EDSN
Energie Data Services Nederland

Wholesale gas

Technical Specifications

XML allocation and reconciliation

messaging process

Version control

Version	Date	Changes	Author
0.1	10-01-2012	Setup document (TOC)	J. de Jong
0.2	24-01-2012	Add introduction and principles	J. de Jong
0.3	23-02-2012	Add XML message definitions	J. de Jong
0.9	24-02-2012	Version for review IC-WG	J. de Jong
0.95	28-03-2012	Add review remarks, version for internal review	J. de Jong
0.99	02-04-2012	Version for approval by ALV NEDU	J. de Jong
1.0	19-04-2012	Approved by ALV NEDU	EDSN
1.1	25-04-2012	Class diagram BALLNotification updated to support multiple connections	EDSN
1.2	11-06-2012	Status in BALLNotification optional Renumbering result codes for OVEXITAcknowledgement	EDSN
1.2a	02-07-2012	Gas components "CO2" and "N2" in MINFONotification changed from integer into decimal	EDSN
1.2b	02-10-2012	Limitation of MessageID added (paragraph 3.2)	EDSN
1.3	23-12-2013	User category "GMN" added in XML message definitions LALL, OVEXIT and RNINFO for "Netverlies gas".	EDSN
2.0	27-01-2014	Version for approval by ALV NEDU	EDSN

Referenced documents

Name	Owned by	Date	Version
UN/CEFACT Naming&Design Rules	UN/CEFACT	December 17, 2009	3.0
NEDU/EDSN Ontwerpkeuzes	NEDU/EDSN	June 14, 2013	3.1
Wholesale gas - Reconciliation messaging process	EDSN	February 5, 2014	2.00
Wholesale gas - Allocation messaging process	EDSN	February 5, 2014	2.00

Abbreviations

Abbreviation	Explanation
ALV	Algemene Ledenvergadering (NEDU)
EAC	Estimated Annual Consumption
CCTS	Core Components Technical Specification
EDSN	Energie Data Services Nederland
IC	Issue Commissie
LDC	Local Distribution Company
NEDU	Nederlandse Energie Data Uitwisseling
TC	Technische Commissie NEDU
TSO	Transmission System Operator
TZD	Time Zone Designator (Z or +hh:mm or -hh:mm)
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UTC	Coordinated Universal Time
UUID	Universally Unique Identifier
W3C	World Wide Web Consortium
XSD	XML Schema Definition

Table of contents

1   Introduction

1.1   About this document

This document describes the XML message definitions for the exchange of allocation and reconciliation information for wholesale gas between LDC, TSO (GTS), Shipper and Supplier.

The XML message definitions are designed and developed for project "Migration of allocation and reconciliation messages gas to XML". The aim of this project is to achieve a successful development and implementation of the messages used for allocation and reconciliation gas in XML format.

The specifications in this document will be effectuated from November 27, 2012.

1.2   About the design and development

The following principles are used for design and development of the XML message for allocation and reconciliation gas:

- UN/CEFACT Naming&Design Rules;
- W3C Semantic Annotations;
- CCTS metadata;
- ALV IC issues;
- TC Technische Issues;
- NEDU/EDSN Ontwerpkeuzes.

1.3   Basic assumptions

This section lists the basic assumptions that are defined for the XML message definitions:

1. EAN codes are used to identify market parties, network points and connections;
2. Date/time for allocation, measurement, correction factor, temperature is in UTC and formatted as specified in the W3C Date and Time Formats (an ISO 8601 Profile) "yyyy-mm-ddThh:00:00Z" (example: 2012-06-01T10:00:00Z). This date/time has a specific pattern for whole hours only. The Z is the UTC TZD[1];
3. Date/time in the message header (EDSNBusinessDocumentHeader) is formatted as specified in the W3C Date and Time Formats (an ISO 8601 Profile) "yyyy-mm-ddThh:mm:ssTZD" (example: 2012-06-01T07:20:34Z);
4. Year and month is formatted as "yyyymm" (example: 201206);
5. The standard unit for OV exit data is m3(35,17)/hr or m3(35,17). The unit is part of the XML message definition;
6. The standard unit for energy is MJ. This is described in the process documentation as referred in table "Referenced documents". This standard unit for energy is not part of the XML message definition;
7. Temperature is in °C.

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[1] This is not the Dutch time zone.

2 Changes due to migration to XML

2.1 Naming

Current	New	Business Term Name	From	To
LALL	LALLNotification	LALL	LDC	TSO/Supplier/Shipper
			TSO	Supplier/Shipper
CONF	LALLAcknowledgement	LCONF	TSO/Supplier/Shipper	LDC
			Supplier/Shipper	TSO
BALL	BALLNotification	BALL	LDC	Supplier
			TSO	Supplier
CONF	BALLAcknowledgement	BCONF	Supplier	LDC
			Supplier	TSO
MINFO	MINFONotification	MINFO	TSO	LDC
CONF	MINFOAcknowledgement	MCONF	LDC	TSO
CINFO	CINFONotification	CINFO	LDC	TSO/Supplier/Shipper
CONF	CINFOAcknowledgement	CCONF	TSO/Supplier/Shipper	LDC
TINFO	TINFONotification	TINFO	TSO	LDC/Supplier/Shipper
CONF	TINFOAcknowledgement	TCONF	LDC/Supplier/Shipper	TSO
RNINFO	RNINFONotification	RNINFO	LDC	TSO/Supplier/Shipper
RNCONF	RNINFOAcknowledgement	RNCONF	TSO/Supplier/Shipper	LDC
RSINFO	RSINFONotification	RSINFO	TSO	Shipper
RSCONF	RSINFOAcknowledgement	RSCONF	Shipper	TSO
XCNTRL	Expired, replaced by other			
N.a.	OVEXITNotification	OVEXIT	LDC	TSO/Shipper
N.a.	OVEXITAcknowledgement	OCONF	TSO/Shipper	LDC

2.2 Transaction pattern

The transaction pattern "Notification / Acknowledgement" is adopted for the XML message definitions for the exchange of allocation and reconciliation information. Therefore, these XML message definitions have a name that ends with:

…Notification (= initiation by the sender)

or

…Acknowledgement (= confirmation of receipt by the receiver).

This pattern is designed to be used as a formal information exchange between parties.

2.3 Date/time period

All hour labels are implemented in the XML message definitions as a "valid from / valid to" period. This is done in order to commit to NEDU IC048 design principle. This design principle prevents possible misunderstanding about the mentioned hour:

The ValidFrom and ValidTo is used to define the hour:

ValidFrom: hour from 2012-06-01T10:00:00Z

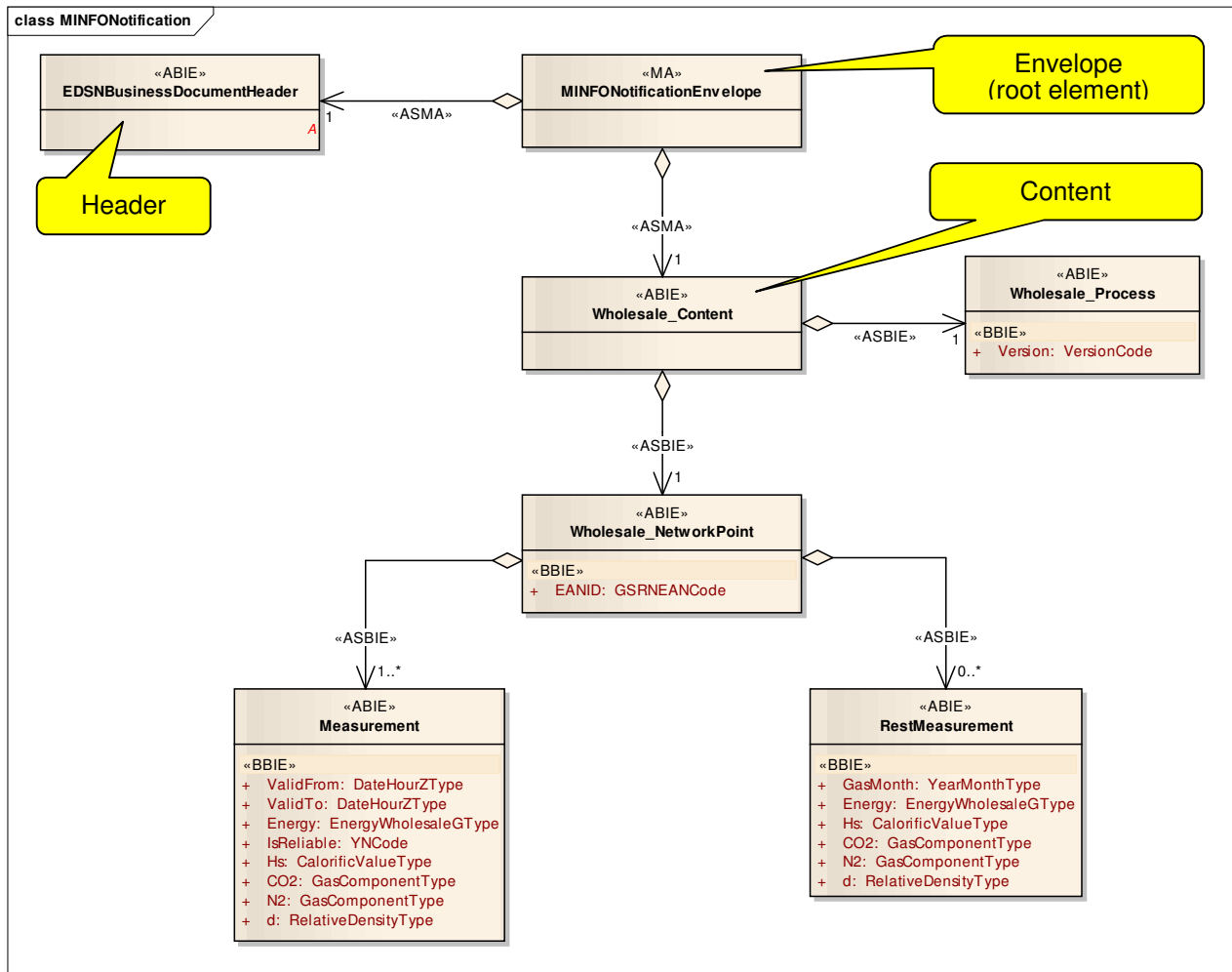ValidTo: hour up to 2012-06-01T11:00:00Z

3 Setup XML message definition

3.1 Design principles

The XML message definition is split up into:
- Header segment (EDSNBusinessDocumentHeader);
- Content segment.

The envelope is the root element of the XML message definition. The class diagram below is an example of the MINFONotification.

3.2 EDSN Business Document Header

The EDSN Business Document Header is standardized for all EDSN XML messages definitions.

The following elements in the EDSN Business Document Header are required for the XML message definitions for the exchange of allocation and reconciliation information:

Identifier	Description
CreationTimestamp	Required date/time of the creation of the XML message. Formatted as W3C Date and Time Formats (an ISO 8601 Profile).
CorrelationID	Optional identifier to relate an Acknowledgment to the originating Notification.
MessageID	Required unique identifier to identify the XML message. Must be unique for the sender and is issued by the sender of the XML message. The MessageID must be limited by the sender to a maximum of 35 characters.
Source > SenderID	Required identifier market party (EAN ID).
Destination > Receiver > ReceiverID	Required identifier market party (EAN ID).

3.3 EDSN data types

Detailed information about the EDSN data types, as mentioned in the description of the UML class diagrams, is available on *mijn*EDSN:

- EDSN Enumeration Library (PDF document);
- EDSN Complex Data Type Library (PDF document);
- EDSN Logical Data Type Library (PDF document).

Please note that all three libraries are used for UML class diagrams of other processes as well. Therefore, all three libraries will contain data types that are not applied in the UML class diagrams in this document.
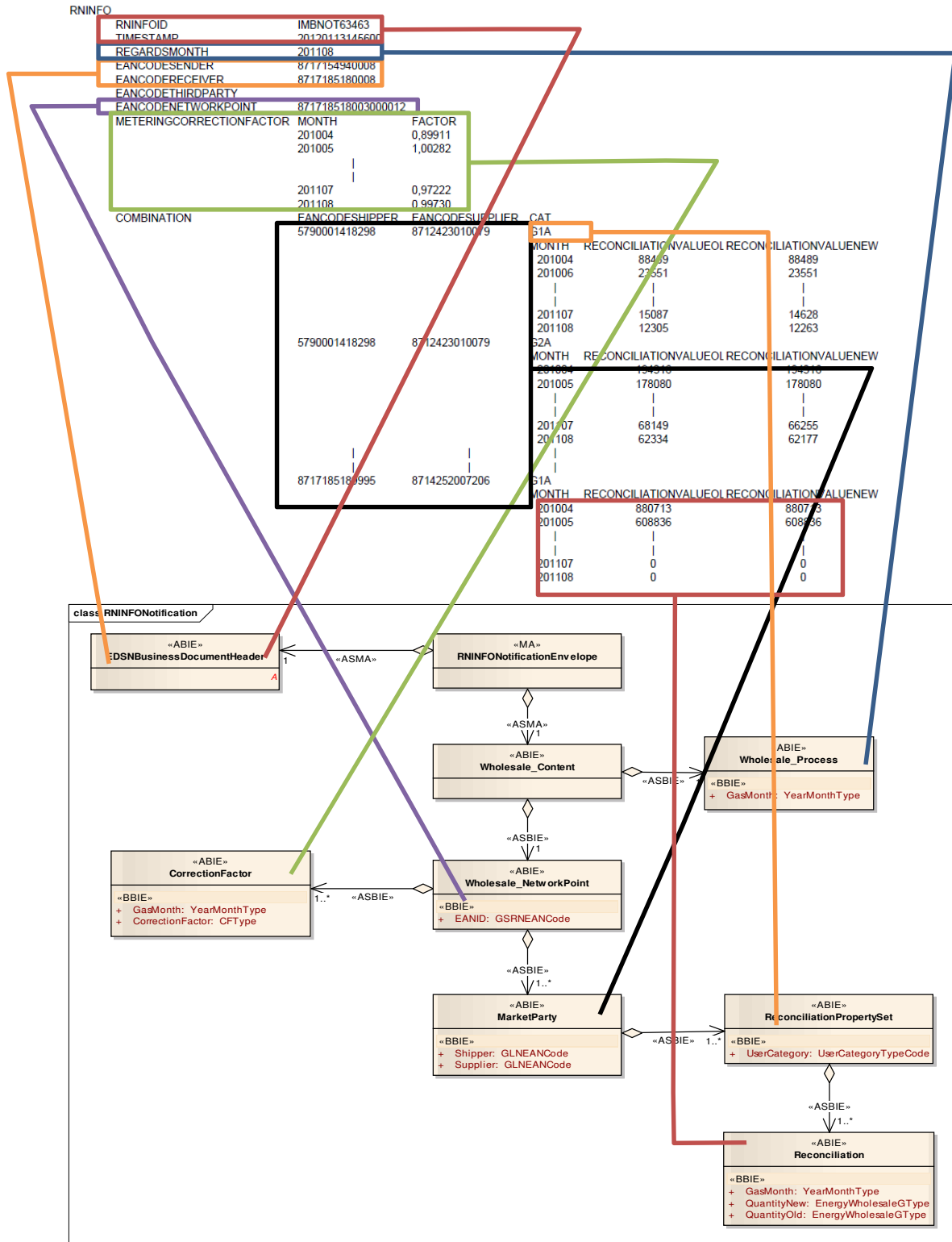
4 From Edig@s to XML

4.1 Introduction

This chapter shows by example the difference in structure between Edig@s RNINFO and the XML message definition RNINFONotification. This example can be used to understand the differences between the structure of Edig@s and the XML message definition.
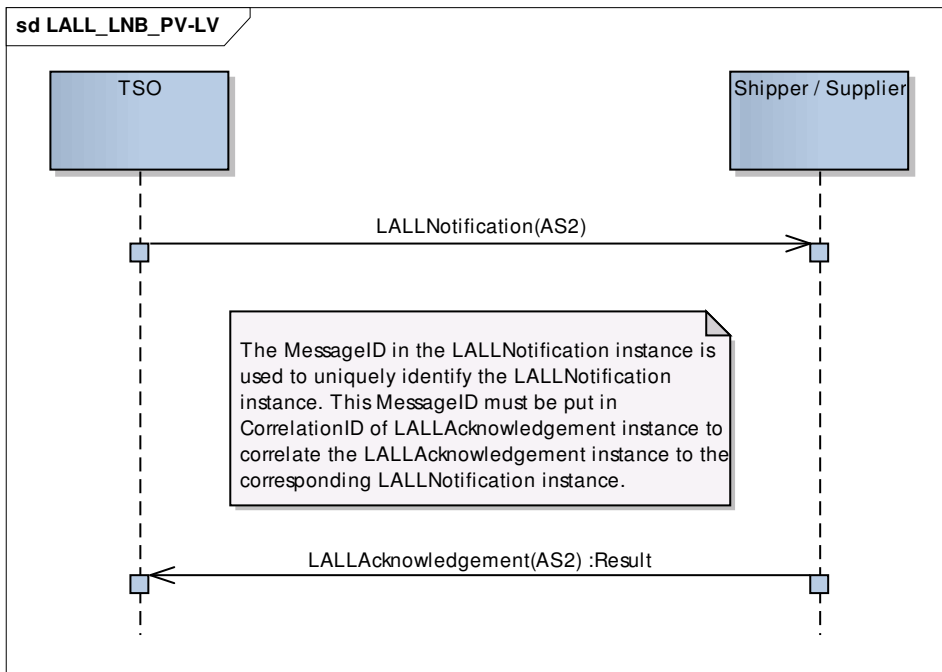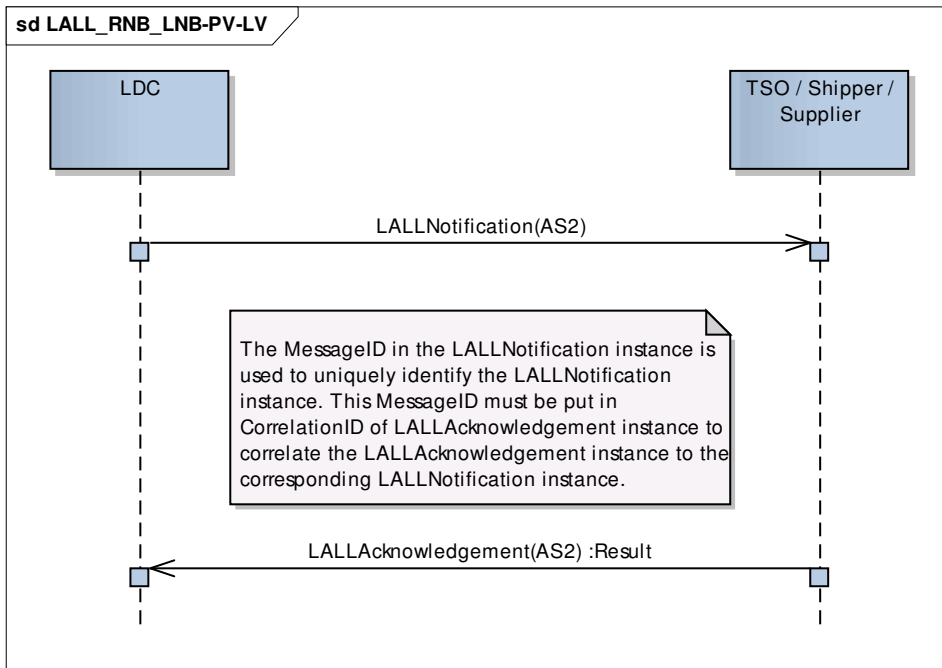
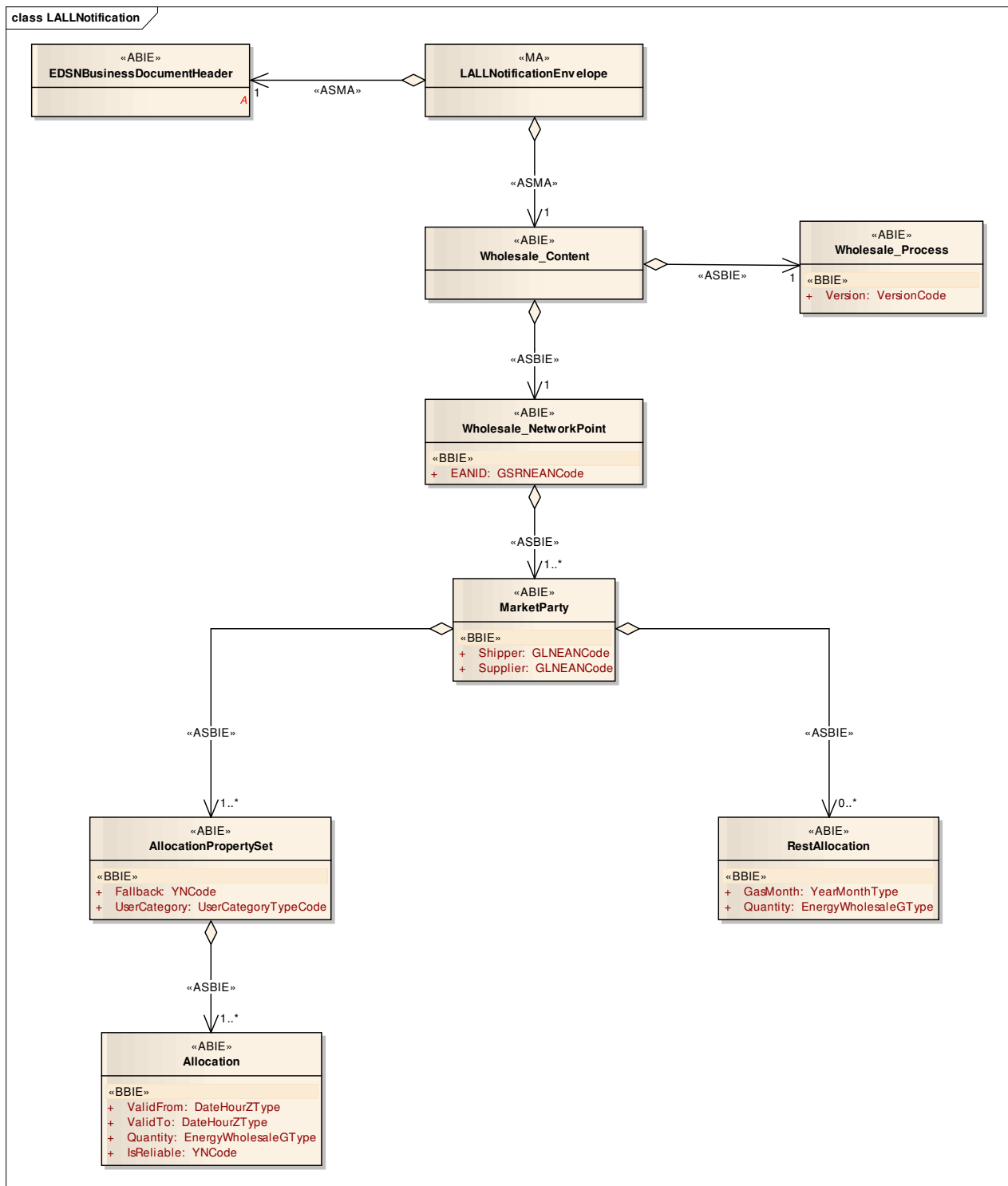## 4.2 Mapping

5 Allocation – LALL

LALLNotification is the message from LDC/GTS to a shipper or supplier, stating the allocation per shipper/supplier combination per category per network point.

Detailed process information is available in referred document "Wholesale gas - Allocation messaging process".

5.1 Sequence diagram

sd LALL_RNB_LNB-PV-LV

```
     LDC                                    TSO / Shipper /
                                              Supplier

      │──────── LALLNotification(AS2) ──────────▶│
      ▣                                          ▣

              ┌─────────────────────────────────────┐
              │ The MessageID in the LALLNotification│
              │ instance is used to uniquely identify│
              │ the LALLNotification instance. This  │
              │ MessageID must be put in             │
              │ CorrelationID of LALLAcknowledgement │
              │ instance to correlate the            │
              │ LALLAcknowledgement instance to the  │
              │ corresponding LALLNotification       │
              │ instance.                            │
              └─────────────────────────────────────┘

      │◀──── LALLAcknowledgement(AS2) :Result ───│
      ▣                                          ▣
```

sd LALL_LNB_PV-LV

```
     TSO                                     Shipper / Supplier

      │──────── LALLNotification(AS2) ──────────▶│
      ▣                                          ▣

              ┌─────────────────────────────────────┐
              │ The MessageID in the LALLNotification│
              │ instance is used to uniquely identify│
              │ the LALLNotification instance. This  │
              │ MessageID must be put in             │
              │ CorrelationID of LALLAcknowledgement │
              │ instance to correlate the            │
              │ LALLAcknowledgement instance to the  │
              │ corresponding LALLNotification       │
              │ instance.                            │
              └─────────────────────────────────────┘

      │◀──── LALLAcknowledgement(AS2) :Result ───│
      ▣                                          ▣
```

5.2 UML class diagram

5.3 Description UML class diagram

Allocation

Attribute	Data type	Multiplicity	Description
ValidFrom	DateHourZType	1..1	Valid from in UTC hour notation
ValidTo	DateHourZType	1..1	Valid to in UTC hour notation
Quantity	EnergyWholesaleGType	1..1	Energy in MJ
IsReliable	YNCode	1..1	Allocation reliable, yes (Y) or no (N)

AllocationPropertySet

Attribute	Data type	Multiplicity	Description
Fallback	YNCode	1..1	Allocation are the result of fallback (Y) or not (N)
UserCategory	UserCategoryType Code	1..1	User category

RestAllocation

Attribute	Data type	Multiplicity	Description
GasMonth	YearMonthType	1..1	Year and month (yyyymm)
Quantity	EnergyWholesaleG Type	1..1	Quantity in MJ

Wholesale_NetworkPoint

Attribute	Data type	Multiplicity	Description
EANID	GSRNEANCode	1..1	EAN18 code networkpoint

Wholesale_Process

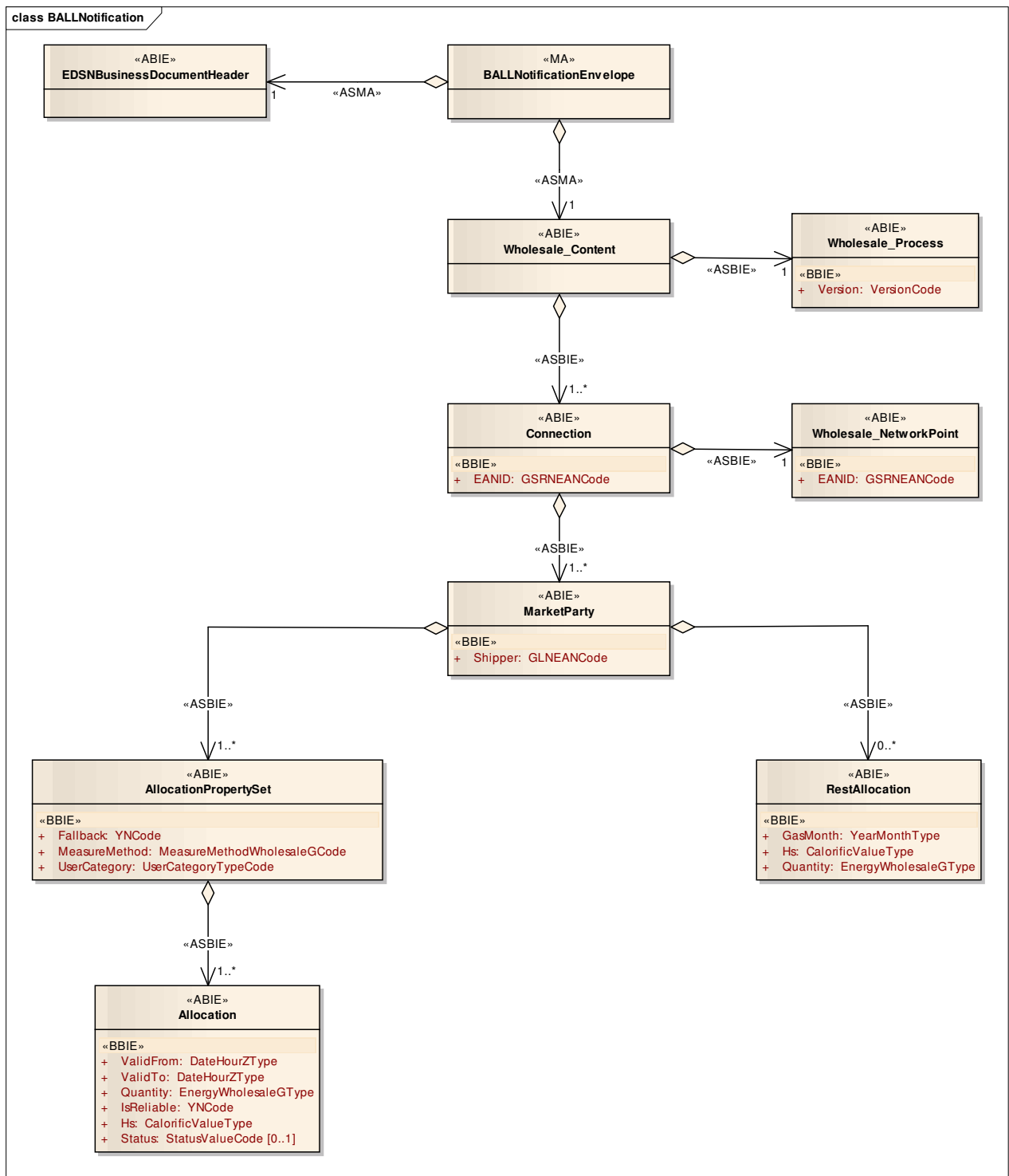| Attribute	Data type	Multiplicity	Description
Version	VersionCode	1..1	Version

6 Allocation – BALL

BALLNotification is the message from LDC/GTS to a supplier, stating the allocation per connection per supplier.

Detailed process information is available in referred document "Wholesale gas - Allocation messaging process".

6.1 Sequence diagram
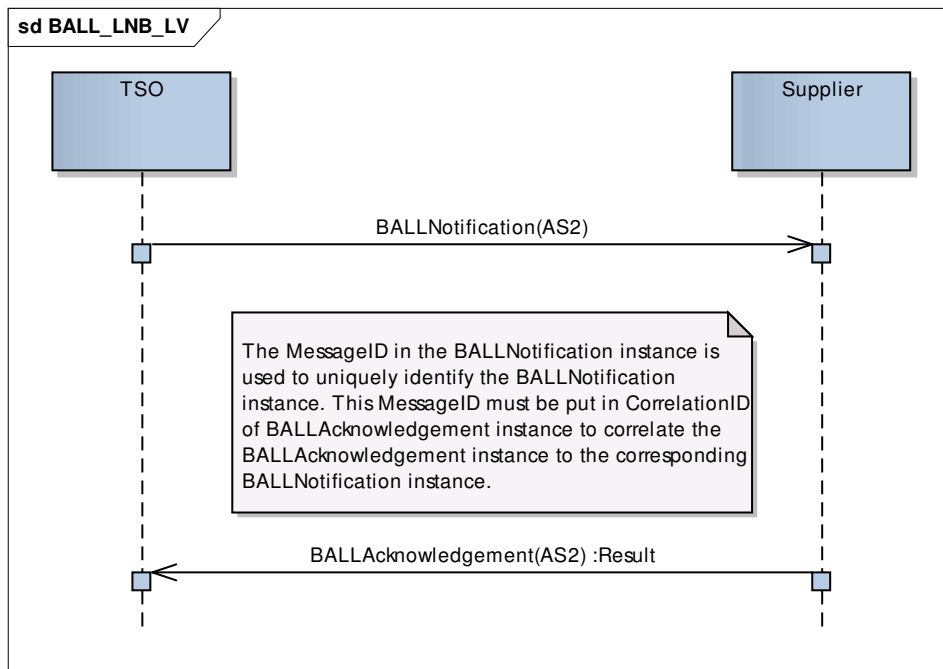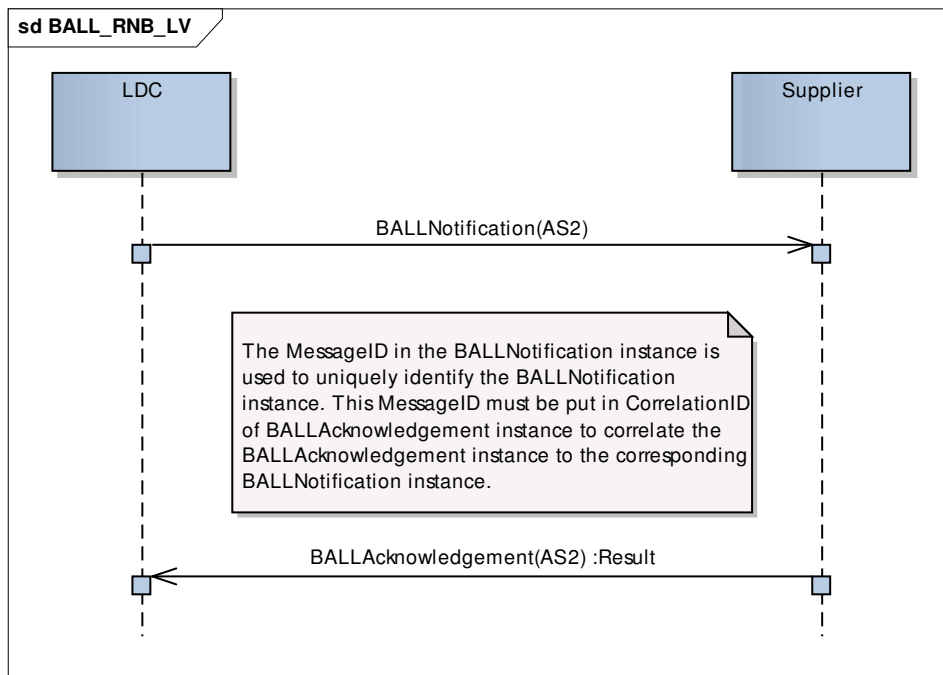
6.2 UML class diagram

6.3 Description UML class diagram

Allocation

Attribute	Data type	Multiplicity	Description
ValidFrom	DateHourZType	1..1	Valid from in UTC hour notation
ValidTo	DateHourZType	1..1	Valid to in UTC hour notation
Quantity	EnergyWholesaleGType	1..1	Energy in MJ
IsReliable	YNCode	1..1	Allocation reliable, yes (Y) or no (N)
Hs	CalorificValueType	1..1	Calorific value (decimal)

Attribute	Data type	Multiplicity	Description
Status	StatusValueCode	0..1	No value as default (i.e. optional). Status of the allocation value (between brackets the description): 17G (Value automatically repaired); 18G (Value copied from previous period); 19G (Value negotiated between parties); 20G (Value estimated by Network company); 21G (Value estimated by Network company, after consultation of other parties).

AllocationPropertySet

Attribute	Data type	Multiplicity	Description
Fallback	YNCode	1..1	Allocation are the result of fallback (Y) or not (N)
MeasureMethod	MeasureMethodWholesaleGCode	1..1	Measure method: measurement (M) or calculation (C)
UserCategory	UserCategoryTypeCode	1..1	User category

Connection

Attribute	Data type	Multiplicity	Description
EANID	GSRNEANCode	1..1	EAN18 code connectionpoint

RestAllocation

Attribute	Data type	Multiplicity	Description
GasMonth	YearMonthType	1..1	Year and month (yyyymm)
Hs	CalorificValueType	1..1	Calorific value (decimal)
Quantity	EnergyWholesaleGType	1..1	Quantity in MJ

Wholesale_NetworkPoint

Attribute	Data type	Multiplicity	Description
EANID	GSRNEANCode	1..1	EAN18 code networkpoint

Wholesale_Process

Attribute	Data type	Multiplicity	Description
Version	VersionCode	1..1	Version

7   Allocation – MINFO

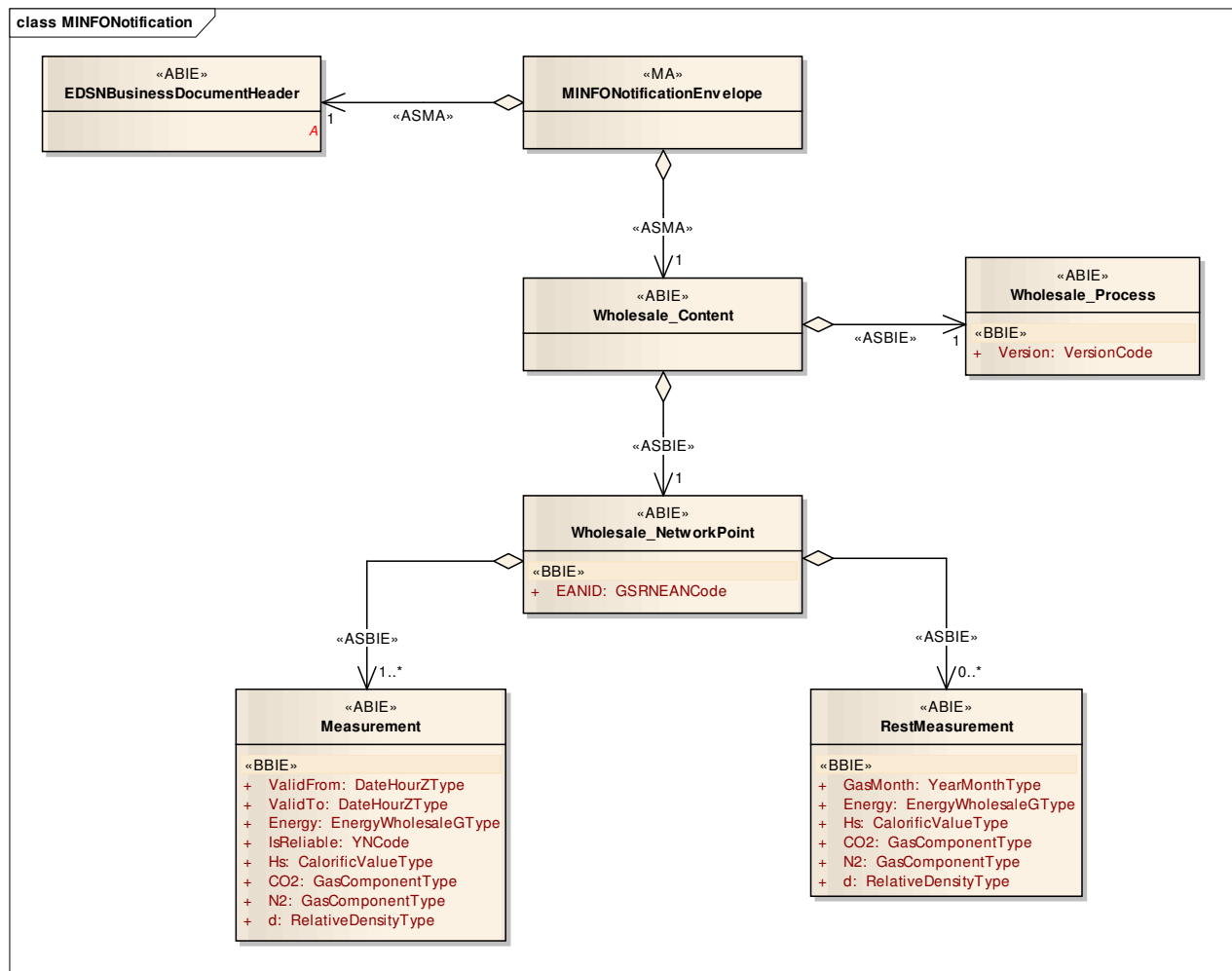MINFONotification is the message from GTS to LDC, stating the measurements at a network point.

Detailed process information is available in referred document "Wholesale gas - Allocation messaging process".

7.1   Sequence diagram
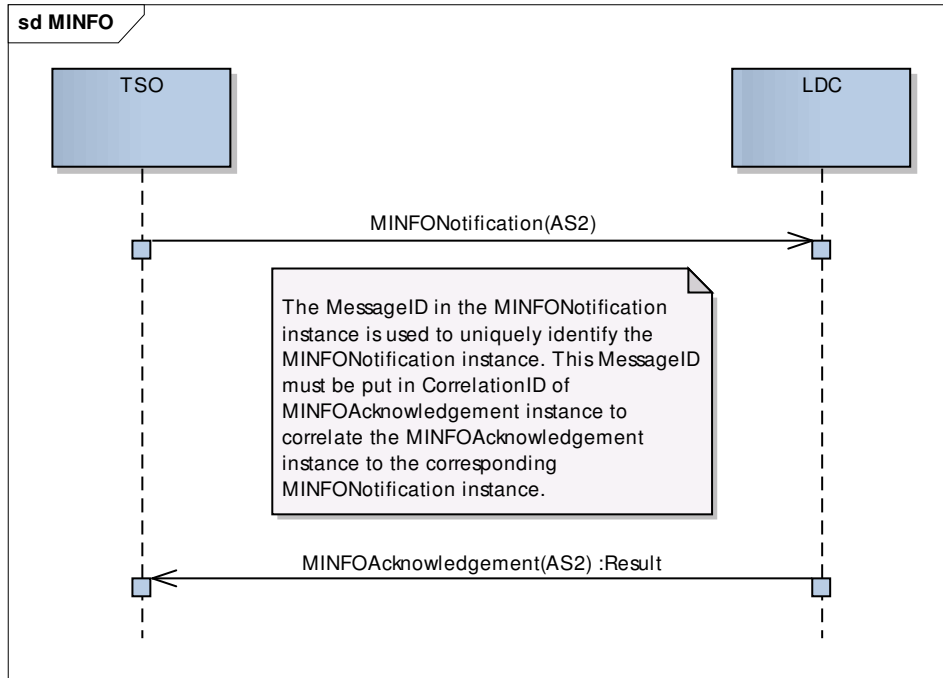
7.2   UML class diagram

7.3   Description UML class diagram

Measurement

Attribute	Data type	Multiplicity	Description
ValidFrom	DateHourZType	1..1	Valid from in UTC hour notation
ValidTo	DateHourZType	1..1	Valid to in UTC hour notation
Energy	EnergyWholesaleGType	1..1	Energy in MJ
IsReliable	YNCode	1..1	Measurement reliable, yes (Y) or no (N)
Hs	CalorificValueType	1..1	Calorific value (decimal)
CO2	GasComponentType	1..1	Gas component CO2 in % (decimal)
N2	GasComponentType	1..1	Gas component N2 in % (decimal)
d	RelativeDensityType	1..1	Relative density (decimal)

RestMeasurement

Attribute	Data type	Multiplicity	Description
GasMonth	YearMonthType	1..1	Year and month (yyyymm) of rest measurement
Energy	EnergyWholesaleGType	1..1	Energy in MJ
Hs	CalorificValueType	1..1	Calorific value (decimal)
CO2	GasComponentType	1..1	Gas component CO2 in % (decimal)
N2	GasComponentType	1..1	Gas component N2 in % (decimal)

Attribute	Data type	Multiplicity	Description
d	RelativeDensityType	1..1	Relative density (decimal)

Wholesale_NetworkPoint

Attribute	Data type	Multiplicity	Description
EANID	GSRNEANCode	1..1	EAN18 code networkpoint

Wholesale_Process

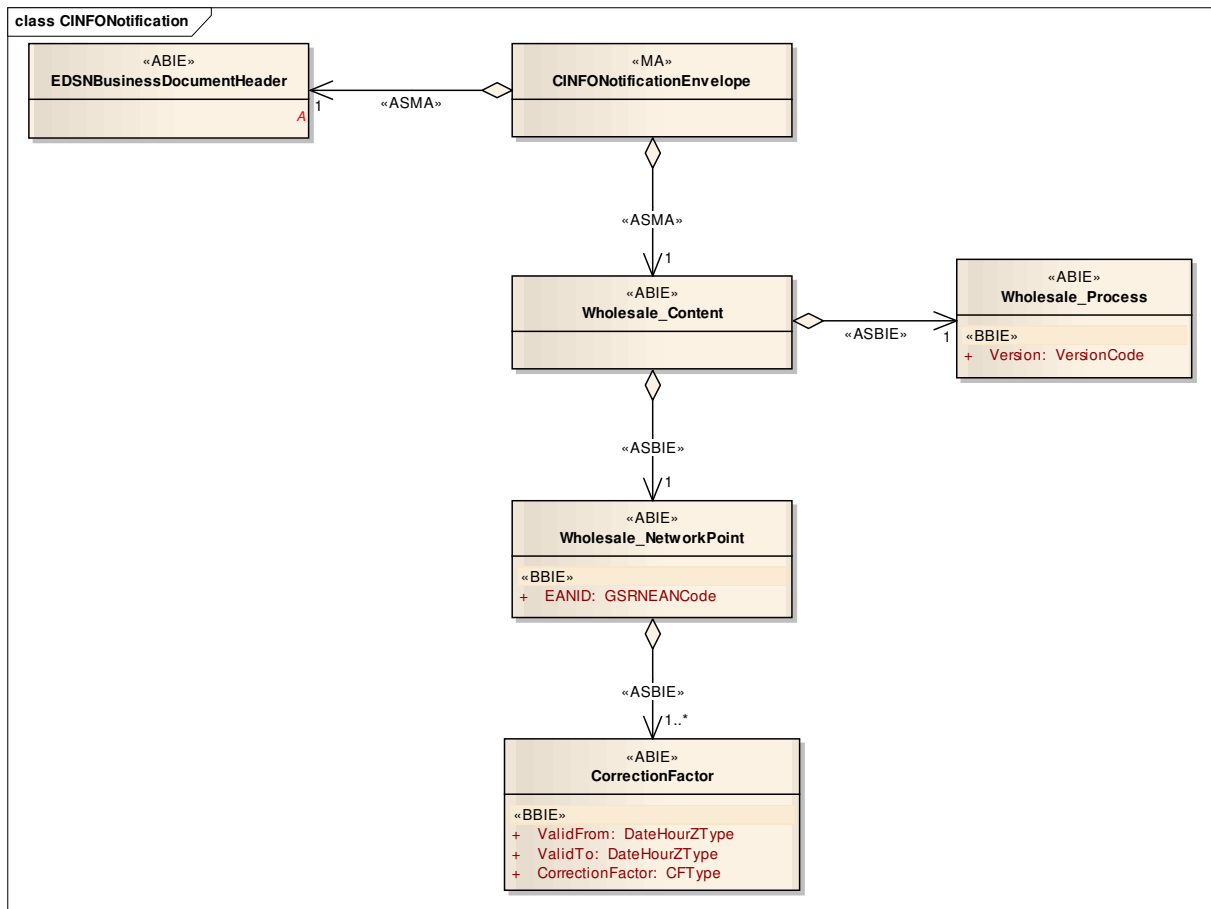| Attribute	Data type	Multiplicity	Description
Version	VersionCode	1..1	Version

8   Allocation – CINFO

CINFONotification is the message from LDC to GTS, a shipper and supplier, stating the measurement correction factor per network point.

Detailed process information is available in referred document "Wholesale gas - Allocation messaging process".

8.1   Sequence diagram
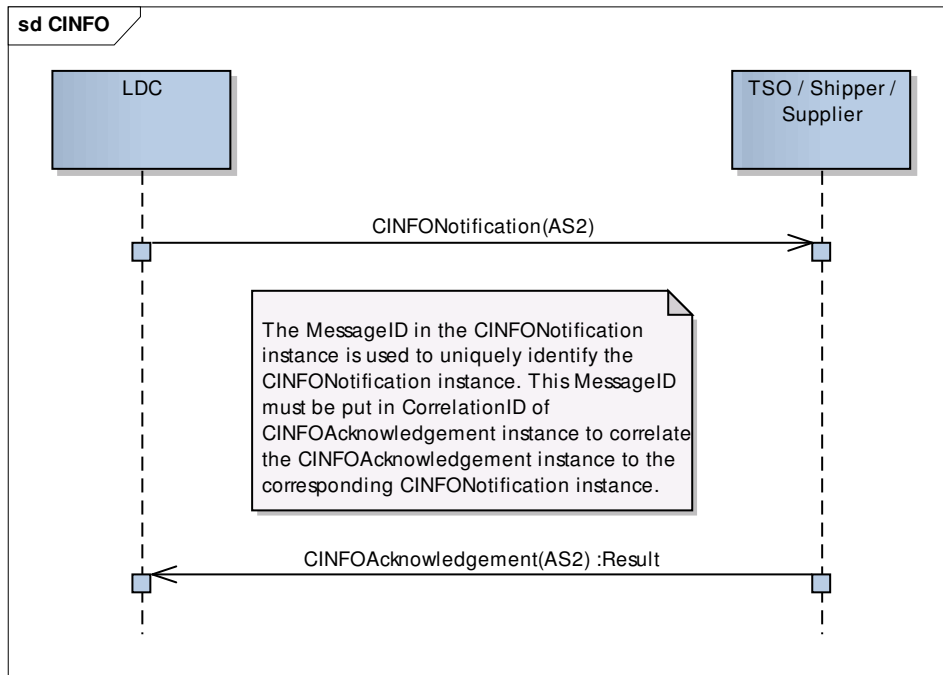
8.2   UML class diagram

8.3   Description UML class diagram

CorrectionFactor

Attribute	Data type	Multiplicity	Description
ValidFrom	DateHourZType	1..1	Valid from in UTC hour notation
ValidTo	DateHourZType	1..1	Valid to in UTC hour notation
CorrectionFactor	CFType	1..1	Correction factor (decimal)

Wholesale_NetworkPoint

Attribute	Data type	Multiplicity	Description
EANID	GSRNEANCode	1..1	EAN18 code networkpoint

Wholesale_Process

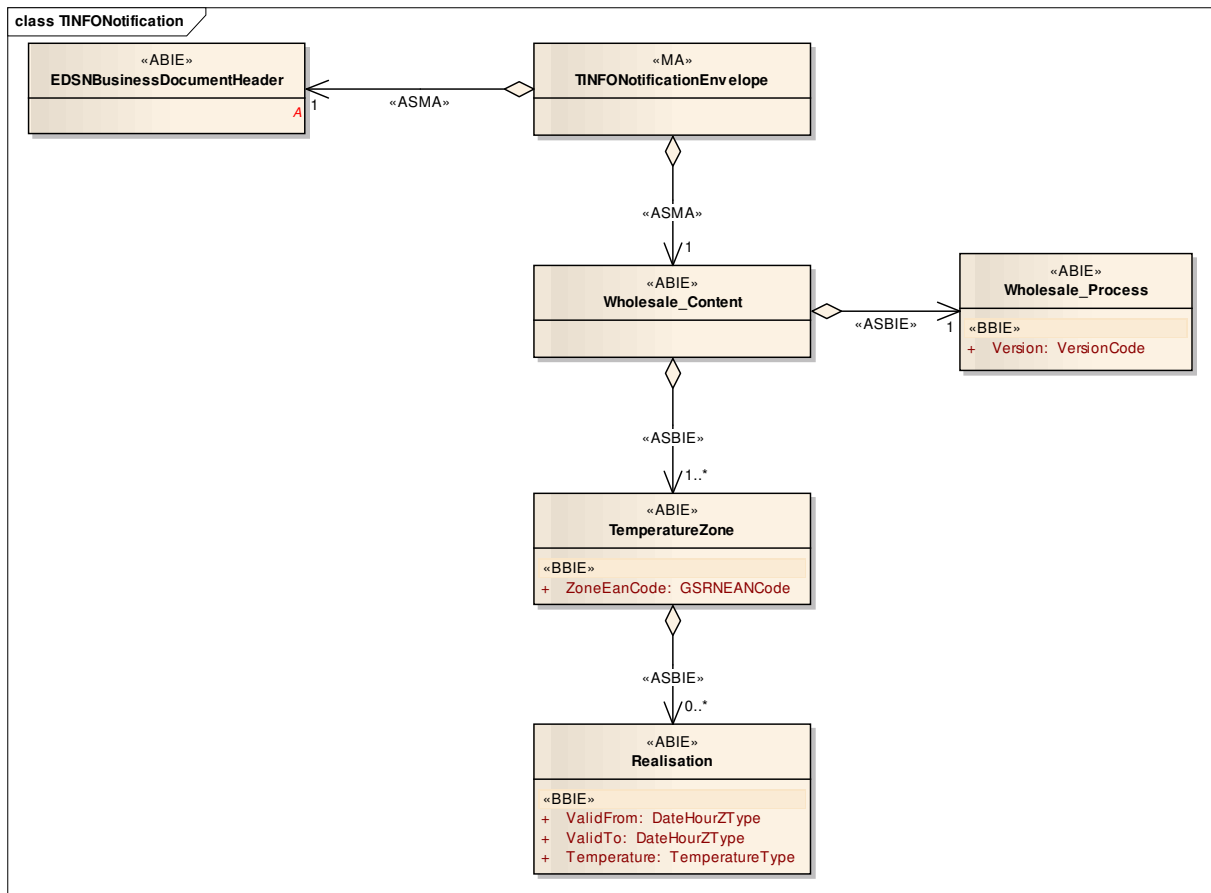| Attribute	Data type	Multiplicity	Description
Version	VersionCode	1..1	Version

9   Allocation – TINFO

TINFONotification is the daily message from GTS to LDC, shipper and supplier, stating the realised temperature per temperature zone.

Detailed process information is available in referred document "Wholesale gas - Allocation messaging process".

9.1   Sequence diagram
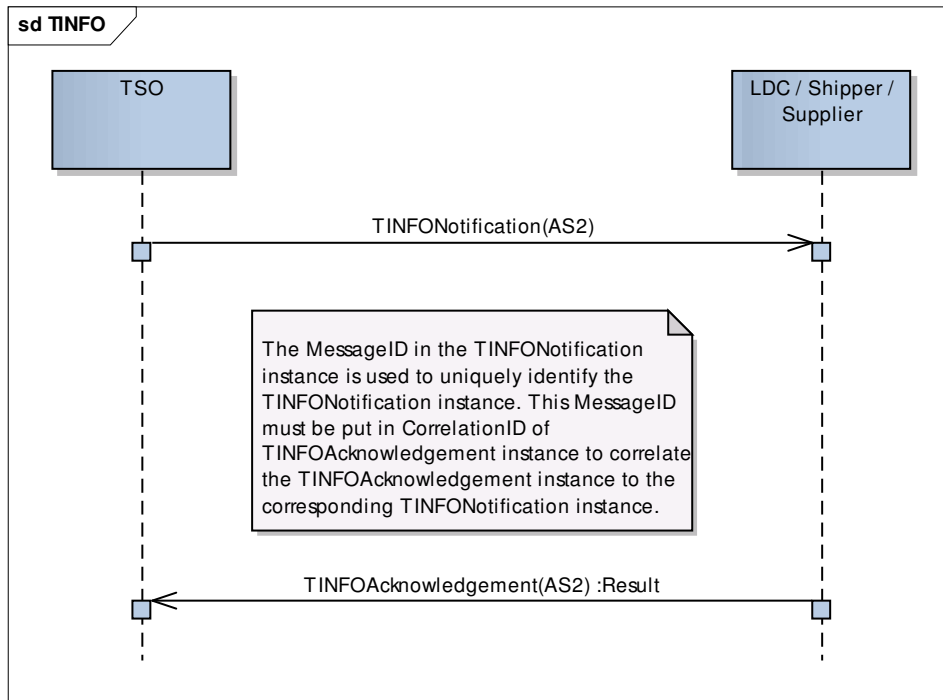
9.2   UML class diagram

9.3   Description UML class diagram

Realisation

Attribute	Data type	Multiplicity	Description
ValidFrom	DateHourZType	1..1	Valid from in UTC hour notation
ValidTo	DateHourZType	1..1	Valid to in UTC hour notation
Temperature	TemperatureType	1..1	Temperature (decimal)

TemperatureZone

Attribute	Data type	Multiplicity	Description
ZoneEanCode	GSRNEANCode	1..1	EAN18 code temperature zone

Wholesale_Process

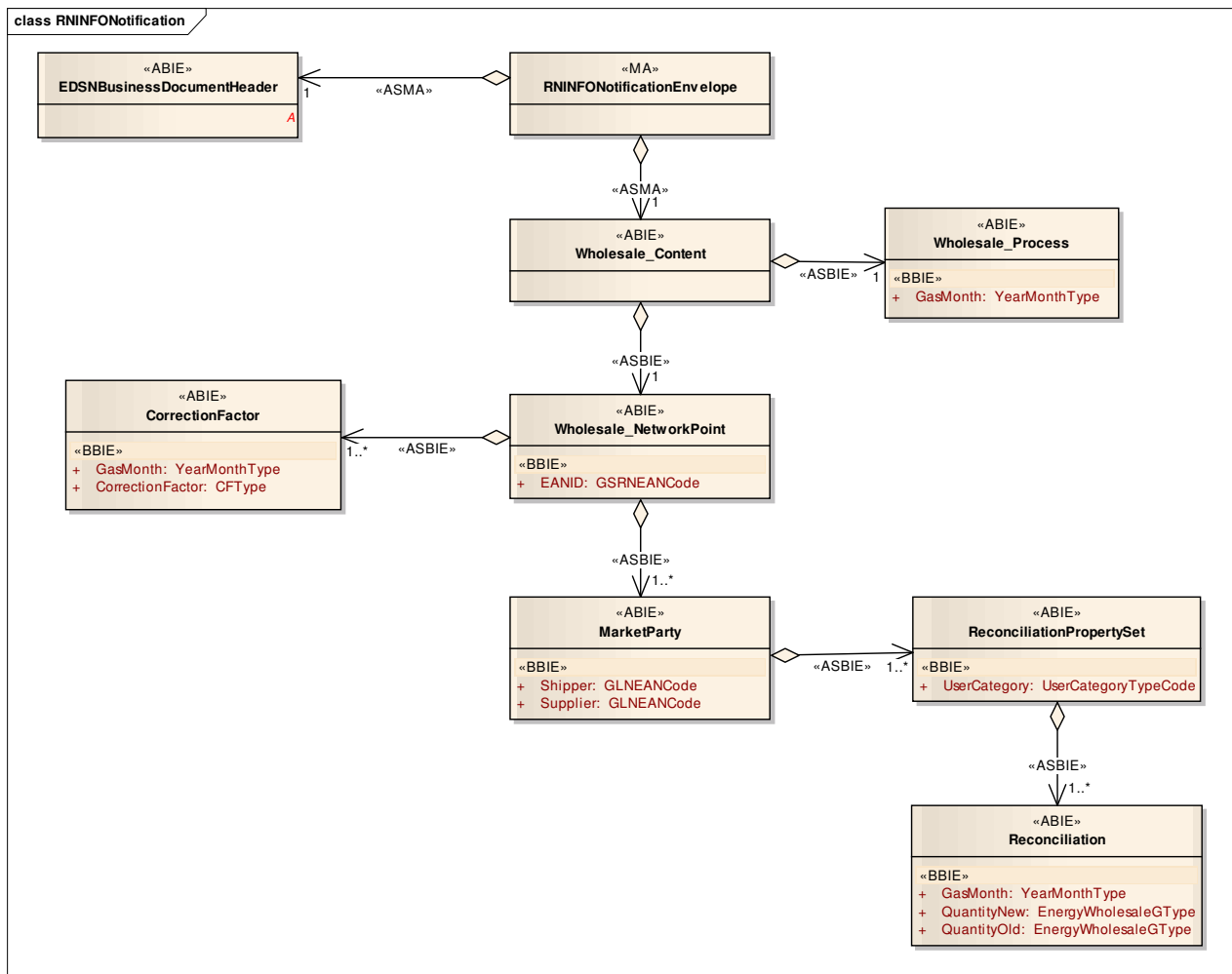| Attribute	Data type	Multiplicity	Description
Version	VersionCode	1..1	Version

10   Reconciliation – RNINFO

RNINFONotification is the message from LDC to TSO, shipper and supplier, stating the ascertained deviations as a result of the reconciliation process at the network points for the previous 17 months.

Detailed process information is available in referred document "Wholesale gas - Reconciliation messaging process".

10.1   Sequence diagram
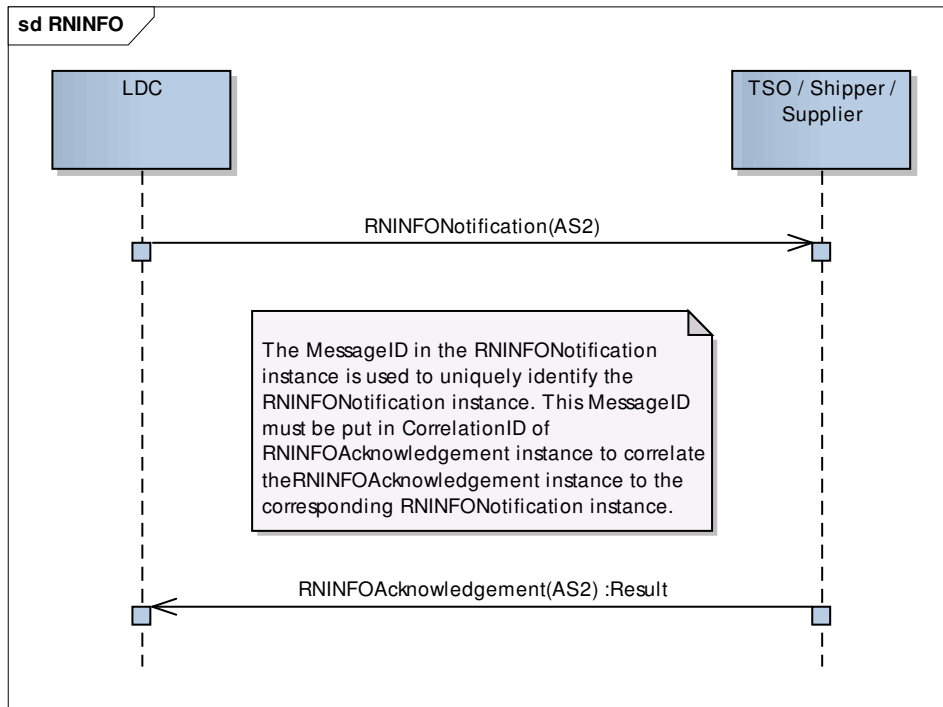
10.2 UML class diagram

10.3 Description UML class diagram

CorrectionFactor

Attribute	Data type	Multiplicity	Description
GasMonth	YearMonthType	1..1	Year and month (yyyymm)
CorrectionFactor	CFType	1..1	Correction factor (decimal)

Reconciliation

Attribute	Data type	Multiplicity	Description
GasMonth	YearMonthType	1..1	Year and month (yyyymm)
QuantityNew	EnergyWholesaleG Type	1..1	Quantity reconciliation new in MJ
QuantityOld	EnergyWholesaleG Type	1..1	Quantity reconciliation old in MJ

ReconciliationPropertySet

Attribute	Data type	Multiplicity	Description
UserCategory	UserCategoryType Code	1..1	User category

Wholesale_NetworkPoint

Attribute	Data type	Multiplicity	Description
EANID	GSRNEANCode	1..1	EAN18 code networkpoint

Wholesale_Process

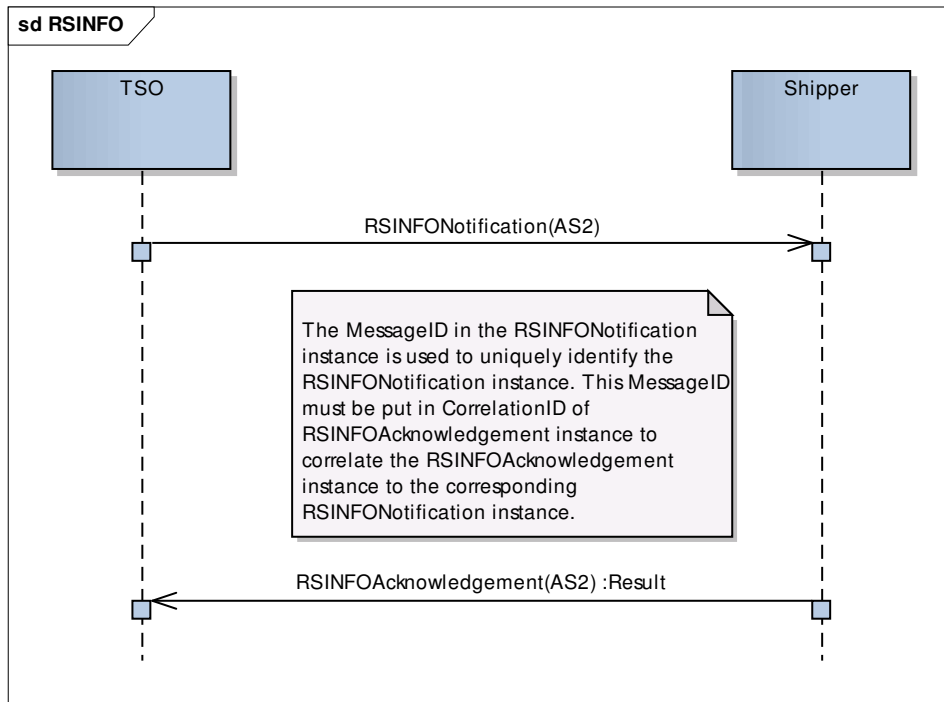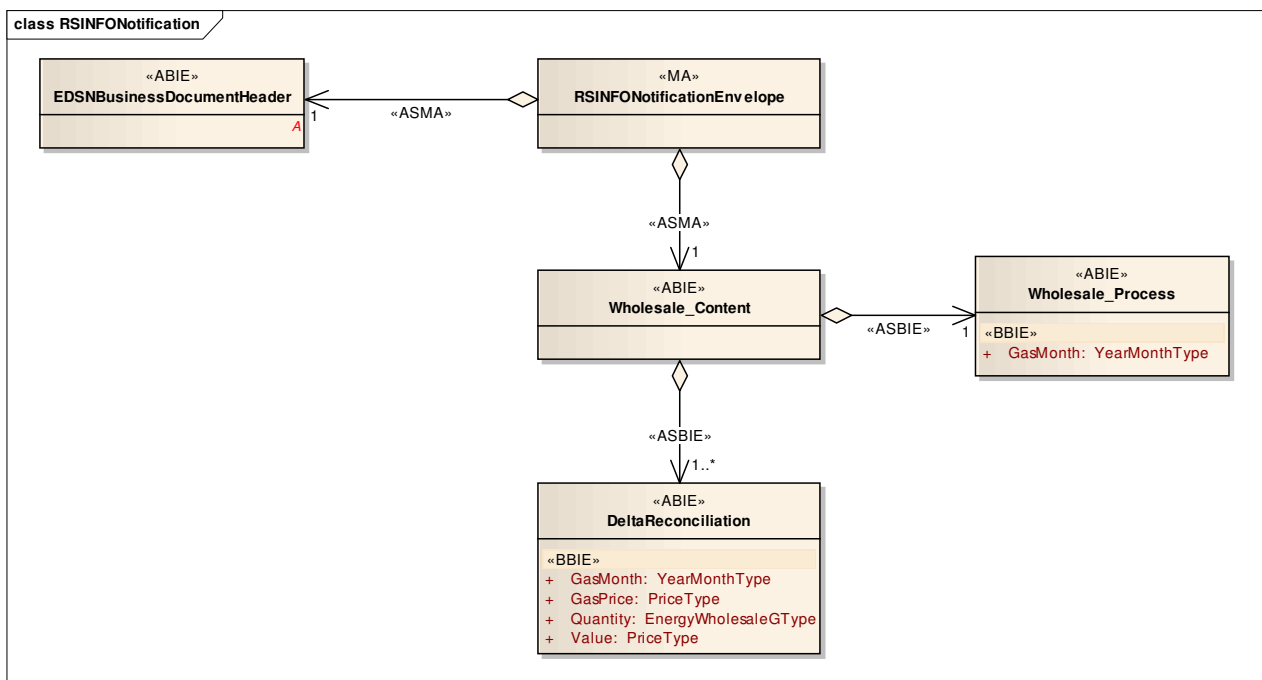| Attribute	Data type	Multiplicity	Description
GasMonth	YearMonthType	1..1	Year and month (yyyymm)

11 Reconciliation – RSINFO

RSINFONotification is the message from TSO to shipper, stating the ascertained deviations as a result of the reconciliation process at the network points for the previous 17 months, including the financial consequences of this.

Detailed process information is available in referred document "Wholesale gas - Reconciliation messaging process".

11.1 Sequence diagram

11.2 UML class diagram

11.3 Description UML class diagram

DeltaReconciliation

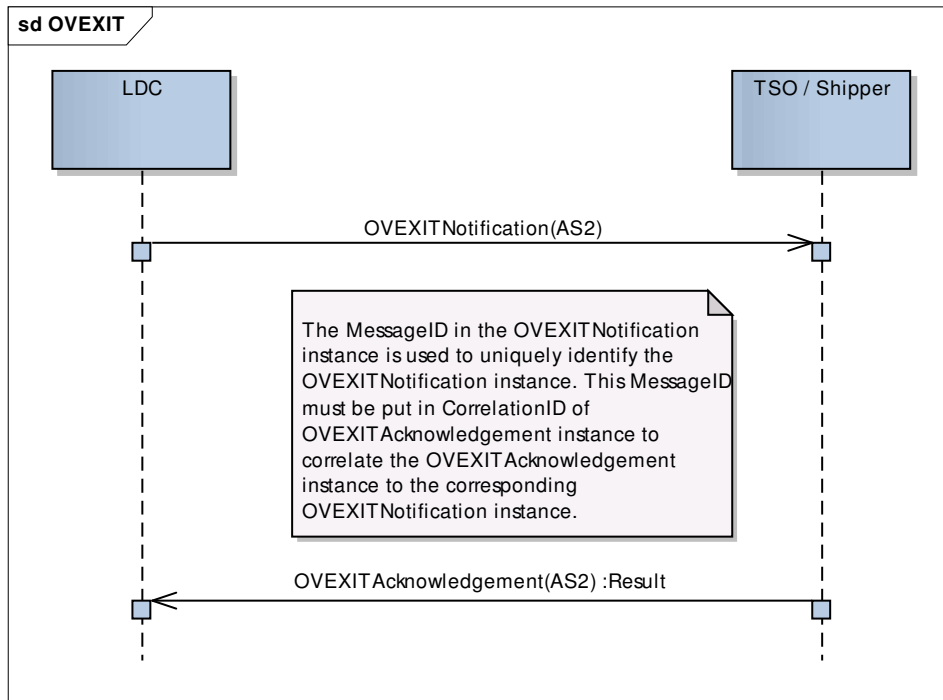| Attribute	Data type	Multiplicity	Description
GasMonth	YearMonthType	1..1	Year and month (yyyymm)
GasPrice	PriceType	1..1	Gas price (decimal)
Quantity	EnergyWholesaleG Type	1..1	Quantity reconciliation delta in MJ
Value	PriceType	1..1	Value (amount of money) (decimal)

Wholesale_Process

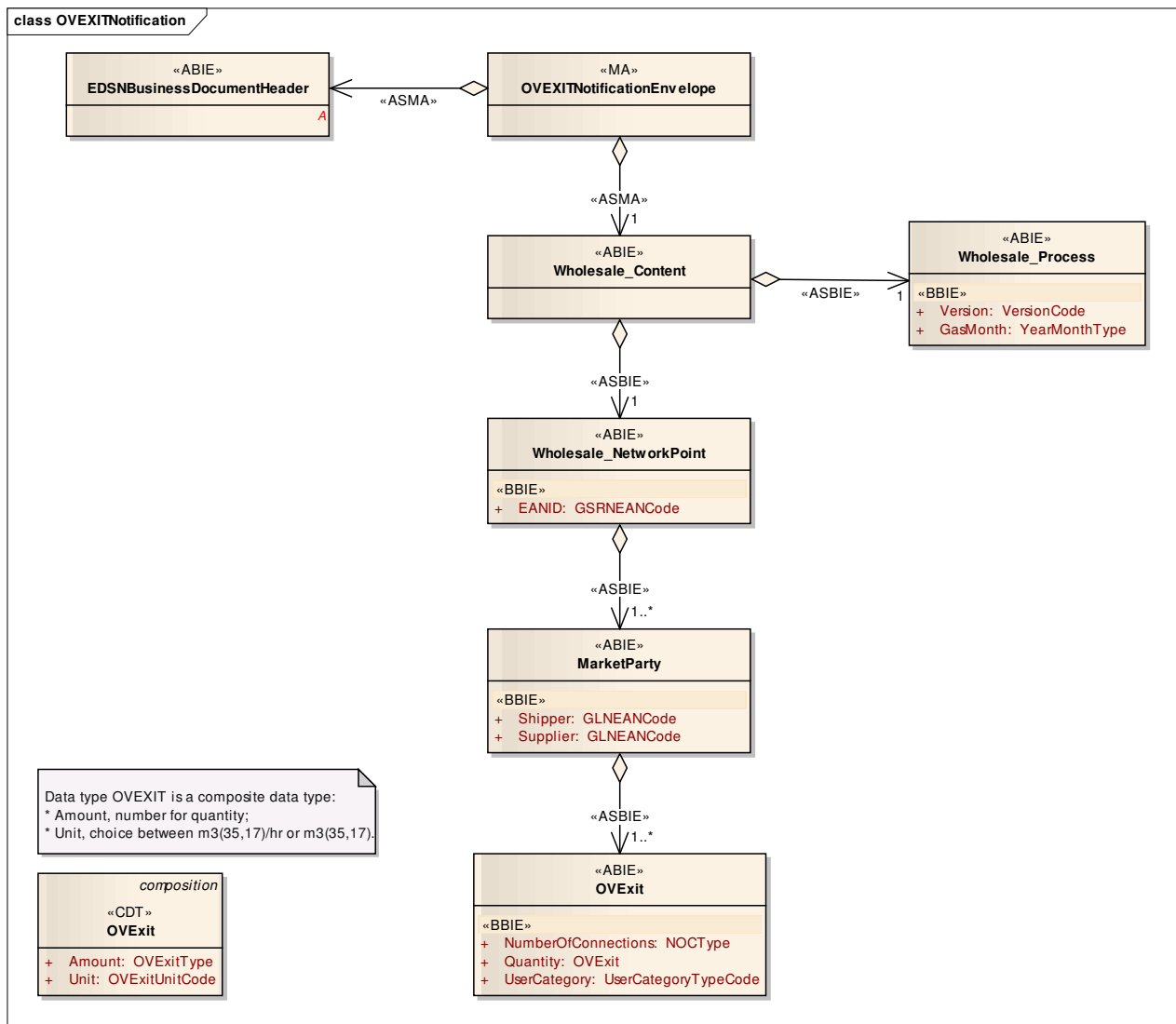| Attribute	Data type	Multiplicity	Description
GasMonth	YearMonthType	1..1	Year and month (yyyymm)

12 OV exit data – OVEXIT

OVEXITNotification is the message from LDC to GTS and a shipper, stating the OV-exit aggregated capacity data for a month.

Detailed process information is available in referred document "Wholesale gas - Allocation messaging process".

12.1 Sequence diagram

12.2   UML class diagram

12.3   Description UML class diagram

OVExit

Attribute	Data type	Multiplicity	Description
NumberOfConnections	NOCType	1..1	Number of connections
Quantity	OVExit	1..1	Quantity as max capacity in m3(35,17)/hr (Unit is M33517HR) or Quantity as standard yearly consumption in m3(35,17) (Unit is M33517)
UserCategory	UserCategoryTypeCode	1..1	User category

Wholesale_NetworkPoint

Attribute	Data type	Multiplicity	Description
EANID	GSRNEANCode	1..1	EAN18 code networkpoint

Wholesale_Process

Attribute	Data type	Multiplicity	Description
Version	VersionCode	1..1	Version
GasMonth	YearMonthType	1..1	Year and month (yyyymm)

13 Acknowledgements

13.1 About Acknowledgements

All Acknowledgements do have an identical structure. Only the root tag, the name of the XML message definition, differs.

13.2 UML class diagram
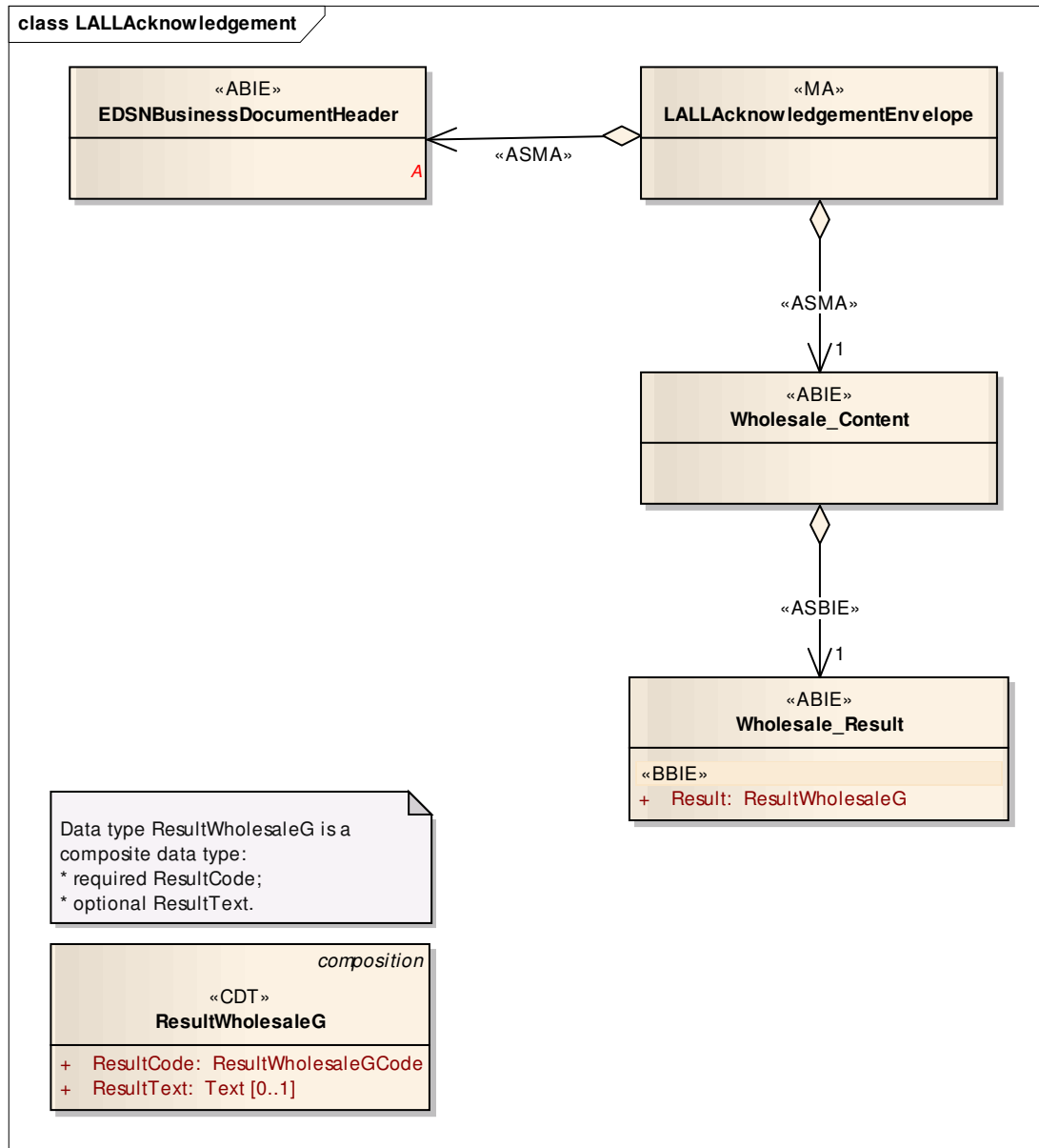
13.3 Description UML class diagram

Wholesale_Result

Attribute	Data type	Multiplicity	Description
Result	ResultWholesaleG	1..1	Result code and result text (optional).

13.4 Result codes

Detailed information about result codes is available in referred document "Wholesale gas - Allocation messaging process" and "Wholesale gas - Reconciliation messaging process".

Code	Description
000	Correct
40G	Syntactical error
41G	Semantic error
42G	Unequal sum of allocations
43G	Too many metering points
44G	Unregistered party
45G	Unknown party identification
46G	Unknown location identification
47G	Incomplete period
48G	Other error
49G	Unequal sum of rest volumes
50G	Message already accepted
51G	No matching MINFO available
52G	Message received after deadline
55G	Incorrect number of months in message
56G	Reconciliation value old does not match reconciliation value new in previous message (only in RNCONF)
57G	Delta reconciliation (energy) in RSINFO does not match summed values in RNINFO (only in RSCONF)
58G	Gas price for specific month does not match with previous message (only in RSCONF)
59G	Delta reconciliation (monetary value) is incorrect (only in RSCONF)
60G	Reconciliation old does not match reconciliation new (only in RNCONF)
61G	User category is unknown or no longer in use
62G	Capacity unit does not match with the user category
63G	Plausibility check returned an error: number of connections is wrong
64G	Plausibility check returned an error: sum of EAC is wrong[2]

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[2] EAC = Estimated Annual Consumption, in Dutch SJV (Standaard Jaarverbruik).