



European Network of
Transmission System Operators
for Electricity

REDISPATCH DOCUMENT UML MODEL AND SCHEMA

2019-02-12
APPROVED DOCUMENT
VERSION 1.0

2

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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.

59

60 1 Objective

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

63 The schema of the Redispatch_MarketDocument could be used in various business processes.

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

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

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

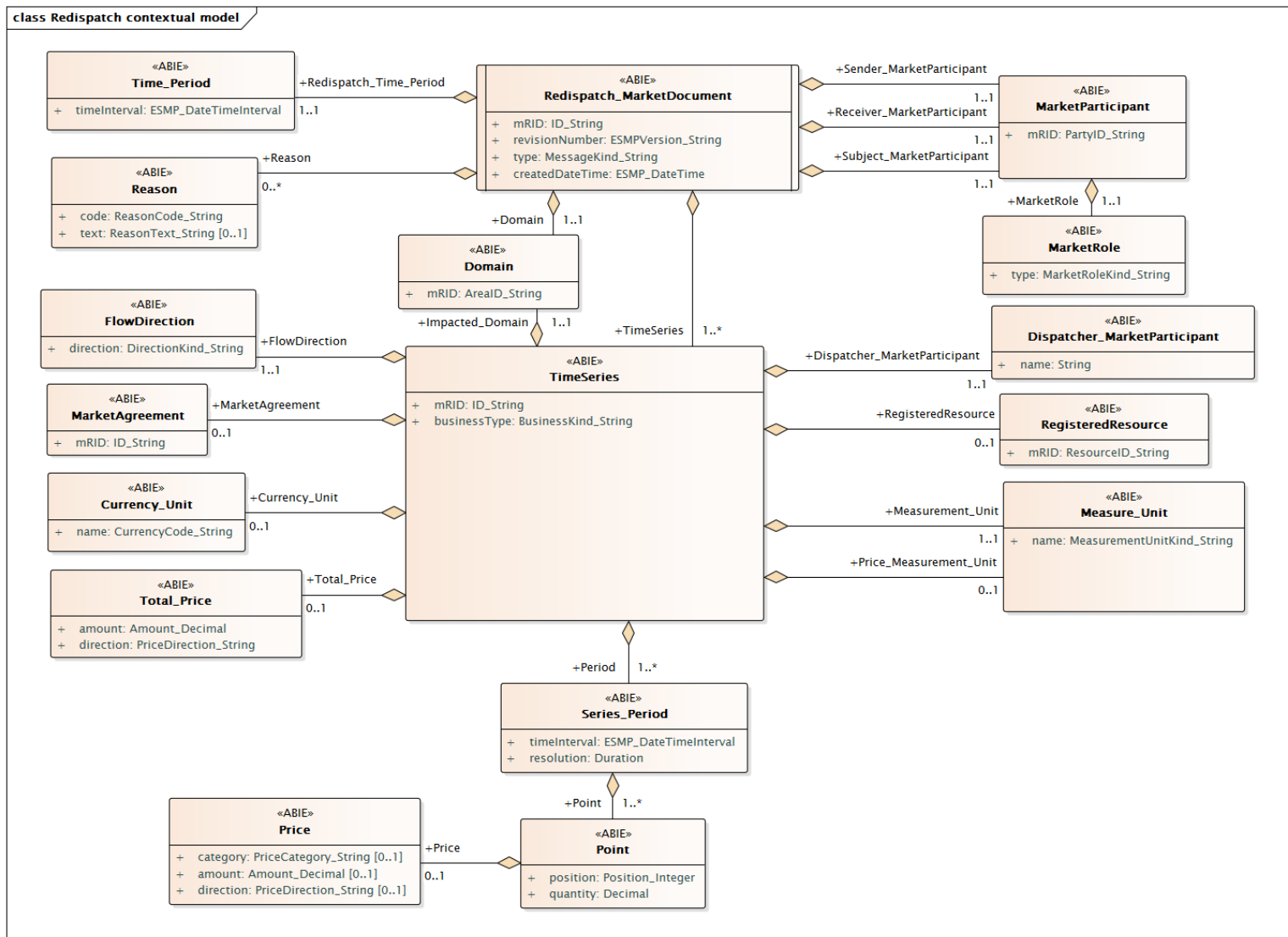
76

77 **2 Redispatch_MarketDocument**

78 **2.1 Redispatch contextual model**

79 **2.1.1 Overview of the model**

80 Figure 1 shows the model.



81

82

Figure 1 - Redispatch contextual model

83

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
Currency_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Dispatcher_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
Domain	TC57CIM::IEC62325::MarketManagement::Domain
FlowDirection	TC57CIM::IEC62325::MarketManagement::FlowDirection
MarketAgreement	TC57CIM::IEC62325::MarketManagement::MarketAgreement
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Point	TC57CIM::IEC62325::MarketManagement::Point
Price	TC57CIM::IEC62325::MarketManagement::Price
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Redispatch_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
RegisteredResource	TC57CIM::IEC62325::MarketCommon::RegisteredResource
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries
Total_Price	TC57CIM::IEC62325::MarketManagement::Price

89

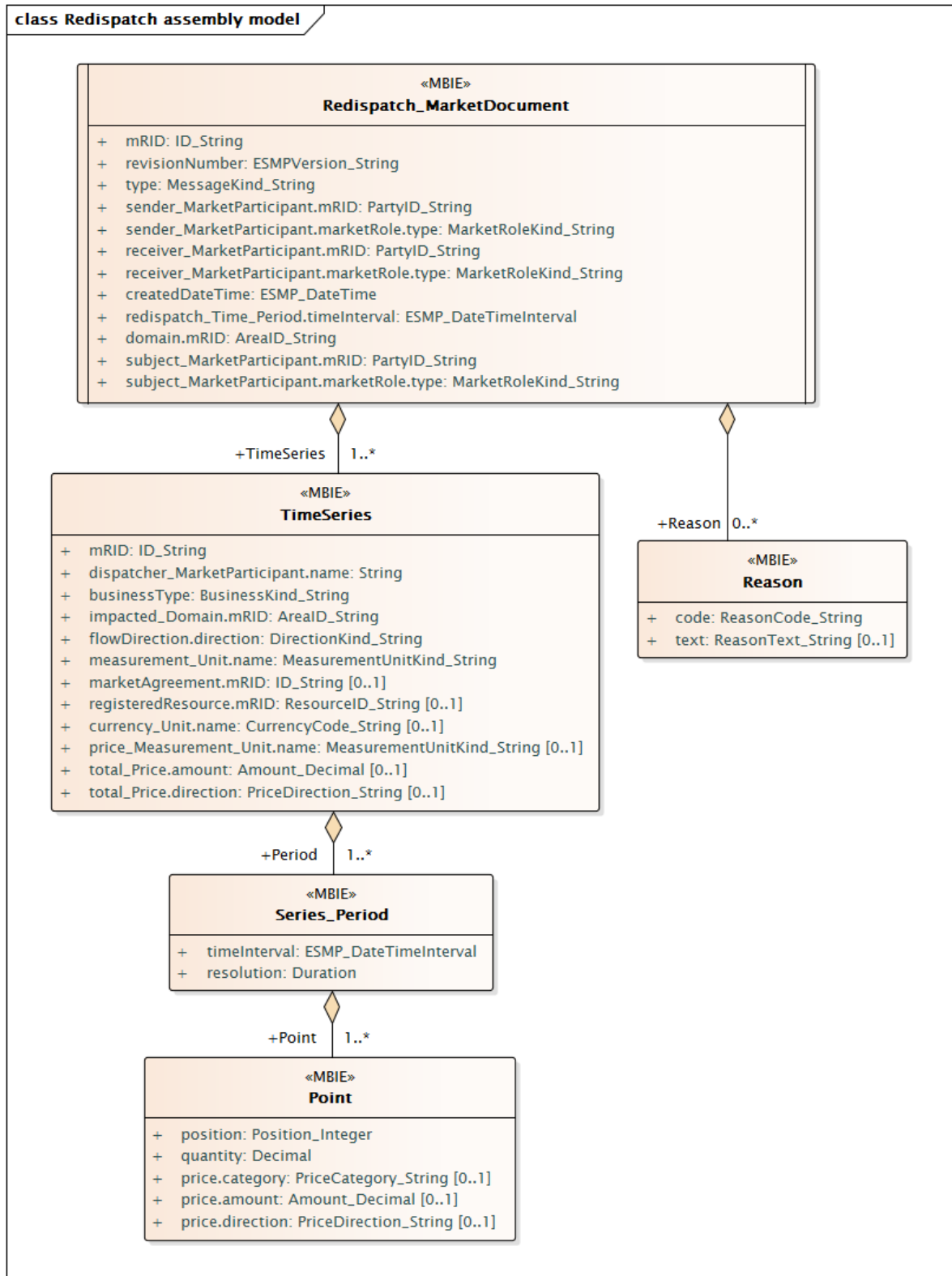
90

91

92 2.2 Redispatch assembly model

93 2.2.1 Overview of the model

94 Figure 2 shows the model.



95

96

Figure 2 - Redispatch assembly model

97

98 **2.2.2 IsBasedOn relationships from the European style market profile**

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

101 **Table 2 - IsBasedOn dependency**

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

102

103 **2.2.3 Detailed Redispatch assembly model**

104 **2.2.3.1 Redispatch_MarketDocument root class**

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

107 Table 3 shows all attributes of Redispatch_MarketDocument.

108 **Table 3 - Attributes of Redispatch assembly model::Redispatch_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	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document owner.
4	[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.
5	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document recipient.
6	[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.
7	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
8	[1..1]	redispatch_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 schedule time interval.
9	[1..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The identification of the domain that is covered in the schedule document. It is in general the market balance area that is the subject of the schedule plan.

Order	mult.	Attribute name / Attribute type	Description
10	[1..1]	subject_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market.
11	[1..1]	subject_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- --- The role associated with a MarketParticipant.

109

110 Table 4 shows all association ends of Redispatch_MarketDocument with other classes.

111

112

Table 4 - Association ends of Redispatch assembly model::Redispatch_MarketDocument with other classes

Order	mult.	Class name / Role	Description
12	[1..*]	TimeSeries TimeSeries	The time series that is associated with an electronic document. Association Based On: Redispatch contextual model::Redispatch_MarketDocument.[] ----- Redispatch contextual model::TimeSeries.TimeSeries[1..*]
13	[0..*]	Reason Reason	Association Based On: Redispatch contextual model::Reason.Reason[0..*] ----- Redispatch contextual model::Redispatch_MarketDocument.[]

113

114 2.2.3.2 Point

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

116 Table 5 shows all attributes of Point.

117

Table 5 - Attributes of Redispatch 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.
2	[0..1]	price.category PriceCategory_String	The category of a price to be used in a price calculation. Note: the price category is mutually agreed between system operators.
3	[0..1]	price.amount Amount_Decimal	A number of monetary units specified in a unit of currency.
4	[0..1]	price.direction PriceDirection_String	The direction of a price payment (i.e. an impacted area system operator pays to internal market parties or inverse).

118

119 2.2.3.3 Reason

120 The motivation of an act.

121 Table 6 shows all attributes of Reason.

122

Table 6 - Attributes of Redispatch 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.

123

124 **2.2.3.4 Series_Period**

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

126 Table 7 shows all attributes of Series_Period.

127

Table 7 - Attributes of Redispatch 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.

128

129 Table 8 shows all association ends of Series_Period with other classes.

130 **Table 8 - Association ends of Redispatch assembly model::Series_Period with other**
131 **classes**

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: Redispatch contextual model::Series_Period.[] ----- Redispatch contextual model::Point.Point[1..*]

132

133 **2.2.3.5 TimeSeries**

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

135 Table 9 shows all attributes of TimeSeries.

136

Table 9 - Attributes of Redispatch 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]	dispatcher_MarketParticipant.name String	The name is any free human readable and possibly non unique text naming the object. --- 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.

Order	mult.	Attribute name / Attribute type	Description
3	[1..1]	impacted_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being delivered.
4	[1..1]	flowDirection.direction DirectionKind_String	The coded identification of the direction of energy flow.
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	[0..1]	marketAgreement.mRID ID_String	The unique identification of the agreement.
7	[0..1]	registeredResource.mRID ResourceID_String	The unique identification of a resource.
8	[0..1]	currency_Unit.name CurrencyCode_String	The identification of the formal code for a currency (ISO 4217).
9	[0..1]	price_Measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20).
10	[0..1]	total_Price.amount Amount_Decimal	A number of monetary units specified in a unit of currency.
11	[0..1]	total_Price.direction PriceDirection_String	The direction of a price payment (i.e. an impacted area system operator pays to internal market parties or inverse).

137

138 Table 10 shows all association ends of TimeSeries with other classes.

139 **Table 10 - Association ends of Redispatch assembly model::TimeSeries with other**
140 **classes**

Order	mult.	Class name / Role	Description
12	[1..*]	Series_Period Period	The time interval and resolution for a period associated with a TimeSeries. Association Based On: Redispatch contextual model::TimeSeries.[] ----- Redispatch contextual model::Series_Period.Period[1..*]

141

142

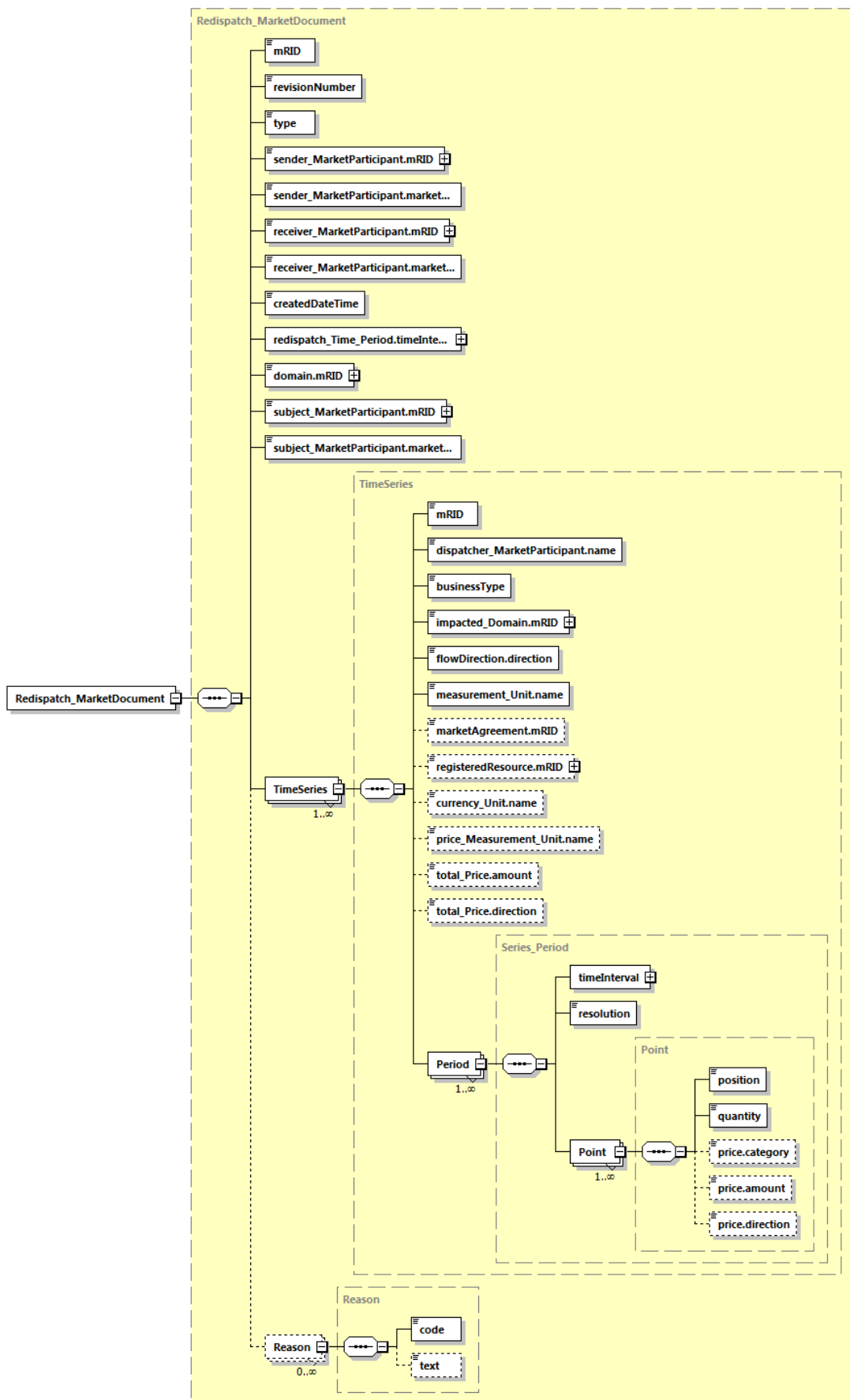
143

144 **2.2.4 Datatypes**

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

- 146 • ESMP_DateTimeInterval compound
- 147 • Amount_Decimal datatype
- 148 • AreaID_String datatype, codelist CodingSchemeTypeList
- 149 • BusinessKind_String datatype, codelist BusinessTypeList
- 150 • CurrencyCode_String datatype, codelist CurrencyTypeList
- 151 • DirectionKind_String datatype, codelist DirectionTypeList
- 152 • ESMP_DateTime datatype
- 153 • ESMPVersion_String datatype
- 154 • ID_String datatype
- 155 • MarketRoleKind_String datatype, codelist RoleTypeList
- 156 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- 157 • MessageKind_String datatype, codelist MessageTypeList
- 158 • PartyID_String datatype, codelist CodingSchemeTypeList
- 159 • Position_Integer datatype
- 160 • PriceCategory_String datatype, codelist PriceCategoryTypeList
- 161 • PriceDirection_String datatype, codelist PriceDirectionTypeList
- 162 • ReasonCode_String datatype, codelist ReasonCodeTypeList
- 163 • ReasonText_String datatype
- 164 • ResourceID_String datatype, codelist CodingSchemeTypeList
- 165 • YMDHM_DateTime datatype
- 166

167 2.2.5 Redispatch_MarketDocument XML schema structure



168
 169

Generated by XMLSpy www.altova.com

Figure 3 - Redispatch_MarketDocument schema structure

170 **2.2.6 Redispatch_MarketDocument XML schema**

171

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

173 urn:iec62325.351:tc57wg16:451-7:redispatchdocument:6:0

```

174 <?xml version="1.0" encoding="utf-8"?>
175 <xs:schema xmlns:cl="urn:entsoe.eu:wgedi:codelists" xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
176 xmlns="urn:iec62325.351:tc57wg16:451-7:redispatchdocument:6:0"
177 xmlns:cimp="http://www.iec.ch/cimprofile" xmlns:xs="http://www.w3.org/2001/XMLSchema"
178 targetNamespace="urn:iec62325.351:tc57wg16:451-7:redispatchdocument:6:0" elementFormDefault="qualified"
179 attributeFormDefault="unqualified">
180   <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-entsoe-eu-wgedi-
181 codelists.xsd"/>
182   <xs:element name="Redispatch_MarketDocument" type="Redispatch_MarketDocument"/>
183   <xs:simpleType name="Position_Integer" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
184 schema-cim16#Integer">
185     <xs:restriction base="xs:integer">
186       <xs:maxInclusive value="999999"/>
187       <xs:minInclusive value="1"/>
188     </xs:restriction>
189   </xs:simpleType>
190   <xs:simpleType name="PriceCategory_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
191 schema-cim16#String">
192     <xs:restriction base="cl:PriceCategoryTypeList"/>
193   </xs:simpleType>
194   <xs:simpleType name="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
195 cim16#Decimal">
196     <xs:restriction base="xs:decimal">
197       <xs:totalDigits value="17"/>
198     </xs:restriction>
199   </xs:simpleType>
200   <xs:simpleType name="PriceDirection_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
201 schema-cim16#String">
202     <xs:restriction base="cl:PriceDirectionTypeList"/>
203   </xs:simpleType>
204   <xs:complexType name="Point" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
205 cim16#Point">
206     <xs:sequence>
207       <xs:element name="position" type="Position_Integer" minOccurs="1"
208 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.position"/>
209       <xs:element name="quantity" type="xs:decimal" minOccurs="1" maxOccurs="1"
210 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.quantity"/>
211       <xs:element name="price.category" type="PriceCategory_String" minOccurs="0"
212 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Price.category"/>
213       <xs:element name="price.amount" type="Amount_Decimal" minOccurs="0"
214 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Price.amount"/>
215       <xs:element name="price.direction" type="PriceDirection_String" minOccurs="0"
216 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Price.direction"/>
217     </xs:sequence>
218   </xs:complexType>
219   <xs:simpleType name="ReasonCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
220 schema-cim16#String">
221     <xs:restriction base="cl:ReasonCodeTypeList"/>
222   </xs:simpleType>
223   <xs:simpleType name="ReasonText_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
224 schema-cim16#String">
225     <xs:restriction base="xs:string">
226       <xs:maxLength value="512"/>
227     </xs:restriction>
228   </xs:simpleType>
229   <xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
230 cim16#Reason">
231     <xs:sequence>
232       <xs:element name="code" type="ReasonCode_String" minOccurs="1" maxOccurs="1"
233 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code"/>
234       <xs:element name="text" type="ReasonText_String" minOccurs="0" maxOccurs="1"
235 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text"/>
236     </xs:sequence>
237   </xs:complexType>
238   <xs:simpleType name="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
239 cim16#String">
240     <xs:restriction base="xs:string">

```

```

241         <xs:maxLength value="35"/>
242     </xs:restriction>
243 </xs:simpleType>
244 <xs:simpleType name="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
245 schema-cim16#String">
246     <xs:restriction base="xs:string">
247         <xs:pattern value="[1-9]([0-9]){0,2}"/>
248     </xs:restriction>
249 </xs:simpleType>
250 <xs:simpleType name="MessageKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
251 schema-cim16#String">
252     <xs:restriction base="cl:MessageTypeList"/>
253 </xs:simpleType>
254 <xs:simpleType name="PartyID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
255 schema-cim16#String">
256     <xs:restriction base="xs:string">
257         <xs:maxLength value="16"/>
258     </xs:restriction>
259 </xs:simpleType>
260 <xs:complexType name="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
261 schema-cim16#String">
262     <xs:simpleContent>
263         <xs:extension base="PartyID_String-base">
264             <xs:attribute name="codingScheme" type="cl:CodingSchemeTypeList"
265 use="required"/>
266         </xs:extension>
267     </xs:simpleContent>
268 </xs:complexType>
269 <xs:simpleType name="MarketRoleKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
270 schema-cim16#String">
271     <xs:restriction base="cl:RoleTypeList"/>
272 </xs:simpleType>
273 <xs:simpleType name="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
274 cim16#DateTime">
275     <xs:restriction base="xs:dateTime">
276         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-9]|[12][0-
277 9]|[3][01])|([0-9]{4})[\-](0[469]|(11))[\-](0[1-9]|[12][0-9]|30))T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-
278 5][0-
279 9])Z|((([13579][26][02468][048]|[13579][01345789](0)[48]|[13579][01345789][2468][048]|[02468][048][0246
280 8][048]|[02468][1235679](0)[48]|[02468][1235679][2468][048]|[0-9][0-9][13579][26])[\-](02)[\-](0[1-
281 9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
282 9])Z|((([13579][26][02468][1235679]|[13579][01345789](0)[01235679]|[13579][01345789][2468][1235679]|[02
283 468][048][02468][1235679]|[02468][1235679](0)[01235679]|[02468][1235679][2468][1235679]|[0-9][0-
284 9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)"/>
285     </xs:restriction>
286 </xs:simpleType>
287 <xs:simpleType name="AreaID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
288 schema-cim16#String">
289     <xs:restriction base="xs:string">
290         <xs:maxLength value="18"/>
291     </xs:restriction>
292 </xs:simpleType>
293 <xs:complexType name="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
294 cim16#String">
295     <xs:simpleContent>
296         <xs:extension base="AreaID_String-base">
297             <xs:attribute name="codingScheme" type="cl:CodingSchemeTypeList"
298 use="required"/>
299         </xs:extension>
300     </xs:simpleContent>
301 </xs:complexType>
302 <xs:simpleType name="YMDHM_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
303 cim16#DateTime">
304     <xs:restriction base="xs:string">
305         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-9]|[12][0-
306 9]|[3][01])|([0-9]{4})[\-](0[469]|(11))[\-](0[1-9]|[12][0-9]|30))T((([01][0-9]|2[0-3]):[0-5][0-
307 9])Z|((([13579][26][02468][048]|[13579][01345789](0)[48]|[13579][01345789][2468][048]|[02468][048][0246
308 8][048]|[02468][1235679](0)[48]|[02468][1235679][2468][048]|[0-9][0-9][13579][26])[\-](02)[\-](0[1-
309 9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-5][0-
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312 9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9])Z)"/>
313     </xs:restriction>
314 </xs:simpleType>
    
```



```

315         <xs:complexType name="ESMP_DateTimeInterval"
316 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
317         <xs:sequence>
318             <xs:element name="start" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"
319 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.start"/>
320             <xs:element name="end" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"
321 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.end"/>
322         </xs:sequence>
323     </xs:complexType>
324     <xs:complexType name="Redispatch_MarketDocument"
325 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
326     <xs:sequence>
327         <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
328 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
329         <xs:element name="revisionNumber" type="ESMPVersion_String" minOccurs="1"
330 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
331 cim16#Document.revisionNumber"/>
332         <xs:element name="type" type="MessageKind_String" minOccurs="1" maxOccurs="1"
333 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>
334         <xs:element name="sender_MarketParticipant.mRID" type="PartyID_String"
335 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
336 cim16#IdentifiedObject.mRID"/>
337         <xs:element name="sender_MarketParticipant.marketRole.type"
338 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
339 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
340         <xs:element name="receiver_MarketParticipant.mRID" type="PartyID_String"
341 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
342 cim16#IdentifiedObject.mRID"/>
343         <xs:element name="receiver_MarketParticipant.marketRole.type"
344 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
345 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
346         <xs:element name="createdDateTime" type="ESMP_DateTime" minOccurs="1"
347 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
348 cim16#Document.createdDateTime"/>
349         <xs:element name="redispatch_Time_Period.timeInterval"
350 type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"
351 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.timeInterval"/>
352         <xs:element name="domain.mRID" type="AreaID_String" minOccurs="1"
353 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
354         <xs:element name="subject_MarketParticipant.mRID" type="PartyID_String"
355 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
356 cim16#IdentifiedObject.mRID"/>
357         <xs:element name="subject_MarketParticipant.marketRole.type"
358 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
359 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
360         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="1"
361 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
362 cim16#MarketDocument.TimeSeries"/>
363         <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"
364 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument.Reason"/>
365     </xs:sequence>
366 </xs:complexType>
367     <xs:complexType name="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
368 cim16#Period">
369     <xs:sequence>
370         <xs:element name="timeInterval" type="ESMP_DateTimeInterval" minOccurs="1"
371 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.timeInterval"/>
372         <xs:element name="resolution" type="xs:duration" minOccurs="1" maxOccurs="1"
373 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.resolution"/>
374         <xs:element name="Point" type="Point" minOccurs="1" maxOccurs="unbounded"
375 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point"/>
376     </xs:sequence>
377 </xs:complexType>
378     <xs:simpleType name="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
379 schema-cim16#String">
380         <xs:restriction base="cl:BusinessTypeList"/>
381     </xs:simpleType>
382     <xs:simpleType name="DirectionKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
383 schema-cim16#String">
384         <xs:restriction base="cl:DirectionTypeList"/>
385     </xs:simpleType>
386     <xs:simpleType name="MeasurementUnitKind_String"
387 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
388         <xs:restriction base="cl:UnitOfMeasureTypeList"/>
389     </xs:simpleType>
    
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390         <xs:simpleType name="ResourceID_String-base"
391 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
392         <xs:restriction base="xs:string">
393             <xs:maxLength value="18"/>
394         </xs:restriction>
395     </xs:simpleType>
396     <xs:complexType name="ResourceID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
397 schema-cim16#String">
398         <xs:simpleContent>
399             <xs:extension base="ResourceID_String-base">
400                 <xs:attribute name="codingScheme" type="cl:CodingSchemeTypeList"
401 use="required"/>
402             </xs:extension>
403         </xs:simpleContent>
404     </xs:complexType>
405     <xs:simpleType name="CurrencyCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
406 schema-cim16#String">
407         <xs:restriction base="cl:CurrencyTypeList"/>
408     </xs:simpleType>
409     <xs:complexType name="TimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
410 cim16#TimeSeries">
411         <xs:sequence>
412             <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
413 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
414             <xs:element name="dispatcher_MarketParticipant.name" type="xs:string"
415 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
416 cim16#IdentifiedObject.name"/>
417             <xs:element name="businessType" type="BusinessKind_String" minOccurs="1"
418 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
419 cim16#TimeSeries.businessType"/>
420             <xs:element name="impacted_Domain.mRID" type="AreaID_String" minOccurs="1"
421 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
422             <xs:element name="flowDirection.direction" type="DirectionKind_String"
423 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
424 cim16#FlowDirection.direction"/>
425             <xs:element name="measurement_Unit.name" type="MeasurementUnitKind_String"
426 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
427 cim16#Unit.name"/>
428             <xs:element name="marketAgreement.mRID" type="ID_String" minOccurs="0"
429 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
430             <xs:element name="registeredResource.mRID" type="ResourceID_String"
431 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
432 cim16#IdentifiedObject.mRID"/>
433             <xs:element name="currency_Unit.name" type="CurrencyCode_String" minOccurs="0"
434 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
435             <xs:element name="price_Measurement_Unit.name"
436 type="MeasurementUnitKind_String" minOccurs="0" maxOccurs="1"
437 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
438             <xs:element name="total_Price.amount" type="Amount_Decimal" minOccurs="0"
439 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Price.amount"/>
440             <xs:element name="total_Price.direction" type="PriceDirection_String"
441 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
442 cim16#Price.direction"/>
443             <xs:element name="Period" type="Series_Period" minOccurs="1"
444 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
445 cim16#TimeSeries.Period"/>
446         </xs:sequence>
447     </xs:complexType>
448 </xs:schema>
449

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