TOTAL ALLOCATION RESULT DOCUMENT UML MODEL AND SCHEMA
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### Revision History

<table>
<thead>
<tr>
<th>Version</th>
<th>Release</th>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2018-03-12</td>
<td>First drafting of the document.</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>2018-05-08</td>
<td>Document approved by MC.</td>
</tr>
</tbody>
</table>
1 Objective

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

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

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

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

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

2.1 Total allocation result contextual model

2.1.1 Overview of the model

Figure 1 shows the model.
2.1.2 IsBasedOn relationships from the European style market profile

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Complete IsBasedOn Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auction</td>
<td>TC57CIM::IEC62325::MarketManagement::Auction</td>
</tr>
<tr>
<td>BiddingParty_MarketParticipant</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketParticipant</td>
</tr>
<tr>
<td>BidDocument_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
<tr>
<td>BidTimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::BidTimeSeries</td>
</tr>
<tr>
<td>Currency_Unit</td>
<td>TC57CIM::IEC62325::MarketManagement::Unit</td>
</tr>
<tr>
<td>Domain</td>
<td>TC57CIM::IEC62325::MarketManagement::Domain</td>
</tr>
<tr>
<td>MarketAgreement</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketAgreement</td>
</tr>
<tr>
<td>MarketParticipant</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketParticipant</td>
</tr>
<tr>
<td>MarketRole</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketRole</td>
</tr>
<tr>
<td>Measure_Unit</td>
<td>TC57CIM::IEC62325::MarketManagement::Unit</td>
</tr>
<tr>
<td>NoBidAuction_TimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::TimeSeries</td>
</tr>
<tr>
<td>Point</td>
<td>TC57CIM::IEC62325::MarketManagement::Point</td>
</tr>
<tr>
<td>Price</td>
<td>TC57CIM::IEC62325::MarketManagement::Price</td>
</tr>
<tr>
<td>Reason</td>
<td>TC57CIM::IEC62325::MarketManagement::Reason</td>
</tr>
<tr>
<td>Series_Period</td>
<td>TC57CIM::IEC62325::MarketManagement::Period</td>
</tr>
<tr>
<td>Time_Period</td>
<td>TC57CIM::IEC62325::MarketManagement::Period</td>
</tr>
<tr>
<td>TimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::TimeSeries</td>
</tr>
<tr>
<td>TotalAllocationResult_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
</tbody>
</table>
2.2 Total allocation result assembly model

2.2.1 Overview of the model

Figure 2 shows the model.

2.2.2 IsBasedOn relationships from the European style market profile

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

Table 2 - IsBasedOn dependency

<table>
<thead>
<tr>
<th>Name</th>
<th>Complete IsBasedOn Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>NoBidAuction_TimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::TimeSeries</td>
</tr>
<tr>
<td>Point</td>
<td>TC57CIM::IEC62325::MarketManagement::Point</td>
</tr>
<tr>
<td>Reason</td>
<td>TC57CIM::IEC62325::MarketManagement::Reason</td>
</tr>
<tr>
<td>Series_Period</td>
<td>TC57CIM::IEC62325::MarketManagement::Period</td>
</tr>
<tr>
<td>TimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::TimeSeries</td>
</tr>
</tbody>
</table>
2.2.3 Detailed Total allocation result assembly model

2.2.3.1 TotalAllocationResult_MarketDocument root class

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

The total allocation result document contains the results of the auction for all the bidding parties with the same granularity information as the allocation result document.

Table 3 shows all attributes of TotalAllocationResult_MarketDocument.

Table 3 - Attributes of Total allocation result assembly model::TotalAllocationResult_MarketDocument

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>mRID ID_String</td>
<td>The unique identification of the document being exchanged within a business process flow.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</td>
<td>revisionNumber ESMPVersion_String</td>
<td>The identification of the version that distinguishes one evolution of a document from another.</td>
</tr>
<tr>
<td>3</td>
<td>[1..1]</td>
<td>sender_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. --- Document owner.</td>
</tr>
<tr>
<td>4</td>
<td>[1..1]</td>
<td>sender_MarketParticipant.marketRole.type MarketRoleKind_String</td>
<td>The identification of the role played by a market player. --- Document owner.</td>
</tr>
<tr>
<td>5</td>
<td>[1..1]</td>
<td>receiver_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. --- Document recipient.</td>
</tr>
<tr>
<td>6</td>
<td>[1..1]</td>
<td>receiver_MarketParticipant.marketRole.type MarketRoleKind_String</td>
<td>The identification of the role played by a market player. --- Document recipient.</td>
</tr>
<tr>
<td>7</td>
<td>[1..1]</td>
<td>createdDateTime ESMP_DateTime</td>
<td>The date and time of the creation of the document.</td>
</tr>
<tr>
<td>8</td>
<td>[1..1]</td>
<td>period.timeInterval ESMP_DateTimeInterval</td>
<td>The start and end date and time for a given interval. --- The beginning and ending date and time of the period covered by the document.</td>
</tr>
<tr>
<td>9</td>
<td>[1..1]</td>
<td>domain.mRID AreaID_String</td>
<td>The unique identification of the domain. --- The domain covered within the document, i.e. the border.</td>
</tr>
</tbody>
</table>

Table 4 shows all association ends of TotalAllocationResult_MarketDocument with other classes.
Table 4 - Association ends of Total allocation result assembly
model::TotalAllocationResult_MarketDocument with other classes

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>[0..*]</td>
<td>TimeSeries TimeSeries</td>
<td>Association Based On: Total allocation result contextual model::TimeSeries.TimeSeries[0..*] ----- Total allocation result contextual model::TotalAllocationResult_MarketDocument.[]</td>
</tr>
<tr>
<td>11</td>
<td>[0..*]</td>
<td>Reason Reason</td>
<td>Association Based On: Total allocation result contextual model::Reason.Reason[0..*] ----- Total allocation result contextual model::TotalAllocationResult_MarketDocument.[]</td>
</tr>
<tr>
<td>12</td>
<td>[0..*]</td>
<td>NoBidAuction_TimeSeries NoBid_TimeSeries</td>
<td>This specific time series is to be used when there is no bid submitted at an auction. In such a case, the time series provides the identification of the cancelled auction. A reason class is to be provided with the value corresponding to the information &quot;no bid&quot;. Association Based On: Total allocation result contextual model::NoBidAuction_TimeSeries.NoBid_TimeSeries[0..*] ----- Total allocation result contextual model::TotalAllocationResult_MarketDocument.[]</td>
</tr>
</tbody>
</table>

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

Table 5 shows all attributes of NoBidAuction_TimeSeries.

Table 5 - Attributes of Total allocation result assembly
model::NoBidAuction_TimeSeries

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>mRID ID_String</td>
<td>A unique identification of the time series.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</td>
<td>noBid_Auction.mRID ID_String</td>
<td>The unique identification of the auction. --- It provides the auction identification when there is no bid submitted.</td>
</tr>
<tr>
<td>2</td>
<td>[0..1]</td>
<td>noBid_Auction.category Category_String</td>
<td>The product category of an auction. --- It provides the auction identification when there is no bid submitted.</td>
</tr>
</tbody>
</table>

Table 6 shows all association ends of NoBidAuction_TimeSeries with other classes.

Table 6 - Association ends of Total allocation result assembly
model::NoBidAuction_TimeSeries with other classes

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>[1..1]</td>
<td>Reason NoBid_Reason</td>
<td>Association Based On: Total allocation result contextual model::Reason.NoBid_Reason[1..1] ----- Total allocation result contextual model::NoBidAuction_TimeSeries.[]</td>
</tr>
</tbody>
</table>
2.2.3.3 Point

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

Table 7 shows all attributes of Point.

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>position</td>
<td>A sequential value representing the relative position within a given time interval.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</td>
<td>quantity</td>
<td>The principal quantity identified for a point.</td>
</tr>
<tr>
<td>2</td>
<td>[0..1]</td>
<td>amount_Price.amount</td>
<td>A number of monetary units specified in a unit of currency.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amount_Decimal</td>
<td>... The price expressed for each unit of quantity allocated.</td>
</tr>
<tr>
<td>3</td>
<td>[0..1]</td>
<td>secondaryQuantity</td>
<td>The quantity that was in the original bid document.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decimal</td>
<td>The secondary quantity identified for a point.</td>
</tr>
<tr>
<td>4</td>
<td>[0..1]</td>
<td>bidAmount_Price.amount</td>
<td>A number of monetary units specified in a unit of currency.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amount_Decimal</td>
<td>... The original price expressed in the original bid or resale for each unit of quantity requested.</td>
</tr>
</tbody>
</table>

Table 8 shows all association ends of Point with other classes.

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>[0..*]</td>
<td>Reason</td>
<td>Association Based On:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reason</td>
<td>Total allocation result contextual model::Reason.Reason[0..*]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>... Total allocation result contextual model::Point[]</td>
</tr>
</tbody>
</table>

2.2.3.4 Reason

The motivation of an act.

Table 9 shows all attributes of Reason.

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>code</td>
<td>The motivation of an act in coded form.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ReasonCode_String</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>[0..1]</td>
<td>text</td>
<td>The textual explanation corresponding to the reason code.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ReasonText_String</td>
<td></td>
</tr>
</tbody>
</table>

2.2.3.5 Series_Period

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

Table 10 shows all attributes of Series_Period.
Table 10 - Attributes of Total allocation result assembly model::Series_Period

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

Table 11 shows all association ends of Series_Period with other classes.

Table 11 - Association ends of Total allocation result assembly model::Series_Period with other classes

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>[1..*]</td>
<td>Point</td>
<td>Association Based On: Total allocation result contextual model::Point.Point[1..*] Total allocation result contextual model::Series_Period[]</td>
</tr>
</tbody>
</table>

2.2.3.6 TimeSeries

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

Table 12 shows all attributes of TimeSeries.

Table 12 - Attributes of Total allocation result assembly model::TimeSeries

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>mRID ID_String</td>
<td>A unique identification of the time series.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</td>
<td>bidDocument_MarketDocument.mRID ID_String</td>
<td>The unique identification of the document being exchanged within a business process flow. --- The identification of the document that contains the bids or resales referenced in the BidTimeSeries.</td>
</tr>
<tr>
<td>2</td>
<td>[1..1]</td>
<td>bidDocument_MarketDocument.revisionNumber ESMPVersion_String</td>
<td>The identification of the version that distinguishes one evolution of a document from another. --- The identification of the document that contains the bids or resales referenced in the BidTimeSeries.</td>
</tr>
<tr>
<td>3</td>
<td>[0..1]</td>
<td>bidDocument_MarketDocument.bid_TimeSeries.mRID ID_String</td>
<td>A unique identification of the time series. --- The identification of the document that contains the bids or resales referenced in the BidTimeSeries. --- The identification of the time series that was used in the original bid or resale. This is the unique number that is assigned by the bidder when he made his original bid or resale.</td>
</tr>
<tr>
<td>Order</td>
<td>mult.</td>
<td>Attribute name / Attribute type</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
--- The identification of the document that contains the bids or resales referenced in the BidTimeSeries.  
--- The identification of the party who bid for the capacity or resold it.                                                                                                                                                                                                                                                             |
| 5     | [1..1]| auction.mRID.ID_String                                                                         | The unique identification of the auction.  
--- The identification linking the allocation to a set of specifications created by the auction operator.                                                                                                                                                                                                                                                   |
| 6     | [0..1]| auction.category.Category_String                                                                | The product category of an auction.  
--- The identification linking the allocation to a set of specifications created by the auction operator.                                                                                                                                                                                                                                                                                  |
| 7     | [1..1]| businessType.BusinessKind_String                                                               | The identification of the nature of the time series.                                                                                                                                                                                                                                                                                                                                               |
| 8     | [1..1]| in_Domain.mRID.AreaID_String                                                                    | The unique identification of the domain.  
--- The area where the energy is to be put.                                                                                                                                                                                                                                                                                                                                                         |
| 9     | [1..1]| out_Domain.mRID.AreaID_String                                                                   | The unique identification of the domain.  
--- The area where the energy is coming from.                                                                                                                                                                                                                                                                                                                                                  |
| 10    | [1..1]| contract_MarketAgreement.type.CapacityContractKind_String                                        | The specification of the kind of the agreement, e.g. long term, daily contract.  
--- The contract type defines the conditions under which the transmission capacity was allocated and handled, e.g.: daily auction, weekly auction, monthly auction, yearly auction, long term contract, etc.  
The significance of this type is dependent on the in area and out area specific coded working methods.  
The transmission capacity allocator responsible for the area in question auctions defines the contract type to be used.                                                                                                                                                                                                                                  |
Table 13 shows all association ends of TimeSeries with other classes.

### Table 13 - Association ends of Total allocation result assembly model::TimeSeries with other classes

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>[1..*]</td>
<td>Series_Period.Period</td>
<td>Association Based On: Total allocation result contextual model::Series_Period.Period[1..*]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>[0..*]</td>
<td>Reason.Reason</td>
<td>Association Based On: Total allocation result contextual model::Reason.Reason[0..*]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 2.2.4 Datatypes

The list of datatypes used for the Total allocation result assembly model is as follows:

- ESMP_DateTimeInterval compound
- Amount.Decimal datatype
173  •  AreaID_String datatype, codelist CodingSchemeTypeList
174  •  BusinessKind_String datatype, codelist BusinessTypeList
175  •  CapacityContractKind_String datatype, codelist ContractTypeList
176  •  Category_String datatype, codelist CategoryTypeList
177  •  CurrencyCode_String datatype, codelist CurrencyTypeList
178  •  CurveType_String datatype, codelist CurveTypeList
179  •  ESMP_DateTime datatype
180  •  ESMPVersion_String datatype
181  •  ID_String datatype
182  •  MarketRoleKind_String datatype, codelist RoleTypeList
183  •  MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
184  •  MessageKind_String datatype, codelist MessageTypeList
185  •  PartyID_String datatype, codelist CodingSchemeTypeList
186  •  Position_Integer datatype
187  •  ReasonCode_String datatype, codelist ReasonCodeTypeList
188  •  ReasonText_String datatype
189  •  YMDHM_DateTime datatype
190
191
2.2.5 TotalAllocationResult_MarketDocument XML schema structure

Figure 3 - TotalAllocationResult_MarketDocument XML schema structure
2.2.6 TotalAllocationResult_MarketDocument XML schema

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

urn:iec62325.351:tc57wg16:451-3:totalallocationresultdocument:7.0

<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:cim16="http://iec.ch/TC57/2013/CIM-schema-cim16"
  targetNamespace="urn:iec6235.351:tc57wg16:451-3:totalallocationresultdocument:7.0"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="urn:entso-e:wg61:codeLists"
    schemaLocation="urn:entso-e:wg61:codeLists.xsd"/>
  <xs:element name="TotalAllocationResult_MarketDocument" type="cim16#String"/>
  <xs:complexType name="NoBidAuction(TimeSeries)"
    import="urn:entso-e:wg61:codeLists.xsd"
    schemaLocation="urn:entso-e:wg61:codeLists.xsd"/>
  <xs:element name="ReasonCode_String" type="cim16#String"/>
  <xs:complexType name="Point" type="cim16#Point"/>
  <xs:element name="Position_Integer" type="cim16#Integer"/>
  <xs:element name="Position" type="cim16#String"/>
  <xs:element name="Point" type="cim16#Point"/>
  <xs:element name="Point" type="cim16#Point"/>
  <xs:element name="Point" type="cim16#Point"/>
</xs:schema>
<xs:simpleType>
  <xs:restriction base="xs:string">
    <xs:maxLength value="512"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="ReasonText_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:maxLength value="512"/>
  </xs:restriction>
</xs:simpleType>

<xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">
  <xs:sequence>
    <xs:element name="code" type="ReasonCode_String" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason"/>
    <xs:element name="text" type="ReasonText_String" minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16Reason"/>
  </xs:sequence>
</xs:complexType>

<xs:complexType name="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="start" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval"/>
      <xs:element name="end" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval"/>
    </xs:sequence>
</xs:complexType>

<xs:complexType name="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
  <xs:sequence>
    <xs:element name="timeInterval" type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period"/>
  </xs:sequence>
</xs:complexType>

<xs:complexType name="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:maxLength value="16"/>
  </xs:restriction>
</xs:complexType>

<xs:complexType name="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:length value="16"/>/*
  </xs:restriction>
</xs:complexType>

<xs:simpleType name="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:length value="16"/>/*
  </xs:restriction>
</xs:simpleType>

<xs:complexType name="Person" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Person">
  <xs:complexType>
    <xs:complexContent>
        <xs:extension base="BusinessKind_String">
          <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypelist" use="required" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String"/>
        </xs:extension>
      </xs:restriction>
    </xs:complexContent>
  </xs:complexType>
</xs:simpleType>
```xml
<xs:simpleType name="AreaID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="xs:string">
    <xs:maxLength value="18"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="CurrencyCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:simpleContent>
    <xs:extension base="AreaID_String-base">
      <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList" use="required"/>
    </xs:extension>
  </xs:simpleType>

<xs:simpleType name="CapacityContractKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:ContractTypeList"/>
</xs:simpleType>

<xs:simpleType name="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:CurveTypeList"/>
</xs:simpleType>

<xs:simpleType name="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:ESMVersionTypeList"/>
</xs:simpleType>

  <xs:sequence>
    <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"/>
    <xs:element name="bidDocument_MarketDocument.mRID" type="ID_String" minOccurs="1" maxOccurs="1"/>
    <xs:element name="bidDocument_MarketDocument.revisionNumber" type="ID_String" minOccurs="0" maxOccurs="1"/>
    <xs:element name="bidDocument_MarketDocument.bid_TimeSeries.mRID" type="ID_String" minOccurs="0" maxOccurs="1"/>
    <xs:element name="party_ID" type="ID_String" minOccurs="1" maxOccurs="1"/>
    <xs:element name="quantity_Measure_Unit" type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"/>
    <xs:element name="exchange_rate" type="CurrencyCode_String" minOccurs="0" maxOccurs="1"/>
    <xs:element name="price_Measure_Unit" type="MeasurementUnitKind_String" minOccurs="0" maxOccurs="1"/>
  </xs:sequence>
</xs:simpleType>
```

This XML code snippet represents a schema for a UML model and is likely part of a larger document or project related to the European Network of Transmission System Operators for Electricity (ENTSO-E). The code defines simple types and restrictions for various strings and identifiers, which are likely used to model different aspects of energy transactions or agreements, such as capacity contracts, measurement units, and currency codes. The presence of elements like `bidDocument_MarketDocument` and `party_ID` suggests a structured approach to representing transactional data, possibly for use in automated data exchange or integration with other systems.
<xs:complexType name="curveType">
  <xs:attribute name="curveType" type="CurveType_String" minOccurs="0" maxOccurs="unbounded"/>
</xs:complexType>

<xs:complexType name="Event">
  <xs:attribute name="name" type="String" maxOccurs="unbounded"/>
  <xs:attribute name="time" type="DateTime" maxOccurs="unbounded"/>
  <xs:attribute name="status" type="String" maxOccurs="unbounded"/>
</xs:complexType>

<xs:complexType name="ESMP_DateTime">
  <xs:attribute name="DateTime" type="DateTime" maxOccurs="unbounded"/>
</xs:complexType>

<xs:complexType name="ESMP_DateTimeInterval">
  <xs:attribute name="timeInterval" type="DateTime" maxOccurs="unbounded"/>
</xs:complexType>

<xs:complexType name="Base">
  <xs:attribute name="type" type="String" maxOccurs="unbounded"/>
</xs:complexType>

<xs:complexType name="Document">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="Identification">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="MarketDocument">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="MarketDocument.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="MarketRole">
  <xs:attribute name="type" type="String" maxOccurs="unbounded"/>
</xs:complexType>

<xs:complexType name="MarketRole.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="Result">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="Result.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="Role">
  <xs:attribute name="type" type="String" maxOccurs="unbounded"/>
</xs:complexType>

<xs:complexType name="Role.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="sawsdl:modelReference">
  <xs:attribute name="modelReference" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="TimeSeries">
  <xs:attribute name="timeInterval" type="DateTime" maxOccurs="1"/>
  <xs:attribute name="timeSeries" type="String" maxOccurs="1"/>
  <xs:attribute name="reason" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="NoBidAuction">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="NoBidAuction.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="NoBid">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="NoBid.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="NoBid投标">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="NoBid投标.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="Order">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="Order.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContent">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContent.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnit.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnit.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnit.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnit.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnit.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnit.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnit.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnitUnit.mRID">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnitUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>
  <xs:attribute name="createdDateTime" type="DateTime" maxOccurs="1"/>
</xs:complexType>

<xs:complexType name="OrderContentUnitUnitUnitUnitUnitUnitUnitUnitUnitUnitUnitUnitUnit">
  <xs:attribute name="mRID" type="String" maxOccurs="1"/>