Minutes ETC meeting, September 26th and 27th, 2023	European forum for energy Business Information eXchange
October 6th, 2023	ETC – ebIX® Technical Committee

Date: Thursday September 26th and 27th, 2023
Time: 9:00 – 17:00 and 09:00 – 15:30
Place: Svenska kraftnät in Sundbyberg (Stockholm)

Present: Jan (NL), EDSN
Jan (SE), Svenska kraftnät
Kees, ebIX®
Ove, ebIX®

Appendix A: ebIX® rules for how to make MRs to WG16
Appendix B: Mapping from ebIX® class diagrams for Validated measured data for continuous metered AP to CIM

Attachment:

1. Appendixes for ETC minutes (docx)
2. ETC workplan (see ebIX® file manager at https://filemanager.ebix.org/#)

1 Approval of agenda

The agenda was approved with the following addition:

- Addition of new Energy Product Identifications, see item 8.2.

Prioritised items:

1) Review of non-submitted MRs from the ETC Excel sheet - focus item, see item 6.1.4.
2) MRs to discuss, see item 6.2.2.
3) Request for new Sector Area Identification Code from NL, see item 8.1.
4) Status for HG (and ENTSO-E) discussions related to MR for the new domain (or CIM object) Grid Connection, see item 9.4.

2 Approval of minutes from previous meetings

The minutes from previous meeting were approved after addition of a sentence under item 8.1 “The Netherlands will temporarily use the code **Z31**, since 31 is the next code in sequence in the UN/CEFACT code list and “Z” is used to note it as temporary.”.

3 Resolve matters related to close down of ebIX®

3.1 Status after ebIX® Forum meeting September 20th

At the ebIX® Forum meeting September 20th, EBG and ETC were asked to make a list over prioritised documents (tasks) to handover to JWG and/or EU DSO Entity.

ETC prioritised documents (tasks) to handover to JWG and/or EU DSO Entity:

- MRs to CIM, including:
  - EA cloud repository for sharing draft ESDMP, MR artefacts and reference models
  - Excel overview of all MRs already sent to IEC and new MRs to agree and send

- ebIX® code List
- ebIX® model in Enterprise Architect (EA) format
- ebIX® knowledge of modelling methodology (UMM) (ebIX Rules for the use of UMM2)

During this item it was agreed to add the EA version of the ebIX® model to the common EA cloud repository maintained by EDSN.

Action:

- Ove will do a quick review of the document "ebIX Rules for the use of UMM2 v1r1 20140129.docx".
- Jan (NL) will add the ebIX® Model (coming from MD) to the ebIX® EA cloud directory at EDSN.

3.2 Plan for close down of ebIX®

The ebIX® ending plan was reviewed and updated.

4 Exporting the ebIX® MD model to EA format

Ove had exported the EEM.qea (the new default format for EA 16.0) to xmi but got problems when trying to import to EA 15.2. However, Jan (SE) managed to import the xmi file to his EA 15.2 version, hence now we have the ebIX® model both as an EA 15.2 and 16:0 versions.

Item closed.

5 Status for a common ebIX®, EU DSO Entity, ENTSO-E (CIM EG) and ENTSOG Area project

Jon-Egil informed at a Nordic meeting at the end of August that start of the "Alignment of master data for areas project" is postponed until discussed and agreed in the joint wg between EU DSO Entity and ENTSO-E (JWG).

Apparently, this means that there is no time for ebIX® to participate before ebIX® closes down.

Item closed.

6 Resolve ebIX®/IEC issues

6.1 Making a European Style Downstream Market Profile (ESDMP)

6.1.1 MRs to WG16 CIM modelling team and Information from IEC meetings

MRs to WG16 and their status are found in a separate common ETC Excel sheet that all ETC members may get access to. In addition, Jan (SE) is maintaining a similar spreadsheet located at the ENTSO-E extranet. The ENTSO-E spreadsheet is however not containing the older MRs. Hence, for the time being we continue maintaining two spreadsheets.

Minutes from WG16 meetings can be found at: WG16 / Modelling-Team-Minutes.

Item closed.

6.1.2 Status and possible review of MRs where CIM for retail market wg need more information - focus item

1) Related to ebIX® MR 2023-016-v5 (addition of a Register Multiplier), we will ask the EBG meeting next week if we need a Register Multiplier Kind in MR 2023/016 or if it is enough with the "Value: float" attribute. If needed, what Multiplier Kind is needed for a Meter and what Multiplier Kind is needed for a Register?

Conclusion from EBG meeting September 14th and 15th:

- We do not need the kind attribute, i.e. only the value attribute.

Action:

- Ove will update the MR 2023-016, i.e. Skip RegisterMultiplier class. Instead add a multiplier attribute to the Register class of type Decimal.

6.1.3 MRs based on Dutch requirements

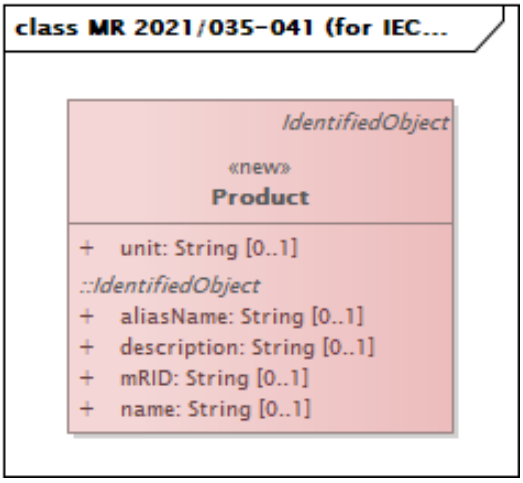
Continued actions:

1) Kees will add a MR to the series of other MRs that will be sent from ebIX® based on the Dutch requirements for changing the cardinality of the association between Acknowledgement_ MarketDocument and Sender_MarketParticipant/Receiver_MarketParticipant from mandatory [1] into optional [0..1].
2) Kees will try to come up with a refined table showing the Dutch MRs, including examples.
3) Kees will investigate the usage of a reference to a related document (probably only used in the acknowledgement in the Netherlands) and see if he can find a justification of the "rename of the association named Original Market Document to something more generic".
4) Jan (NL) and Kees will go through the Dutch MRs and see if more of the MRs are MRs to 62325-351 (ESMP).
5) Jan (NL) will find a better justification for a MR for the new class Product (ebIX®/2021-035).
   - At an AccountingPoint you can have Active Energy, Reactive Energy, etc.
   - Proposal: Add a Product class, with Product type and a Measure unit and associate it with TimeSeries, MarketEvaluationPoint and RegisteredResource.
   - Currently added to the "ebIX® Excel sheet" as ebIX® MR 2021/035.

   Status:
   - See notes below.
   - Item closed.
6) Jan (NL) will investigate if the attributes measureUnit and priceMeasureUnit should be associations to the Unit class in 301 (MeasureUnit class in ESDMP) instead of attributes in the Product class. According to Kees the measureUnit and priceMeasureUnit should be attributes in the Product class because of normalisation rules.

   Status:
   - Jan (NL) has investigated and decided to go for a Product class including a unit attribute.
   - Item closed.
7) Jan (NL) will make MR 2021/044 (Addition of association from Register to Meter, FlowDirection and Reading).

Jan (NL) had updated the MR for the new class Product (ebIX®/2021-035):



- The Netherlands are using the product attribute in the Series class for a sector (electricity or gas).
- Further, in the Dutch solution, the series class is associated [1..*] (normally 4) to the Detailed_Series class. The Product class is suggested associated to the Detailed_Series class, to be used for the GS1 product code. The product attribute is not used in the Detailed_Series class since it is used in the Series class.
- An alternative discussed is adding a sector attribute to the Series class (already asked for in ebIX® MR 2021/32) and using the product attribute in the Detailed_Series class for the GS1 product and adding the MeasuereUnit class instead of using the measuereUnit attribute in the new proposed Product class from the Netherlands.

Conclusion:

- We will draft the following MRs for update of both 62325-301 and 62351-351:
  - ebIX® 2021/35: Addition of a new Product class, inheriting from IdentifiedObject, including the measureUnit attribute and an association from Register [0..1].
  - ebIX® 2021/38: Addition of an association from TimeSeries [0..*].
  - ebIX® 2021/40: Addition of an association from Quantity [0..1].
- A main justification for adding the Product class with a measureUnit attribute is that the product/measureUnit is needed many places, such as related to TimeSeries, Meter, Register, Quantity and AccountingPoint, hence it is better having the Product/measureUnit in a separate class than adding these attributes to many classes.
- Another justification is that in the Product/measureUnit class may be repeated, such as for Meters and AccountingPoints.
- In 62325-301 we will ask for a unit attribute and in 62325-351 we will ask for a measureUnit attribute.

Action:

- Ove will make a first draft of the ebIX® MRs 2021/35, 2021/38 and 2021/40 and send it for comments to the core ETC members.

6.1.4 Review of non-submitted MRs from the ETC Excel sheet - focus item

1) Shall we submit the “ebIX® MR 2022/014 Add an association from MktActivityRecord to ChargeGroup” to the CIM for retail market WG?
   - The other billing MRs submitted (2022/23, 2022/24, 2022/25 and 2022/26) depends on this MR if used in master data processes, however still valid for transaction (time series) processes.

   Conclusion 20230927:
   - Ove will make ebIX® MR 2022/014 (Add an association from MktActivityRecord to ChargeGroup”) and send it to ETC for comments before Jan (SE) submits it to the CIM for retail market wg.

ebIX® 2023-018: Add the Channel class and the ReadingType classes from IEC 61968/Metering to IEC 62325-351 (ESMP), including the associations between the Register class and the new Channel Class, and between the new Channel class and the new ReadingType class in IEC 62325-351 (ESMP).

Comment:

- What shall we do with the AccumulationKind enumeration?
- The definitions in 4.2.4.1 are taken from CIM, hence must be reviewed!

Conclusion:

- Ove will rewrite the MR, i.e. we use the AccumulationKind enumeration with the codes none and cumulative.

Conclusion 20230927:

- The MR ebIX® 2023-018 was updated during the meeting.
- Jan (SE) will submit it to CIM for retail market wg.

Other unresolved items:

1) Status for request from Jan (SE)/Kees to Alvaro to change the direction of the association from MarketEvaluationPoint to MktActivityRecord in ESMP, ref. MR 2022/012.

   Conclusion:

   - Nothing new – to be continued.

2) Status for request from Jan (SE) will ask WG16 if we should change the attributes in PositionPoint to longitude, latitude, altitude, but if not agreed, add explaining text to the description.

   Conclusion:

   - Ove will make an MR, see below.

Actions:

a) Ove will make ebIX® MR 2022/014 (Add an association from MktActivityRecord to ChargeGroup") and send it to ETC for comments before Jan (SE) submits it to the CIM for retail market wg.

b) Ove will make a MR for adding explanatory text to the longitude, latitude and altitude attributes in PositionPoint, in ESMP.

6.1.5 MRs related to Accounting Point Characteristics

Continued action:

- Ove will make a draft mapping from the Accounting Point Characteristics class diagram to CIM. Making MRs from it is a second priority after the Dutch MRs have been delt with.

6.2 Status for ENTSO-E CIM EG Retail market workgroup (follow-up item on the agenda)

6.2.1 Status for submitted but not approved MRs to ENTSO-E CIM EG Retail market workgroup

Status 20230927:

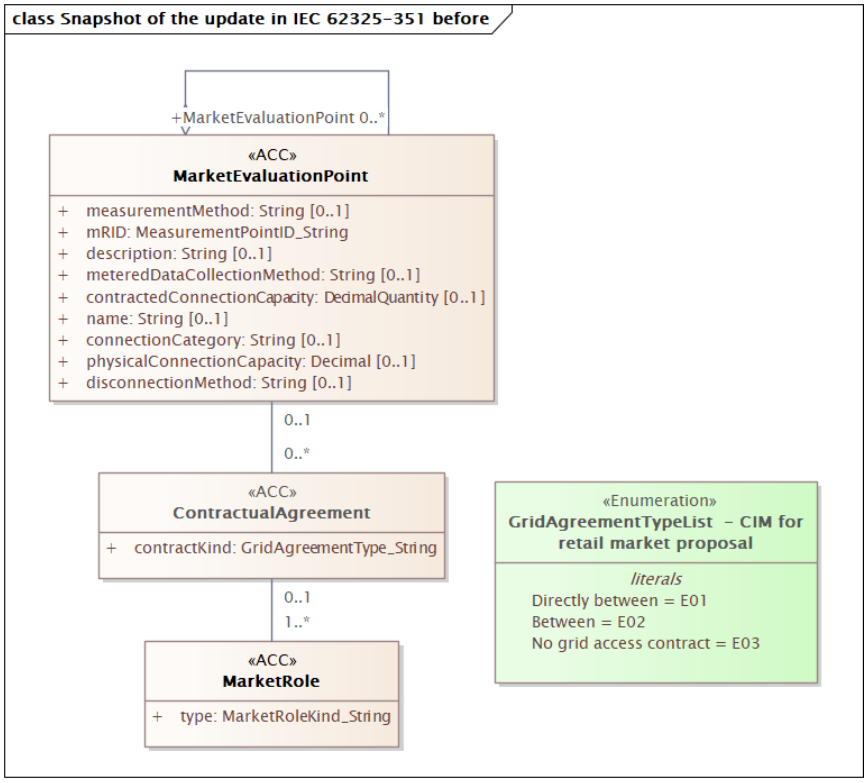
- ebIX® MR 2022/020, 2022/021, 2022/022 and 2022/023 are approved by CIM for retail market wg.

Item closed.

6.2.2 MRs to discuss

MR for IEC 62325-351 – ebIX® 2022-030-v8 - Add GridAgreementTypeList to ESMP 20230118:

- In the afternoon of January 18th, the MR was discussed in the CIM for retail market workgroup where a new proposal was raised:



  Note 2023-01-18 (Alvaro): Proposal is to introduce a new class called Contractual Agreement? between MarketEvaluationPoint and MarketRole. This class shall have an attribute called contractKind? Contract kind is an enumeration with these values:
  - Directly between
  - between
  - No grid access contract

  Conclusions from EBG meeting January 30th:
  - EBG suggest keeping all four codes. **E03** (Contract between Grid Access Provider and Party Connected to the Grid through Energy Supplier) is used by the Netherlands. **E04** (No net using contract) may be used for sub-Accounting Points, where the agreement is for the main Accounting Point.
  - How to describe the Dutch situation where there is a contract between the Party Connected to the Grid and the Grid Access Provider via the Energy Supplier (the Party Connected to the Grid signs the grid connection contract by signing a contract with the Energy Supplier).

Jan (NL) had as action created a text for how this is specified in the Netherlands today:

> Based on applicable Dutch laws and regulations, the Energy Supplier closes the connection and transport agreement (ATO) with the Party Connected to the Grid, on behalf of the Grid Access Provider. The Energy Supplier, on behalf of the Grid Access Provider, charges the Party Connected to the Grid for the periodic fees as specified in the ATO.

The code **E03** from original MR cannot be handled in the new proposed solution from Alvaro, i.e. we would need three roles and cannot specify if the relation is “between” or “through”.

Conclusion:

- ebIX® propose adding the GridAgreementTypeList enumeration as originally proposed.

Action:

- Ove will clean up the MR (2022-030 - Add GridAgreementTypeList to ESMP) and forward it to Jan (SE) for submission to CIM for Retail market subgroup.

Item closed.

6.3 Preparations for coming WG16 meetings

There is a joint WG13, WG14 and WG16 meeting in US October 23rd to 27th. If there will be a separate WG16 meeting during these days, Jan (SE) intends to inform WG16 about the close down of ebIX®.

7 EG1 status

SGTF will be taken over by Smart European Energy Group probably during November or December this year. The work with the IAs will continue under the new group.

8 Update of ebIX® code list

Continued action:

- Jan (SE) will try finding time to do some QA on the code list as homework.

8.1 Request for new Sector Area Identification Code from NL

Ove (and Jan (SE) and Kees) had as action asked Oliver if he knows of:

1) A GS1 product code for Hydrogen, like "5410000100016 NaturalGas", with the following response:
    - Related to the creation of a GS1 product code for Hydrogen, like "5410000100016 NaturalGas", Douglas (ENTSOG) has informed me that for the application of a GS1 code you need to be the product owner or an agent for this. ENTSOG also has no membership of GS1 so will not be able to apply. So, at the moment we don't know how to continue here.

With the following response from Kees:

- For the Dutch market both GS1 and EIC are used. At the start of the liberalisation of the electricity market EIC didn't exist yet (even ETSO had still to be founded). Then GS1 was selected as the coding scheme for metering points and parties. And subsequently GS1 was also selected for product IDs. This has made TenneT using its membership of GS1 also for creating product codes for electricity. And then we also found that GS1 54-code for natural gas. I don't know whether Gasunie also has a GS1 membership and therefore a membership code that they can use to define a GS1 product code for Hydrogen. But I think it could be worthwhile to check.

Status 20230926:

- Kees informed that Douglas from ENTSOG will ask Gasunie if they are able to issue a GS1 product code for hydrogen.

2) A UN/CEFACT 7293 Sector area identification code qualifier for Hydrogen supply industry, like:

23	Electricity supply industry
27	Gas supply industry
???	**Hydrogen supply industry**

- However, Oliver had no contact with UN/CEFACT people, hence it was agreed that Kees should send an MR to UN/CEFACT for this:

Hydrogen supply industry

A code used to identify the hydrogen industry.

Status 20230926:

- ETC thinks the DMR is OK - it was submitted (during the meeting) to UN/CEFACT for the 2024.A directory (or if we are lucky in the 2023.B directory).

Related to the MR above, Kees also made MRs for the following roles:

Flexibility Service Provider
A party that offers flexibility services based on acquired (aggregated) Resources.

Alignment Agent
A party responsible for aligning the forecasts and/or the verification of the Bidding Zones net positions.

Modelling Authority
A party accountable for the sourcing, consistency and quality of one or more model datasets.

Model Merging Agent
A party responsible for establishing a merged grid model and ensuring its completeness, consistency and quality.

Resource Capacity Mechanism Operator
A party responsible to operate the resource capacity mechanism in a member state.

Conclusion 20230926:

- ETC thinks the DMRs above are OK – they were (during the meeting) submitted to UN/CEFACT for the 2024.A directory (or if we are lucky in the 2023.B directory).

For information, below are published role codes as a result of our latest DMRs some years ago:

DGF Calorific Value Responsible

A party responsible for establishing the calorific value for a set of Metering points.

DGG Balancing Service Provider

A party with reserve-providing units or reserve-providing groups able to provide balancing services to one or more LFC Operators.

DGH Consent Administrator

A party responsible for keeping a register of consents for a domain. The Consent Administrator makes this information available on request for entitled parties in the sector.

DGI Energy Service Company (ESCO)

A party offering energy-related services to the Party Connected to Grid, but not directly active in the energy value chain or the physical infrastructure itself. The ESCO may provide insight services as well as energy management services.

DGJ Resource Aggregator

A party that aggregates resources for usage by a service provider for energy market services.

DGK Resource Provider

A role that manages a resource and provides production/consumption schedules for it, if required.

DGL Metered Data Administrator

A party responsible for storing and distributing validated measured data.

8.2 Addition of new Energy Product Identifications

During the meeting it was noted that there are some missing Energy Product Identifiers in the ebIX® code list, hence the following were added:

- Capacitive reactive power
- Capacitive inductive power
- Water

Action:

- Ove will publish the updated ebIX® code list.

Item closed.

9 Resolve HG issues - Prioritised item on ETC meeting September 27th

9.1 BRP vs Energy Trader

The item was postponed.

9.2 Status for harmonisation of the electricity and gas markets role models

Updates of the mapping tables in the "Status report alignment of HGRM and HEMRM" is proposed published as a general "HGRM/HEMRM mapping document".

Oliver has informed that the new definition of the BRP in HGRM is the same as the definition in the HEMRM, except for removal of the word "financially", i.e.:

> "A party ~~financially~~ accountable for its imbalances".

The reason being that a BRP could in extreme cases put the system that much on imbalance that this could lead to Security of Supply issues. Causing black out in electricity world, or shutdown of clients (or transit to other countries) in the gas world, due to a too low pressure in network. By doing this they would be penalized financially (following the market model), but it could also lead to sanctions, like suspension of trade rights or even being suspended of the market area. If it proves they did it on purpose (just to win money), it could even lead to legal proceedings.

Oliver has informed that he expects a draft version of the next HGRM ready for commenting before the next HGRM/HEMRM meeting, October 6th.

9.3 Suggestions for HEMRM extensions

The intention with this item is to describe the roles not suitable for HEMRM / HGRM, such as Hub, DSO, TSO etc.

Continued action:

- Kees will try to make the table below more "understandable":

Business roles	Implementation-dependent roles	Roles linked to physical devices
HRM / GRM This is already available in the present HRM and GRM (maybe with the exception of the meter-	Exchange architecture: • Document exchange • Web service • Data sharing	

related roles which may have to be moved to the physical devices)	System/device roles	

An update from Kees:

Market roles	(System)-Operational Roles
Technology independent roles This is already available in the present HRM and GRM (maybe with the exception of the meter-related roles which may have to be moved to the physical devices)	**linked to physical devices** Example: • Grid Operator • Meter Operator
Implementation-dependent roles Example: Exchange architecture: • Document exchange • Web service • Data sharing Example of roles: • Datahub • Platform	

What to do with the tables above will be discussed at next meeting.

9.4 Status for HG (and ENTSO-E) discussions related to MR for the new domain (or CIM object) Grid Connection

Not yet discussed.

10 ebIX® Business Information Model 2022.A

10.1 Shall we align the definition in the ebIX® Business Information Model and/or ebIX® BRSs with CIM definitions for classes and attributes?

In Appendix B is shown a proposal for mapping from the "ebIX® class diagrams for Validated measured data for continuous metered AP" to CIM and the related definitions in the ebIX® BRS and in CIM.

Shall we do some work on the alignment of these definitions?

From discussion at ETC meeting 20230214-25:

- We can have definitions in the profiles that differs from the definition found in basic CIM.
- Jan (SE) noted that, if the definition differs between the profile and basic CIM, he would like to see the difference in the profile definition.
- Many of the CIM definitions are missing or are difficult to understand.
- Kees informed that he also has problems when trying to use CIM definition within EG1. The short time solution may be to have own EG1 definition and a «mapsTo» dependency to the related CIM attribute.

The item will be handled by EBG, i.e. EBG intend to see if the definitions in ESMP could be made more readable, i.e. more readable for businesspeople.

Item closed.

10.2 Use of XOR in combination with cardinalities

The item was postponed.

10.3 Continue review and update of version 2022.A

The item was postponed.

11 Next meetings[1]

- Friday October 20th, 11:00 – 16:00, 2023, GoToMeeting
- Wednesday November 22nd, 10:00 – 15:00, 2023, GoToMeeting
- Friday December 8th, 10:00 – 15:00, 2023, GoToMeeting

12 AOB

No items.

[1] All Face-to-face meeting starts 09:00 the first day and end at 16:00 unless otherwise explicitly stated.

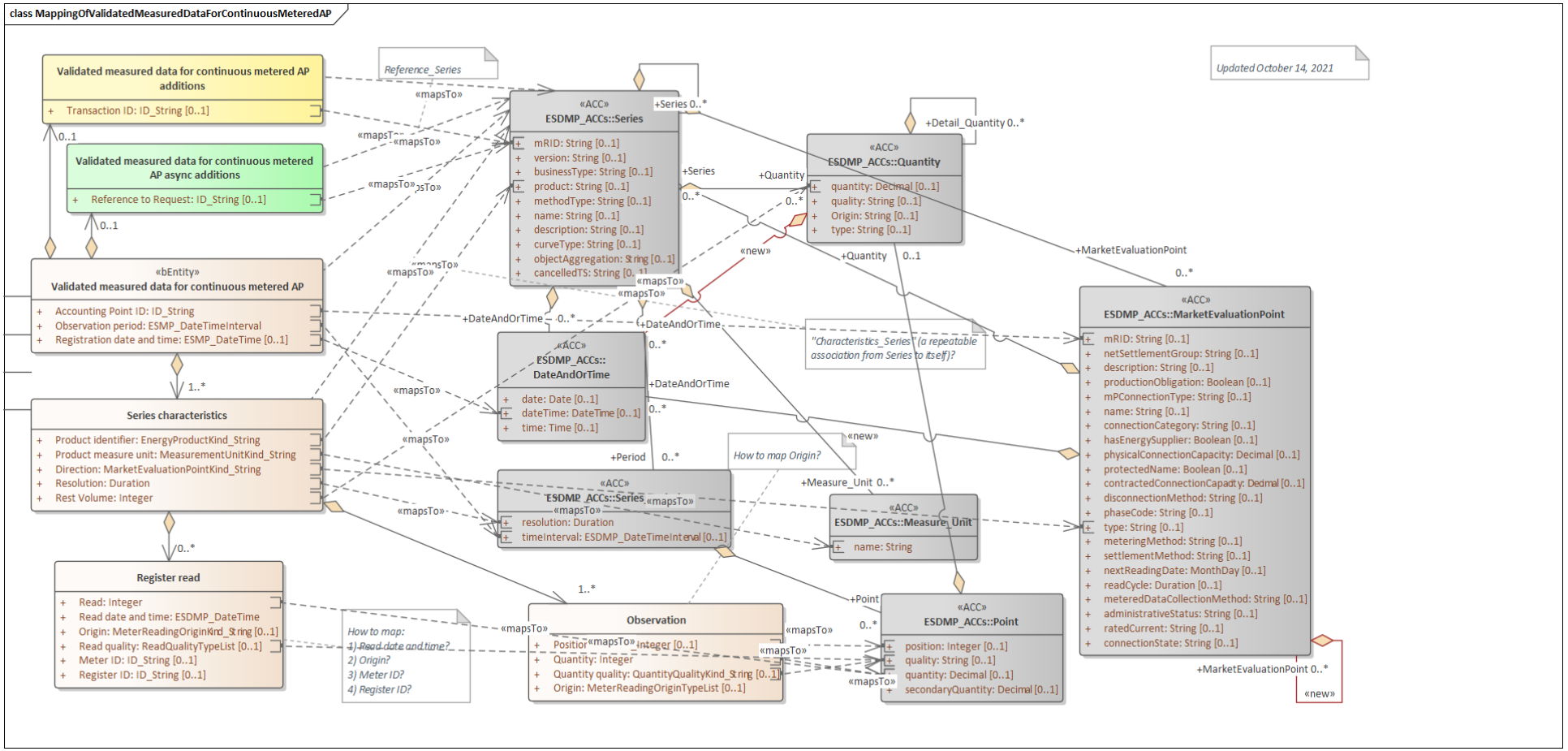
Appendix A ebIX® rules for how to make MRs to WG16

1) Artefacts used for MRs to WG16 shall be stored as separate packages in the common cloud EA model.
2) Always review existing definitions of attributes, classes etc. that are related to the MR in question and if needed propose updates to these definitions.
3) First investigate basic CIM to see if the object we intend to send an MR for already is available there.

   If yes, we should make a MR for 62325-351 (ESMP), if not we make a MR for both basic CIM and ESMP.

Appendix B Mapping from ebIX® class diagrams for Validated measured data for continuous metered AP to CIM

The mapping will be reviewed by ETC, while EBG will look into the definitions of classes and attributes to see if we need to update the ebIX® definitions or if we should send maintenance requests to IEC for update of the CIM definitions.



BRS attribute	BRS definition	CIM attribute	CIM definition
«Business entity» Validated measured data for continuous metered AP	The information set sent by a Metered Data Responsible to the Metered Data Administrator when exchanging validated measured data for continuous metered AP	Series	A set of similar physical or conceptual objects defined for the same period or point of time.
Accounting Point ID	The unique identification of the Accounting Point to which the validated measured data are attributed.	MarketEvaluationPoint / mRID	Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended. For CIMXML data files in RDF syntax conforming to IEC 61970-552, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
Observation period	The specific period of time the validated measured data have been measured, calculated or estimated for.	Series_Period / timeInterval	The start and end date and time for a given interval.
Registration date and time	The date and time of the validation (and storage in the database) of this set of validated measured data.	DateAndOrTime / dateTime	Date and time as per ISO 8601 YYYY-MM-DDThh:mm:ss.sssZ.
Series characteristics	The characteristics of this set of validated measured data, i.e., the product and flow direction.	Series	A set of similar physical or conceptual objects defined for the same period or point of time.
Product identifier	A code specifying the energy product for the quantities in this set of validated measured data.	Series / product	The type of the product such as Power, energy, reactive power, transport capacity that is the subject of the time series.
Product measure unit	The unit of measure used for the quantities in this set of validated measured data.	Measure_Unit / name	The coded representation of the unit.

BRS attribute	BRS definition	CIM attribute	CIM definition
Direction	A code specifying the direction of the energy flow that was measured with this validated measured data. A flow from the Accounting Point into the Metering Grid Area is defined as production and a flow from the Metering Grid Area into the Accounting Point is defined as consumption.	MarketEvaluationPoint / type	Specifies if the Market Evaluation Point is an Exchange Point or an Accounting Point.
Resolution	The resolution is the time between two observations, leading to the number of observations in this timeseries (calculated from the Observation Period divided by the Resolution). The Observation Period must contain a whole number of observations as derived from the resolution. The resolution is expressed in compliance with ISO 8601 in the following format: PnYnMnDTnHnMnS. For example **PT15M** for 15 minutes resolution.	Series / resolution	The number of units of time that compose an individual step within a period.
Rest Volume	The Rest Volume is used for a volume that cannot be related to the 'normal' measured time series observations, i.e., the difference, for the Observation Period, between the start- and end meter read and the aggregated volume from the exchanged time series.	Quantity / quantity	The quantity value. The association role provides the information about what is expressed.
Register read	A read from the register of the Meter linked to the Accounting Point and characteristics of the read. This read is at the basis of the validated measured data in the Observation.	N/A	
Read[2]	The value as read from or calculated for the register, for this Read date and time in the Observation period.	Point / quantity	Principal quantity identified for a point.

[2] If the Register read is missing, the Meter Reading Origin Code shall be "**E28** From Metered Data Responsible" and the Quantity Quality Code shall be "**56** Estimated".

BRS attribute	BRS definition	CIM attribute	CIM definition
Read date and time	The timestamp of the moment in time when the value was registered in the Register of the Meter or the value was calculated for.	N/A	
Origin	A code specifying the role of the party that has retrieved or calculated the read.	N/A	
Read quality	The quality of this read, such as estimated, remotely read or physically read.	Point / quality	The quality of the information being provided. This quality may be estimated, not available, as provided, etc.
Meter ID	The unique identification of the Meter linked to the Accounting Point, which contains the register that has been read.	N/A	
Register ID	The unique identification of the Register within the Meter, where this data has been read from or is estimated for.	N/A	
Observation	One validated measured value within a timeseries.	N/A	
Position	The ordinal position of this Observation in this Observation Period for this set of validated measured data.	Point / position	A sequential value representing the relative position within a given time interval.
Quantity	The validated quantity of energy for this Observation.	Point / quantity	Principal quantity identified for a point.
Quantity quality	The quality of this quantity (volume), such as validated (default value, hence not sent), estimated, or temporary.	Point / quality	The quality of the information being provided. This quality may be estimated, not available, as provided, etc.
Origin	A code specifying the role of the party delivering the Quantity.	N/A	
Validated measured data for continuous metered AP additions	Additional information, related to validated measured data, the use of which may be agreed on a national level.	Series	A set of similar physical or conceptual objects defined for the same period or point of time.

BRS attribute	BRS definition	CIM attribute	CIM definition
Transaction ID	The unique identification of this set of information as given by the Metered Data Responsible.	Series / mRID	Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended. For CIMXML data files in RDF syntax conforming to IEC 61970-552, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
Validated measured data for continuous metered AP async additions	Additional information related to validated measured data needed when using asynchronous communication.	Series	A set of similar physical or conceptual objects defined for the same period or point of time.
Reference to request	Information about the request for this set of validated measured data for continuous metered AP which uniquely identifies it.	Series / mRID	Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended. For CIMXML data files in RDF syntax conforming to IEC 61970-552, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

class MappingOfValidatedMeasuredDataForContinuousMeteredAP