Business Requirements for

Collect and distribute measured data

Status: Approved by ebIX® Forum
Version: 3.1
Revision: C
Date: December 2023

CONTENT

A. About this document

This document is a Business Requirements Specification for collect and distribute measured data, both for electricity and for gas, as part of the overall distribution of measured data in the European energy market. In this BRS we use business terms for the actors, and we map them to the terms used in the Harmonised Electricity market Role Model from ENTSO-E, ebIX® and EFET [2].

In this BRS we use business terms for the actors, and we map them to the terms used in the Harmonised Role Model from ENTSO-E, ebIX® and EFET [2]. A party acts in the capacity of a certain role.

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 as the first step in modelling energy market processes. This document specifies an UMM Business Requirements View, which consist of the three sub views: Business Domain View, Business Partner View and Business Entity View.

The Business Information Model is in turn the basis for the creation of XML schema's and is the basis for the specification of web services. The Business Information Model and the syntax specific structures are specified by the "ebIX® Technical Committee" (ETC).

Since the ebIX® model is open for national customisation, some attributes are added as optional for usage for regional/national customisation. If used, these attributes must be specified nationally.

A.1. References

A.1.1. Standards

[1] UML Profile for UN/CEFACT's Modelling Methodology (UMM), Base Module, 2.0. (UN/CEFACT Modelling Methodology (UMM))

[2] The Harmonized Role Model (for the Electricity Market) by ebIX®, ENTSO-E, and EFET (https://www.ebix.org/artikel/role_model)

A.1.2. ebIX® Documents

[3] Introduction to ebIX® Business Requirements and Business Information Models (https://www.ebix.org/artikel/documents)

[4] Recommended Identification Schemes for the European Energy Market (https://www.ebix.org/artikel/documents)

[5] ebIX® code lists (https://www.ebi.x.org/artikel/documents)

A.2. Main changes since last version

Old	New	Clarification	Date
Version 3.0			
2.1.A	3.0.A	Recast of BRS – changes not tracked	20200402
Version 3.1			
3.0.A	3.1.A	• Update of layout and document structure to be in line with other ebIX® BRSs. • Update of roles to be in line with the ebIX®, EFET and ENTSO-E Harmonised Electricity Market Role Model version 2022-01. • Addition of a new Series characteristics class in class diagram for Collected measured data, to be in line with other Measure BRS.	20221019
3.1.A	3.1.B	• Update of “chapter A About this document” to be in line with other ebIX® BRSs.	20230815
3.1.B	3.1.C	• Since ebIX® is closing down from the end of 2023, the link to the ebIX® secretary has been removed.	20231218

1. Introduction

This BRS describes the processes of exchanging the collected measured data from the Metered Data Collector to the Metered Data Responsible.

1.1. Basic principles and assumptions

The following principles have been used when drafting this document:

- The measurement characteristics of the Metering Point, such as product identifier, direction and measure unit, are master data and assumed to be known by the Metered Data Responsible, hence not exchanged in the processes described in this BRS.

2. Business Domain View: Collect and distribute measured data (Business Process UseCase)

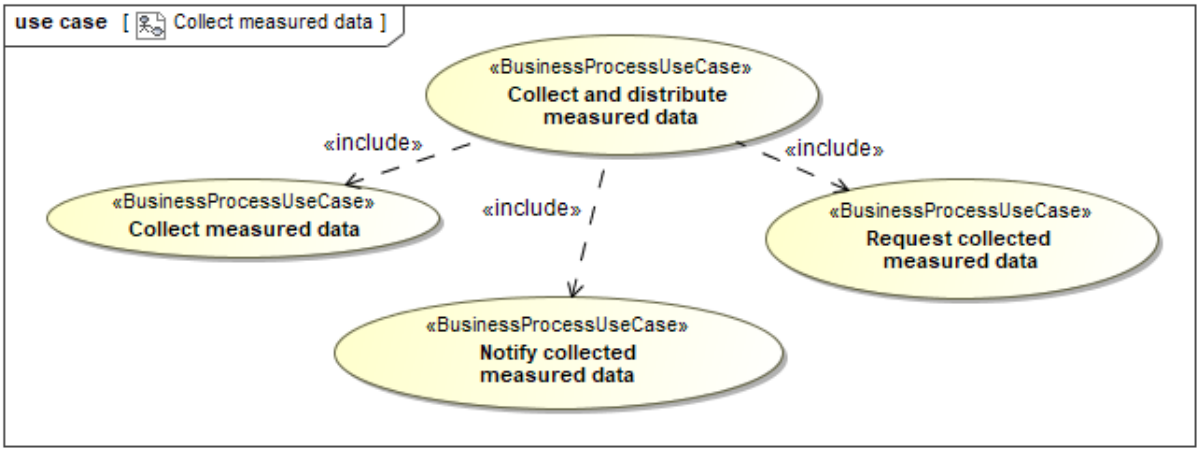

Figure 1. Business Process UseCase: Collect and distribute measured data

2.1. Description

UseCase description: Collect and distribute measured data	
definition	In this process a Metered Data Collector[1] periodically or on request collects and distributes (notify or on request) collected measured data to the Metered Data Responsible.
beginsWhen	The Metered Data Collector according to (national) rules is scheduled to or is requested to.
preCondition	The Metered Data Collector knows which register to read and therefore has access to relevant master data.
endsWhen	The distribution of the collected measured data has been accomplished.
postCondition	The Metered Data Responsible has the collected measured data available.
Exceptions	The data cannot be collected within the time limit.
actions	See 2.2

[1] it is assumed that the Metered Data Collector does not keep collected metered data

2.2. Business Process

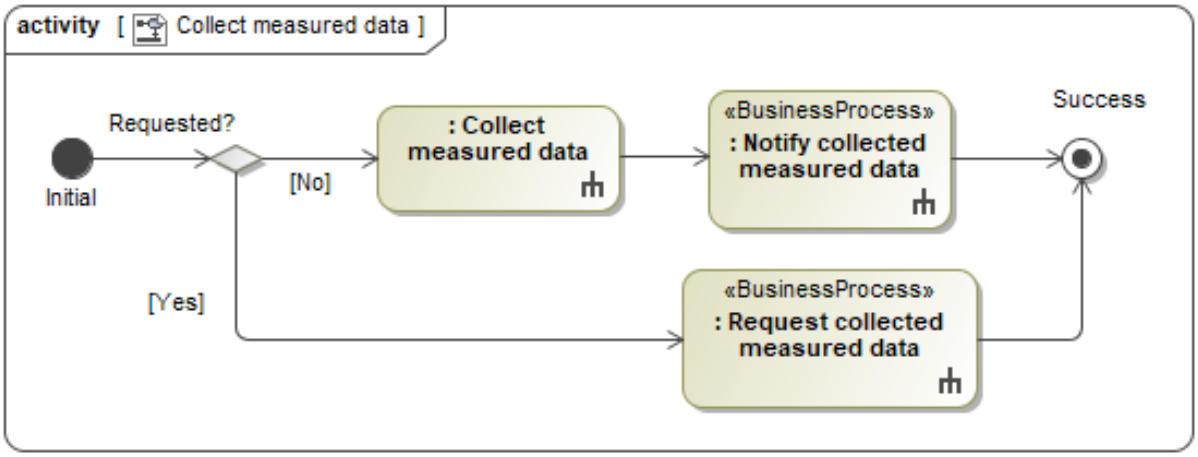

Figure 2. Business Process: Collect measured data

2.3. Collect measured data (Business Process UseCase)

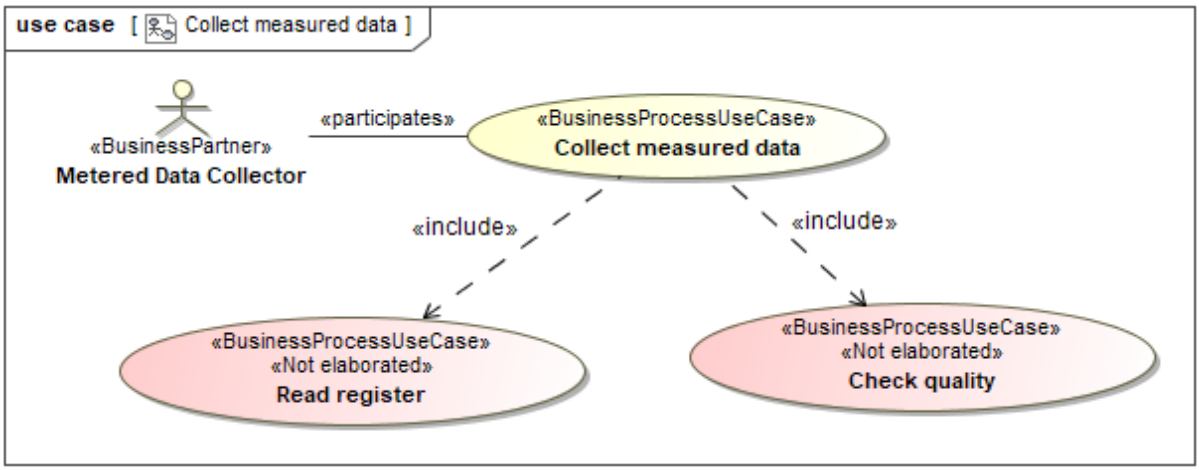

Figure 3. Business Process UseCase: Collect measured data

2.3.1. Description

UseCase description: Collect measured data	
definition	In this process the Metered Data Collector collects measured data for a specific period and processes the measured data in order to make these available to the Metered Data Responsible.
beginsWhen	The Metered Data Collector is scheduled to do so or on request of the Metered Data Responsible.
preCondition	The Metered Data Collector has knowledge about the register to read and the relevant quality standards[2].
endsWhen	The collected measured data has been checked with positive result.
postCondition	The collected measured data is ready for distribution to the Metered Data Responsible.
exceptions	Collection of measured data of the right quality failed.
actions	*See 2.3.3*

[2] This quality standard shall not be confused with formal validation. It is assumed that the quality standard for the quality check of the collected measured data has been defined nationally or between the two parties.

2.3.3. Business Process

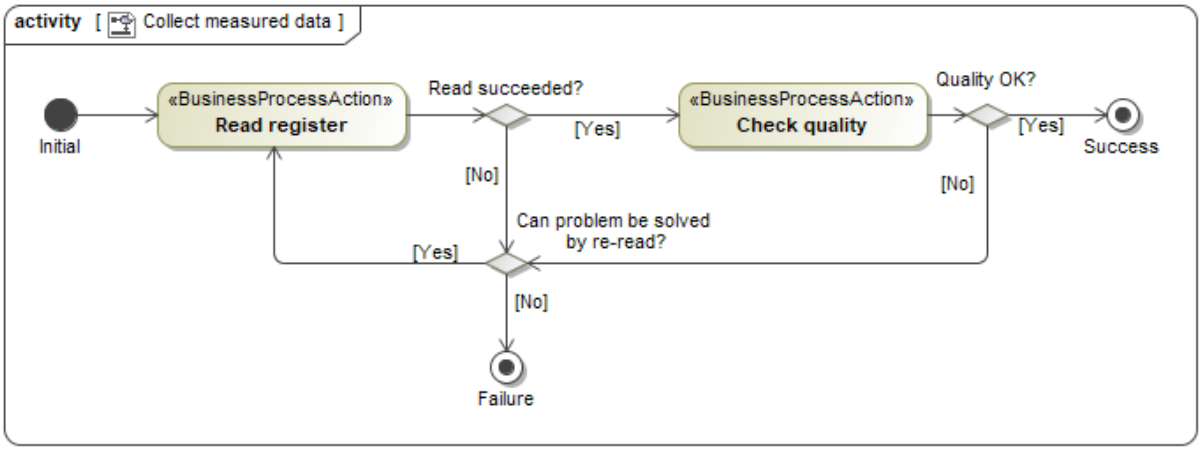

Figure 4. Business Process: Collect measured data

2.3.4. Read Register (Business Process UseCase)

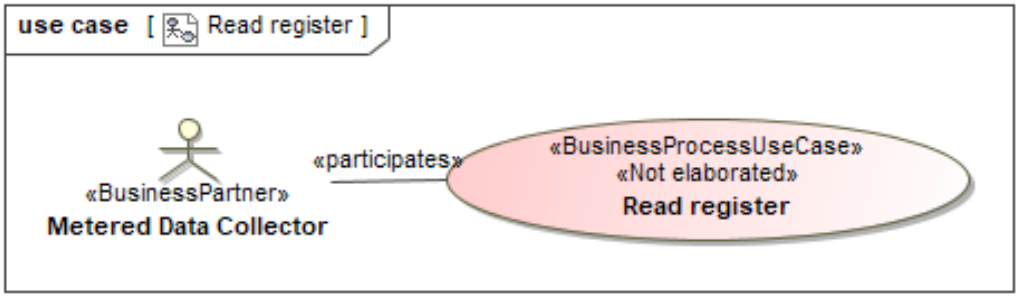

Figure 5. Business Process UseCase: Read register

2.3.4.1. Description

UseCase description: Read Register	
definition	In this process the Metered Data Collector reads one or more Registers of a Meter for a Metering Point, for a specific period.
beginsWhen	The Metered Data Collector is scheduled to or requested to.
preCondition	The Metered Data Collector knows which Register(s) to read and has access to relevant master data.
endsWhen	The measured data have been collected.
postCondition	The collected measured data are available for quality check.
exceptions	Quality controlled measured data cannot be collected.
actions	Not further elaborated

2.3.5. Check quality (Business Process UseCase)

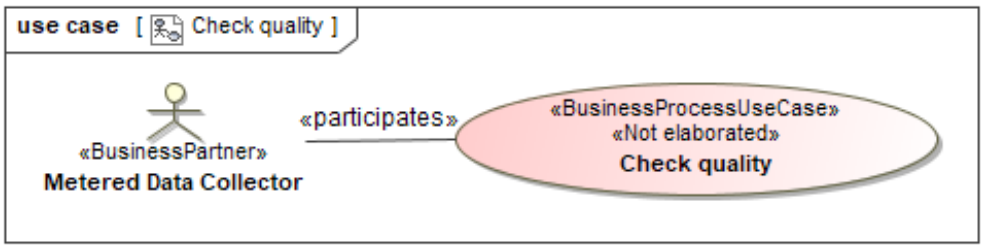

Figure 6. Business Process UseCase: Check quality

2.3.5.1. Description

UseCase description: Check quality	
definition	In this process the Metered Data Collector checks if the collected measured data, for a specific period, adhere to the relevant quality standards.
beginsWhen	Measured data have been collected.
preCondition	National quality standards are available.
endsWhen	Collected measured data have passed the quality check.
postCondition	Collected measured data have been checked positively and are available for distribution.
exceptions	Collected measured data beyond limits requiring an extra improvement cycle in the process.
actions	Not further elaborated.

2.4. Notify collected measured data (Business Process UseCase)

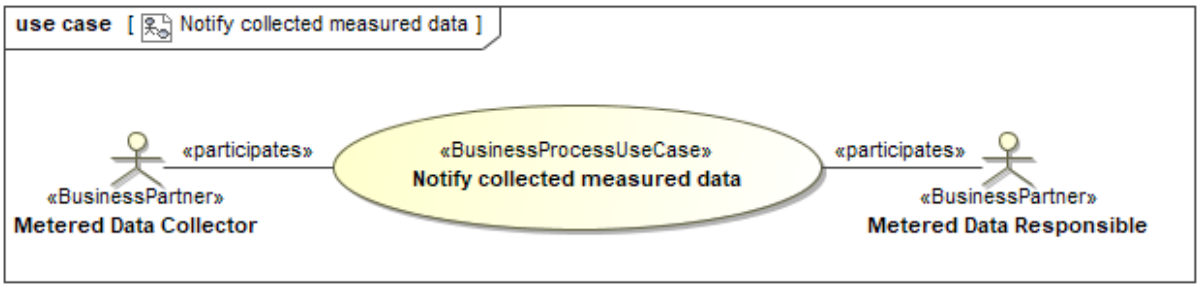

Figure 7. Business Process UseCase: Notify collected measured data

2.4.1. Description

UseCase description: Notify collected measured data	
definition	In this process the Metered Data Collector sends the collected measured data, for a specific period, to the Metered Data Responsible.
beginsWhen	The collected measured data are available.
preCondition	Quality checked collected measured data are available.
endsWhen	The collected measured data have been sent to the Metered Data Responsible.
postCondition	The Metered Data Responsible has the collected measured data for further processing.
exceptions	None.
actions	*See 2.4.2*

2.4.2. Business Process

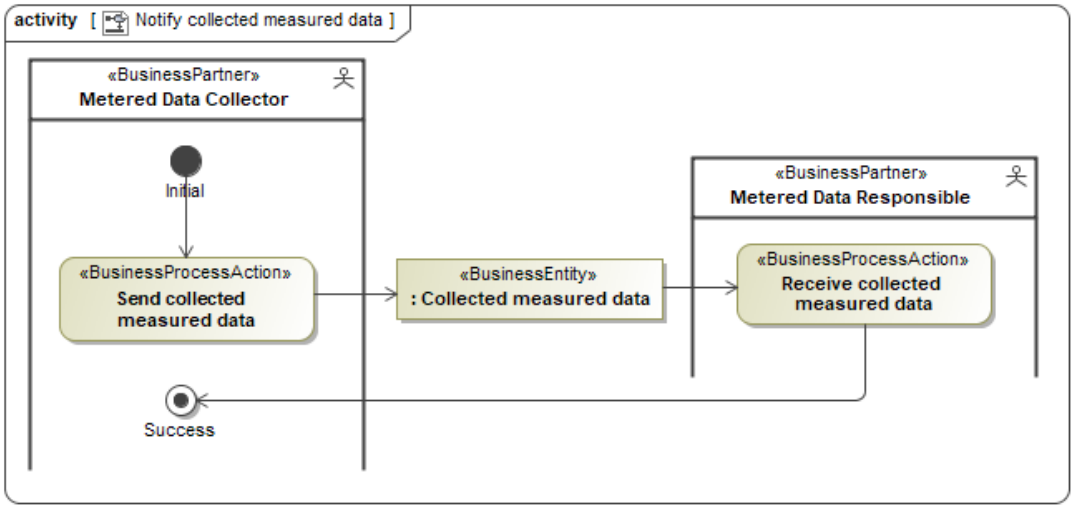

Figure 8. Business Process: Notify collected measured data

2.5. Request collected measured data (Business Process UseCase)

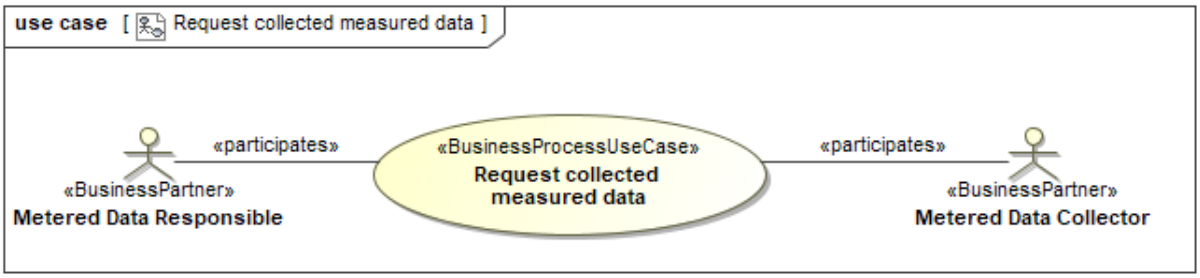

Figure 9. Business Process UseCase: Request collected measured data

2.5.1. Description

UseCase description: Request collected measured data	
definition	In this process the Metered Data Responsible requests collected measured data for a Metering Point, for a specific period, from the Metered Data Collector.
beginsWhen	Metered Data Responsible decides to.
preCondition	The relation exists between Metered Data Collector and Metered Data Responsible for this Metering Point.
endsWhen	The collected measured data has been received by the Metered Data Responsible.
postCondition	The Metered Data Responsible can process the requested collected measured data.
exceptions	No collected measured data available at the Metered Data Collector.
actions	*See 2.5.2*

2.5.2. Business Process

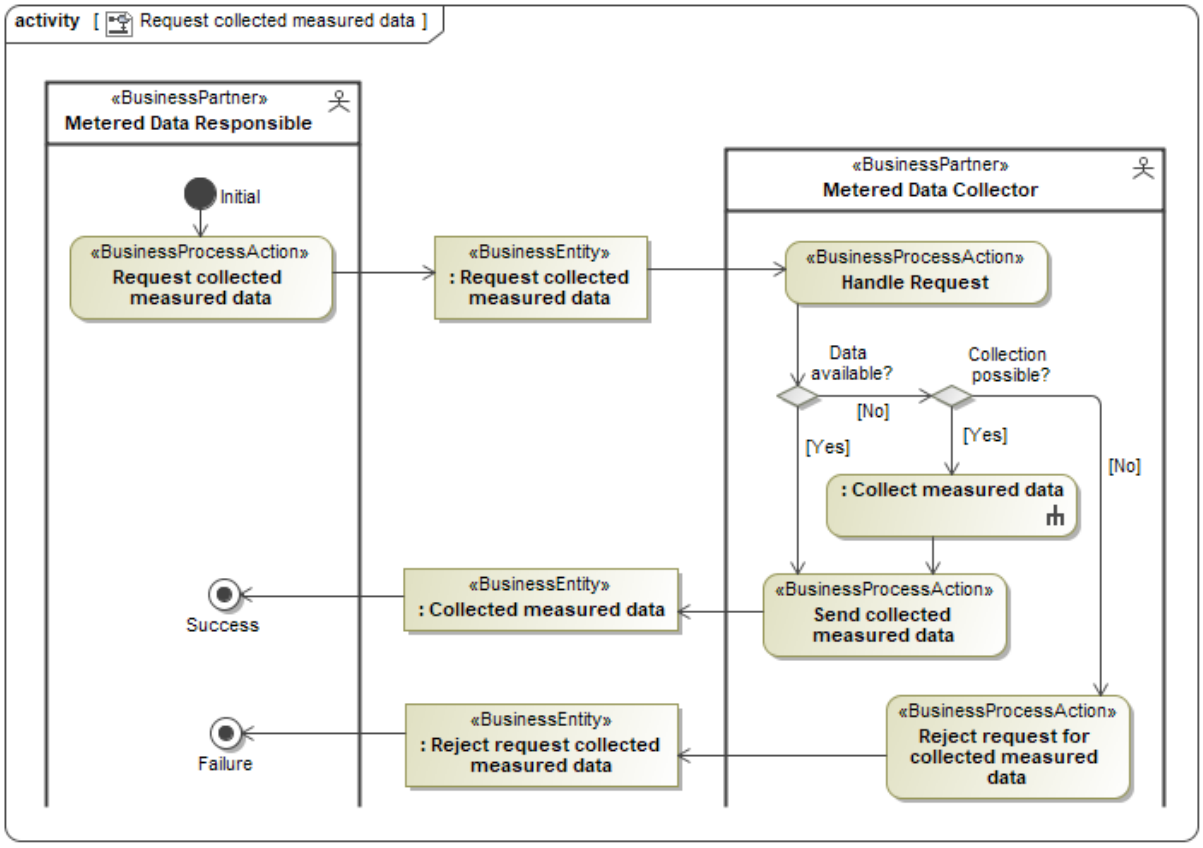

Figure 10. Business Process: Request collected measured data

3. Business Partner View

3.1. Business Partners Collect

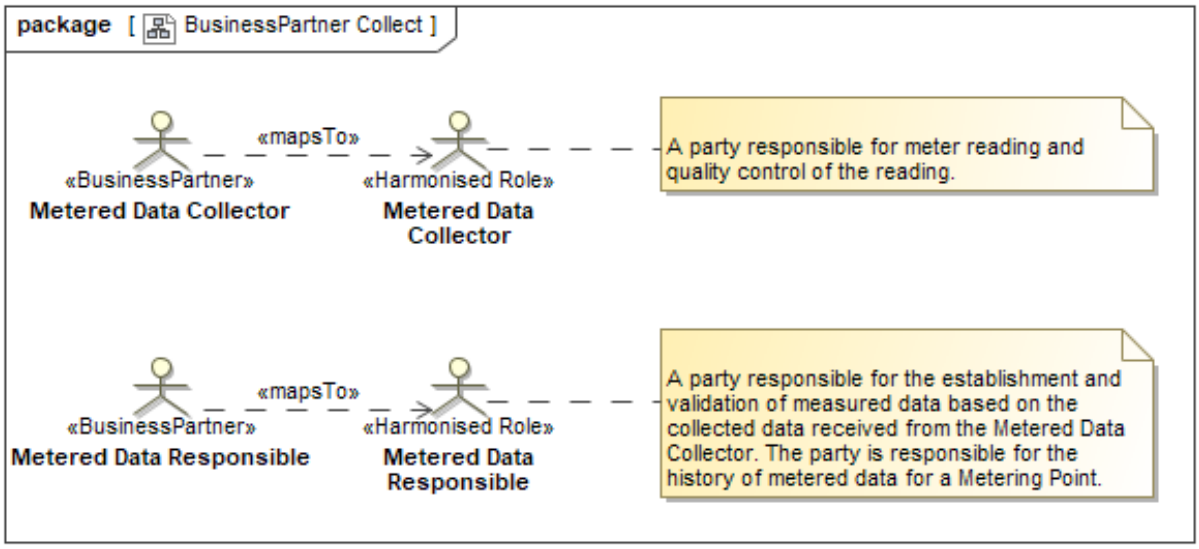

Figure 11.Business Partners Collect measured data

4. Business Entity View

In the business entity view the principles as described in the Introduction to ebIX® Business Requirements and Business Information Models (https://www.ebix.org/artikel/documents) [3], are used.

4.1. Collected measured data (Class Diagram)

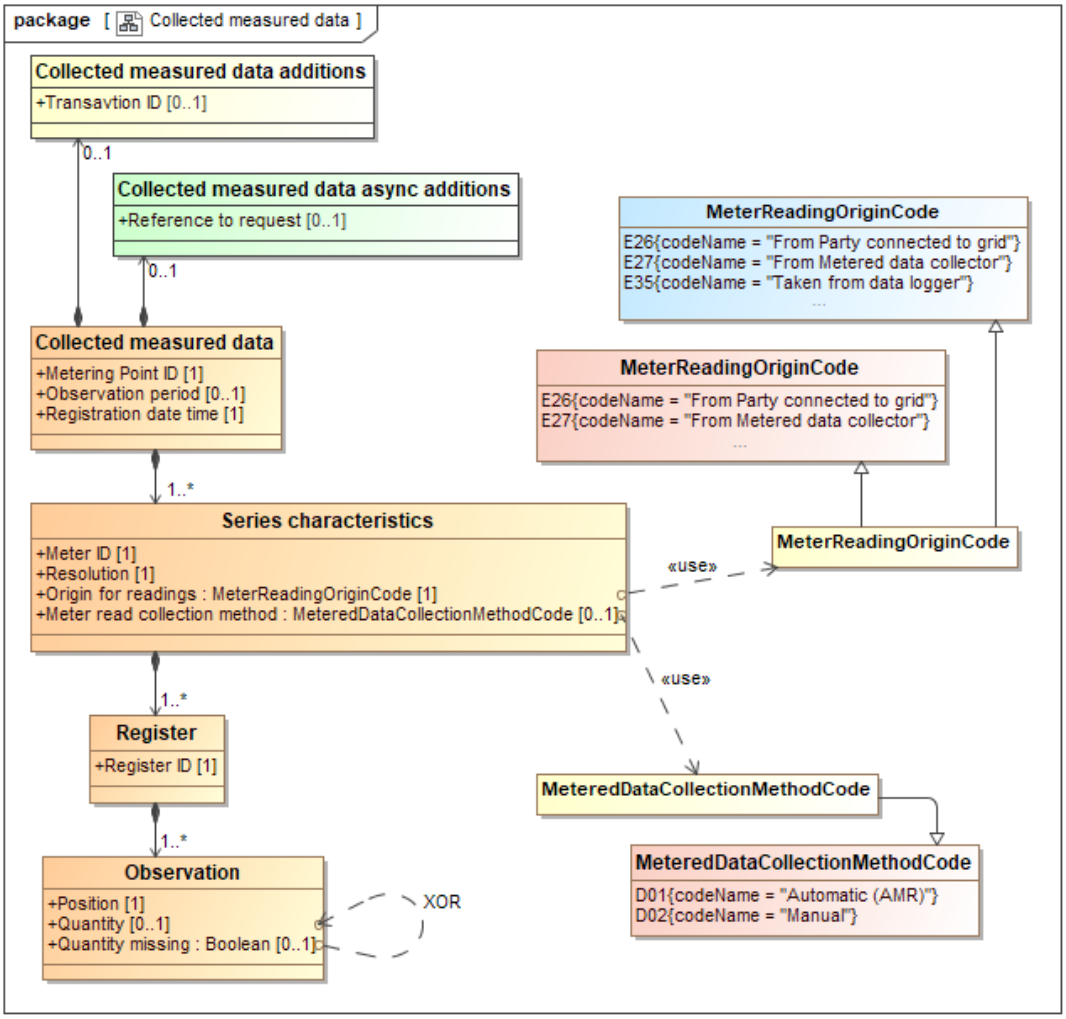

Figure 12. Class diagram: Collected measured data

4.1.1. Element definitions: Collected measured data

Attribute	Sector[3]	Definition
«Business entity» Collected measured data		The information set sent by a Metered Data Collector responsible for the collection of measured data from a Meter, to the Metered Data Responsible in charge of the Metering Point to which this Meter belongs.
Metering Point ID		The unique identification of the Metering Point (Accounting Point or Exchange Point) to which the validated measured data are attributed.

[3] It is assumed that Accounting Points are uniquely dedicated to either electricity or to gas.

Attribute	Sector[3]	Definition
Observation period		The specific period of time for the collected measured data.
Registration date time		The date and time of the registration of this set of collected measured data.
Series characteristics		The characteristics of this set of collected measured data, i.e., the product and flow direction.
Meter ID		The unique identification of the Meter that contains the Register(s) from which this measured data has (have) been collected.
Resolution		The resolution of this set of collected measured data expressed as a duration between the start and end of subsequent meter reads within this set of collected measured data.
Origin for readings		A code specifying the origin of this set of collected measured data.
Meter read collection method		Indication of the way the Meter is read and thereby indicating the corresponding functionality to access reads, such as automatic or manual.
«Business entity» Register		A physical or logical counter measuring energy products.
Register ID		The unique identification of the Register this meter read has been read from.
Observation		One meter read (observation) as part of this set of collected measured data.
Position		The ordinal position of this meter read (observation) in this set of collected measured data (observation period).
Quantity		The character string as read from the Register for this observation. Quantity is dependent: either “Quantity” or “Quantity Missing” is to be used.
Quantity missing		The indication when a quantity of this observation is missing. Quantity missing is dependent: either “Quantity” or “Quantity missing” is to be used.
Collected measured data additions		Additional information, related to collected measured data, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Transaction ID		The unique identification of this set of information as given by the Metered Data Collector.

Attribute	Sector[3]	Definition
Collected measured data async additions		Additional information, related to collected measured data, 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 collected measured data which uniquely identifies it.

4.2. Request collected measured data (Class Diagram)

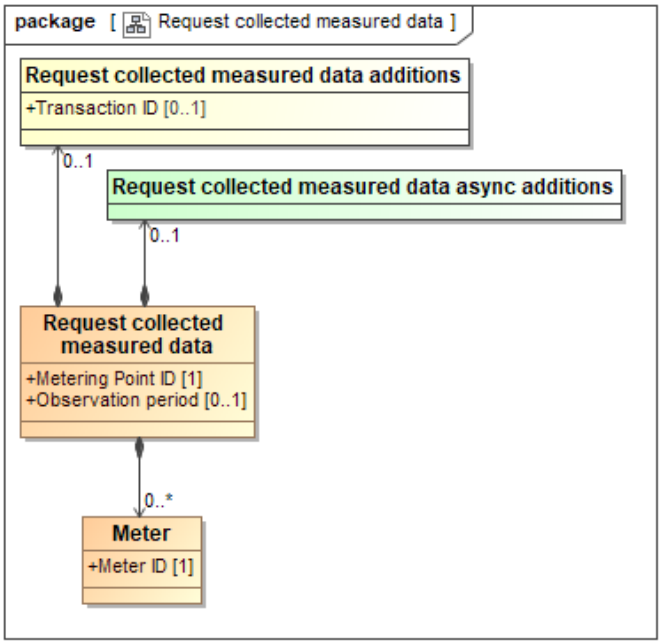

Figure 13. Class diagram: Request collected measured data

4.2.1. Element definitions: Request collected measured data

Attribute	Sector[4]	Definition
«Business entity» Request collected measured data		The information set sent by a Metered Data Responsible in charge of the Metering Point when requesting a set of collected measured data from the Metered Data Collector.
Metering Point ID		The unique identification of the Metering Point (Accounting Point or Exchange Point) to which the validated measured data are attributed.
Observation period		The specific period of time for the collected measured data.
«Business entity» Meter		A physical device measuring the flow of energy, containing one or more Registers.
Meter ID		The unique identification of the Meter that contains the register(s) that has/have been read.

[4] It is assumed that Accounting Points are uniquely dedicated to either electricity or to gas.

Attribute	Sector[4]	Definition
Request collected measured data additions		Additional information, related to the request for collected measured data, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Transaction ID		The unique identification of this request as given by the Metered Data Responsible.
Request collected measured data async additions		Additional information, related to Request Collected measured data, 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.

4.3. Reject request collected measured data (Class Diagram)

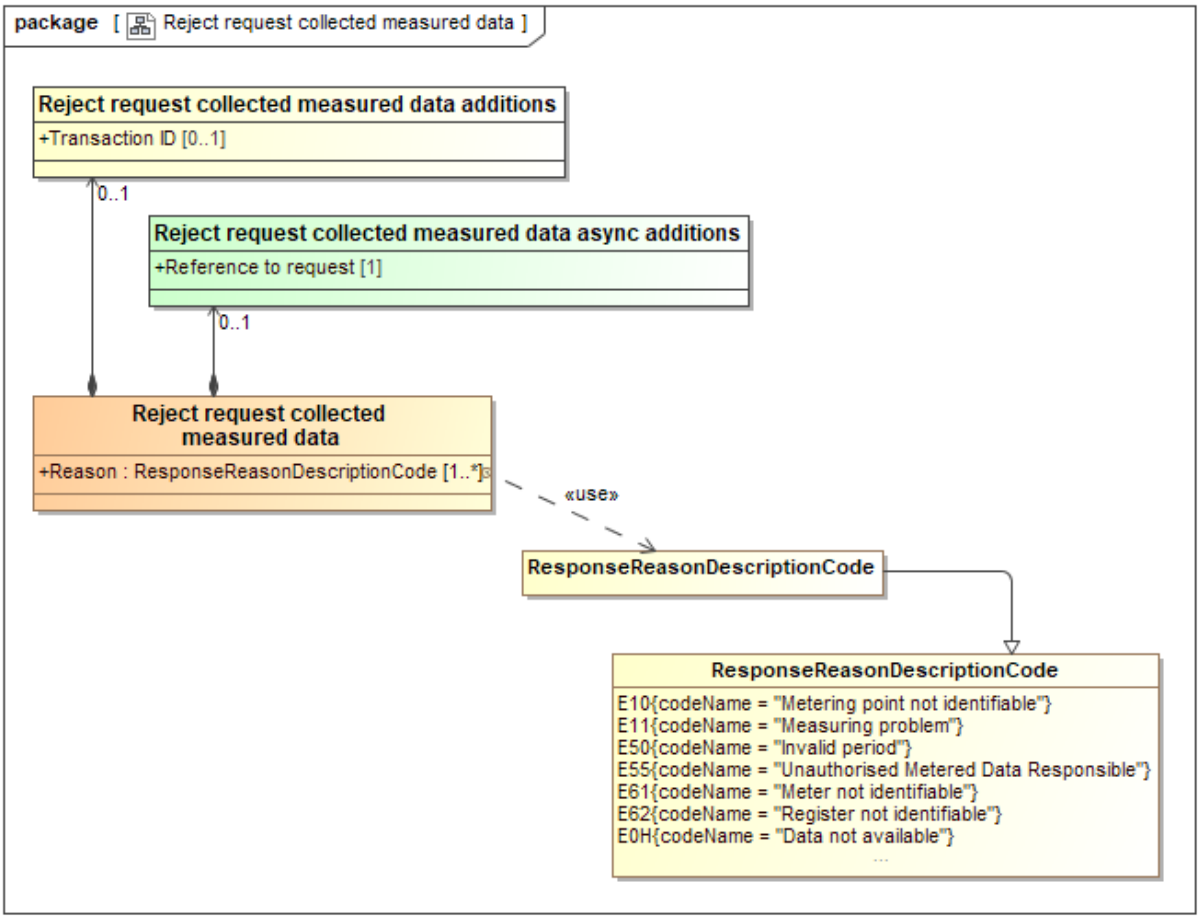

Figure 14. Class diagram: Reject request collected measured data

4.3.1. Element definitions: Reject request collected measured data

Attribute	Sector[5]	Definition
«Business entity» Reject request collected measured data		The response sent by a Metered Data Collector to the Metered Data Responsible requesting collected measured data when the Metered Data Collector is not able to respond with the requested collected measured data.
Reason		A code specifying (one of) the reason(s) for this rejection.

[5] It is assumed that Accounting Points are uniquely dedicated to either electricity or to gas.

Attribute	Sector[5]	Definition
Reject request collected measured data additions		Additional information, related to the rejection of the request for collected measured data, the use of which may be agreed on a national level. This is however not used when specifying the payload in the ebIX® model.
Transaction ID		The unique identification of this response as given by the Metered Data Collector.
Reject request collected measured data async additions		Additional information, related to the rejection of the request for collected measured data, 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.

Appendix A. Header and Context information for the class diagrams

A.1. Header and Context Information attributes definitions

Class/attribute	Sector[6]	Description
Header and context information		The set of information specifying the information to be added to this payload 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.

A.2. Collected measured data

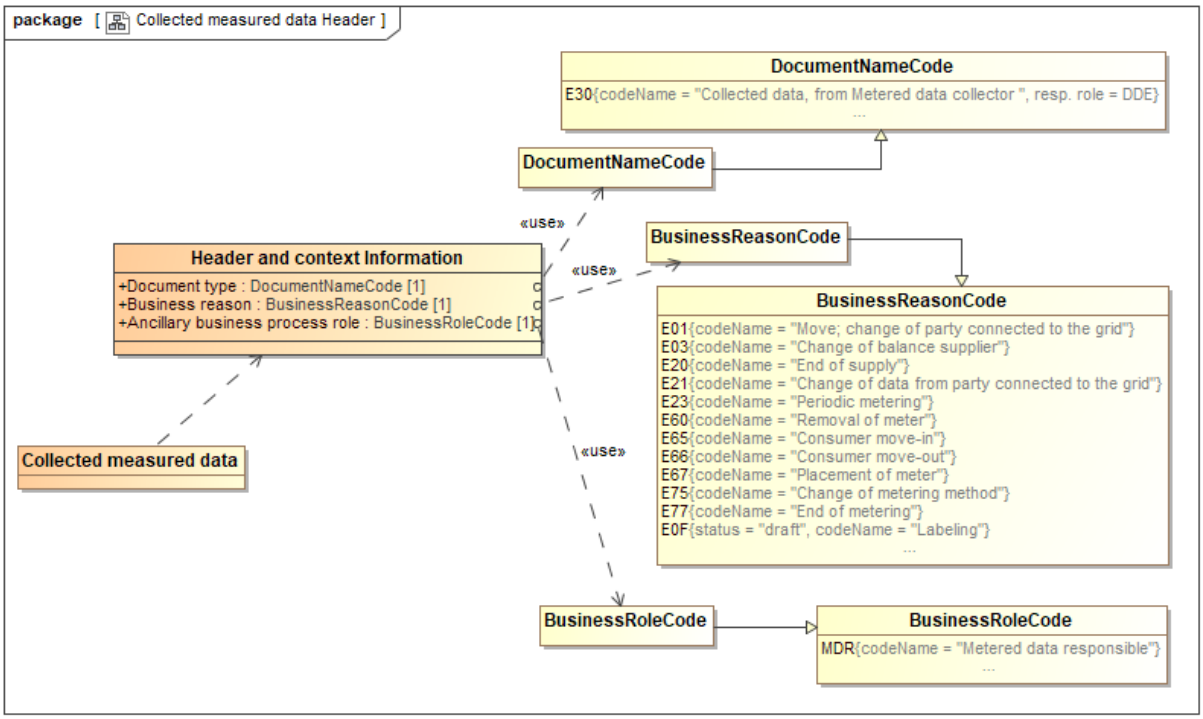

Figure 15 Class diagram - Header and context information: Collected measured data

[6] It is assumed that Accounting Points are uniquely dedicated to either electricity or to gas.

A.3. Request collected measured data

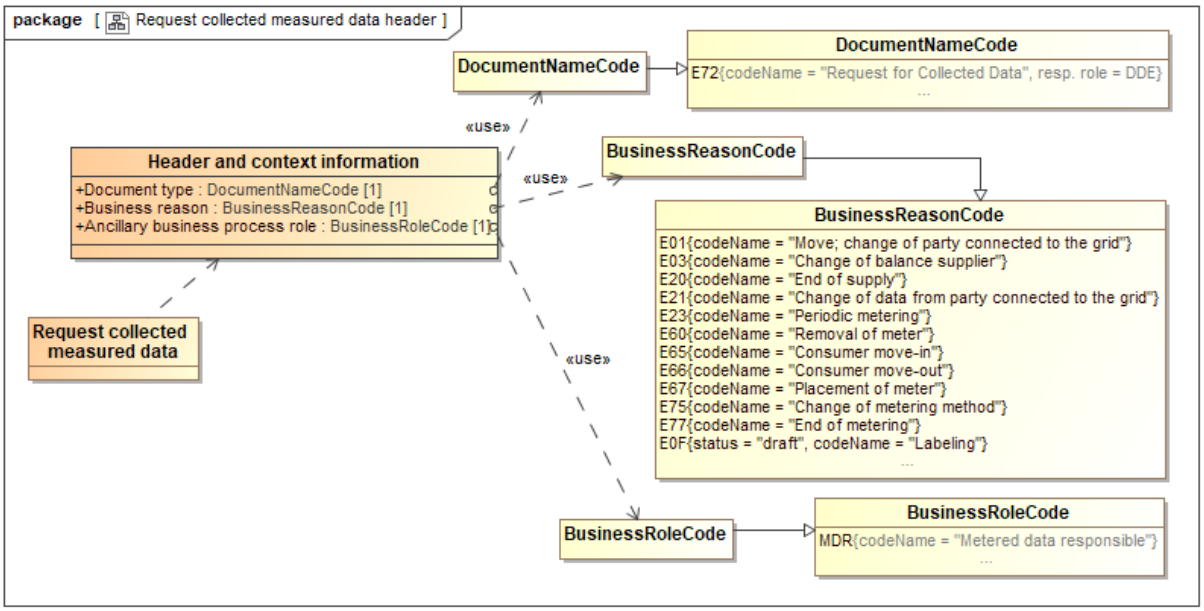

Figure 16 Class diagram - Header and context information: Request collected measured data

A.4. Reject request collected measured data

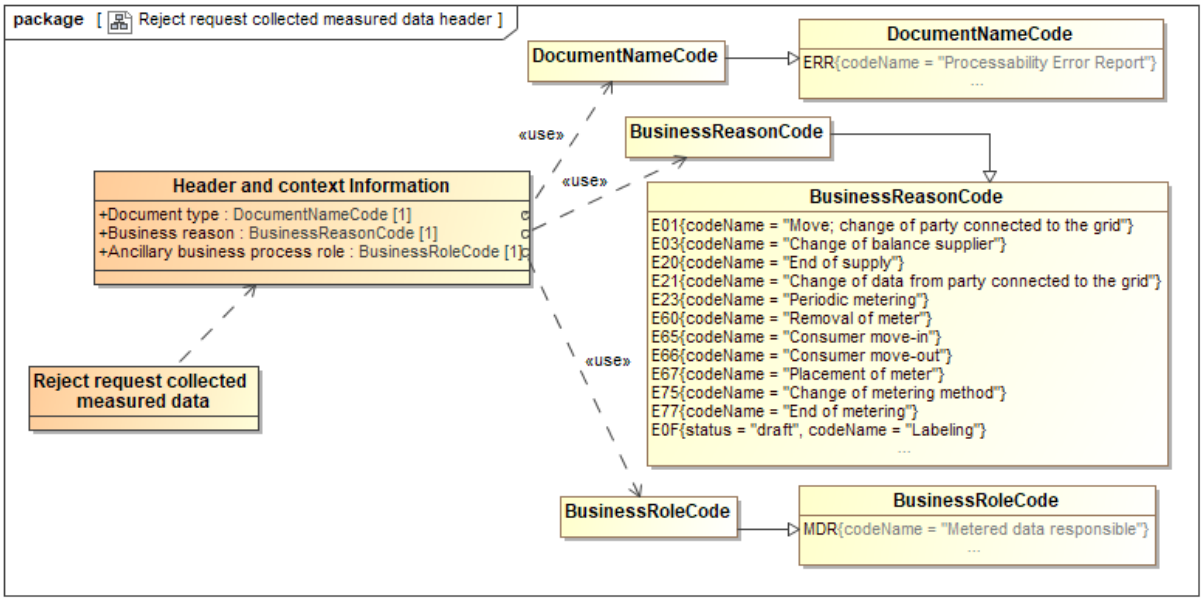

Figure 17 Class diagram - Header and context information: Reject request collected measured data