and from which energy flows towards the “own” Metering Grid Area.
Identifier	The unique identification of this Metering Grid Area.
«Business entity» Metering Grid Area, Out Area	A physical area where consumption, production and exchange can be metered and to which energy flows from the “own” Metering Grid Area.
Identifier	The unique identification of this Metering Grid Area.
Observation	One aggregated volume as part of this set of aggregated data.
Position	The ordinal position of this observation in this set of aggregated data.
Quantity	The aggregated quantity of energy for this observation.
Quantity Quality	A code specifying the quality of this quantity.
Aggregated Data per neighboring grid Additions	Additional information, related to Aggregated Data per neighboring grid, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this set of information as given by the Aggregator.
Aggregated Data per neighboring grid Async Additions	Additional information, related to Aggregated Data per neighboring grid, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.
Reference to Request	Information about the request for this set of aggregated data which uniquely identifies it.
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.
Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.7.1. Aggregated Data per neighboring grid for Imbalance settlement to neighboring aggregator and to settlement responsible (State Diagram)

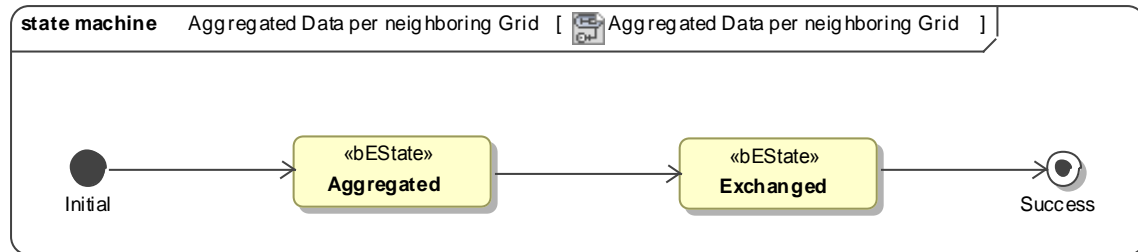


Figure 44 SD Aggregated Data per neighboring grid for Imbalance settlement to neighboring aggregator and to settlement responsible

1.3.8. Request Aggregated Data for Imbalance Settlement (Class Diagram)

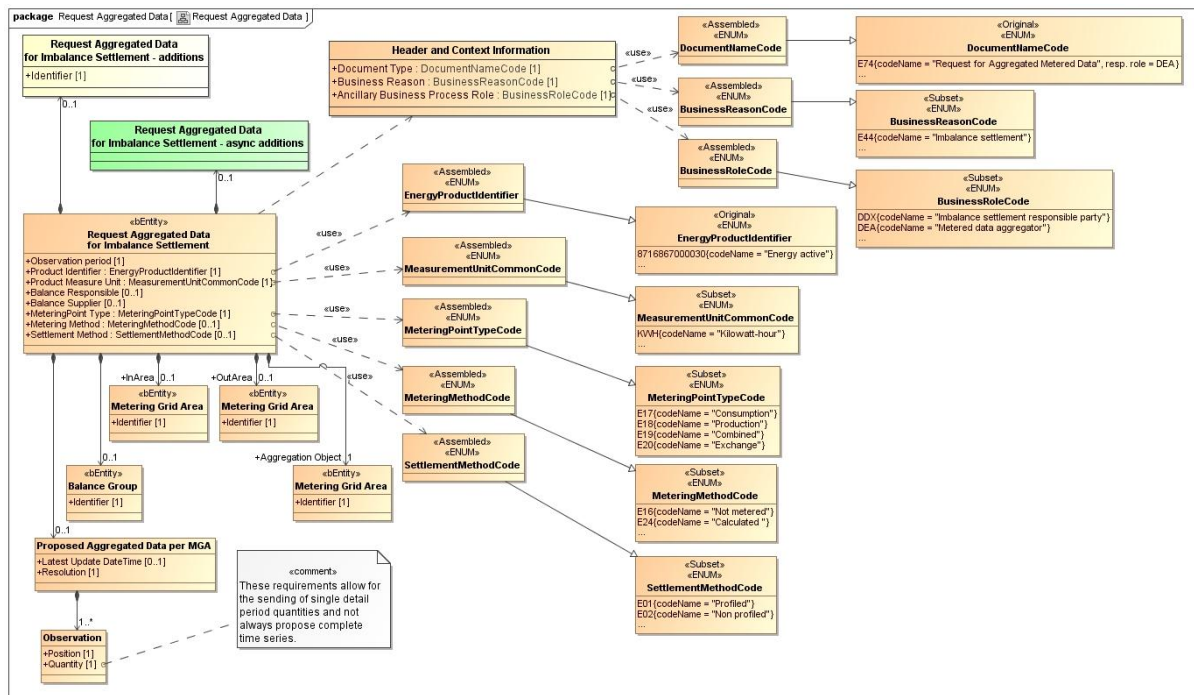


Figure 45 Request Aggregated Data for Imbalance Settlement

Remark:

- InArea and OutArea are only to be used for a request for aggregated measured data per neighboring grid area;
- Balance Group is only to be used for a request for aggregated measured data per grid area;
- When a Balance Group is specified, there is no need for specifying the Balance Responsible.

Element definitions, Request Aggregated Data for Imbalance Settlement	
«Business entity» Request Aggregated Data for Imbalance Settlement	<p>The information set to be sent by a Requesting Role, i.e.:</p> <ul style="list-style-type: none"> Settlement Responsible Neighboring Aggregator <p>to the Aggregator in charge of a Metering Grid Area, when requesting aggregated measured data for imbalance settlement.</p>
Observation Period	A specific period of time describing the duration of the requested set of aggregated data.
Product Identifier	A code specifying the energy product for the quantities in this request.
Product Measure Unit	The unit of measure used for the quantity in this request.
Balance Responsible	The unique identification of the Balance Responsible, here used as an aggregation criterion.
Balance Supplier	The unique identification of a Balance Supplier, here used as an aggregation criterion.
MeteringPoint Type	A code specifying the direction of the active energy flow in this Metering Point, such as consumption, production or combined.
Metering Method	A code specifying how the energy volumes are established for this Metering Point, such as continuous- non-continuous- or not-metered, here used as an aggregation criterion.
Settlement Method	A code specifying how the energy volumes are treated for settlement for this Metering Point, such as profiled or non-profiled, here used as an aggregation criterion.
«Business entity» Metering Grid Area, Aggregation Object	A physical area where consumption, production and exchange can be metered, here used as the aggregation object.
Identifier	The unique identification of this Metering Grid Area.
«Business entity» Metering Grid Area, In Area	A physical area where consumption, production and exchange can be metered and from which energy flows towards the Metering Grid Area that is here used as the aggregation object.
Identifier	The unique identification of this Metering Grid Area.
«Business entity» Metering Grid Area, Out Area	A physical area where consumption, production and exchange can be metered and to which energy flows from the Metering Grid Area that is here used as the aggregation object.
Identifier	The unique identification of this Metering Grid Area.

«Business entity» Balance Group	A collection of Metering Points for imbalance settlement, here used as an aggregation criterion.
Identifier	The unique identification of this Balance Group.
Proposed aggregated Data per Metering Grid Area	The aggregated measured data as proposed by the Requesting Role to be used by the Aggregator as help for establishing the requested set of aggregated data.
Latest Update DateTime	The latest date and time on which one or more of the volumes of validated data included in the proposed aggregation have been updated.
Resolution	The resolution of this set of proposed aggregated data expressed as a duration between the start and end of subsequent observations within this set of aggregated data.
Observation	One aggregated volume as part of this set of proposed aggregated data.
Position	The ordinal position of this observation in this set of aggregated data.
Quantity	The aggregated quantity of energy for this observation.
Request Aggregated Data for Imbalance Settlement Additions	Additional information, related to Request Aggregated Data for Imbalance Settlement, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this set of information as given by the Requesting Role.
Request Aggregated Data for Imbalance Settlement Async Additions	Additional information, related to Request Aggregated Data for Imbalance Settlement, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.
	none
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.
Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.8.1. Request Aggregated Data for Imbalance Settlement (State Diagram)

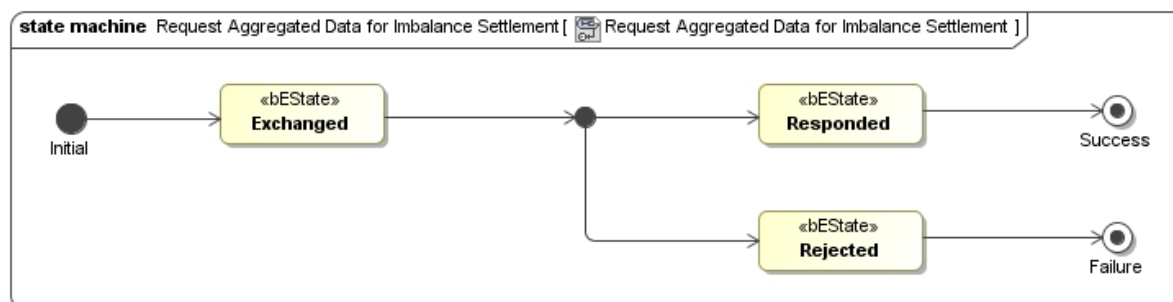


Figure 46 SD Request Aggregated Data for Imbalance Settlement

1.3.9. Negative Response to Request Aggregated Data for Imbalance Settlement (Class Diagram)

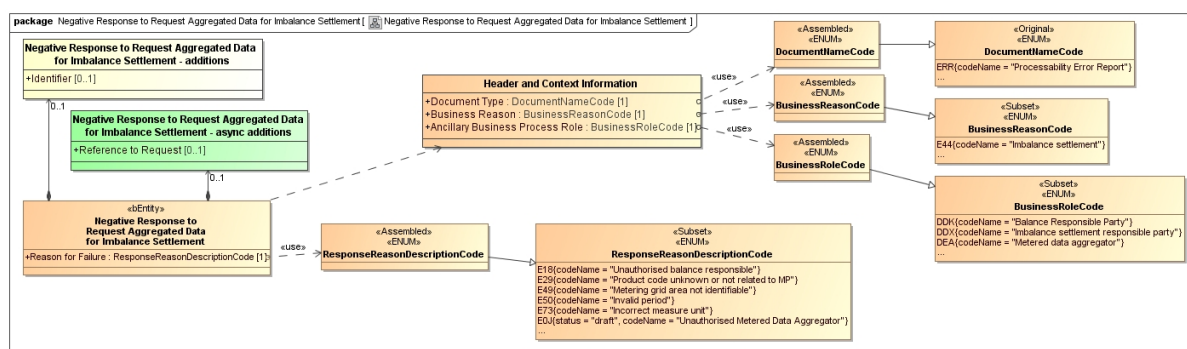


Figure 47 Negative Response to Request Aggregated Data for Imbalance Settlement

Element definitions, Negative Response to Request Aggregated Data for Imbalance Settlement

«Business entity»	
Negative Response to Request Aggregated Data for Imbalance Settlement	The response sent by an Aggregator to the Requesting Role requesting aggregated measured data for imbalance settlement when the Aggregator is not in the position to respond with the requested aggregated measured data.
Reason for Failure	A code specifying the reason for this negative response.
Negative Response to Request Aggregated Data for Imbalance Settlement - Additions	Additional information, related to Negative Response to Request Aggregated Data for Imbalance Settlement the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Identifier	The unique identification of this response as given by the Aggregator.

Negative Response to Request Aggregated Data for Imbalance Settlement - Async Additions	Additional information, related to Negative Response to Request Aggregated Data for Imbalance Settlement, needed when using asynchronous communication. This is however not used when specifying the payload in the ebIX® model, but is used when specifying the document in the ebIX® model.
Reference to Request	Information about the request leading to this response, which uniquely identifies it.
Header and Context Information	The set of information specifying the information to be added to this payload in order to enable the exchange as a document.
Document Type	A code representing the document type used for the exchange of this set of information.
Business Reason	A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role	A code representing the role taking part in this exchange together with the role responsible for the process/this exchange.

1.3.9.1. Negative Response to Request Aggregated Data for Imbalance Settlement (State Diagram)

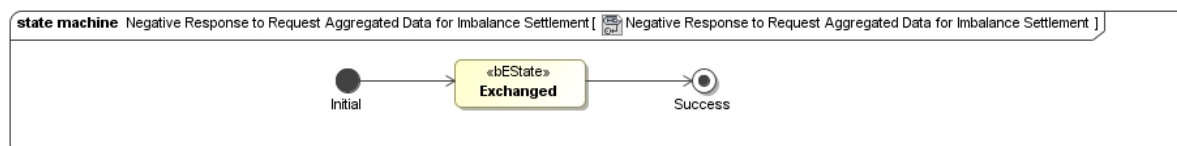


Figure 48 SD Negative Response to Request Aggregated Data for Imbalance Settlement