



European Network of  
Transmission System Operators  
for Electricity

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# HISTORICAL ACTIVATION DOCUMENT UML MODEL AND SCHEMA

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2021-09-15  
APPROVED DOCUMENT  
VERSION 1.1

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## 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	2021-09-15	Updates in historical activation XSD v6.1: An optional curveType attribute was added to Timeseries class.  Approved by MC.

62

63 **Objective**

64 The purpose of this document is to provide the contextual and assembly UML models and the  
65 schema of the HistoricalActivation\_MarketDocument.

66 The schema of the HistoricalActivation\_MarketDocument could be used in various business  
67 processes.

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

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

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

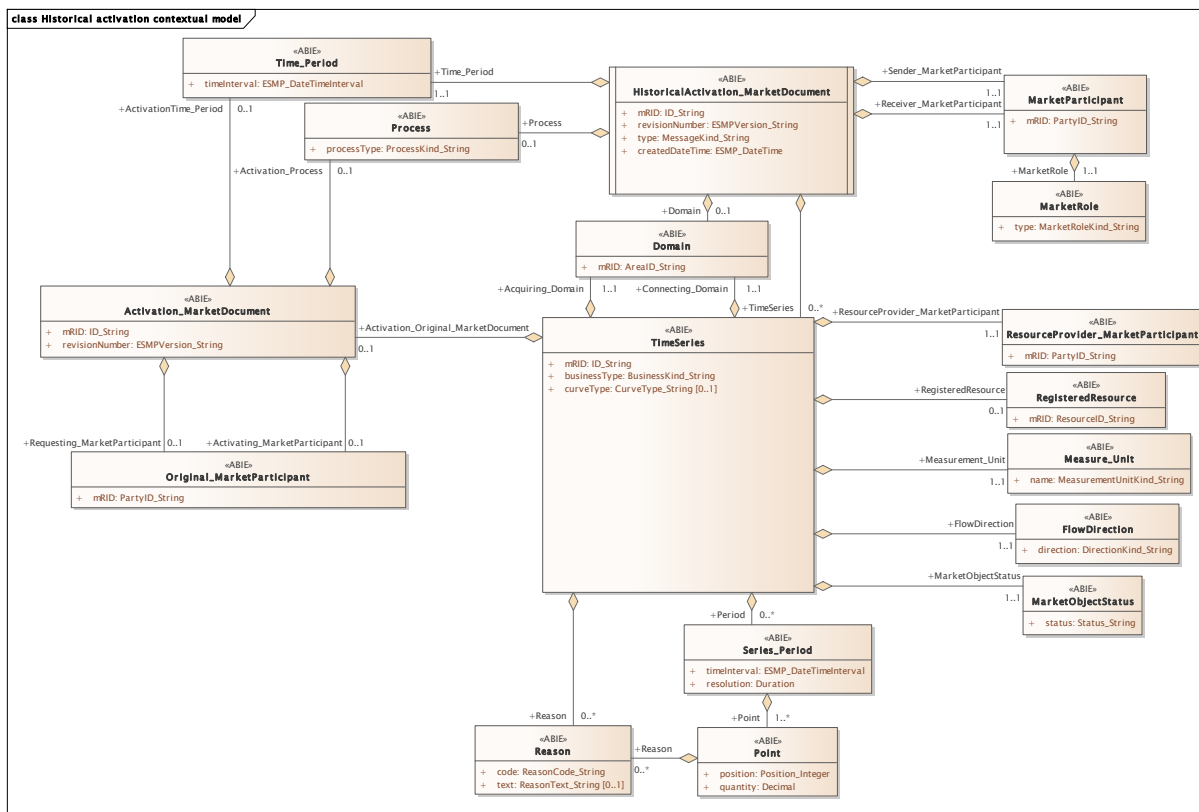
80

81 **HistoricalActivation\_MarketDocument**

82 **2.1 Historical activation contextual model**

83 **2.1.1 Overview of the model**

84 Figure 1 shows the model.



85

86

87

**Figure 1 - Historical activation contextual model**

88

89

90 **2.1.2 IsBasedOn relationships from the European style market profile**

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

93

**Table 1 - IsBasedOn dependency**

Name	Complete IsBasedOn Path
Activation_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Domain	TC57CIM::IEC62325::MarketManagement::Domain
FlowDirection	TC57CIM::IEC62325::MarketManagement::FlowDirection
HistoricalActivation_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
MarketObjectStatus	TC57CIM::IEC62325::MarketManagement::MarketObjectStatus
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Original_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
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

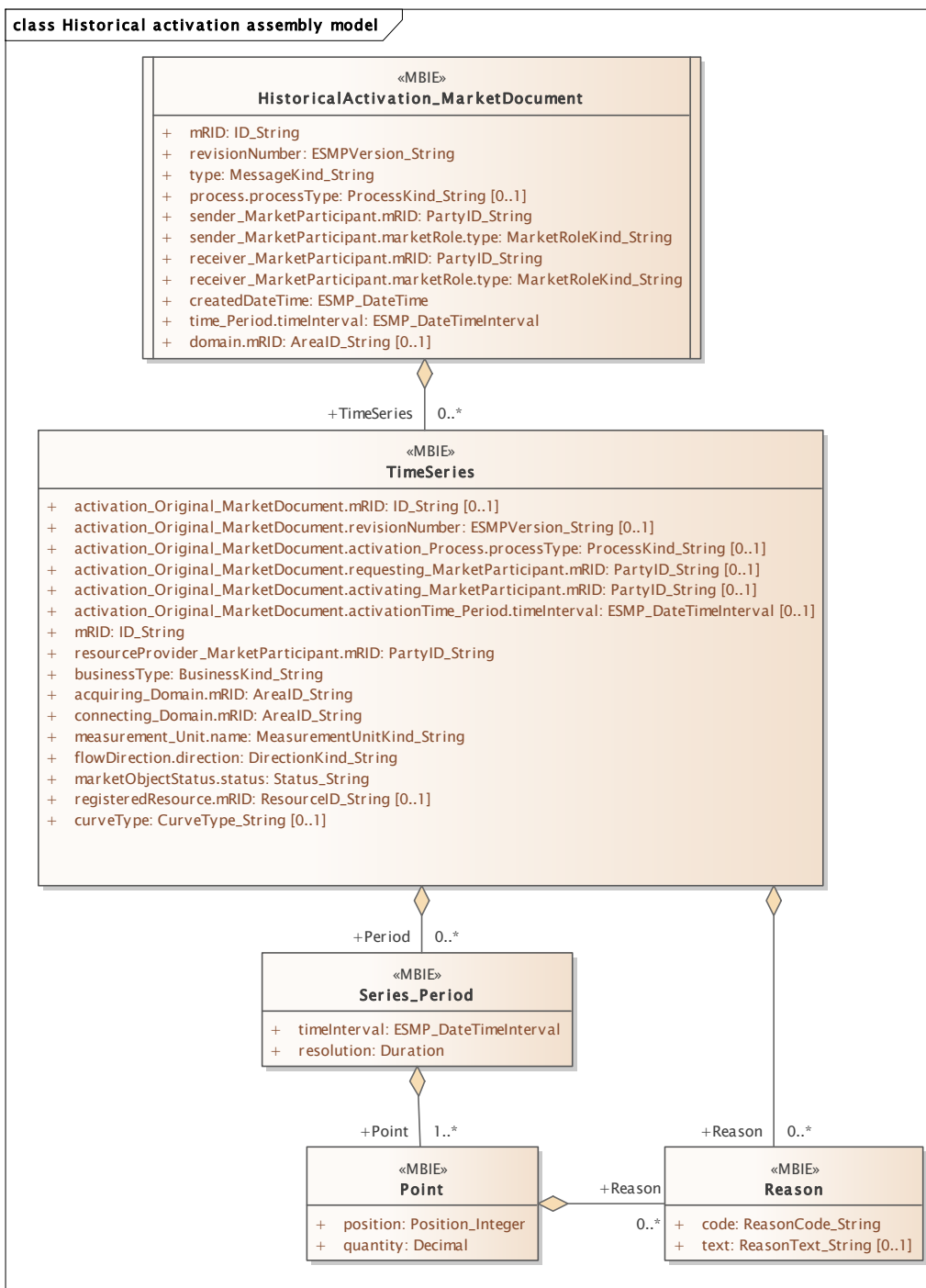
94

95

96 2.2 Historical activation assembly model

97 2.2.1 Overview of the model

98 Figure 2 shows the model.



99

100

Figure 2 - Historical activation assembly model



101

102 **2.2.2 IsBasedOn relationships from the European style market profile**

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

105

**Table 2 - IsBasedOn dependency**

Name	Complete IsBasedOn Path
HistoricalActivation_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

106

107 **2.2.3 Detailed Historical activation assembly model**

108 **2.2.3.1 HistoricalActivation\_MarketDocument root class**

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

111 Table 3 shows all attributes of HistoricalActivation\_MarketDocument.

112

**Table 3 - Attributes of Historical activation assembly model::HistoricalActivation\_MarketDocument**

113

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.

Order	mult.	Attribute name / Attribute type	Description
9	[1..1]	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.
10	[0..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The identification of the domain that is covered in the document.

114

115 Table 4 shows all association ends of HistoricalActivation\_MarketDocument with other classes.

116 **Table 4 - Association ends of Historical activation assembly**  
117 **model::HistoricalActivation\_MarketDocument with other classes**

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

118

### 119 2.2.3.2 Point

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

121 Table 5 shows all attributes of Point.

122 **Table 5 - Attributes of Historical 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.

123

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

125 **Table 6 - Association ends of Historical activation assembly model::Point with other**  
126 **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: Historical activation contextual model::Point.[] ----- Historical activation contextual model::Reason.Reason[0..*]

127

128 **2.2.3.3 Reason**

129 The motivation of an act.

130 Table 7 shows all attributes of Reason.

131 **Table 7 - Attributes of Historical 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.

132

133 **2.2.3.4 Series\_Period**

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

135 Table 8 shows all attributes of Series\_Period.

136 **Table 8 - Attributes of Historical 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.

137

138 Table 9 shows all association ends of Series\_Period with other classes.

139 **Table 9 - Association ends of Historical activation assembly model::Series\_Period with other classes**

140

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: Historical activation contextual model::Series_Period.[] ----- Historical activation contextual model::Point.Point[1..*]

141

142 **2.2.3.5 TimeSeries**

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

144 Table 10 shows all attributes of TimeSeries.

145

**Table 10 - Attributes of Historical activation assembly model::TimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[0..1]	activation_Original_MarketDocument.mRID ID_String	The unique identification of the document being exchanged within a business process flow.
1	[0..1]	activation_Original_MarketDocument.revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another.
2	[0..1]	activation_Original_MarketDocument.activation_Process.processType ProcessKind_String	The identification of the nature of process that the document addresses.
3	[0..1]	activation_Original_MarketDocument.requesting_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market.
4	[0..1]	activation_Original_MarketDocument.activating_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market.
5	[0..1]	activation_Original_MarketDocument.activationTime_Period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval.
6	[1..1]	mRID ID_String	A unique identification of the time series.
7	[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.
8	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
9	[1..1]	acquiring_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being delivered.
10	[1..1]	connecting_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being extracted.
11	[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.
12	[1..1]	flowDirection.direction DirectionKind_String	The coded identification of the direction of energy flow.
13	[1..1]	marketObjectStatus.status Status_String	The coded condition or position of an object with regard to its standing.
14	[0..1]	registeredResource.mRID ResourceID_String	The unique identification of a resource.

146

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

148 **Table 11 - Association ends of Historical activation assembly model::TimeSeries with**  
149 **other classes**

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

150

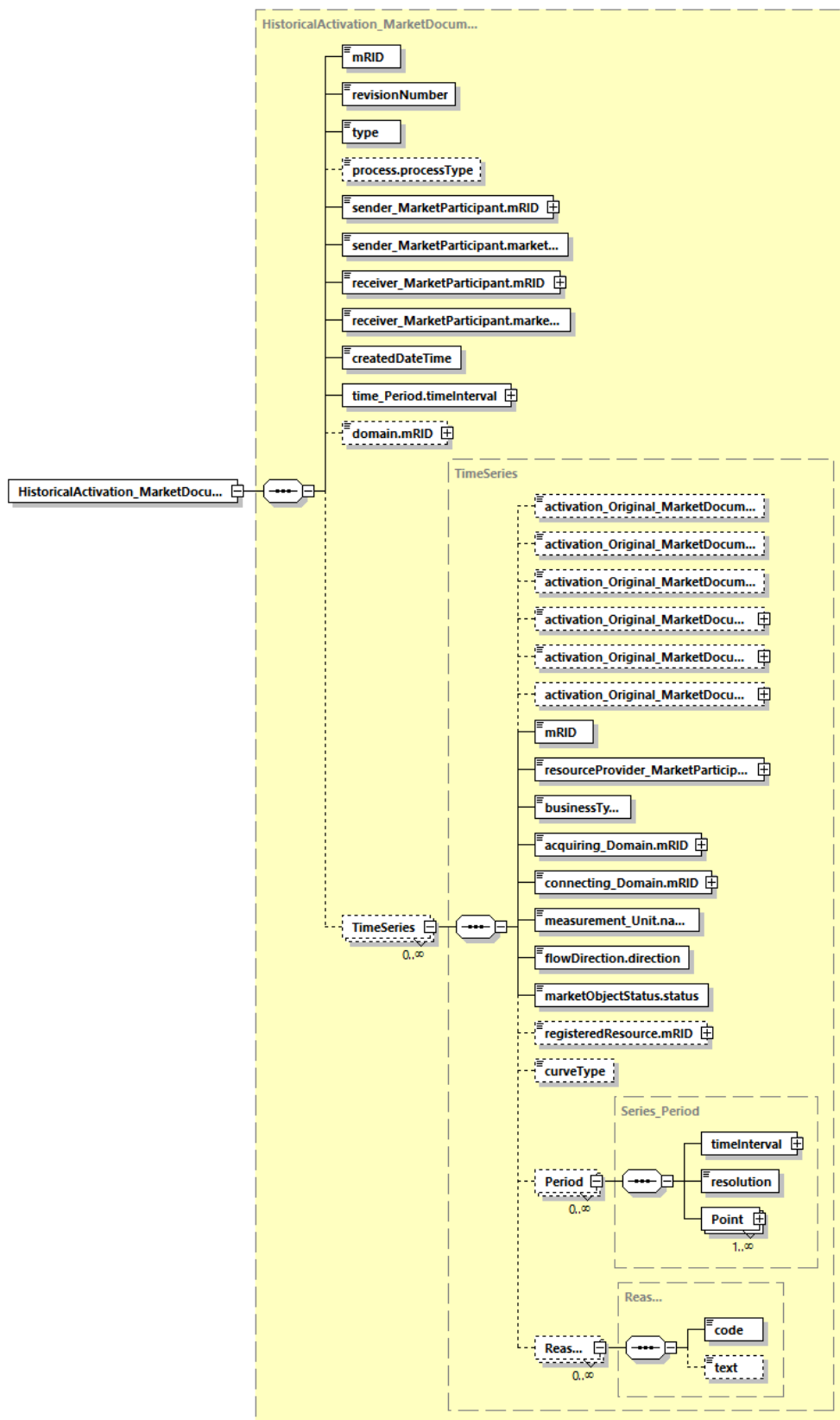
#### 151 2.2.4 Datatypes

152 The list of datatypes used for the Historical activation assembly model is as follows:

- 153 • ESMP\_DateTimeInterval compound
- 154 • AreaID\_String datatype, codelist CodingSchemeTypeList
- 155 • BusinessKind\_String datatype, codelist BusinessTypeList
- 156 • DirectionKind\_String datatype, codelist DirectionTypeList
- 157 • ESMP\_DateTime datatype
- 158 • ESMPVersion\_String datatype
- 159 • ID\_String datatype
- 160 • MarketRoleKind\_String datatype, codelist RoleTypeList
- 161 • MeasurementUnitKind\_String datatype, codelist UnitOfMeasureTypeList
- 162 • MessageKind\_String datatype, codelist MessageTypeList
- 163 • PartyID\_String datatype, codelist CodingSchemeTypeList
- 164 • Position\_Integer datatype
- 165 • ProcessKind\_String datatype, codelist ProcessTypeList
- 166 • ReasonCode\_String datatype, codelist ReasonCodeTypeList
- 167 • ReasonText\_String datatype
- 168 • ResourceID\_String datatype, codelist CodingSchemeTypeList
- 169 • Status\_String datatype, codelist StatusTypeList
- 170 • YMDHM\_DateTime datatype

171

172 2.2.5 HistoricalActivation\_MarketDocument XML schema structure



Generated by XMLSpy www.altova.com

Figure 3 - HistoricalActivation\_MarketDocument schema structure

173  
 174

## 175 2.2.6 HistoricalActivation\_MarketDocument XML schema

176

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

178 urn:iec62325.351:tc57wg16:451-7:historicalactivationdocument:6:1

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

```

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

```



```
283         <xs:element name="end" type="YMDHM_DateTime" minOccurs="1"
284 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
285 cim16#DateTimeInterval.end"/>
286     </xs:sequence>
287 </xs:complexType>
288 <xs:complexType name="HistoricalActivation_MarketDocument"
289 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
290     <xs:sequence>
291         <xs:element name="mRID" type="ID_String" minOccurs="1"
292 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
293 cim16#IdentifiedObject.mRID"/>
294         <xs:element name="revisionNumber" type="ESMPVersion_String"
295 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
296 schema-cim16#Document.revisionNumber"/>
297         <xs:element name="type" type="MessageKind_String" minOccurs="1"
298 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
299 cim16#Document.type"/>
300         <xs:element name="process.processType"
301 type="ProcessKind_String" minOccurs="0" maxOccurs="1"
302 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
303 cim16#Process.processType"/>
304         <xs:element name="sender_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="sender_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="receiver_MarketParticipant.mRID"
312 type="PartyID_String" minOccurs="1" maxOccurs="1"
313 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
314 cim16#IdentifiedObject.mRID"/>
315         <xs:element name="receiver_MarketParticipant.marketRole.type"
316 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
317 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
318         <xs:element name="createdDateTime" type="ESMP_DateTime"
319 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
320 schema-cim16#Document.createdDateTime"/>
321         <xs:element name="time_Period.timeInterval"
322 type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"
323 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
324 cim16#Period.timeInterval"/>
325         <xs:element name="domain.mRID" type="AreaID_String"
326 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
327 schema-cim16#IdentifiedObject.mRID"/>
328         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="0"
329 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
330 cim16#MarketDocument.TimeSeries"/>
331     </xs:sequence>
332 </xs:complexType>
333 <xs:simpleType name="Position_Integer"
334 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
335     <xs:restriction base="xs:integer">
336         <xs:maxInclusive value="999999"/>
337         <xs:minInclusive value="1"/>
338     </xs:restriction>
```

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339     </xs:simpleType>
340     <xs:complexType name="Point"
341 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
342         <xs:sequence>
343             <xs:element name="position" type="Position_Integer"
344 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
345 schema-cim16#Point.position"/>
346             <xs:element name="quantity" type="xs:decimal" minOccurs="1"
347 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
348 cim16#Point.quantity"/>
349             <xs:element name="Reason" type="Reason" minOccurs="0"
350 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
351 cim16#Point.Reason"/>
352         </xs:sequence>
353     </xs:complexType>
354     <xs:simpleType name="ReasonCode_String"
355 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
356         <xs:restriction base="ecl:ReasonCodeTypeList"/>
357     </xs:simpleType>
358     <xs:simpleType name="ReasonText_String"
359 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
360         <xs:restriction base="xs:string">
361             <xs:maxLength value="512"/>
362         </xs:restriction>
363     </xs:simpleType>
364     <xs:complexType name="Reason"
365 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">
366         <xs:sequence>
367             <xs:element name="code" type="ReasonCode_String" minOccurs="1"
368 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
369 cim16#Reason.code"/>
370             <xs:element name="text" type="ReasonText_String" minOccurs="0"
371 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
372 cim16#Reason.text"/>
373         </xs:sequence>
374     </xs:complexType>
375     <xs:complexType name="Series_Period"
376 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
377         <xs:sequence>
378             <xs:element name="timeInterval" type="ESMP_DateTimeInterval"
379 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
380 schema-cim16#Period.timeInterval"/>
381             <xs:element name="resolution" type="xs:duration" minOccurs="1"
382 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
383 cim16#Period.resolution"/>
384             <xs:element name="Point" type="Point" minOccurs="1"
385 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
386 cim16#Period.Point"/>
387         </xs:sequence>
388     </xs:complexType>
389     <xs:simpleType name="BusinessKind_String"
390 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
391         <xs:restriction base="ecl:BusinessTypeList"/>
392     </xs:simpleType>
393     <xs:simpleType name="MeasurementUnitKind_String"
394 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
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395         <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
396     </xs:simpleType>
397     <xs:simpleType name="DirectionKind_String"
398 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
399         <xs:restriction base="ecl:DirectionTypeList"/>
400     </xs:simpleType>
401     <xs:simpleType name="Status_String"
402 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
403         <xs:restriction base="ecl:StatusTypeList"/>
404     </xs:simpleType>
405     <xs:simpleType name="ResourceID_String-base"
406 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
407         <xs:restriction base="xs:string">
408             <xs:maxLength value="60"/>
409         </xs:restriction>
410     </xs:simpleType>
411     <xs:complexType name="ResourceID_String"
412 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
413         <xs:simpleContent>
414             <xs:extension base="ResourceID_String-base">
415                 <xs:attribute name="codingScheme"
416 type="ecl:CodingSchemeTypeList" use="required"/>
417             </xs:extension>
418         </xs:simpleContent>
419     </xs:complexType>
420     <xs:simpleType name="CurveType_String"
421 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
422         <xs:restriction base="ecl:CurveTypeList"/>
423     </xs:simpleType>
424     <xs:complexType name="TimeSeries"
425 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
426         <xs:sequence>
427             <xs:element name="activation_Original_MarketDocument.mRID"
428 type="ID_String" minOccurs="0" maxOccurs="1"
429 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
430 cim16#IdentifiedObject.mRID"/>
431             <xs:element
432 name="activation_Original_MarketDocument.revisionNumber" type="ESMPVersion_String"
433 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
434 schema-cim16#Document.revisionNumber"/>
435             <xs:element
436 name="activation_Original_MarketDocument.activation_Process.processType"
437 type="ProcessKind_String" minOccurs="0" maxOccurs="1"
438 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
439 cim16#Process.processType"/>
440             <xs:element
441 name="activation_Original_MarketDocument.requesting_MarketParticipant.mRID"
442 type="PartyID_String" minOccurs="0" maxOccurs="1"
443 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
444 cim16#IdentifiedObject.mRID"/>
445             <xs:element
446 name="activation_Original_MarketDocument.activating_MarketParticipant.mRID"
447 type="PartyID_String" minOccurs="0" maxOccurs="1"
448 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
449 cim16#IdentifiedObject.mRID"/>

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450         <xs:element
451     name="activation_Original_MarketDocument.activationTime_Period.timeInterval"
452     type="ESMP_DateTimeInterval" minOccurs="0" maxOccurs="1"
453     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
454     cim16#Period.timeInterval"/>
455         <xs:element name="mRID" type="ID_String" minOccurs="1"
456     maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
457     cim16#IdentifiedObject.mRID"/>
458         <xs:element name="resourceProvider_MarketParticipant.mRID"
459     type="PartyID_String" minOccurs="1" maxOccurs="1"
460     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
461     cim16#IdentifiedObject.mRID"/>
462         <xs:element name="businessType" type="BusinessKind_String"
463     minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
464     schema-cim16#TimeSeries.businessType"/>
465         <xs:element name="acquiring_Domain.mRID" type="AreaID_String"
466     minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
467     schema-cim16#IdentifiedObject.mRID"/>
468         <xs:element name="connecting_Domain.mRID" type="AreaID_String"
469     minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
470     schema-cim16#IdentifiedObject.mRID"/>
471         <xs:element name="measurement_Unit.name"
472     type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
473     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
474         <xs:element name="flowDirection.direction"
475     type="DirectionKind_String" minOccurs="1" maxOccurs="1"
476     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
477     cim16#FlowDirection.direction"/>
478         <xs:element name="marketObjectStatus.status"
479     type="Status_String" minOccurs="1" maxOccurs="1"
480     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
481     cim16#MarketObjectStatus.status"/>
482         <xs:element name="registeredResource.mRID"
483     type="ResourceID_String" minOccurs="0" maxOccurs="1"
484     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
485     cim16#IdentifiedObject.mRID"/>
486         <xs:element name="curveType" type="CurveType_String"
487     minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
488     schema-cim16#TimeSeries.curveType"/>
489         <xs:element name="Period" type="Series_Period" minOccurs="0"
490     maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
491     cim16#TimeSeries.Period"/>
492         <xs:element name="Reason" type="Reason" minOccurs="0"
493     maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
494     cim16#TimeSeries.Reason"/>
495     </xs:sequence>
496 </xs:complexType>
497 </xs:schema>
498
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