Minutes ETC meeting, February 14th and 15th, 2023	European forum for energy Business Information eXchange
February 24th, 2023	ETC – ebIX® Technical Committee

Date: February 14th and 15th, 2023
Time: 09:00 – 16:00 and 09:00 - 14:45
Present: Jan (NL), EDSN
Jan (SE), Svenska kraftnät
Kees, TenneT (via Teams)
Ove, Edisys

Place: EDSN's offices in Amersfoort
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 additions:

- HG MR for the new domain (or CIM object) Grid Connection, see item 6.5.
- Shall we align the definition in ebIX® BRSs and the CIM definitions for classes and attributes? See item 9.1 under AOB.
- Info from Kees, see item 9.2 under AOB.

Prioritised items:

- Review of non-submitted MRs from the ETC Excel sheet - focus item, see item 4.1.3.
- Not yet mapped attributes from the BRS for Alignment of metering configuration characteristics, see item 4.1.5.
- MRs to ENTSO-E CIM EG Retail market workgroup, see item 4.2.1.
- Review of HEMRM update suggestions from EBG, see item 6.1.
- HG MR for the new domain (or CIM object) Grid Connection, see item 6.5.
- How to make progress in the update of the "ebIX® model"?, see item 7.1.

2 Approval of minutes from previous meetings

The minutes from previous meetings were approved.

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

The first meeting in the project is Tuesday February 21st. Unfortunately there are no members from the EU DSO Entity due to lack of resources and time.

Kees mentioned that he is working on a project document for the CIM WG related to Assets, Resources, Connection Points, Accounting, Points, Metering Points, etc. This is something like the Area project but on a lower level.

4 Resolve ebIX®/IEC issues

4.1 Making a European Style Downstream Market Profile (ESDMP)

4.1.1 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.

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

Jan (SE) mentioned that MR 2019/006 "Add attribute meterReadingSchedule to AccountingPoint" was discussed at the joint WG 13, WG14 and WG 16 meeting yesterday:

> At the Richland meeting. Agreed upon using three fields: nextReadingYear, nextReadingMonth, nextReadingDate would allow for anyone to use any combo of the elements. For example, only nextReadingMonth=3 is March. Replace the null/missing nextReadingDate=15, it becomes March 15. Same format for any implementation. Recommend integer for fields. AI: Clarify all descriptions and sign off in a TF14/TF16 meeting.
>
> This was added to the common ETC Excel sheet.

It was also mentioned that the proposal to restrict mRID to always be a UUID will be discussed during the joint WG 13, WG14 and WG 16 meeting on Thursday February 16th.

Continued action:

- Jan (SE) will ask Alvaro if the aggregations with wrong source/target should be updated, such as the aggregation from TimeSeries to FlowDirection.

4.1.2 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
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.

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

Review of MRs after pre-review by EBG (not yet reviewed by EBG, hence postponed):

- 2022/022: Add an association from Series to ChargeType in 62325-301 and 62325-351.
- 2022/023: Add an association from ChargeType to MarketParticipant in 62325-301 and 62325-351.
- 2022/024: Add an association from ChargeGroup to ChargeType in 62325-351.
- 2022/025: Add an association from ChargeType to Period (62325-301) and from ChargeType to Series_Period (62325-351)
- 2022/026: Add the attribute VATobliged (Boolean) to ChargeType in 62325-301 and 62325-351.
- 2022/035: Add the attribute VATlevel (String (may be a percentage or low/high…)) to ChargeType in 62325-301 and 62325-351.

NMEG had asked if we can give priority to MR ebIX® 2022/019 (Add an association from MarketEvaluationPoint to MktPSRType), which was agreed.

The topic above (association from MarketEvaluationPoint to MktPSRType) started a discussion if we also should ask for an association between MarketEvaluationPoint and Fuel type, see discussion under item 4.1.5 below.

Action:

- Jan (SE) and Ove will bring the ChargeType MRs above to EBG for review.
- Jan (SE)/Ove will make a first draft for 2022/019 (Add an association from MarketEvaluationPoint to MktPSRType), send it to ETC for one week before submitted to ENTSO-E retail market WG.

4.1.4 Status for governance of reference models: basic IEC CIM and ESDMP (follow-up item on the agenda)

Alvaro is maintaining the latest version of the ESMP, based on decisions in CIM EG. Hence, these updates are extensions to the CIM 62325-351 standard. Currently the ESDMP is maintained by ETC.

Noting new reported.

4.1.5 Not yet mapped attributes from the BRS for Alignment of metering configuration characteristics

Request from NMEG: Can we give priority to making a MR for linking the Meter ID to MarketEvaluationPoint (the association is already part of basic CIM)?

Conclusion: Yes.

Shall we do anything with ebIX® MR 2022/018 (Add new class EnergyTechnologyAndFuel to be associated with MarketEvaluationPoint with the attributes technology and fuel)? Comments from Jan (SE) January 19th:

> In the suggested update of CIM we first suggested to add a special class EnergyTechnologyAndFuel. However, now we in CIM (62325 part) find a special class “Fuel” for fuel and another class, MktPSRType that could be used when specifying the technology.

But they are associated with the RegisteredResource class, not with MarketEvaluationPoint or AccountingPoint. This is not too bad since you may have different sources of production at an accounting point, e.g. solar panels and a windmill. Sources that could be used as resources, both when just sending the metered data to the customer, his ESCO, and others, plus when using the resources for flexibility and other services.

But when not having the need to specify the resource it would be a bit strange having to go through the RegisteredResource class in order to get to the technology & fuel. However, that is probably not so uncommon in CIM. Example:

> In order to go get to the Register class from the Meter class, you have to go through the class EndDeviceFunction, e.g. the class telling what functions the meter can do, even when you don't need to tell that in an exchange.

So, it is possible with this solution in CIM, perhaps we would like to have another one, but the question is also then:

> Would it be the "same" information at AccountingPoint-level about fuel & technology, which would be specified at RegisteredResource-level?

Or do we have use cases where we, for example, would specify not so detail information about the technology at AccountingPoint-level, but would specify that in more detail when specifying all (different) resources? Like just "renewable" and not "solar" + "wind". Or would we also then for the AccountingPoint repeat the Technologyinformation for all different "renewable" types – like we would do when explicitly tell that for each resource? And wouldn't either of these examples be possible to specify with the present additions to CIM, or do we need new associations?

See also the Redmine issue https://redmine.ucaiug.org/issues/5809 (and some other issues).

Conclusion:

- Jan (NL) mentioned that we probably don't need fuel type on MarketEvaluationPoint level, hence we will start by making a MR for an association from MarketEvaluationPoint to MktPSRType. I.e. for the time being we do nothing with ebIX® MR 2022/018 (Add new class EnergyTechnologyAndFuel to be associated with MarketEvaluationPoint with the attributes technology and fuel).

Ove had as action made a mapping from the class diagram for metering configuration characteristics to CIM to discover need for MRs, which was reviewed up to the last chapter "Mapping of Register class from ebIX® to CIM". Several actions were agreed (see below).

At our next meeting we will review chapter "10 Mapping of Register class from ebIX® to CIM".

Action:

- Jan (SE)/Kees will ask Alvaro to change the direction of the association from MarketEvaluationPoint to MktActivityRecord in ESMP, ref. MR 2022/012.
- Jan (SE)/Ove will make a MR for linking the Meter ID to MarketEvaluationPoint (the association is already part of basic CIM) and send it to ETC for one week before submitted to ENTSO-E retail market WG.
- Jan (SE)/Ove will make a MRs for:
  - Addition of the mRID to the new Meter class in IEC62325-351/ESMPClasses, see also previous bullet point.
  - Addition of the type to the new Meter class in IEC62325-351/ESMPClasses.
  - Addition of the connectionCategory to the new Meter class in IEC62325-351/ESMPClasses.

- Addition of the IEC61970/Base/Core/Bay to IEC62325-351/ESMPClasses, including the mRID attribute and the related association between Meter and Bay.
- Addition of a new attribute, **Number of Registers** (Number of Registers available in the Meter), in IEC61968/Metering/Meter.
- Addition of IEC61968/Metering/EndDeviceInfo to IEC62325-351/ESMPClasses), including the attribute capability and the related IEC61968/Metering/«Compound» EndDeviceCapability/pressureCompensation (definition: True if device performs pressure compensation for metered quantities).

  The MR will suggest redoing the CIM structure so that the addition is as an attribute and not a part of a compound.

- Addition of IEC61968/Metering/EndDeviceInfo to IEC62325-351/ESMPClasses), including the attribute capability and the related IEC61968/Metering/«Compound» EndDeviceCapability/temperatureCompensation (definition: True if device performs pressure compensation for metered quantities).

  The MR will suggest redoing the CIM structure so that the addition is as an attribute and not a part of a compound.

- Addition of a new attribute altitudeCompensation in IEC61968/Metering/EndDeviceInfo.
- Addition of an association from Meter to UsagePointLocation in IEC62325-351/ESMPClasses (already existing in basic CIM).

- Ove will ask, Stefan, Joachim, Bostjan, Andrzej and Grazyna if the following attribute from the Meter class in BRS for metering configuration characteristics is in uses and if used: how it is used and if it is needed for the future:
  - Registers remotely switchable *Boolean* (Indication that the Meter is remotely switchable between the registers, for example by a tone frequency receiver).
  - Meter technique (A code indicating what kind of technique is used in the Meter).
- Ove will ask Joachim and Vlatka if Gateway still is needed.
- Ove will ask EBG how to use the conversion factor class in BRS for metering configuration characteristics, especially for temperature, pressure and measurement – and for electricity: is this the same as the constant in the register?
- Jan 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.

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

4.2.1 MRs to ENTSO-E CIM EG Retail market workgroup

MRs to be followed up after review by CIM for retail market WG (the MRs are not yet discussed in the Retail market WG – to be continued at next meeting):

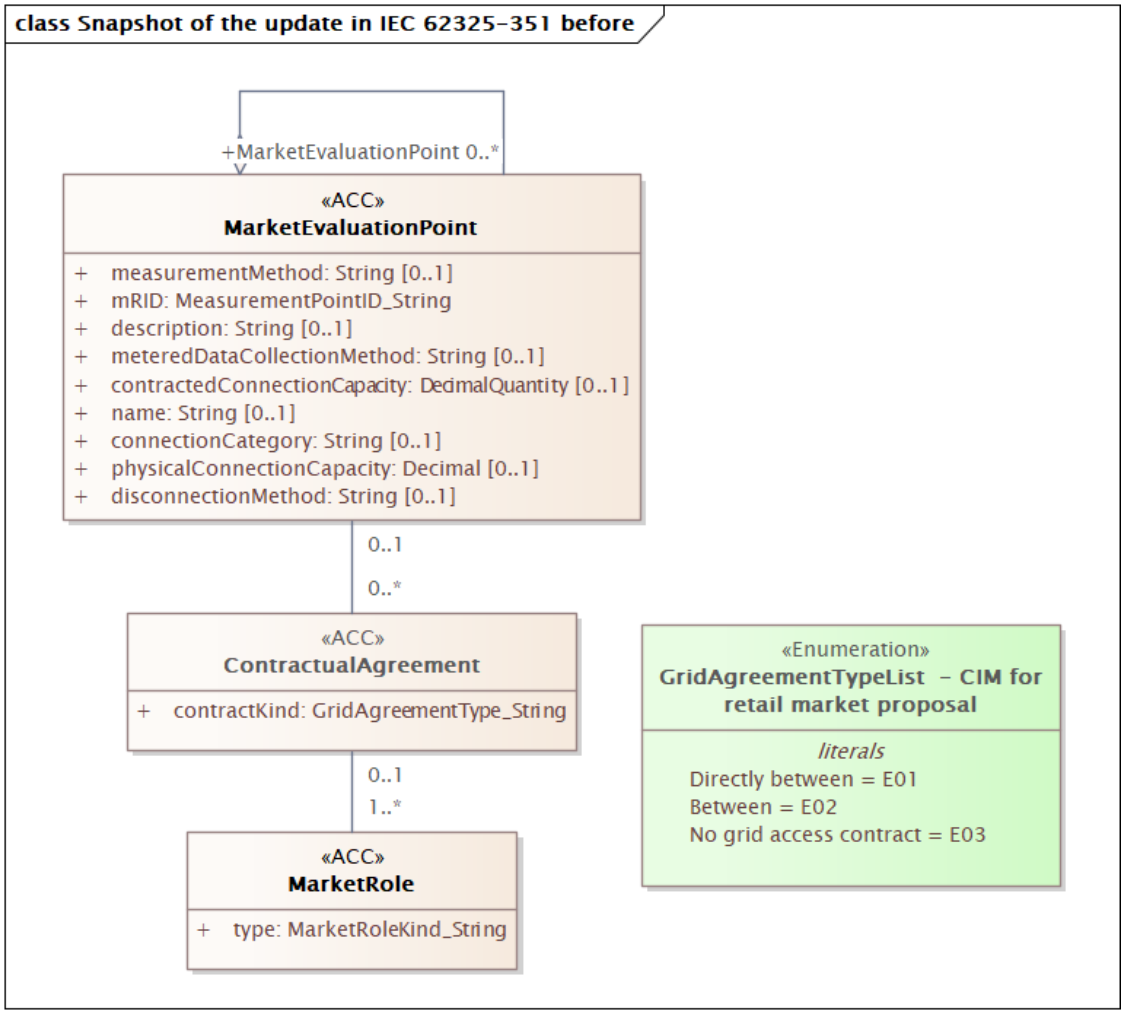
- MR for IEC 62325-351 - ebIX 2022-016-v1 - Add ratedCurrent to ESMP 20230116
- MR for IEC 62325-351 - ebIX 2022-015-v1 - Add phaseCount to ESMP 20230116
- MR for IEC 62325-351 - ebIX 2023-001-v2 - Add energyFlowCategory to the Accounting Point class 20230116
- MR for IEC 62325-351 - ebIX 2022-032-v7 - Add MeasurementMethodList to ESMP 20230113

MRs to discuss:

- MR for IEC 62325-351 - ebIX 2022-030-v7 - Add GridAgreementTypeList to ESMP 20230113
    - 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 ContractualAgreement? 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 operator and Customer through 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 Customer and the Grid via the Energy Supplier (the Customer signs the grid connection contract by signing a contract with the Energy Supplier).

Action:

- Jan (NL) will check how this is specified in the Netherlands today before we can decide how to respond to the proposal from Alvaro.

4.3 Status for European (ebIX® and CIM EG Retail market workgroup) MRs to CIM

No new status reported.

4.4 Preparations for coming WG16 meetings

Noting prepared.

5 EG1 status

Nothing new reported.

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

6.1 Review of HEMRM update suggestions from EBG

The comments to HEMRM roles from the EBG memo "EBG comments to HEMRM" was reviewed:

- During the ETC meeting all comments to HEMRM roles were reviewed. We will review the HEMRM comments to domains, resources and accounts from EBG at the next ETC meeting.

6.2 BRP vs Energy Trader

The item was postponed.

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

Nothing new reported.

6.4 Suggestions for HEMRM extensions

The item was postponed.

6.5 HG MR for the new domain (or CIM object) Grid Connection

EBG has drafted a HG MR for the new domain (or CIM object) Grid Connection, which was reviewed and discussed:

- Kees think this is a physical "domain", hence it should be handled by CGM or CIM.
- Jan (SE) stressed the Grid Connection is used as a reference in the grid connection contract between the Grid Access Provider (GAP) and Customer.
- The request originates from Gerrit and is probably related to discussions in the EG1 flex group and discussions related to the linking of Metering points, Accounting Points, sub-Accounting Points, Resources etc.

Action:

- We will ask EBG (Gerrit) for better justification for the need for the Grid Connection.

7 ebIX® Business Information Model 2022.A

7.1 How to make progress in the update of the "ebIX® model"?

Kees informs that he probably will get more time in springtime, hence postponed until ETC spring meetings.

7.2 Use of XOR in combination with cardinalities

The item was postponed.

7.3 Continue review and update of version 2022.A

The item was postponed.

8 Next meetings[1]

- Thursday March 30th, 10:00 – 12:00 and 13:00 – 15:00, 2023, GoToMeeting
- Wednesday April 19th, 10:00 – 12:00 and 13:00 – 15:00, 2023, GoToMeeting
- Monday May 15th (09:00 – 16:00) and Tuesday May 16th (09:00 – 15:00) in Edisys offices in Oslo.
- Friday June 16th, 10:00 – 12:00 and 13:00 – 15:00, 2023, GoToMeeting
- Tuesday October 3rd (09:00 – 16:00) and Wednesday October 4th (09:00 – 15:00) in Svenska kraftnäts offices in Sundbyberg (Stockholm).

9 AOB

9.1 Shall we align the definition in ebIX® BRSs and the 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:

- We can have definitions in the profiles that differs from the definition fount in basic CIM.
- Jan 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 "mapTo dependency" to a CIM attribute.

Will be added as new agenda item to be handled when HEMRM definitions are done.

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

9.2 Info from Kees

Within one month from now Kees will stop working for TenneT. However, Kees expect to continue his EG1 work. From next year Kees intend to retire full.

Kees also informed that EU will replace SGTF with something new where ebIX® will have the possibility to participate fully (and not only as an observer).

Item closed.

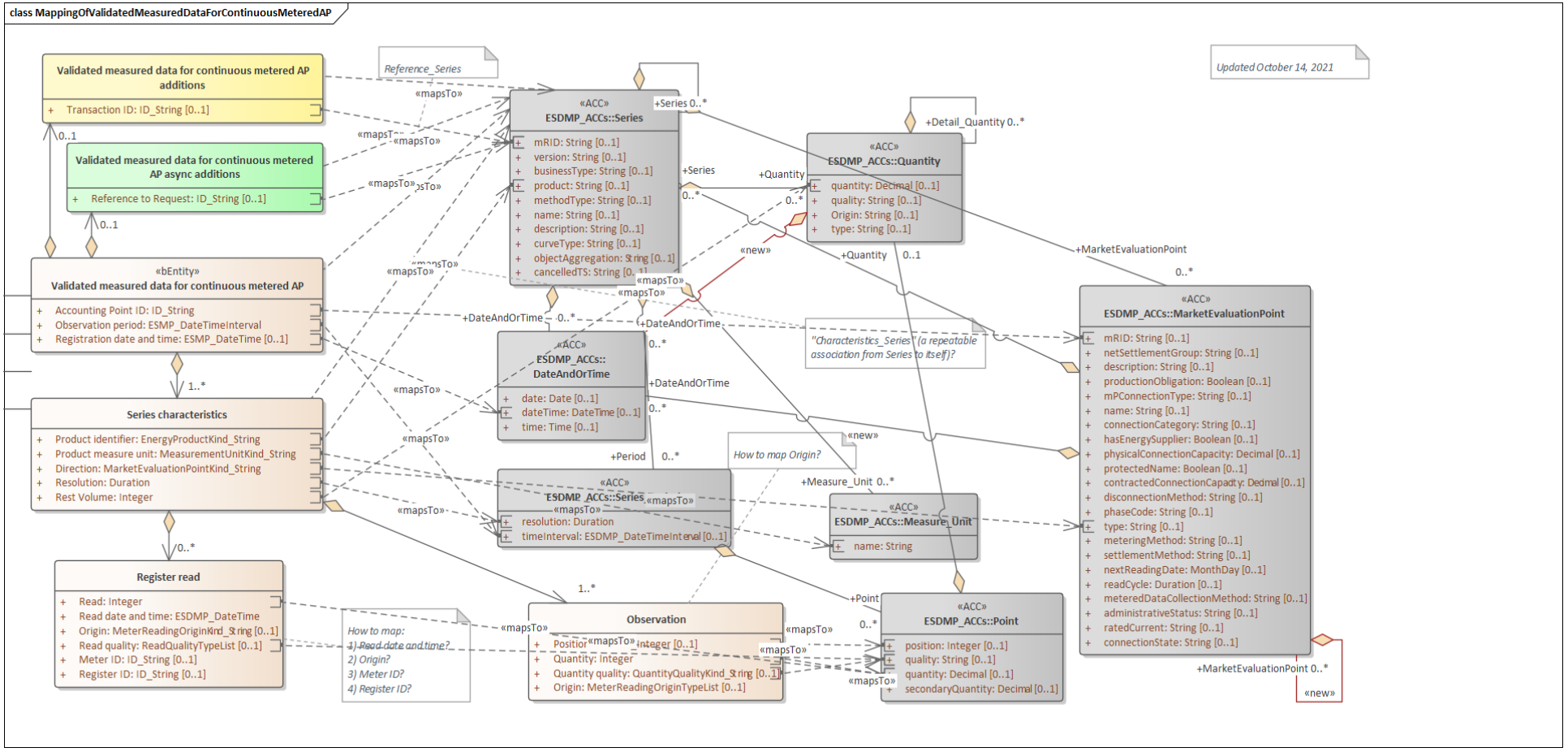
Appendix A ebIX® rules for how to make MRs to WG16

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.
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.

BRS attribute	BRS definition	CIM attribute	CIM definition
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.
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	

[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
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.
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