



European Network of
Transmission System Operators
for Electricity

ACTIVATION DOCUMENT UML MODEL AND SCHEMA

2022-03-15
APPROVED DOCUMENT
VERSION 1.2

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59

Revision History

Version	Release	Date	Comments
0	1	2019-01-14	First draft of the document.
1	0	2019-02-12	Approved by MC.
1	1	2021-11-09	Updates in schema 'iec62325-451-7-activationdocument_v6_2.xsd' <ul style="list-style-type: none"> mRID of Document, Series and Timeseries (ID_String type) was enlarged from 35 to 60 characters. Approved by MC.
1	2	2022-03-15	Updates in schema 'iec62325-451-7-activationdocument_v6_3.xsd' <ul style="list-style-type: none"> New optional auction.mRID attribute added at TimeSeries. Approved by MC.

60

61 **1. Objective**

62 The purpose of this document is to provide the contextual and assembly UML models and the
63 schema of the Activation_MarketDocument.

64 The schema of the Activation_MarketDocument could be used in various business processes.

65 It is not the purpose of this document to describe all the use cases, sequence diagrams,
66 business processes, etc. for which this schema is to be used.

67 This document shall only be referenced in an implementation guide of a specific business
68 process. The content of the business process implementation guide shall be as follows:

- 69 • Description of the business process;
- 70 • Use case of the business process;
- 71 • Sequence diagrams of the business process;
- 72 • List of the schema (XSD) to be used in the business process and versions of the
73 schema;
- 74 • For each schema, dependency tables providing the necessary information for the
75 generation of the XML instances, i.e. when the optional attributes are to be used, which
76 codes from which ENTSO-E codelist are to be used.

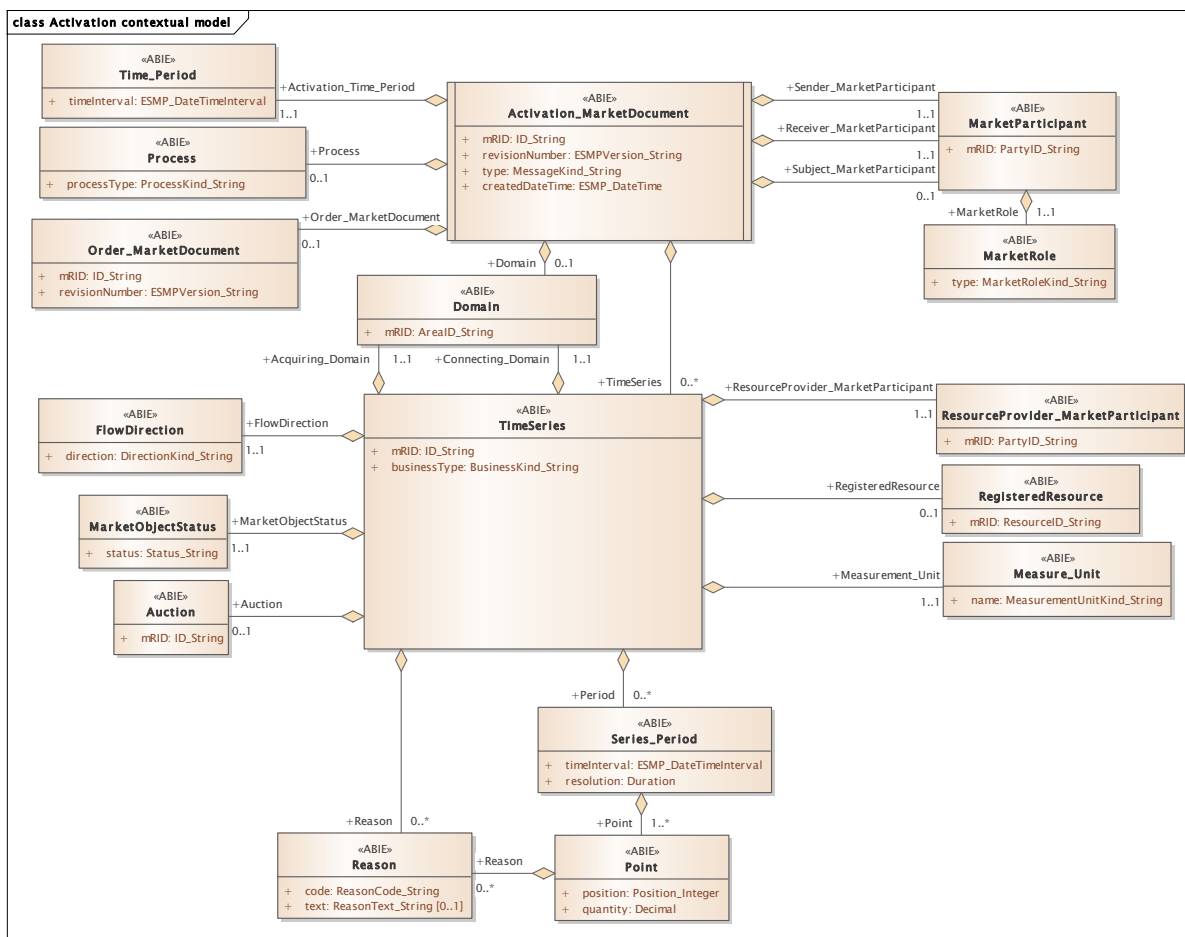
77

78 **2. Activation_MarketDocument**

79 **2.1. Activation contextual model**

80 **2.1.1. Overview of the model**

81 Figure 1 shows the model.



82

83

Figure 1 - Activation contextual model

84

85 **2.1.2. IsBasedOn relationships from the European style market profile**

86 Table 1 shows the traceability dependency of the classes used in this package towards the
87 upper level.

88

Table 1 - IsBasedOn dependency

Name	Complete IsBasedOn Path
Activation_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Auction	TC57CIM::IEC62325::MarketManagement::Auction
Domain	TC57CIM::IEC62325::MarketManagement::Domain
FlowDirection	TC57CIM::IEC62325::MarketManagement::FlowDirection
MarketObjectStatus	TC57CIM::IEC62325::MarketManagement::MarketObjectStatus
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Order_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Point	TC57CIM::IEC62325::MarketManagement::Point
Process	TC57CIM::IEC62325::MarketManagement::Process
Reason	TC57CIM::IEC62325::MarketManagement::Reason
RegisteredResource	TC57CIM::IEC62325::MarketCommon::RegisteredResource
ResourceProvider_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

89

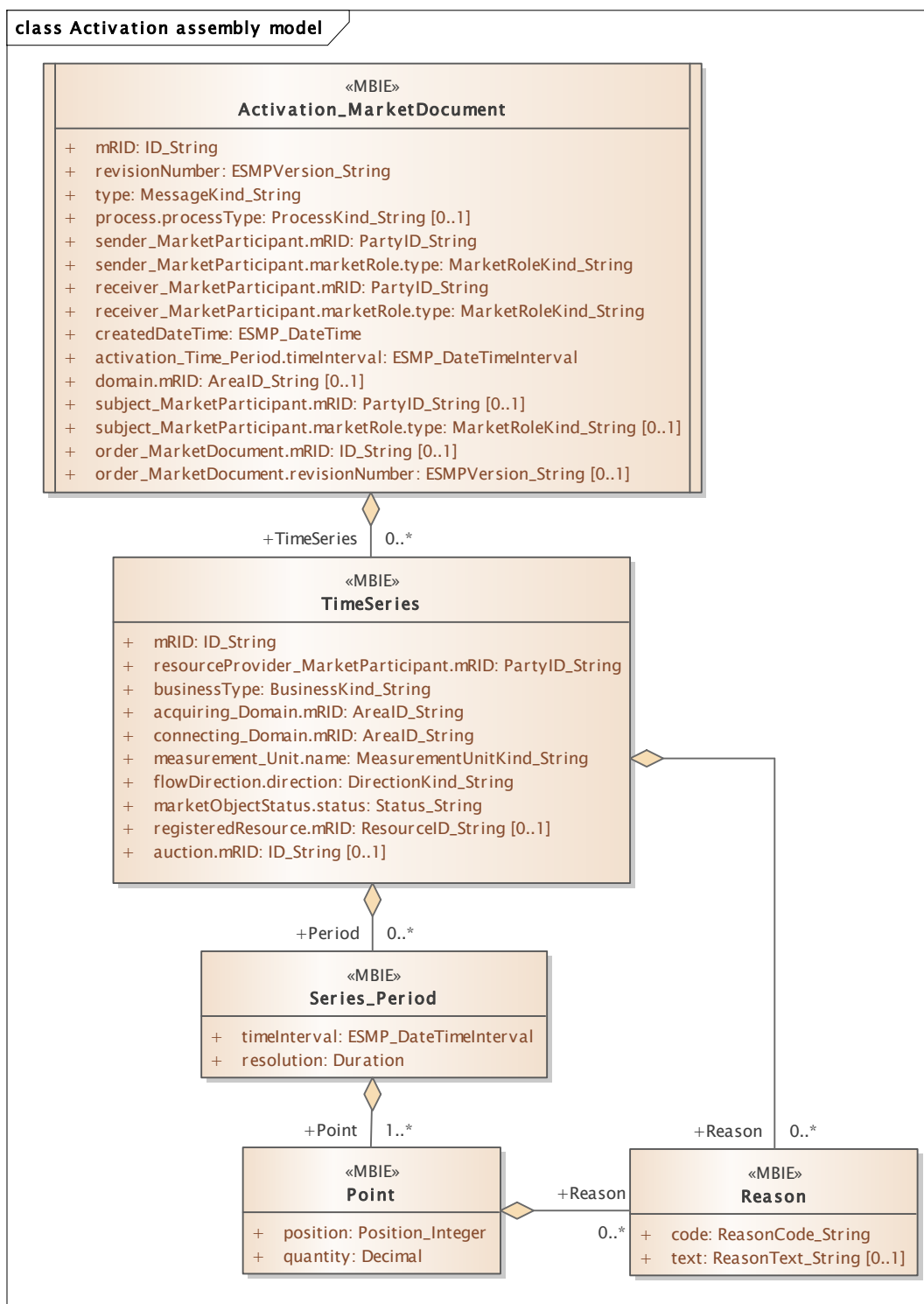
90

91

92 **2.2. Activation assembly model**

93 **2.2.1. Overview of the model**

94 Figure 2 shows the model.



95

96

Figure 2 - Activation assembly model

97 **2.2.2. IsBasedOn relationships from the European style market profile**

98 Table 2 shows the traceability dependency of the classes used in this package towards the
99 upper level.

100 **Table 2 - IsBasedOn dependency**

Name	Complete IsBasedOn Path
Activation_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Point	TC57CIM::IEC62325::MarketManagement::Point
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

101

102 **2.2.3. Detailed Activation assembly model**

103 **2.2.3.1. Activation_MarketDocument root class**

104 An electronic document containing the information necessary to satisfy the requirements of a
105 given business process.

106 Table 3 shows all attributes of Activation_MarketDocument.

107 **Table 3 - Attributes of Activation assembly model::Activation_MarketDocument**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	The unique identification of the document being exchanged within a business process flow.
1	[1..1]	revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another.
2	[1..1]	type MessageKind_String	The coded type of a document. The document type describes the principal characteristic of the document.
3	[0..1]	process.processType ProcessKind_String	The identification of the nature of process that the document addresses. --- The process dealt with in the document.
4	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document owner.
5	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document owner. --- The role associated with a MarketParticipant.
6	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document recipient.
7	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document recipient. --- The role associated with a MarketParticipant.
8	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
9	[1..1]	activation_Time_Period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval. --- This information provides the start and end date and time of the activation time interval.

Order	mult.	Attribute name / Attribute type	Description
10	[0..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The identification of the domain that is covered in the document.
11	[0..1]	subject_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market.
12	[0..1]	subject_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- --- The role associated with a MarketParticipant.
13	[0..1]	order_MarketDocument.mRID ID_String	The unique identification of the document being exchanged within a business process flow.
14	[0..1]	order_MarketDocument.revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another.

108

109 Table 4 shows all association ends of Activation_MarketDocument with other classes.

110 **Table 4 - Association ends of Activation assembly model::Activation_MarketDocument**
111 **with other classes**

Order	mult.	Class name / Role	Description
15	[0..*]	TimeSeries TimeSeries	The time series that is associated with an electronic document. Association Based On: Activation contextual model::Activation_MarketDocument.[] ----- Activation contextual model::TimeSeries.TimeSeries[0..*]

112

113 2.2.3.2. Point

114 The identification of the values being addressed within a specific interval of time.

115 Table 5 shows all attributes of Point.

116 **Table 5 - Attributes of Activation assembly model::Point**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	position Position_Integer	A sequential value representing the relative position within a given time interval.
1	[1..1]	quantity Decimal	The principal quantity identified for a point.

117

118 Table 6 shows all association ends of Point with other classes.

119 **Table 6 - Association ends of Activation assembly model::Point with other classes**

Order	mult.	Class name / Role	Description
2	[0..*]	Reason Reason	At the Point level the reason code is used to identify the nature of a curtailment that has been imposed on the specified quantity. The Reason information associated with a Point providing motivation information. Association Based On: Activation contextual model::Point.[] ----- Activation contextual model::Reason.Reason[0..*]

120

121 **2.2.3.3. Reason**

122 The motivation of an act.

123 Table 7 shows all attributes of Reason.

124 **Table 7 - Attributes of Activation assembly model::Reason**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	code ReasonCode_String	The motivation of an act in coded form.
1	[0..1]	text ReasonText_String	The textual explanation corresponding to the reason code.

125

126 **2.2.3.4. Series_Period**

127 The identification of the period of time corresponding to a given time interval and resolution.

128 Table 8 shows all attributes of Series_Period.

129 **Table 8 - Attributes of Activation assembly model::Series_Period**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	timeInterval ESMP_DateTimeInterval	The start and end time of the period.
1	[1..1]	resolution Duration	The definition of the number of units of time that compose an individual step within a period.

130

131 Table 9 shows all association ends of Series_Period with other classes.

132 **Table 9 - Association ends of Activation assembly model::Series_Period with other classes**
133

Order	mult.	Class name / Role	Description
2	[1..*]	Point Point	The Point information associated with a given Series_Period.within a TimeSeries. Association Based On: Activation contextual model::Series_Period.[] ----- Activation contextual model::Point.Point[1..*]

134

135 **2.2.3.5. TimeSeries**

136 A set of time-ordered quantities being exchanged in relation to a product.

137 Table 10 shows all attributes of TimeSeries.

138 **Table 10 - Attributes of Activation assembly model::TimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series.
1	[1..1]	resourceProvider_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The identification of the party putting the product into the in area.
2	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
3	[1..1]	acquiring_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being delivered.
4	[1..1]	connecting_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being extracted.
5	[1..1]	measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measurement used for the quantities expressed within the time series.
6	[1..1]	flowDirection.direction DirectionKind_String	The coded identification of the direction of energy flow.
7	[1..1]	marketObjectStatus.status Status_String	The coded condition or position of an object with regard to its standing.
8	[0..1]	registeredResource.mRID ResourceID_String	The unique identification of a resource. --- The identification of a resource associated with a TimeSeries.
9	[0..1]	auction.mRID ID_String	The unique identification of the auction. In the ESMP context, the "model authority" is defined as an emitting company that provides an agreed identification unique within a business context such as capacity auction identification, market agreement identification, etc. Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The auction characteristics that are associated with a TimeSeries.

139

140 Table 11 shows all association ends of TimeSeries with other classes.

141 **Table 11 - Association ends of Activation assembly model::TimeSeries with other**
142 **classes**

Order	mult.	Class name / Role	Description
10	[0..*]	Series_Period Period	The time interval and resolution for a period associated with a TimeSeries. Association Based On: Activation contextual model::TimeSeries.[] ----- Activation contextual model::Series_Period.Period[0..*]
11	[0..*]	Reason Reason	Association Based On: Activation contextual model::TimeSeries.[] ----- Activation contextual model::Reason.Reason[0..*]

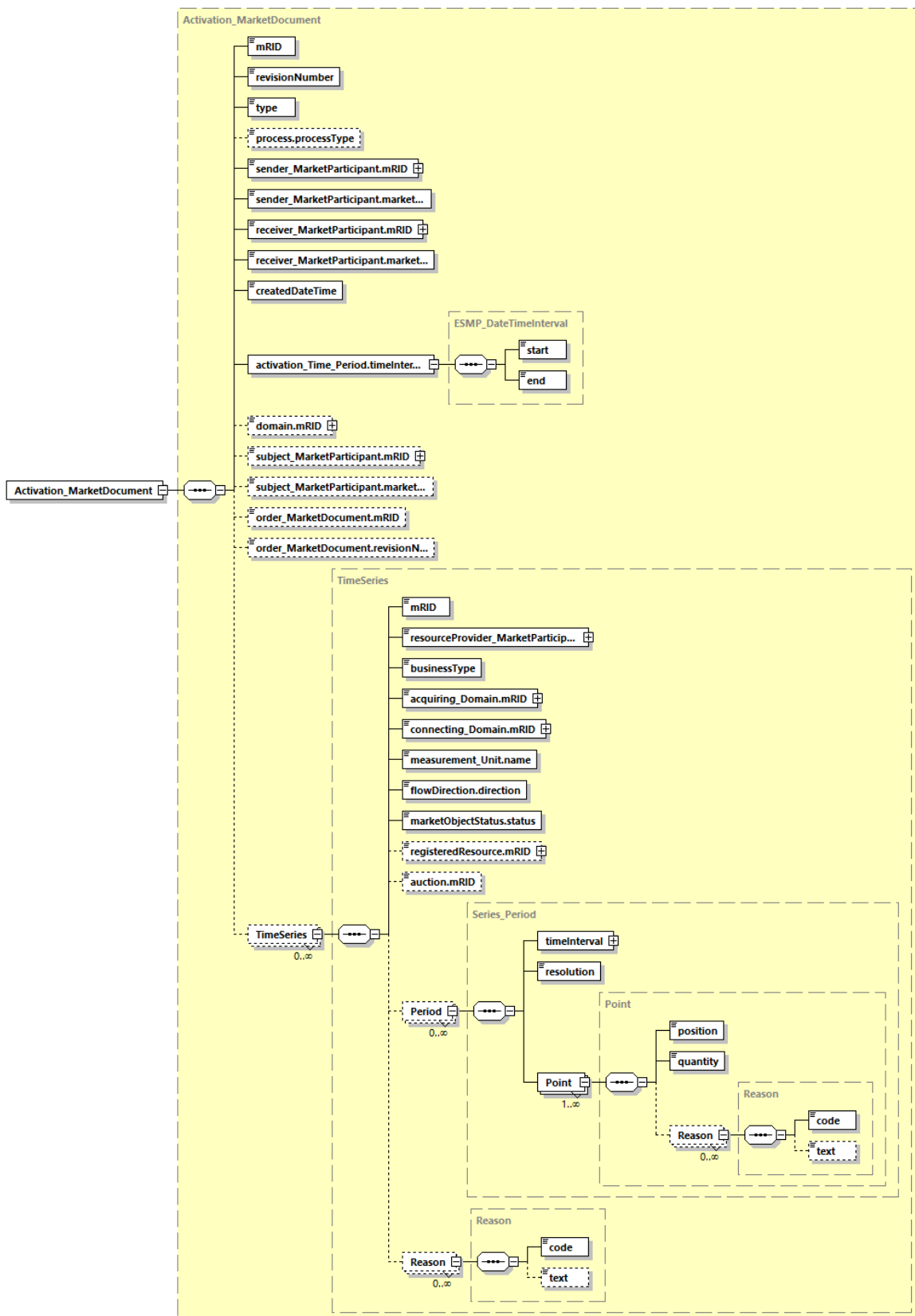
143

144 **2.2.4. Datatypes**

145 The list of datatypes used for the Activation assembly model is as follows:

- 146 • ESMP_DateTimeInterval compound
- 147 • ArealID_String datatype, codelist CodingSchemeTypeList
- 148 • BusinessKind_String datatype, codelist BusinessTypeList
- 149 • DirectionKind_String datatype, codelist DirectionTypeList
- 150 • ESMP_DateTime datatype
- 151 • ESMPVersion_String datatype
- 152 • ID_String datatype
- 153 • MarketRoleKind_String datatype, codelist RoleTypeList
- 154 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- 155 • MessageKind_String datatype, codelist MessageTypeList
- 156 • PartyID_String datatype, codelist CodingSchemeTypeList
- 157 • Position_Integer datatype
- 158 • ProcessKind_String datatype, codelist ProcessTypeList
- 159 • ReasonCode_String datatype, codelist ReasonCodeTypeList
- 160 • ReasonText_String datatype
- 161 • ResourceID_String datatype, codelist CodingSchemeTypeList
- 162 • Status_String datatype, codelist StatusTypeList
- 163 • YMDHM_DateTime datatype
- 164

165 2.2.5. Activation_MarketDocument XML schema structure



166
167

Figure 3 - Activation_MarketDocument schema structure

168 2.2.6. Activation_MarketDocument XML schema

169

170 The schema to be used to validate XML instances is to be identified by:

171 urn:iec62325.351:tc57wg16:451-7:activationdocument:6:3

```

172 <?xml version="1.0" encoding="utf-8"?>
173 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
174 xmlns="urn:iec62325.351:tc57wg16:451-7:activationdocument:6:3"
175 xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
176 xmlns:cimp="http://www.iec.ch/cimprofile"
177 xmlns:xs="http://www.w3.org/2001/XMLSchema"
178 targetNamespace="urn:iec62325.351:tc57wg16:451-7:activationdocument:6:3"
179 elementFormDefault="qualified" attributeFormDefault="unqualified">
180   <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-
181 entsoe-eu-wgedi-codelists.xsd"/>
182   <xs:element name="Activation_MarketDocument"
183 type="Activation_MarketDocument"/>
184   <xs:simpleType name="ID_String"
185 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
186     <xs:restriction base="xs:string">
187       <xs:maxLength value="60"/>
188     </xs:restriction>
189   </xs:simpleType>
190   <xs:simpleType name="ESMPVersion_String"
191 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
192     <xs:restriction base="xs:string">
193       <xs:pattern value="[1-9]([0-9]){0,2}"/>
194     </xs:restriction>
195   </xs:simpleType>
196   <xs:simpleType name="MessageKind_String"
197 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
198     <xs:restriction base="ecl:MessageTypeList"/>
199   </xs:simpleType>
200   <xs:simpleType name="ProcessKind_String"
201 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
202     <xs:restriction base="ecl:ProcessTypeList"/>
203   </xs:simpleType>
204   <xs:simpleType name="PartyID_String-base"
205 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
206     <xs:restriction base="xs:string">
207       <xs:maxLength value="16"/>
208     </xs:restriction>
209   </xs:simpleType>
210   <xs:complexType name="PartyID_String"
211 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
212     <xs:simpleContent>
213       <xs:extension base="PartyID_String-base">
214         <xs:attribute name="codingScheme"
215 type="ecl:CodingSchemeTypeList" use="required"/>
216       </xs:extension>
217     </xs:simpleContent>
218   </xs:complexType>
219   <xs:simpleType name="MarketRoleKind_String"
220 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">

```

```

221         <xs:restriction base="ecl:RoleTypeList"/>
222     </xs:simpleType>
223     <xs:simpleType name="ESMP_DateTime"
224 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
225         <xs:restriction base="xs:dateTime">
226             <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02]))[\-](0[1-
227 9]|[12][0-9]|3[01]))|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|[12][0-
228 9]|30))T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
229 9])Z)|(((13579)[26][02468][048]|[13579][01345789](0)[48]|[13579][01345789][2468][0
230 48]|[02468][048][02468][048]|[02468][1235679](0)[48]|[02468][1235679][2468][048]|[
231 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-
232 5][0-9]:[0-5][0-
233 9])Z)|(((13579)[26][02468][1235679]|[13579][01345789](0)[01235679]|[13579][0134578
234 9][2468][1235679]|[02468][048][02468][1235679]|[02468][1235679](0)[01235679]|[0246
235 8][1235679][2468][1235679]|[0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
236 9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)"/>
237         </xs:restriction>
238     </xs:simpleType>
239     <xs:simpleType name="AreaID_String-base"
240 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
241         <xs:restriction base="xs:string">
242             <xs:maxLength value="18"/>
243         </xs:restriction>
244     </xs:simpleType>
245     <xs:complexType name="AreaID_String"
246 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
247         <xs:simpleContent>
248             <xs:extension base="AreaID_String-base">
249                 <xs:attribute name="codingScheme"
250 type="ecl:CodingSchemeTypeList" use="required"/>
251             </xs:extension>
252         </xs:simpleContent>
253     </xs:complexType>
254     <xs:simpleType name="YMDHM_DateTime"
255 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
256         <xs:restriction base="xs:string">
257             <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02]))[\-](0[1-
258 9]|[12][0-9]|3[01]))|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|[12][0-
259 9]|30))T((([01][0-9]|2[0-3]):[0-5][0-
260 9])Z)|(((13579)[26][02468][048]|[13579][01345789](0)[48]|[13579][01345789][2468][0
261 48]|[02468][048][02468][048]|[02468][1235679](0)[48]|[02468][1235679][2468][048]|[
262 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-
263 5][0-
264 9])Z)|(((13579)[26][02468][1235679]|[13579][01345789](0)[01235679]|[13579][0134578
265 9][2468][1235679]|[02468][048][02468][1235679]|[02468][1235679](0)[01235679]|[0246
266 8][1235679][2468][1235679]|[0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
267 9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9])Z)"/>
268         </xs:restriction>
269     </xs:simpleType>
270     <xs:complexType name="ESMP_DateTimeInterval"
271 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
272         <xs:sequence>
273             <xs:element name="start" type="YMDHM_DateTime" minOccurs="1"
274 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
275 cim16#DateTimeInterval.start"/>

```



```

276         <xs:element name="end" type="YMDHM_DateTime" minOccurs="1"
277 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
278 cim16#DateTimeInterval.end"/>
279     </xs:sequence>
280 </xs:complexType>
281 <xs:complexType name="Activation_MarketDocument"
282 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
283     <xs:sequence>
284         <xs:element name="mRID" type="ID_String" minOccurs="1"
285 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
286 cim16#IdentifiedObject.mRID"/>
287         <xs:element name="revisionNumber" type="ESMPVersion_String"
288 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
289 schema-cim16#Document.revisionNumber"/>
290         <xs:element name="type" type="MessageKind_String" minOccurs="1"
291 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
292 cim16#Document.type"/>
293         <xs:element name="process.processType"
294 type="ProcessKind_String" minOccurs="0" maxOccurs="1"
295 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
296 cim16#Process.processType"/>
297         <xs:element name="sender_MarketParticipant.mRID"
298 type="PartyID_String" minOccurs="1" maxOccurs="1"
299 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
300 cim16#IdentifiedObject.mRID"/>
301         <xs:element name="sender_MarketParticipant.marketRole.type"
302 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
303 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
304         <xs:element name="receiver_MarketParticipant.mRID"
305 type="PartyID_String" minOccurs="1" maxOccurs="1"
306 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
307 cim16#IdentifiedObject.mRID"/>
308         <xs:element name="receiver_MarketParticipant.marketRole.type"
309 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
310 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
311         <xs:element name="createdDateTime" type="ESMP_DateTime"
312 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
313 schema-cim16#Document.createdDateTime"/>
314         <xs:element name="activation_Time_Period.timeInterval"
315 type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"
316 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
317 cim16#Period.timeInterval"/>
318         <xs:element name="domain.mRID" type="AreaID_String"
319 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
320 schema-cim16#IdentifiedObject.mRID"/>
321         <xs:element name="subject_MarketParticipant.mRID"
322 type="PartyID_String" minOccurs="0" maxOccurs="1"
323 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
324 cim16#IdentifiedObject.mRID"/>
325         <xs:element name="subject_MarketParticipant.marketRole.type"
326 type="MarketRoleKind_String" minOccurs="0" maxOccurs="1"
327 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
328         <xs:element name="order_MarketDocument.mRID" type="ID_String"
329 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
330 schema-cim16#IdentifiedObject.mRID"/>

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331         <xs:element name="order_MarketDocument.revisionNumber"
332 type="ESMPVersion_String" minOccurs="0" maxOccurs="1"
333 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
334 cim16#Document.revisionNumber"/>
335         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="0"
336 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
337 cim16#MarketDocument.TimeSeries"/>
338     </xs:sequence>
339 </xs:complexType>
340 <xs:simpleType name="Position_Integer"
341 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
342     <xs:restriction base="xs:integer">
343         <xs:maxInclusive value="999999"/>
344         <xs:minInclusive value="1"/>
345     </xs:restriction>
346 </xs:simpleType>
347 <xs:complexType name="Point"
348 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
349     <xs:sequence>
350         <xs:element name="position" type="Position_Integer"
351 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
352 schema-cim16#Point.position"/>
353         <xs:element name="quantity" type="xs:decimal" minOccurs="1"
354 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
355 cim16#Point.quantity"/>
356         <xs:element name="Reason" type="Reason" minOccurs="0"
357 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
358 cim16#Point.Reason"/>
359     </xs:sequence>
360 </xs:complexType>
361 <xs:simpleType name="ReasonCode_String"
362 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
363     <xs:restriction base="ecl:ReasonCodeTypeList"/>
364 </xs:simpleType>
365 <xs:simpleType name="ReasonText_String"
366 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
367     <xs:restriction base="xs:string">
368         <xs:maxLength value="512"/>
369     </xs:restriction>
370 </xs:simpleType>
371 <xs:complexType name="Reason"
372 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">
373     <xs:sequence>
374         <xs:element name="code" type="ReasonCode_String" minOccurs="1"
375 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
376 cim16#Reason.code"/>
377         <xs:element name="text" type="ReasonText_String" minOccurs="0"
378 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
379 cim16#Reason.text"/>
380     </xs:sequence>
381 </xs:complexType>
382 <xs:complexType name="Series_Period"
383 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
384     <xs:sequence>

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385         <xs:element name="timeInterval" type="ESMP_DateTimeInterval"
386 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
387 schema-cim16#Period.timeInterval"/>
388         <xs:element name="resolution" type="xs:duration" minOccurs="1"
389 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
390 cim16#Period.resolution"/>
391         <xs:element name="Point" type="Point" minOccurs="1"
392 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
393 cim16#Period.Point"/>
394     </xs:sequence>
395 </xs:complexType>
396 <xs:simpleType name="BusinessKind_String"
397 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
398     <xs:restriction base="ecl:BusinessTypeList"/>
399 </xs:simpleType>
400 <xs:simpleType name="MeasurementUnitKind_String"
401 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
402     <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
403 </xs:simpleType>
404 <xs:simpleType name="DirectionKind_String"
405 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
406     <xs:restriction base="ecl:DirectionTypeList"/>
407 </xs:simpleType>
408 <xs:simpleType name="Status_String"
409 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
410     <xs:restriction base="ecl:StatusTypeList"/>
411 </xs:simpleType>
412 <xs:simpleType name="ResourceID_String-base"
413 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
414     <xs:restriction base="xs:string">
415         <xs:maxLength value="60"/>
416     </xs:restriction>
417 </xs:simpleType>
418 <xs:complexType name="ResourceID_String"
419 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
420     <xs:simpleContent>
421         <xs:extension base="ResourceID_String-base">
422             <xs:attribute name="codingScheme"
423 type="ecl:CodingSchemeTypeList" use="required"/>
424         </xs:extension>
425     </xs:simpleContent>
426 </xs:complexType>
427 <xs:complexType name="TimeSeries"
428 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
429     <xs:sequence>
430         <xs:element name="mRID" type="ID_String" minOccurs="1"
431 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
432 cim16#IdentifiedObject.mRID"/>
433         <xs:element name="resourceProvider_MarketParticipant.mRID"
434 type="PartyID_String" minOccurs="1" maxOccurs="1"
435 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
436 cim16#IdentifiedObject.mRID"/>
437         <xs:element name="businessType" type="BusinessKind_String"
438 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
439 schema-cim16#TimeSeries.businessType"/>

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440         <xs:element name="acquiring_Domain.mRID" type="AreaID_String"
441 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
442 schema-cim16#IdentifiedObject.mRID"/>
443         <xs:element name="connecting_Domain.mRID" type="AreaID_String"
444 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
445 schema-cim16#IdentifiedObject.mRID"/>
446         <xs:element name="measurement_Unit.name"
447 type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
448 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
449         <xs:element name="flowDirection.direction"
450 type="DirectionKind_String" minOccurs="1" maxOccurs="1"
451 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
452 cim16#FlowDirection.direction"/>
453         <xs:element name="marketObjectStatus.status"
454 type="Status_String" minOccurs="1" maxOccurs="1"
455 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
456 cim16#MarketObjectStatus.status"/>
457         <xs:element name="registeredResource.mRID"
458 type="ResourceID_String" minOccurs="0" maxOccurs="1"
459 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
460 cim16#IdentifiedObject.mRID"/>
461         <xs:element name="auction.mRID" type="ID_String" minOccurs="0"
462 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
463 cim16#IdentifiedObject.mRID"/>
464         <xs:element name="Period" type="Series_Period" minOccurs="0"
465 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
466 cim16#TimeSeries.Period"/>
467         <xs:element name="Reason" type="Reason" minOccurs="0"
468 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
469 cim16#TimeSeries.Reason"/>
470     </xs:sequence>
471 </xs:complexType>
472 </xs:schema>
473
    
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