European Network of
Transmission System Operators
for Electricity

ENTSO-E TRANSPARENCY PLATFORM DATA EXTRACTION PROCESS IMPLEMENTATION GUIDE

2016-07-15

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VERSION 0.3

ENTSO-E TRANSPARENCY PLATFORM DATA EXTRACTION
PROCESS IMPLEMENTATION GUIDE VERSION 0.3 - DRAFT
DOCUMENT

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Revision History

Version	Release	Date	Comments
0	1	2016-04-11	First drafting of the document based on the maintenance request EMFIP27 from WG MIT to comply with the transparency regulation (EU N°543/2013).
0	2	2016-06-14	Editorial amendments.
0	3	2016-07-15	Editorial amendments.

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1 Objective

The objective of this document is to enable the data consumers to query information published in accordance with transparency regulation (EU N°2013/543) on the ENTSO-E central transparency platform.

This document provides the business context and in particular the dependency table to be applied to the xsd schema for the Status Request Document as per the CIM based standard IEC 62325-451-5.

2 Request for published transparency information - use case and process sequence

The central transparency platform allows data consumers to perform machine-to-machine queries for all structured data published under the transparency regulation since January 5, 2015. Reports in PDF formats are only available for download via the web site though.

Figure 1 displays the use case with the involved actors.
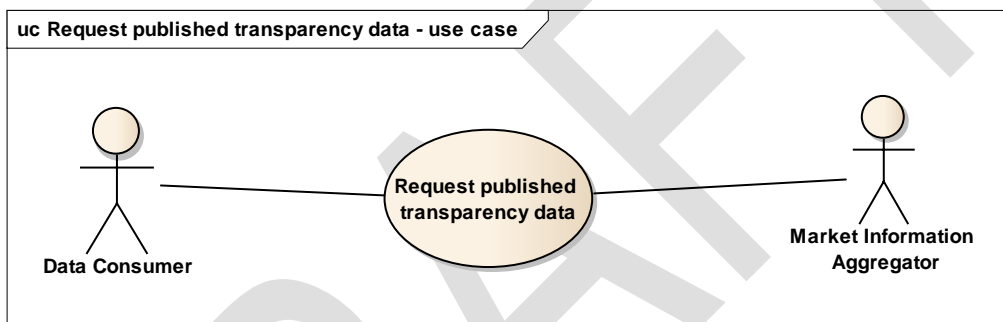
Figure 1 – Use case

Figure 2 displays the sequence diagram and in particular the exchange between data consumer and market information aggregator.

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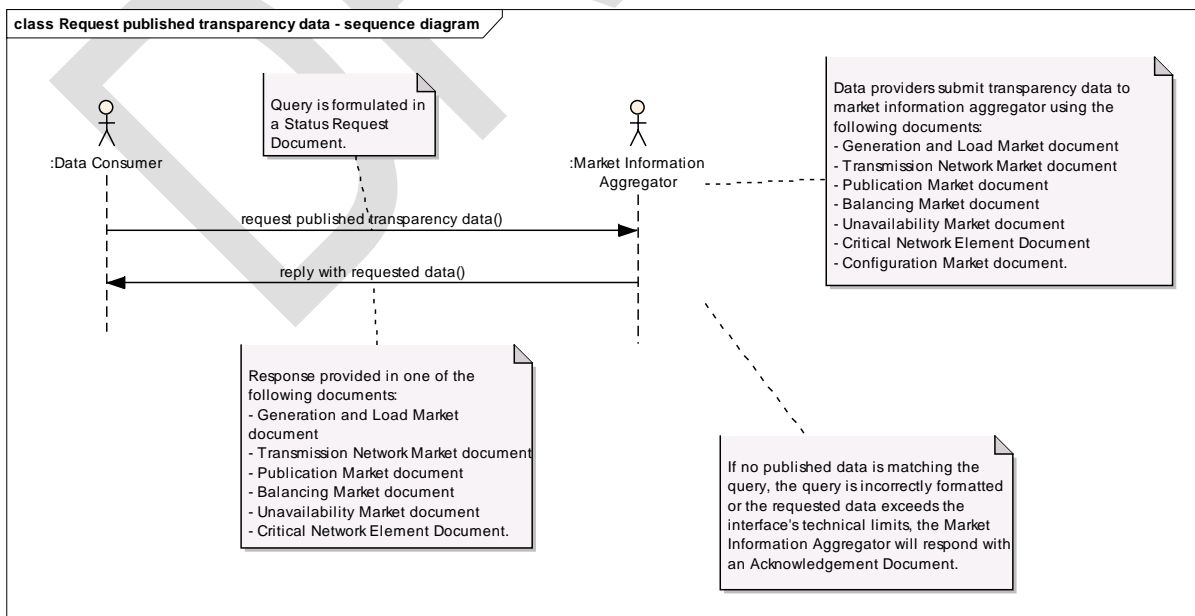
65   Figure 2 – Sequence diagram

66 Data consumer requests published transparency data by submitting a Status Request
67 Document with some selection criteria. Market Information Aggregator responds to the
68 request with a document containing the requested data.

69 The market information aggregator will respond with a negative acknowledgement document if
70 the request contains errors (not all mandatory attributes included, for example) or if no data
71 matching the selection criteria is available.

72 Likewise, the market information aggregator will respond with a negative acknowledgement
73 document if the data volumes to be returned would exceed the technical limits imposed on the
74 channel for the data exchange.

75   3   Contextual and assembly models

76 The contextual and assembly models for the Status Request Document are provided by the
77 CIM standard IEC 62325-451-5. The CIM compliant XSD is provided on the ENTSO-E web
78 site. The ENTSO-E Status Request Document implementation guide v3, also available on the
79 ENTSO-E web site, serves as a generic reference for the concepts.

80 Contextual and assembly models for the response to the request are provided with documents
81 described in IEC 62325-451-6. The corresponding XSDs may also be found on the ENTSO-E
82 web site.

83 The central transparency platform provides data consumers with an on-line user manual for
84 machine-to-machine data extractions. The manual contains for each Transparency Regulation
85 article an example of how to query the interface and the platform's response to the request.

86   4   Request interfaces

87 Status request documents may be lodged to the central transparency platform via the
88 channels implemented according to the MADES (IEC 62325-503) and web services (IEC
89 62325-504) standards. The response will be served via the same channel as the request.
90 Additionally, a public web API has been implemented based on the https protocol.

91   5   Content of the request

92 A Status Request Document contains a list of key-value pairs. Each key-value pair consists of
93 the fields attribute and attributeValue. These pairs of attribute and attributeValue will capture
94 the selection criteria for the published transparency data. For example, a Data Consumer
95 requests the data published under article 6.1.a (Actual Total Load) of the Transparency
96 Regulation. The corresponding Status Request Document would contain the attribute
97 "DocumentType" with the value "A65", an attribute "ProcessType" with value "A16", an
98 attribute "BusinessType" with value A04" and the attributes OutBiddingZone_Domain and
99 TimeInterval to indicate the bidding zone and the time interval, respectively.

100 The example in the figure below shows how a Status Request Document is used to extract
101 data published under transparency regulation articles 15.1.a&b (planned unavailabilities and
102 changes in actual availability of generation units) for the National Grid control area during the
103 month of April 2016:

104

```
105  <StatusRequest_MarketDocument xmlns="urn:iec62325.351:tc57wg16:451-5:statusrequestdocument:4:0">
106    <mRID>SampleRequest</mRID>
       <type>A59</type>
107    <sender_MarketParticipant.mRID codingScheme="A01">10V000000000008F</sender_MarketParticipant.mRID>
       <sender_MarketParticipant.marketRole.type>A07</sender_MarketParticipant.marketRole.type>
108    <receiver_MarketParticipant.mRID codingScheme="A01">10X1001A1001A450</receiver_MarketParticipant.mRID>
       <receiver_MarketParticipant.marketRole.type>A32</receiver_MarketParticipant.marketRole.type>
109    <createdDateTime>2016-05-27T13:00:00Z</createdDateTime>
       <AttributeInstanceComponent>
110      <attribute>DocumentType</attribute>
         <attributeValue>A80</attributeValue>
111    </AttributeInstanceComponent>
       <AttributeInstanceComponent>
112      <attribute>BiddingZone_Domain</attribute>
         <attributeValue>10YGB----------A</attributeValue>
113    </AttributeInstanceComponent>
       <AttributeInstanceComponent>
114      <attribute>TimeInterval</attribute>
         <attributeValue>2016-03-31T23:00Z/2016-04-30T23:00Z</attributeValue>
115    </AttributeInstanceComponent>
     </StatusRequest_MarketDocument>
116
```

117 Disclaimer: The example above is for illustration purposes only. It is highly recommended that
118 implementation of any solution for querying the Central Transparency Platform shall be based
119 solely upon the CIM standard IEC 62325-451-5 for the Status Request Document.

120 **Figure 3 – example of Status Request Document**

121 As a general rule, a given attribute may not be used more than one time in the Status Request
122 Document. This means that if data consumer for example wants to query data for article 6.1.a
123 Actual Total Load for both Belgian and French bidding zones, two separate Status Request
124 Documents have to be submitted.

125 The attributes OutBiddingZone_Domain, In_Domain, Out_Domain, BiddingZone,
126 Acquiring_Domain, Connecting_Domain and ControlArea are used to specify an area. In the
127 specific case of transparency regulation article 12.1.e, In_Domain and Out_Domain may refer
128 to a border. The attribute value shall contain the EIC code of the area (or border in the case
129 of article 12.1.e). EIC codes for areas and borders can be found on the ENTSO-E website.

130 Data consumer may query any area or border for which the central transparency platform
131 publishes data. For example, actual total load (regulation article 6.1.a) is published for the
132 bidding zone comprising Germany, Austria and Luxemburg. No data is published on the level
133 of the synchronous zone of Continental Europe though. Hence, a query for the latter would
134 yield a negative acknowledgement response.

135 When queries are submitted via the interfaces based on MADES (IEC 62325-503) and web
136 services (IEC 62325-504), there should in principle be no constraints on the time interval for
137 which data is requested. Actual technical implementation of the interface may have to impose
138 limits in order to preserve availability and reasonable response times in the interest of all data
139 consumers. Any such constraints will be described in the on-line user manual.

140 In general, the public web API based on https can support queries with a time interval up to
141 one year. Due to technical limitations of this interface, tighter constraints on the permitted
142 time interval may apply for select transparency regulation articles – please refer to the on-line
143 user manual for details.

144 The order of attributes within the Status Request Document is not significant.

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6   Format and content of the response

146 The market information aggregator responds with one of the documents described in the
147 implementation guides for Generation and Load, Transmission, Flow-based parameters,
148 Balancing or Outages. The type of document used in the response depends on the type of
149 data being requested. The format of the response will be according to the download scenarios
150 described in the before-mentioned implementation guides.

151 Time granularity of the data in the response will be the same as for the data published on the
152 central transparency platform.

7   Status Request Document dependency tables

154 The dependency tables in this section indicate for each article of the Transparency Regulation
155 which attributes must or may be used within the Status Request Document in order to request
156 the published data.

157 For each category of data (Load, Generation, etc.), the sections below explain what type of
158 document the market information aggregator will return.

7.1   Load transparency data

160 Table 1 below is the dependency matrix that applies to requests for published Load
161 transparency data.

attribute	Art. 6.1.a Actual total load	Art. 6.1.b Day-ahead total load forecast	Art. 6.1.c Week-ahead total load forecast	Art. 6.1.d Month-ahead total load forecast	Art. 6.1.e Year-ahead total load forecast	Art. 8 Year-ahead forecast margin
DocumentType	A65: total load	A65: total load	A65: total load	A65: total load	A65: total load	A70: load forecast margin
ProcessType	A16: realised	A01: day-ahead	A31: week-ahead	A32: month-ahead	A33: year-ahead	A33: year-ahead
OutBiddingZone _Domain	Used	Used	Used	Used	Used	Used
TimeInterval	Used	Used	Used	Used	Used	Used

162 **Table 1 – Dependency table for requesting Load data**

163 The market information aggregator will respond with a Generation and Load Market document
164 containing the requested data.

165

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166   **7.2   Network and congestion management transparency data**

167   Table 2 below is the dependency matrix that applies to requests for published network and
168   congestion management transparency data.

attribute	Art. 9.1 Expansion and dismantling projects	Art. 13.1.a Redispatch	Art. 13.1.b Countertrading	Art. 13.1.c Congestion costs
DocumentType	A90 interconnector network expansion	A63 redispatch mode	A91 countertrade notice	A92 congestion costs
DocStatus	May be used	Not Used	Not Used	Not Used
BusinessType	May be used B01 interconnector network evolution B02 interconnector network dismantling	May be Used A46: system operator redispatching A85: internal requirements	Not Used	May be Used B04: congestion costs B03: countertrade A46: system operator redispatch
In_Domain	Used	Used	Used	Used, same as Out domain
Out_Domain	Used	Used	Used	Used, same as In domain
TimeInterval	Used	Used	Used	Used

169   **Table 2 - Dependency table for requesting Network and Congestion Management data**

170   The market information aggregator will respond with a Transmission Network Market
171   document containing the requested data.

172

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173 **7.3 Transmission transparency data**

174 Table 3 below is the dependency matrix that applies to requests for published Transmission
175 transparency data.

attribute	Art. 11.1.a forecasted capacity	Art. 11.1.a offered capacity	Art. 11.1.b flow-based	Art. 11.3 Intraday transfer limits
DocumentType	A61: estimated capacity	A31: agreed capacity	B11: Anonymized flow based parameters publication	A93: DC link capacity
ProcessType	Not used	Not used	A01 Day ahead A02 Intraday	Not used
Auction.Type	Not used	Used	Not used	Not used
Auction. Category	Not used	May be used	Not used	Not used
BusinessType	Not used	Not used	Not used	Not used
In_Domain	Used	Used	Used, same as Out domain	Used
Out_Domain	Used	Used	Used, same as In domain	Used
Contract_Market Agreement.Type	Used	Used	Not used	Not used
ClassificationSequence_AttributeInstanceComponent.Position	Not used	May be used	Not used	Not used
TimeInterval	Used	Used	Used	Used

176

177 Note: For article 11.1.a forecasted capacity, Contract Type is used to distinguish between
178 day-ahead, week-ahead, month-ahead and year-ahead forecasts.

179

180

attribute	Art. 12.1.a Explicit allocation information (capacity)	Art. 12.1.a Explicit allocation information (revenue only)	Art. 12.1.b Total capacity nominated	Art. 12.1.c Total capacity already allocated
DocumentType	A25: allocation results	A25: allocation results	A26: capacity document	A26: capacity document
ProcessType	Not used	Not used	Not used	Not used
Auction.Type	Not used	Not used	Not used	Not used
Auction.Category	May be used	Not used	Not used	May be used
BusinessType	A43 requested capacity B05 capacity allocated (with price)	B07 auction revenue	B08 total nominated capacity	A29 AAC
In_Domain	Used	Used	Used	Used
Out_Domain	Used	Used	Used	Used
Contract_Market Agreement.Type	Used	Used	Not used	Used
ClassificationSequence_AttributeInstanceComponent.Position	May be used	Not used	Not used	Not used
TimeInterval	Used	Used	Used	Used

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attribute	Art. 12.1.d Day ahead prices	Art. 12.1.e Implicit auction net positions and congestion income	Art. 12.1.f Schedule day ahead commercial exchanges	Art. 12.1.g Physical flows	Art. 12.1.h Capacity allocated outside EU
DocumentType	A44: price document	A25: allocation results	A09: finalised schedule	A11: aggregated energy data report	A94: non EU allocation
ProcessType	Not used	Not used	Not used	Not used	Not used
Auction.Type	Not used	Not used	Not used	Not used	Used
Auction.Category	Not used	Not used	Not used	Not used	Not used
BusinessType	Not used	B09 net position B10 congestion income	Not used	Not used	Not used
In_Domain	Used, same as Out domain	Used	Used	Used	Used
Out_Domain	Used, same as In domain	Used	Used	Used	Used
Contract_Market Agreement.Type	Not used	Used	Not used	Not used	Used
ClassificationSequence_AttributeInstanceComponent.Position	Not used	Not used	Not used	Not used	Not used
TimeInterval	Used	Used	Used	Used	Used

184 **Table 3 - Dependency table for requesting Transmission data**

185 The market information aggregator will respond with a Publication Market document
186 containing the requested data, except for article 11.1.b which will yield a Critical Network
187 Element Document.

188

189

7.4 Generation transparency data

191 Table 4 below is the dependency matrix that applies to requests for published Generation
192 transparency data.

attribute	Art. 14.1.a Installed generation capacity aggregated	Art. 14.1.b Installed generation capacity per unit	Art. 14.1.c Day-ahead aggregated generation	Art. 14.1.d Day-ahead generation forecasts for wind and solar	Art. 16.1.a Actual generation output per generation unit	Art. 16.1.b&c Aggregated generation per type	Art. 16.1.d Aggregated filling rate of water reservoirs and hydro storage plants
DocumentType	A68: installed generation per type	A71: generation forecast	A71: generation forecast	A69: wind and solar forecast	A73: actual generation	A75: actual generation per type A74: wind and solar generation	A72: reservoir filing generation
ProcessType	A33: year ahead	A33: year ahead	A01: day-ahead	A01: day-ahead	A16: realised	A16: realised	A16: realised
In_ Domain	Used	Used	Used	Used	Used	Used	Used
PsrType	May be used	May be used	Not Used	May be used	May be used	May be used	Not Used
TimeInterval	Used	Used	Used	Used	Used	Used	Used

193 **Table 4 – Dependency table for requesting Generation data**

194 The market information aggregator will respond with a Generation and Load Market document
195 containing the requested data.

196

197 **7.5   Balancing transparency data**

198   Table 5 below is the dependency matrix that applies to requests for published Balancing
199   transparency data.

attribute	Art. 17.1.b Amount of balancing reserves under contract	Art. 17.1.c Prices of procured balancing reserves	Art. 17.1.d Accepted aggregated offers	Art. 17.1.e Activated balancing energy	Art. 17.1.f Prices of activated balancing energy
DocumentType	A81 contracted reserve	A89 contracted reserve price	A82 accepted offer	A83 activated balancing quantities	A84 activated balancing price
ControlArea_Domain	Used	Used	Used	Used	Used
BusinessType	May be Used A95: FCR A96: aFFR A97: mFRR A98: RR	May be Used A95: FCR A96: aFFR A97: mFRR A98: RR	May be Used A95: FCR A96: aFFR A97: mFRR A98: RR	May be Used A95: FCR A96: aFFR A97: mFRR A98: RR	May be Used A95: FCR A96: aFFR A97: mFRR A98: RR
Acquiring_ Domain	Not Used	Not Used	Not Used	Not Used	Not Used
Connecting_Do main	Not Used	Not Used	Not Used	Not Used	Not Used
Type_MarketAg reement.Type	Used	Used	Not Used	Not Used	Not Used
PsrType	May be used	May be used	May be used	May be used	May be used
TimeInterval	Used	Used	Used	Used	Used

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attribute	Art. 17.1.g Imbalance prices	Art. 17.1.h Total imbalance volumes	Art. 17.1.i Financial expenses and income for balancing	Art. 17.1.j Cross-border balancing
DocumentType	A85: imbalance prices	A86: imbalance volume	A87: financial situation	A88 cross-border balancing
ControlArea_Domain	Used	Used	Used	Not Used
BusinessType	Not Used	Not Used	Not Used	Not Used
Acquiring_ Domain	Not Used	Not Used	Not Used	Used
Connecting_Domain	Not Used	Not Used	Not Used	Used
Type_MarketAgreem ent.Type	Not Used	Not Used	Not Used	Not Used
PsrType	Not Used	Not Used	Not Used	Not Used
TimeInterval	Used	Used	Used	Used

203   **Table 5 – Dependency table for requesting Balancing data**

204   The market information aggregator will respond with a Balancing Market document containing
205   the requested data.

206

207 **7.6 Outages transparency data**

208 Table 6 below is the dependency matrix that applies to requests for published Outage
209 transparency data.

attribute	Art. 7.1.a&b Unavailability of consumption units	Art. 15.1.a&b Unavailability of generation units	Art. 15.1c&d Unavailability of production units	Art. 10.1.a&b Unavailability of transmission infrastructure	Art. 10.1.c Unavailability of offshore grid infrastructure
DocumentType	A76: load unavailability	A80: generation unavailability	A77: production unavailability	A78: transmission unavailability	A79: offshore grid infrastructure unavailability
DocStatus	Not used	may be used	may be used	may be used	may be used
BusinessType	May be used A53: planned maintenance A54: forced unavailability	May be used A53: planned maintenance A54: forced unavailability	May be used A53: planned maintenance A54: forced unavailability	May be used A53: planned maintenance A54: forced unavailability	Not Used
BiddingZone_Domain	Used	Used	Used	Not Used	Used
In_Domain	Not Used	Not Used	Not Used	Used	Not Used
Out_Domain	Not Used	Not Used	Not Used	Used	Not Used
TimeInterval	Used	Used	Used	Used	Used

210 **Table 6 – Dependency table for requesting Outages data**

211 The market information aggregator will respond with an Unavailability Market document
212 containing the requested data.

213