



Business Requirements for Alignment of Area Characteristics

Status: Approved by ebIX® Forum
Version: 1.0
Revision: A
Date: April 2018

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A. About this document

This document is a business requirements specification for the alignment of Area characteristics process, within the structuring process of the European energy market.

The alignment of Area characteristics is a process where a party (responsible role) can notify changes in the characteristics of an Area, such as a Metering Grid Area (MGA) or a Market Balance Area (MBA), or in the relations between MBAs and MGA, or in relations between MGAs.

As a general introduction ebIX® has published a separate document “Introduction to ebIX® Business Requirements and Business Information Models” [3]. The introduction also includes the generic model elements that are not specific for a particular business process.

In line with UN/CEFACT Modelling Methodology version 2 (UMM-2) ebIX® defines the business requirements before starting the actual modelling. These requirements have been specified by the ebIX® work group “Customer Switching (CuS)” and are the basis for the Business Information Model (BIM) 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).

Processes for changing the roles linked to a MGA is for the time being not seen needed.

A.1. Comments to the ebIX® model

If you have comments or suggestions to the requirements please contact the ebIX® secretary, see <http://www.ebix.org/artikel/contact>.

A.2. References

A.2.1. Standards

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

A.2.2. ebIX® Documents

- [3] Introduction to ebIX® Business Requirements and Business Information Models (www.ebix.org)
- [4] Recommended Identification Schemes for the European Energy Market (www.ebix.org)
- [5] 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 [3]*) are made in a project with the members of MDS. For a list of members of MDS see www.ebix.org.

A.4. Main changes since last version

Old	New	Clarification	Date
Version 1.0.A			
	First published version		20180409

1. Business Requirements View: Alignment of Area characteristics

1.1. Introduction

This BRS is based on the following area structure:

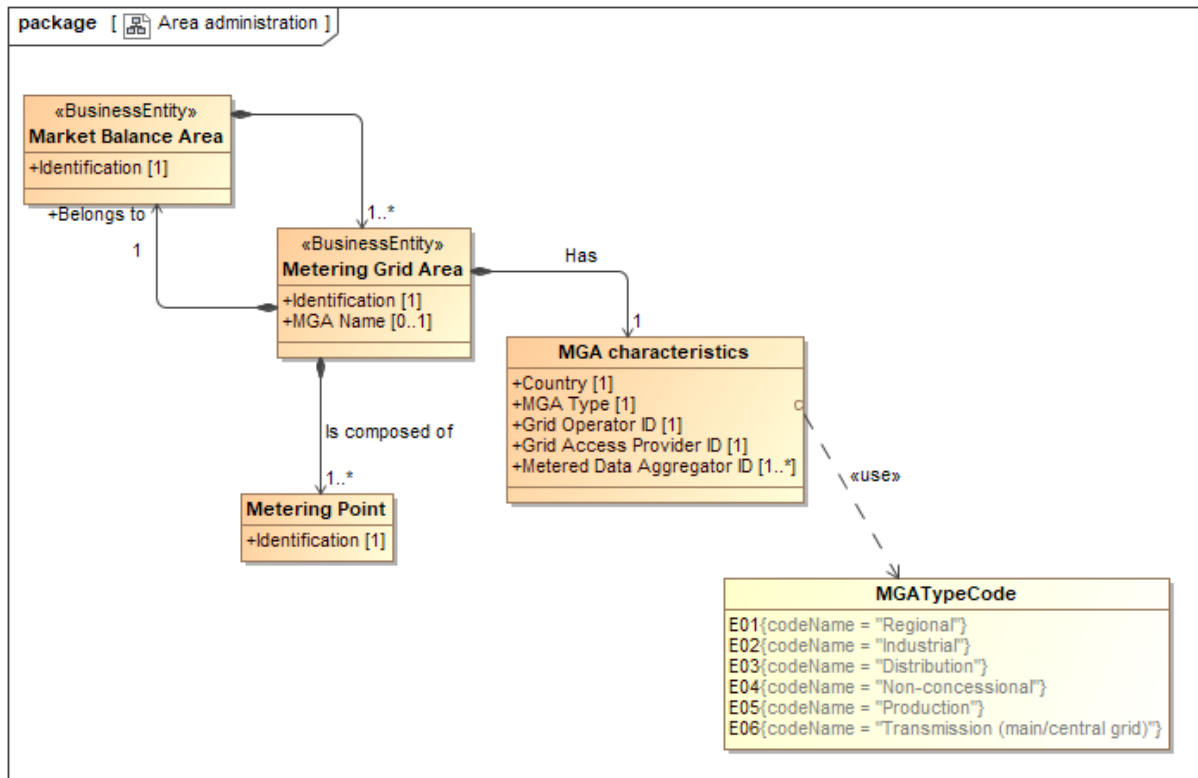


Figure 1 Area structure

The BRS describes three processes:

- Notify MGA characteristics;
- Notify MBA-MGA relations;
- Notify MGA-MGA relations.

The responsible role for these processes is the System Operator.

1.2. Alignment of Area characteristics (Business Process UseCase)

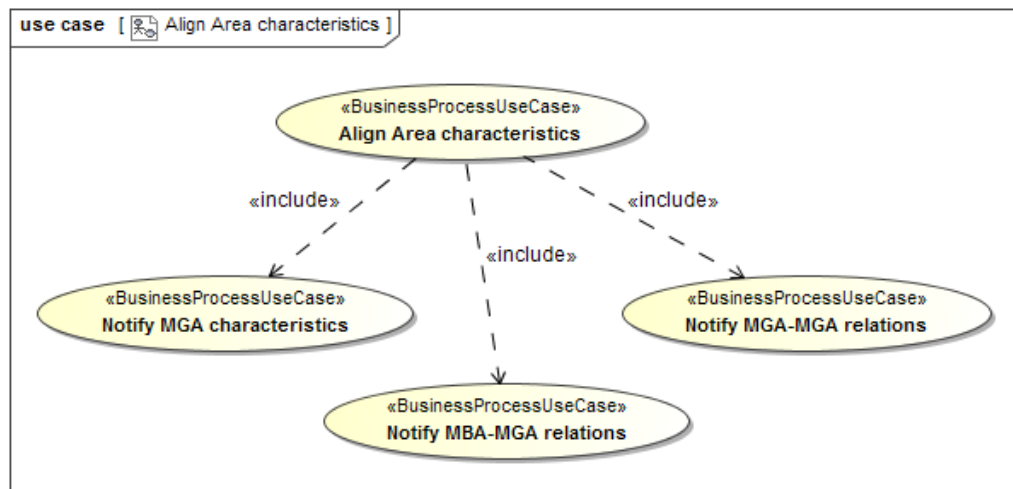


Figure 2 UseCase: Alignment of Area characteristics

1.2.1. Description

UseCase description: Alignment of Area characteristics	
definition	This is the process where a <i>System Operator</i> notifies changes in the characteristics of a Metering Grid Area (MGA), in the relations between Market Balance Areas (MBAs) and MGAs or in relations between MGAs.
beginsWhen	When the <i>System Operator</i> needs to inform the <i>Entitled Roles</i> of changes in the characteristics of a Metering Grid Area (MGA), the relations between Market Balance Areas (MBAs) and MGAs or relations between MGAs.
preCondition	The <i>System Operator</i> has a need to inform the <i>Entitled Roles</i> about changes to characteristics of a Metering Grid Area (MGA), the relations between Market Balance Areas (MBAs) and MGAs or relations between MGAs.
endsWhen	When the <i>Entitled Role(s)</i> has received characteristics of a Metering Grid Area (MGA), the relations between Market Balance Areas (MBAs) and MGAs or relations between MGAs.
postCondition	The MGA characteristics are aligned between the <i>System Operator</i> and the <i>Entitled Roles</i> .
exceptions	None
actions	Not relevant at this level.

1.2.2. Business Domain View: Notify MGA characteristics (Business Process UseCase)

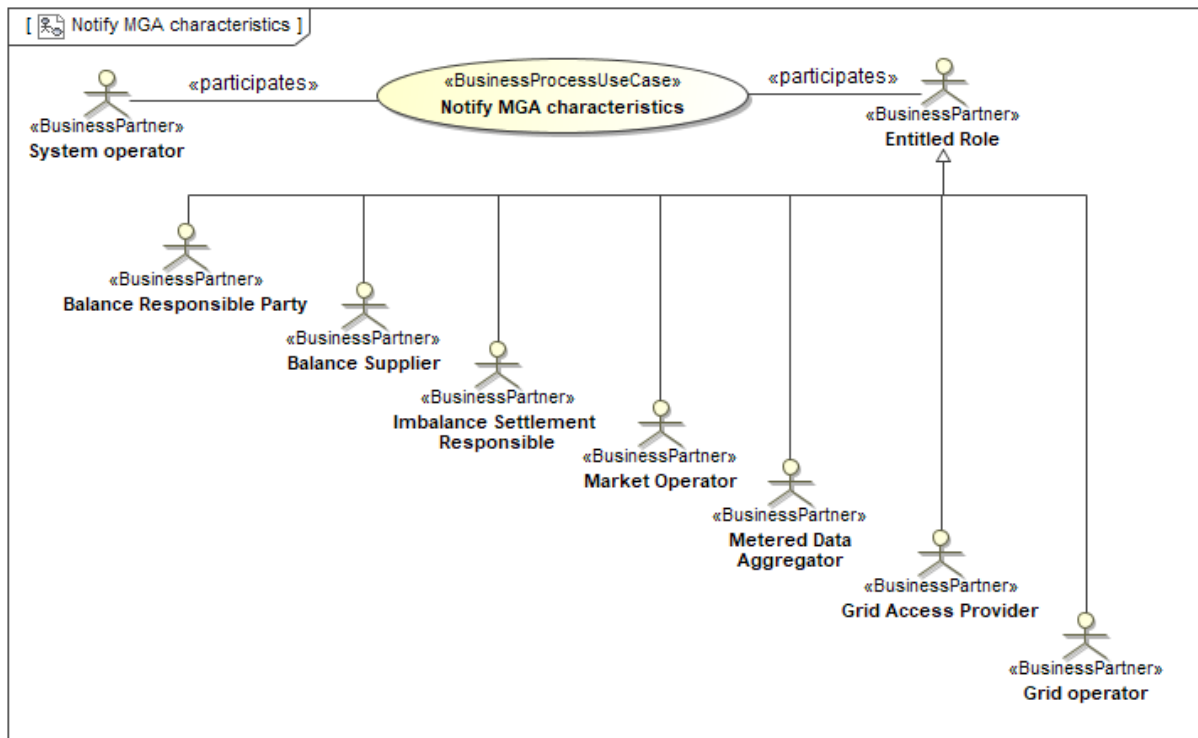


Figure 3 UseCase: Notify MGA characteristics

1.2.2.1. Description

UseCase description: Notify MGA characteristics	
definition	<p>In this process, the System Operator distributes MGA characteristics to the Entitled Roles:</p> <ul style="list-style-type: none"> • Balance Responsible Party • Balance Supplier • Imbalance Settlement Responsible • Market Operator • Metered Data Aggregator • Grid Access Provider • Grid Operator <p>after update of one or more of the characteristics of one or more MGAs.</p>
beginsWhen	When there have been changes to one or more MGA characteristics. Time constraints are based on national rules.
preCondition	One or more of the MGA characteristics have been changed.
endsWhen	When the Entitled Roles have received the notification.

postCondition	The MGA characteristics have been notified by the System Operator to the Entitled Roles.
exceptions	None
actions	See 1.2.2.2

1.2.2.2. Business Process

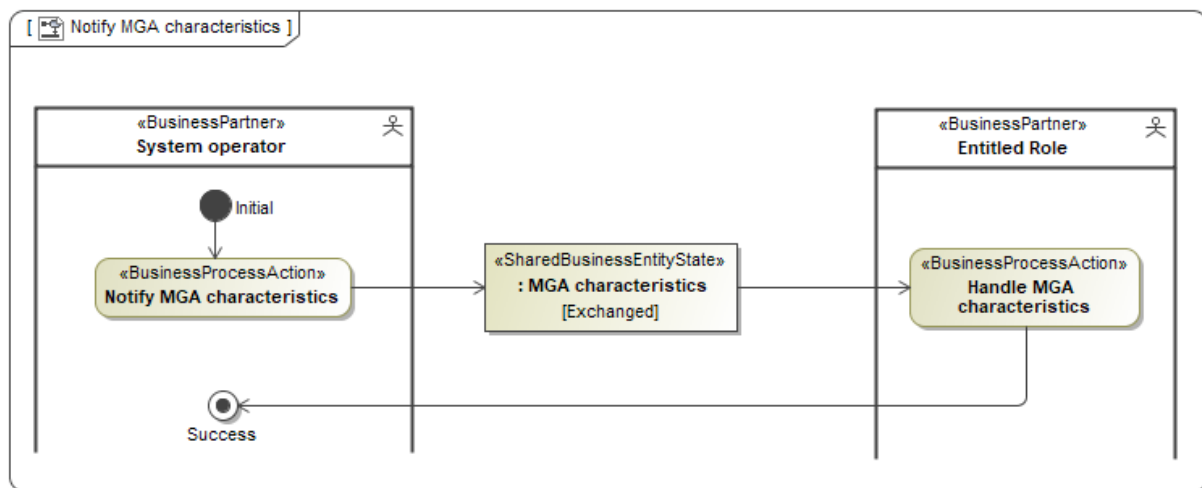


Figure 4 Business Process: Notify MGA characteristics

1.2.3. Business Domain View: Notify MBA-MGA relations (Business Process UseCase)

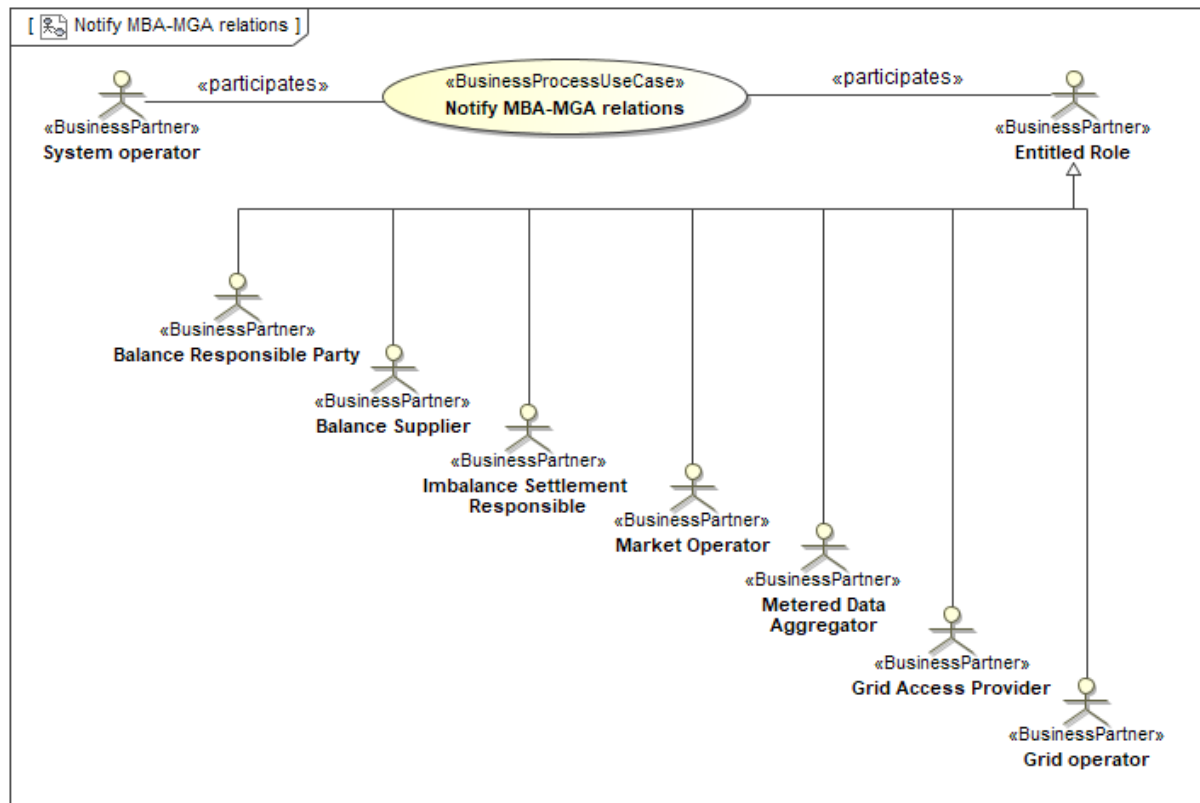


Figure 5 UseCase: Notify MBA-MGA relations

1.2.3.1. Description

UseCase description: Notify MBA-MGA relations	
definition	<p>In this process the System Operator distributes all MBA-MGA relations to the Entitled Roles;</p> <ul style="list-style-type: none"> • Balance Responsible Party • Balance Supplier • Imbalance Settlement Responsible • Market Operator • Metered Data Aggregator • Grid Access Provider • Grid Operator <p>after update of one or more MBA-MGA relations.</p>
beginsWhen	When there have been changes to one or more MBA-MGA relations. Time constraints are based on national rules.
preCondition	One or more of the MBA-MGA relations have been changed.

endsWhen	When the Entitled Roles have received the notification.
postCondition	The MBA-MGA relations has been notified by the System Operator to the Entitled Roles.
exceptions	None
actions	See 1.2.3.2

1.2.3.2. Business Process

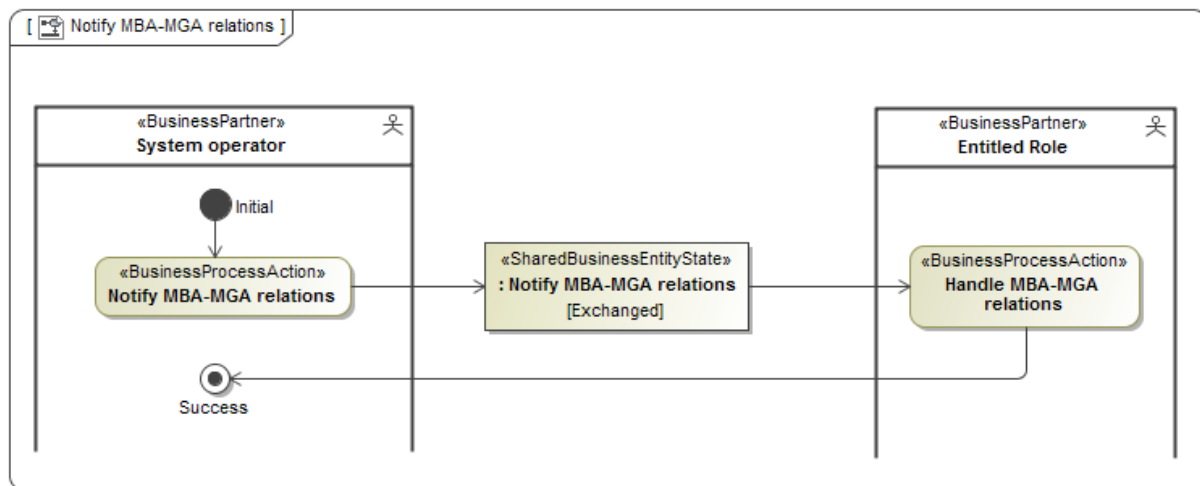


Figure 6 Business Process: Notify MBA-MGA relations

1.2.4. Business Domain View: Notify MGA-MGA relations (Business Process UseCase)

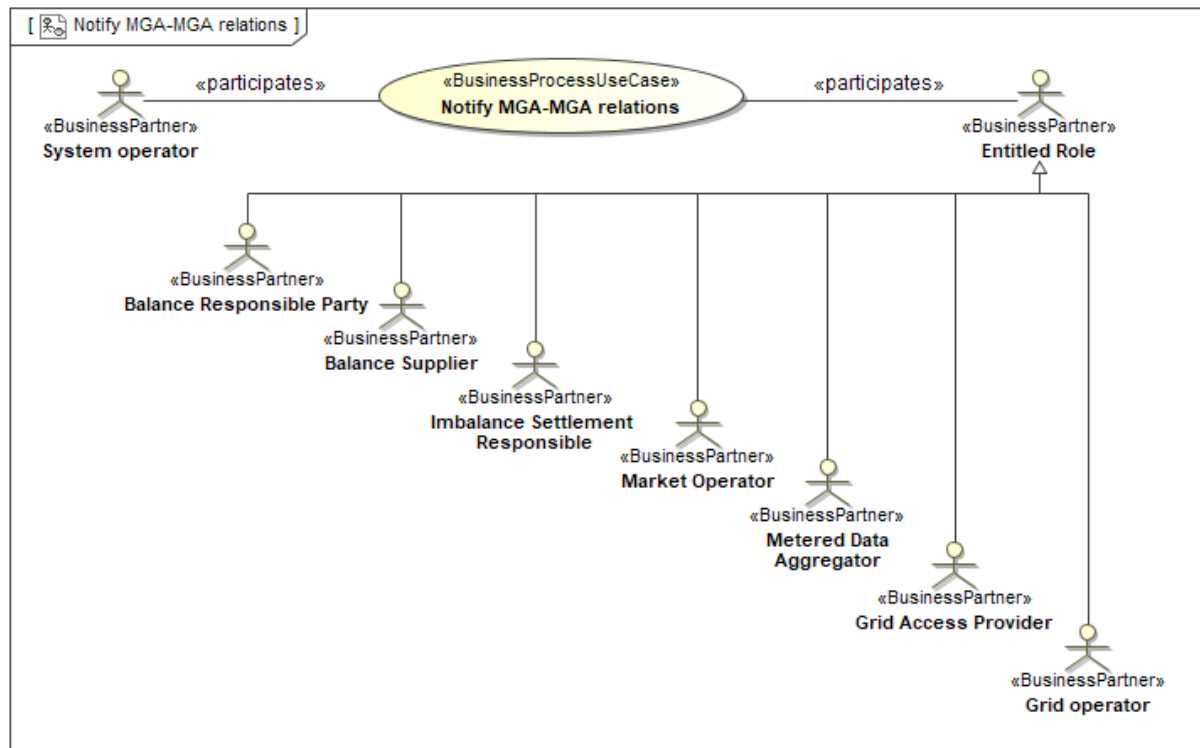


Figure 7 UseCase: Notify MGA-MGA relations

1.2.4.1. Description

UseCase description: Notify MGA-MGA relations	
definition	<p>In this process, the System Operator distributes MGA-MGA relations to the Entitled Roles;</p> <ul style="list-style-type: none"> • Balance Responsible Party • Balance Supplier • Imbalance Settlement Responsible • Market Operator • Metered Data Aggregator • Grid Access Provider • Grid Operator <p>after update of MGA-MGA relations.</p>
beginsWhen	When there have been changes to one or more MGA-MGA relations. Time constraints are based on national rules.
preCondition	One or more of the MGA-MGA relations have been changed.

endsWhen	When the Entitled Roles have received the notification.
postCondition	The MBA-MGA relations have been notified by the System Operator to the Entitled Roles.
exceptions	None
actions	See 1.2.4.2

1.2.4.2. Business Process

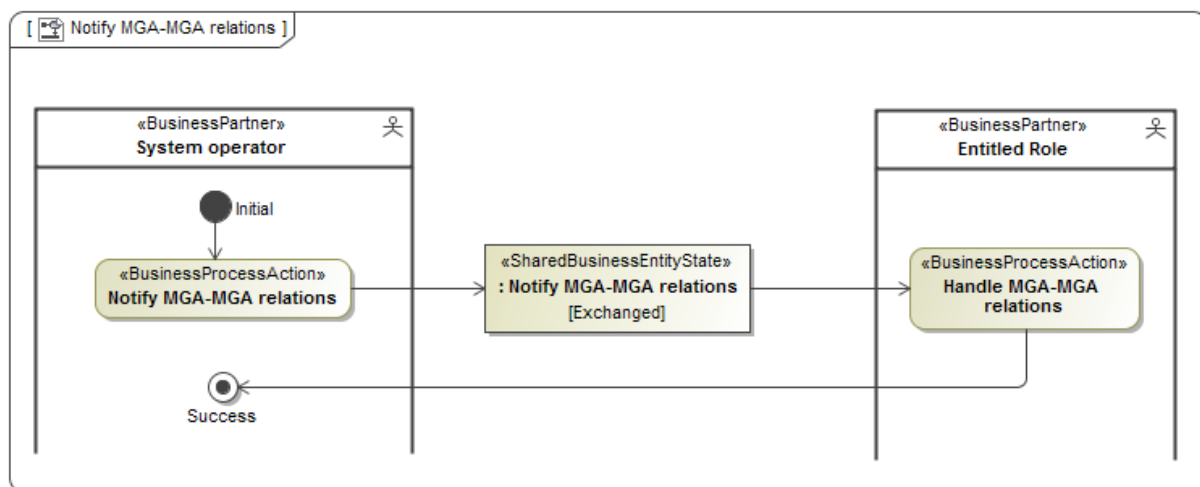


Figure 8 Business Process: Notify MGA-MGA relations

1.3. Business Partner View

1.3.1. Business Partners for alignment of Area characteristics

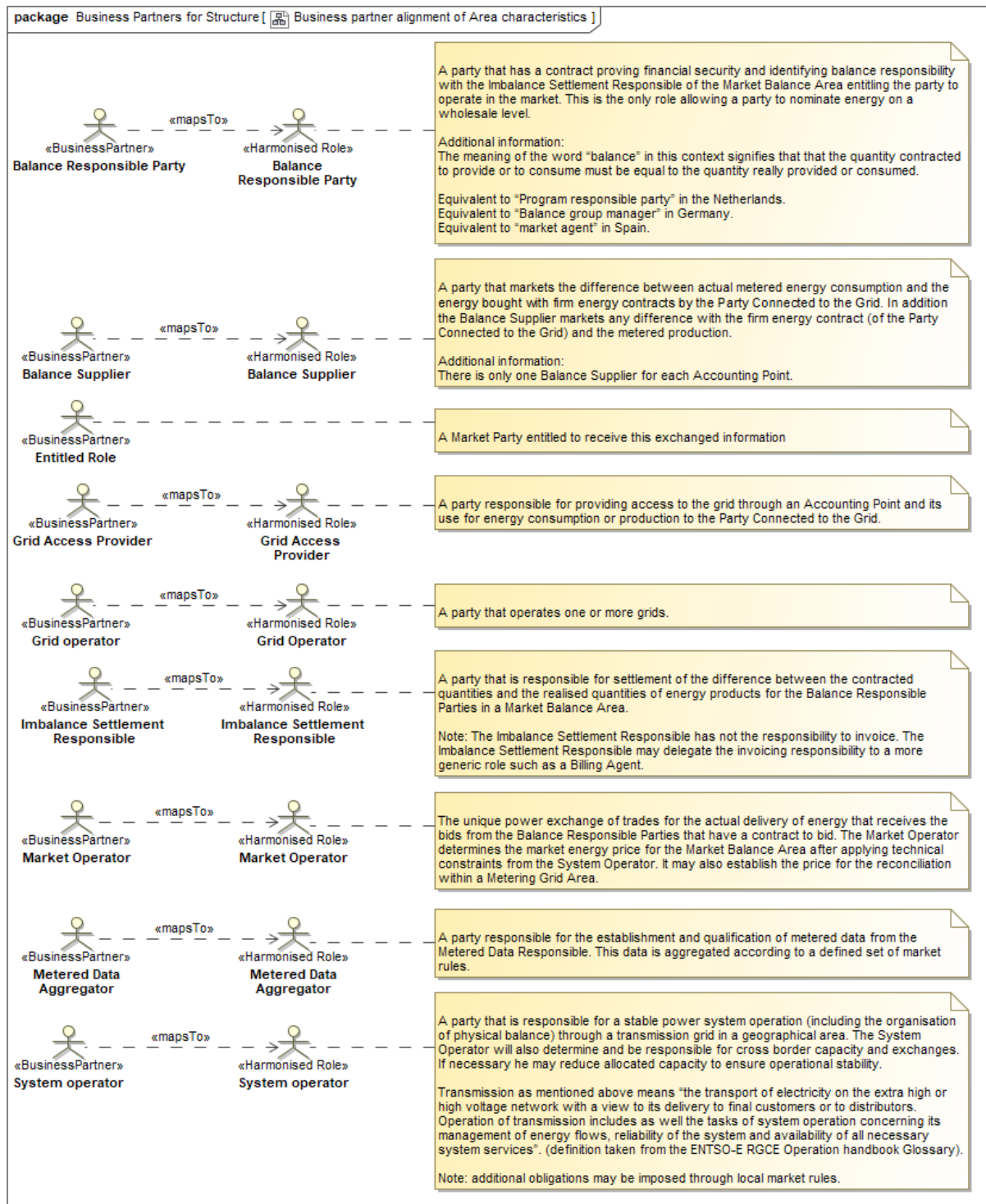


Figure 9 Business Partners related to alignment of Area characteristics

1.4. Business Data View

A general introduction to the Business Data View can be found in the Introduction to ebIX® Business Requirements and Business Information Models (www.ebix.org) [3].

1.4.1. Notify MGA characteristics (Class Diagram)

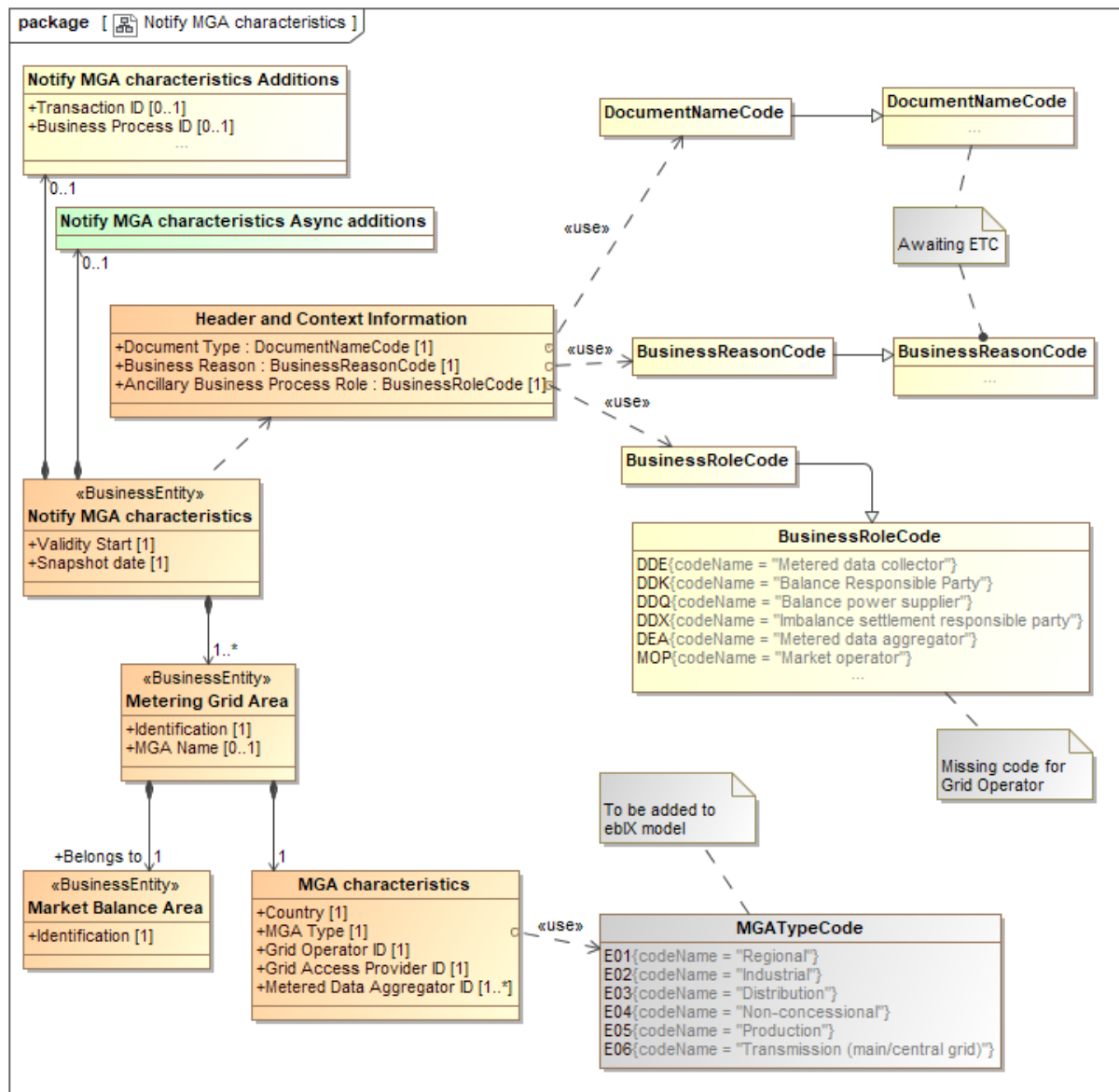


Figure 10 Class Diagram: Notify MGA characteristics

1.4.1.1. Element definitions, Notify MGA characteristics

Class/attribute	Sector ¹	Description
«Business entity» Notify MGA characteristics		The characteristics, also called Master Data, for a MGA.
Validity Start		The date when the set of information, for this Metering Grid Area, in this business document, becomes or became valid.
Snapshot date		The date and time when the set of information was extracted from the MGA register.
«Business entity» Metering Grid Area		A Metering Grid Area is a physical area where consumption, production and exchange can be metered. It is delimited by the placement of meters for period measurement for input to, and withdrawal from the area. It can be used to establish the sum of consumption and production with no period measurement and network losses.
Identification		The unique identification of the Metering Grid Area.
MGA Name		The name of the Metering Grid Area.
«Business entity» Market Balance Area		A geographic area consisting of one or more Metering Grid Areas with common market rules for which the settlement responsible party carries out a balance settlement and which has the same price for imbalance. A Market Balance Area may also be defined due to bottlenecks.
Identification		The unique identification of the Market Balance Area.
«Business entity» MGA characteristics		The characteristics, also called Master Data, for this Metering Grid Area (MGA).
Country		The unique identifier of the country, for this Metering Grid Area, using ISO 3166 (UN/ECE Rec 3).
MGA Type		A code showing the type of Metering Grid Area (MGA), such as distribution, regional or transmission.
Grid Operator ID		The unique ID of the Grid Operator (a party that operates one or more grids).
Grid Access Provider ID		The unique ID of the Grid Access Provider (a party responsible for providing access to the grid through a Metering Point for energy consumption or production to the Party Connected to the Grid. The party is also responsible for creating and terminating Metering Points).

¹ It is assumed that Metering Points are uniquely dedicated to either electricity or to gas.

Class/attribute	Sector ¹	Description
Metered Data Aggregator ID		The unique ID of the Metered Data Aggregator (a party responsible for the establishment and qualification of metered data from the Metered Data Responsible. This data is aggregated according to a defined set of market rules).
Notify MGA characteristics Additions		Additional information related to these MGA characteristics, to be agreed on a national level.
Transaction ID		The unique identification of this set of information, given by the Responsible Role for this set of information.
Business process ID		The unique identification, given by the Responsible Role for this set of information, of this instance of the process in question.
Notify MGA characteristics, Async Additions		Additional information related to these MGA characteristics, needed when using asynchronous communication.
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 market role taking part in this exchange together with the Responsible Role, responsible for the process/this exchange.

1.4.1.2. Notify MGA characteristics (State Diagram)

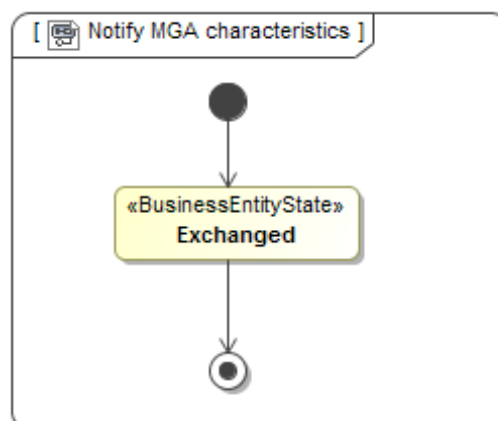


Figure 11 State Diagram: Notify MGA characteristics

1.4.2. Notify MBA-MGA relations (Class Diagram)

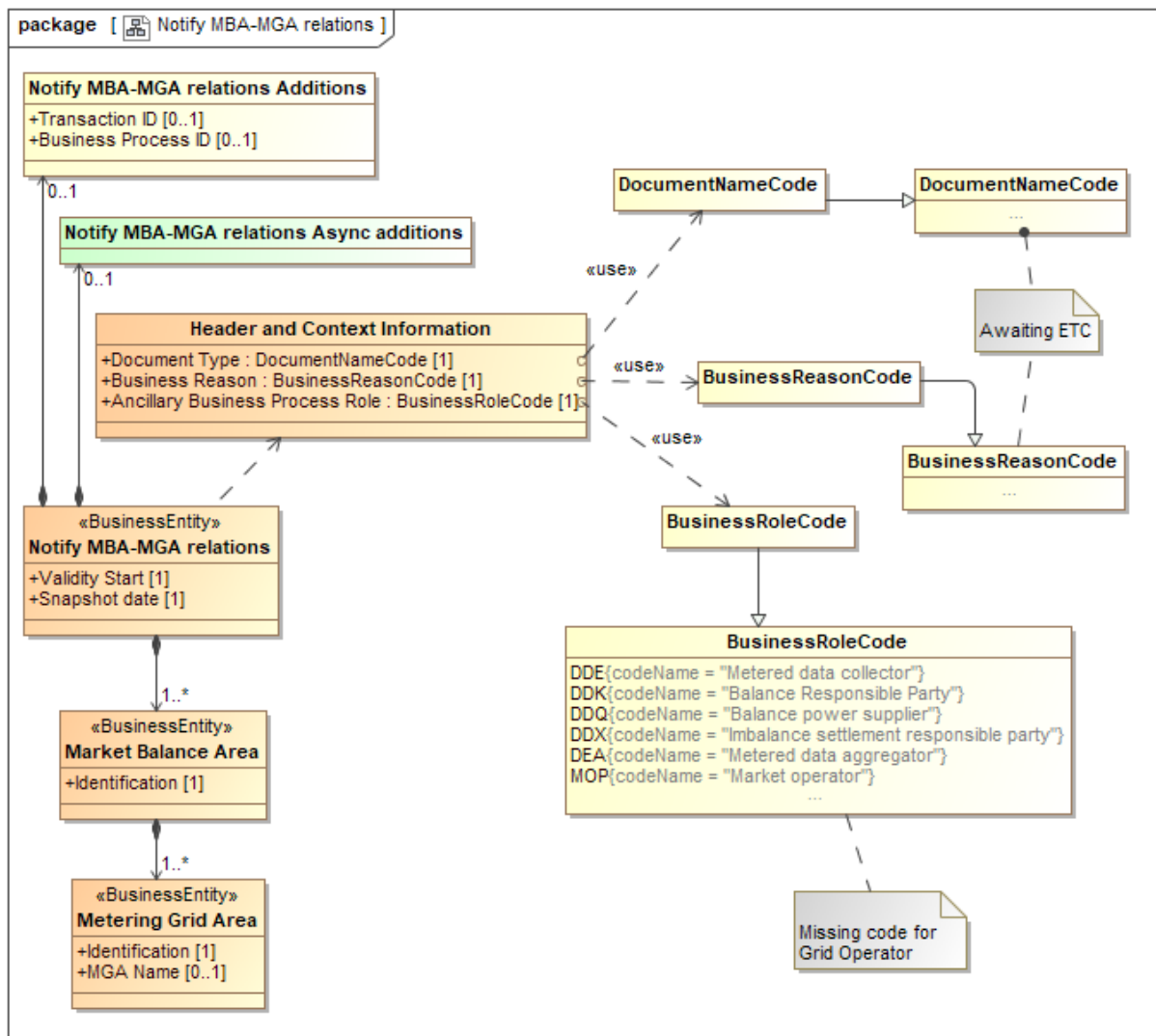


Figure 12 Class Diagram: Notify MBA-MGA relations

1.4.2.1. Element definitions, Notify MBA-MGA relations

Class/attribute	Sector ²	Description
«Business entity» Notify MBA-MGA relations		A Business Entity that shows the relations between a Market Balance Area (MBA) and its underlying Metering Grid Areas (MGA).
Validity Start		The date when the set of information, in this business document, becomes or became valid.
Snapshot date		The date and time when the set of information was extracted from the Metering Point register.
«Business entity» Market Balance Area		A geographic area consisting of one or more Metering Grid Areas with common market rules for which the settlement responsible party carries out a balance settlement and which has the same price for imbalance. A Market Balance Area may also be defined due to bottlenecks.
Identification		The unique identification of the Market Balance Area.
«Business entity» Metering Grid Area		A Metering Grid Area is a physical area where consumption, production and exchange can be metered. It is delimited by the placement of meters for period measurement for input to, and withdrawal from the area. It can be used to establish the sum of consumption and production with no period measurement and network losses.
Identification		The unique identification of the Metering Grid Area.
MGA Name		The name of the Metering Grid Area.
Notify MBA-MGA relations Additions		Additional information related to this business document, to be agreed on a national level.
Transaction ID		The unique identification of this set of information, given by the Responsible Role for this set of information.
Business process ID		The unique identification, given by the Responsible Role for this set of information, of this instance of the process in question.
Notify MBA-MGA relations Async Additions		Additional information related to this business document, needed when using asynchronous communication.
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.

² It is assumed that Metering Points are uniquely dedicated to either electricity or to gas.

Class/attribute	Sector ²	Description
Business Reason		A code representing the business reason for the exchange of this set of information.
Ancillary Business Process Role		A code representing the market role taking part in this exchange together with the Responsible Role, responsible for the process/this exchange.

1.4.2.2. Notify MBA-MGA relations (State Diagram)

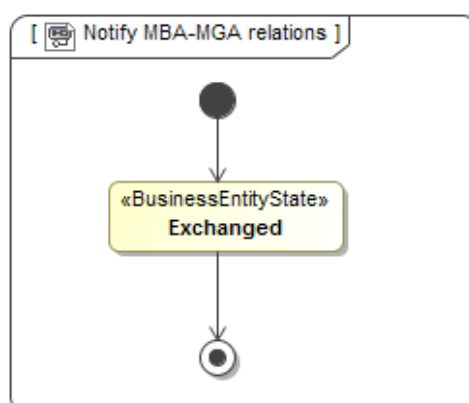


Figure 13 State Diagram: Notify MBA-MGA relations

1.4.3. Notify MGA-MGA relations (Class Diagram)

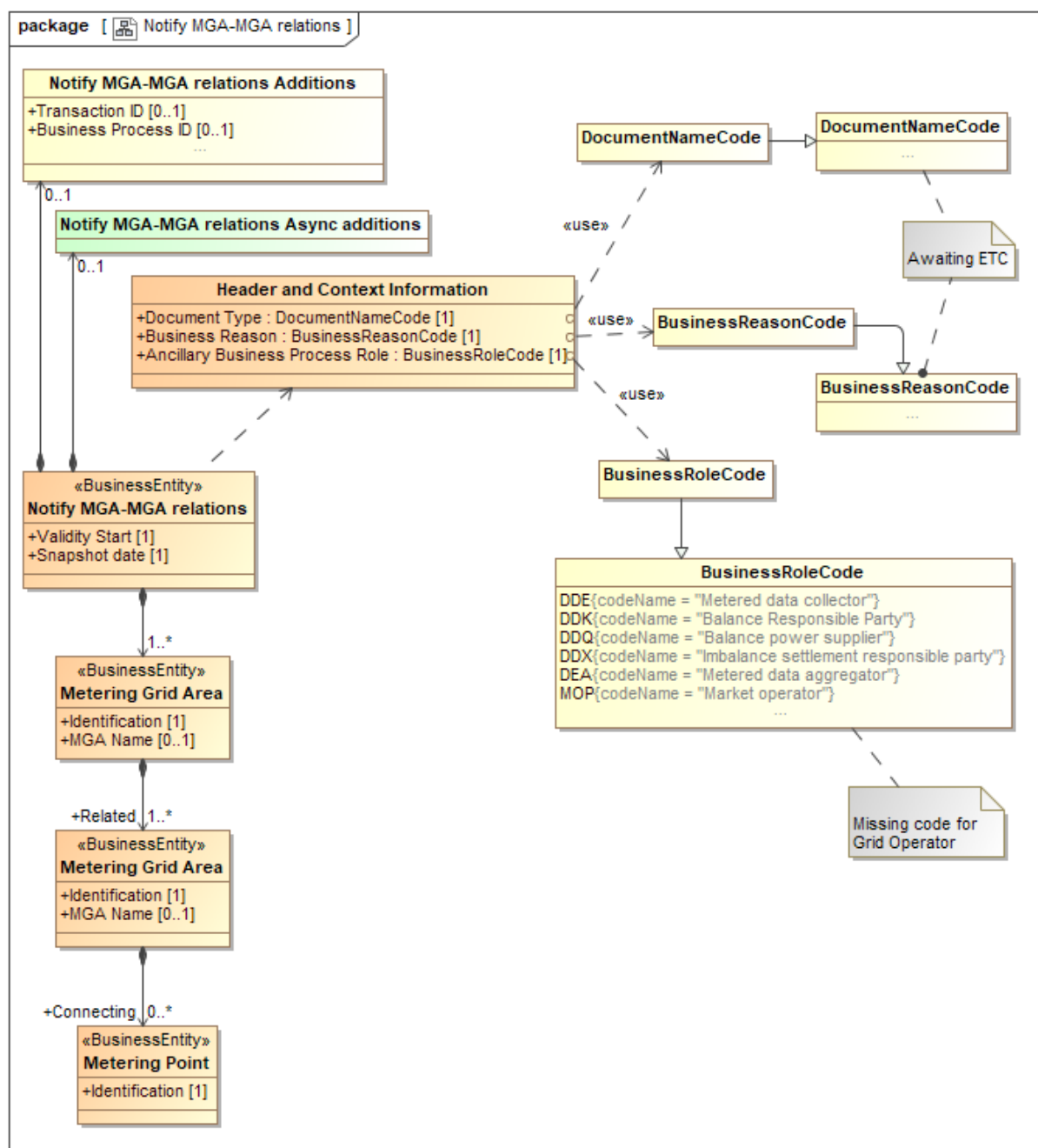


Figure 14 Class Diagram: Notify MGA-MGA relations

1.4.3.1. Element definitions, Notify MGA-MGA relations

Class/attribute	Sector ³	Description
«Business entity» Notify MGA-MGA relations		A Business Entity that shows the relations between connected Metering Grid Areas (MGAs).
Validity Start		The date when the set of information, in this business document, becomes or became valid.
Snapshot date		The date and time when the set of information was extracted from the Metering Point register.
«Business entity» Metering Grid Area		A Metering Grid Area is a physical area where consumption, production and exchange can be metered. It is delimited by the placement of meters for period measurement for input to, and withdrawal from the area. It can be used to establish the sum of consumption and production with no period measurement and network losses.
Identification		The unique identification of the Metering Grid Area.
MGA Name		The name of the Metering Grid Area.
«Business entity» Related Metering Grid Area		The relation between two Metering Grid Areas. A Metering Grid Area is a physical area where consumption, production and exchange can be metered. It is delimited by the placement of meters for period measurement for input to, and withdrawal from the area. It can be used to establish the sum of consumption and production with no period measurement and network losses.
Identification		The unique identification of the Metering Grid Area.
MGA Name		The name, in clear text, of the Metering Grid Area.
«Business entity» Metering Point		An entity where energy products are measured or computed.
Identification		The unique identification of (one of) the Metering Points that connects the two Metering Grid Areas.
Notify MGA-MGA relations Additions		Additional information related to this business document, to be agreed on a national level.
Transaction ID		The unique identification of this set of information, given by the Responsible Role for this set of information.
Business process ID		The unique identification, given by the Responsible Role for this set of information, of this instance of the process in question.

^{3 3} It is assumed that Metering Points are uniquely dedicated to either electricity or to gas.

Class/attribute	Sector ³	Description
Notify MGA-MGA relations Async Additions		Additional information related to this business document, needed when using asynchronous communication.
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 market role taking part in this exchange together with the Responsible Role, responsible for the process/this exchange.

1.4.3.2. Notify MGA-MGA relations (State Diagram)

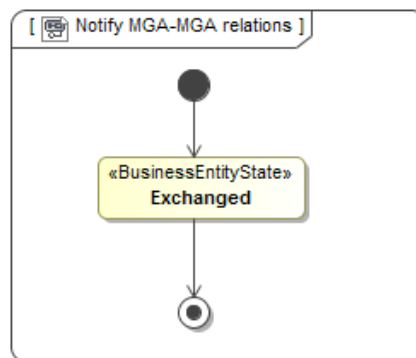


Figure 15 State Diagram: Notify MGA-MGA relations