Technical specification of external interfaces for market participants

V1.14

MARKET ORGANIZER INFORMATION SYSTEM XMtrade®/ISOT

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History of Changes

Date	Version	Description	Author
6/1/2009	1.0	Document processing	Mgr. Miroslav Galajda, Mgr. Libor Láznička
6/3/2009	1.1	Update of order structure	Mgr. Miroslav Galajda
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6/23/2016	1.8	Correction of examples for data flow E-07_01 and E-07_02. Removal of the element *Period* from ISOTEDATA-VDT messages.	Ing. Jozef Drgoňa
9/5/2017	1.9	Addition of service specification for broader communication possibilities like managing intraday market orders, results of intraday market and automated notifications about events on intraday market using AMQP protocol.	Ing. Robert Maier
10/1/2018	1.10	Expansion of existing data flows E-06_03 and E-10_01, which contains anonymous user identifier of the user placing intraday market order.	Ing. Robert Maier
11/2/2020	1.11	Update of network TLS protocol support.	Ing. Robert Maier

Date	Version	Description	Author
01/24/2021	1.12	Extension of day-ahead market products with possibility to submit unlimited number of orders per MP and introduction of new simple block, linked block, flexible block products and exclusive group of block orders.	Ing. Robert Maier
04/30/2021	1.13	Extension of DAM evaluation with the parameter for specification of result status.	Ing. Robert Maier
03/02/2022	1.14	Disabling of access to cross-border capacities for CORE regime of cross-border day-ahead market.	Ing. Robert Maier

1 INTRODUCTION

1.1 Characteristics of the document

1.1.1 Purpose of the document

The purpose of this document is to provide all necessary technical information for the implementation of automated data exchange between an external system of a market participant and the market organizer information system XMtrade®/ISOT. This document contains specification of communication methods and data structures that are used for data exchange.

1.1.2 Specification of the document

The document is for system implementers who are preparing integration with the market organizer information system XMtrade®/ISOT.

2 OVERVIEW OF EXTERNAL INTERFACES

The market organizer information system XMtrade®/ISOT provides automated interfaces for data exchange within processes of the day-ahead order registration, and results and evaluations retrieval of day-ahead market based on web services that are used by trading systems of market participants.

Table 1 Automated interface for data exchange of processes within day-ahead order registration

ID	Name	Description
OB-01	Management of market participant orders	Market participants are provided with an automated interface for submission and retrieval of own orders for purchase and sell.
OB-02	Management of intraday market participant orders	Market participants are provided with an automated interface for submission, modification and retrieval of own orders for purchase and sell on intraday market.
OB-03	Access to intraday market order book	Market participants are provided with automated interface for intraday order book retrieval in its current status.
EV-01	Results and evaluation of DM	Market participants are provided with automated interface for day-ahead market results and evaluations retrieval.
EV-02	Results of IDM	Market participants are provided with automated interface for intraday market results and evaluations retrieval.
SR-01	MCC details	Market participants are provided with an automated interface for MCC values retrieval.
AMQP-01	Notifications of IDM	Market participants are provided with an automated interface for automatic notifications about their own intraday orders and data from intraday order book.

2.1 Overview of data flows

Basic communication scenarios are primarily dependent on the task that the market organizer currently performs:

- organizing of day-ahead market exclusively within domestic trading area,
- coordinated organizing of day-ahead market in multiple trading areas.
- organizing of intraday market exclusively within domestic trading area.

2.1.1 Organization of domestic day-ahead market

Within the organization of domestic short-term day-ahead market, communication is established between the market organizer information system XMtrade®/ISOT, (ISOT) and systems of market participants (ISMP) through web services (Figure 1). Using automated method, market participants are able to submit orders into the PXS system, retrieve results and evaluations of day-ahead market.

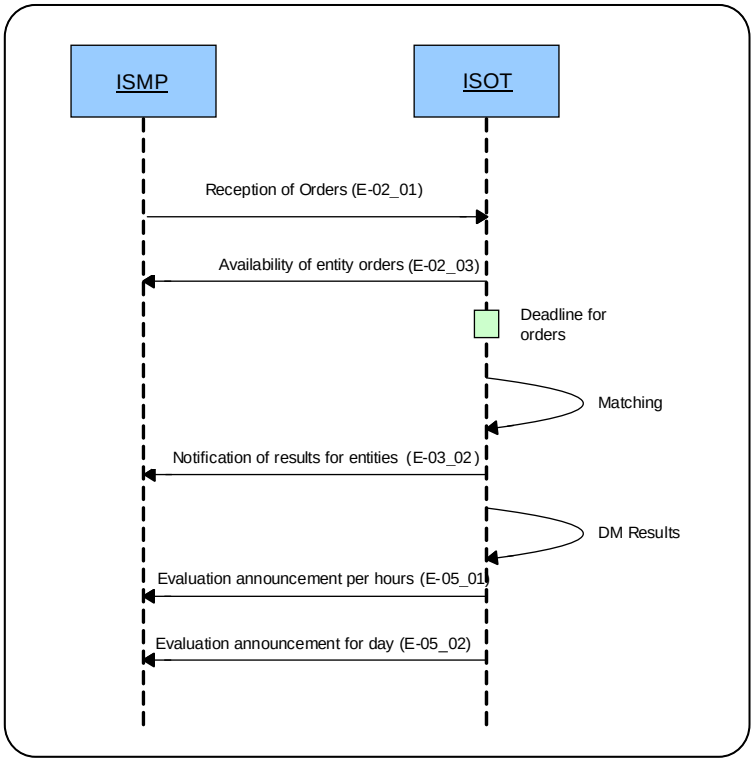

Figure 1 Communication scenario in domestic day-ahead market mode

Table 2 Overview of interfaces in domestic day-ahead market mode

ID	Description	Source	Target	Initiator
E-02_01	Reception of orders: - allows market participant to submit orders by the deadline for order reception.	ISMP	ISOT	ISMP
E-02_03	Availability of entity orders: - allows market participant to retrieve information on own orders entered into ISOT.	ISOT	ISMP	ISMP
E-03_02	Notification of results for entities: - allows market participant to retrieve information on DM results after order matching is finished.	ISOT	ISMP	ISMP
E-05_01	Evaluation announcement per hours: - allows market participant to retrieve detailed information on DM evaluation after the end of DM matching.	ISOT	ISMP	ISMP
E-05_02	Evaluation announcement for day: - allows market participant to retrieve summary information on DM evaluation after the end of DM matching.	ISOT	ISMP	ISMP

2.1.2 Coordinated organization of day-ahead market

Within the coordinated organization of short-term day-ahead market, communication is established between the market organizer information system XMtrade®/ISOT (ISOT) and systems of market participants (ISMP) through web services (Figure 2). Information on MCC results, evaluations of day-ahead market and market participants orders entered into ISOT system, are made available through an automated method.

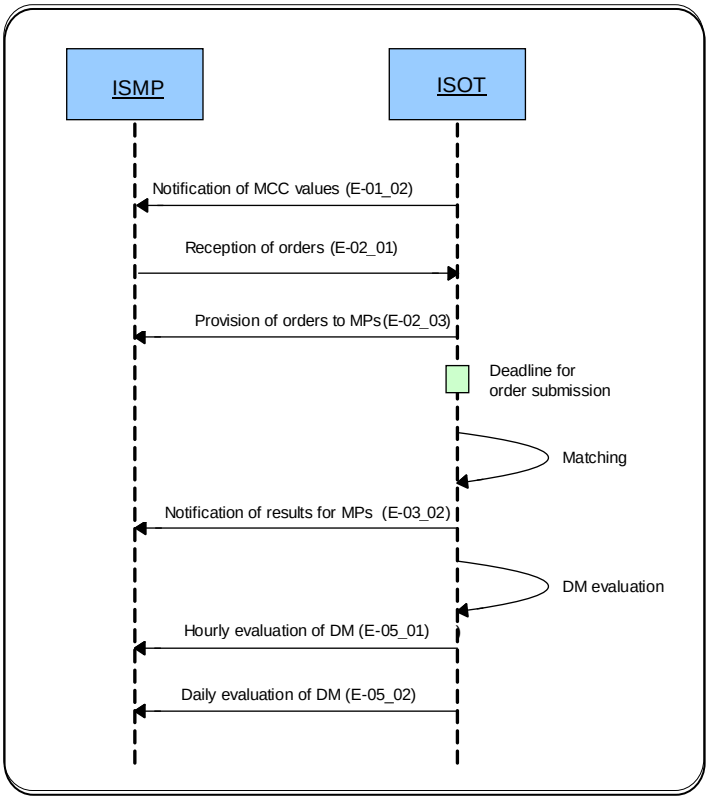

Figure 2 Communication scenario in coordinated day-ahead market mode

Table 3 Overview of interfaces in day-ahead market mode

ID	Description	Source	Target	Initiator
E-01_02	Notification of MCC values: - allows market participant to retrieve information on MCC after the publication of MCC.	ISOT	ISMP	ISMP
E-02_01	Reception of orders: - allows market participant to submit orders by the deadline for order reception.	ISMP	ISOT	ISMP
E-02_03	Availability of entity orders: - allows market participant to retrieve information on own orders entered into ISOT.	ISOT	ISMP	ISMP
E-03_02	DM evaluation announcement for entities: - allows market participant to retrieve information on DM results after the end of matching.	ISOT	ISMP	ISMP
E-05_01	DM evaluation announcement per hours: - allows market participant to retrieve detailed information on DM evaluation after the end of DM matching.	ISOT	ISMP	ISMP
E-05_02	DM evaluation announcement for day: - allows market participant to retrieve summary information on DM evaluation after the end of DM matching.	ISOT	ISMP	ISMP

2.1.3 Organizing domestic intraday market

Within the organization of domestic intraday market, communication is established between the market organizer information system XMtrade®/ISOT (ISOT), and systems of market participants (ISMP) through web services (Figure 3). Using automated methods, market participants submit orders into the ISOT system and receive related results and evaluations of intraday market.

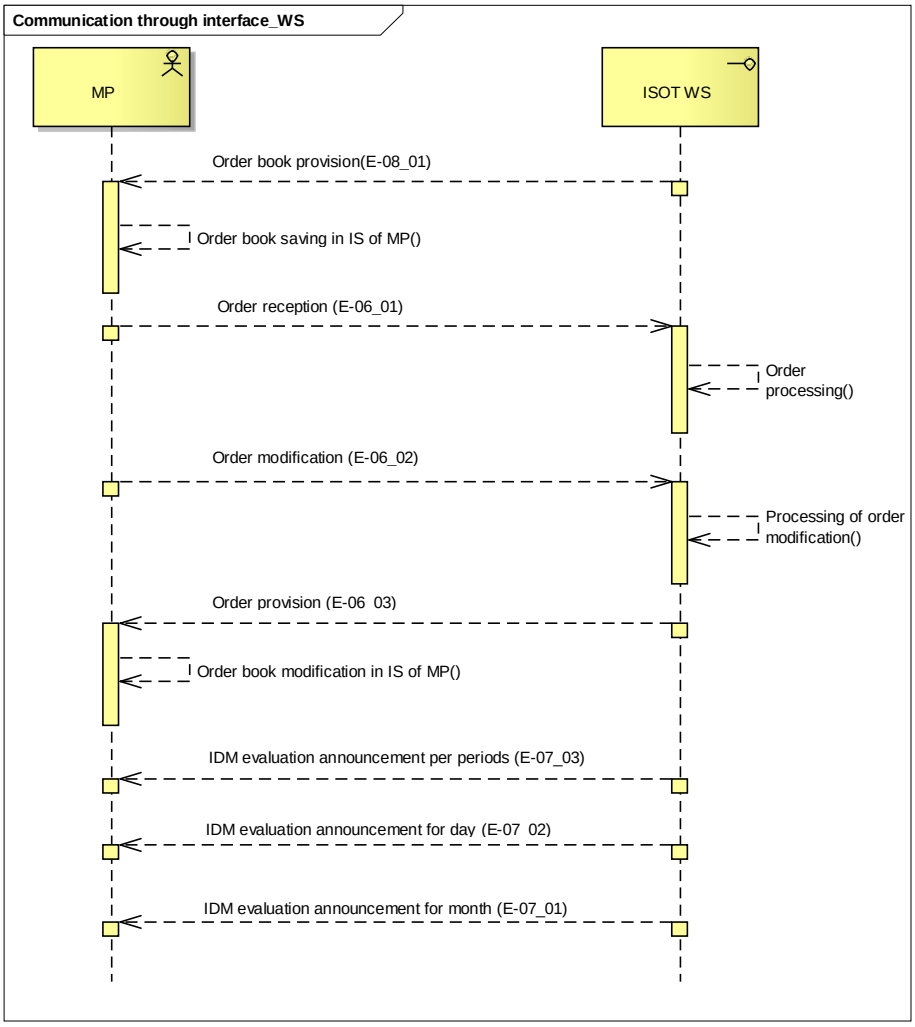

Figure 3 Comunication scenario of the web services in domestic intraday market mode

Table 4 Overview of interfaces in domestic intraday market mode

ID	Description	Source	Target	Initiator
E-06_01	Reception of intraday orders: - allows market participant to submit orders until the gate closure order reception.	ISMP	ISOT	ISMP
E-06_02	Modification of intraday orders: - allows market participant to modify (activate, deactivate, cancel) own existing order.	ISMP	ISOT	ISMP
E-06_03	Availability of intraday entity orders: - allows market participant to retrieve information on own orders entered into ISOT.	ISOT	ISMP	ISMP

ID	Description	Source	Target	Initiator
E-07_01	IDM evaluation announcement for day: - allows market participant to access information about intraday evaluation after trading day closure and after intraday evaluation is finished.	ISOT	ISMP	ISMP
E-07_02	IDM evaluation announcement for month: - allows market participant to access information about intraday evaluation after trading month closure and after intraday per given month evaluation is finished.	ISOT	ISMP	ISMP
E-07_03	IDM evaluation announcement per periods: - allows market participant to access information about their intraday orders per periods.	ISOT	ISMP	ISMP
E-08_01	Order book provision: - allows market participant to access immediate data from order book (available quantities and prices) on intraday market.	ISOT	ISMP	ISMP

Web services described above are intended for full automation of communication with ISOT system, which includes interface extension that uses AMQP protocol and allows market participant to receive notifications about real-time changes on IDM.

Through notifications, market participant is informed about these events:

- Successful creation of own order,
- Modification of own order (change of status),
- Order book status change (increase/decrease of available quantity).

Table 5 Overview of AMPQ interface in domestic intraday market mode

ID	Description	Source	Target	Initiator
E-10_01	Change of status/creation of own order: - informs market participant about successful creation or modification of own order.	ISMP	ISOT	ISOT
E-10_02	Order book status change: - informs market participant about change in order book status (increase/decrease of available quantity).	ISMP	ISOT	ISOT

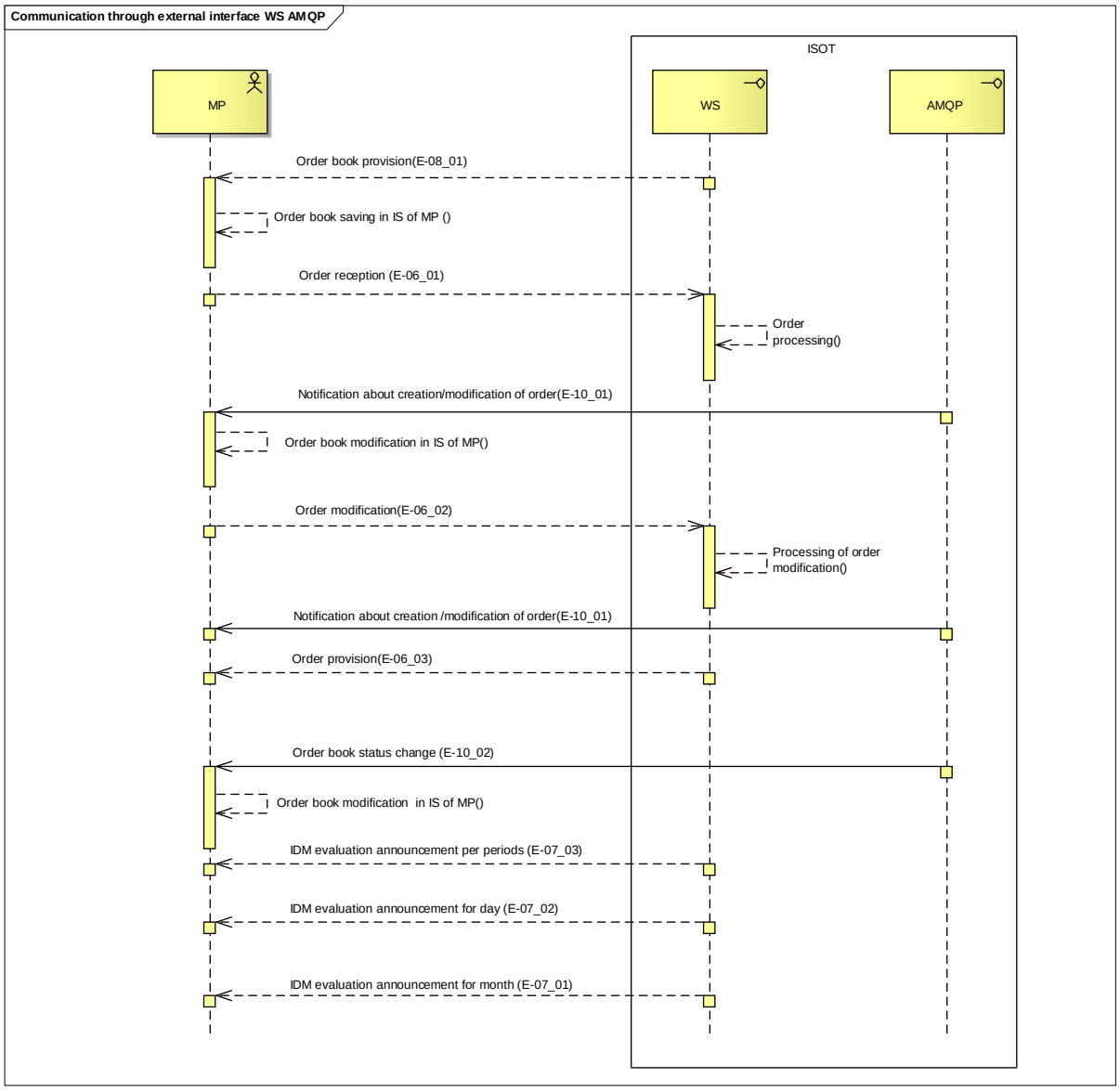

Figure 4 Communication scenario of web services and AMQP interface in intraday domestic market mode

3 SPECIFICATION OF COMMUNICATION

3.1 Web services

The market organizer information system XMtrade®/ISOT covers external interfaces with the following set of web services/web methods.

Table 6 Overview of interfaces in the coordinated organization of day-ahead and intraday market mode

ID	Name of web service	Name of web method	Description
OB-01	Orders	Upload Download	-market participants are provided with automated interface for submission and reception of own orders on day-ahead market
OB-02	IdmOrders	Upload Modify Download	-market participants are provided with automated interface for submission, modification and reception of own orders on intraday market
OB-03	IdmOrderBook	Download	- market participants are provided with automated interface for downloading intraday order book data
EV-01	Evaluations	Download	- market participants are provided with automated interface for retrieval of results/evaluations of day-ahead market
EV-02	IdmEvaluations	Download	- market participants are provided with automated interface for retrieval of results/evaluations of intraday market
SR-01	StatusRequest	DownloadMCC	- market participants are provided with automated interface for retrieval of MCC values

3.1.1 Communication scenarios

Synchronous communication

Synchronous communication of web services in ISOT system can be in general depicted as follows:

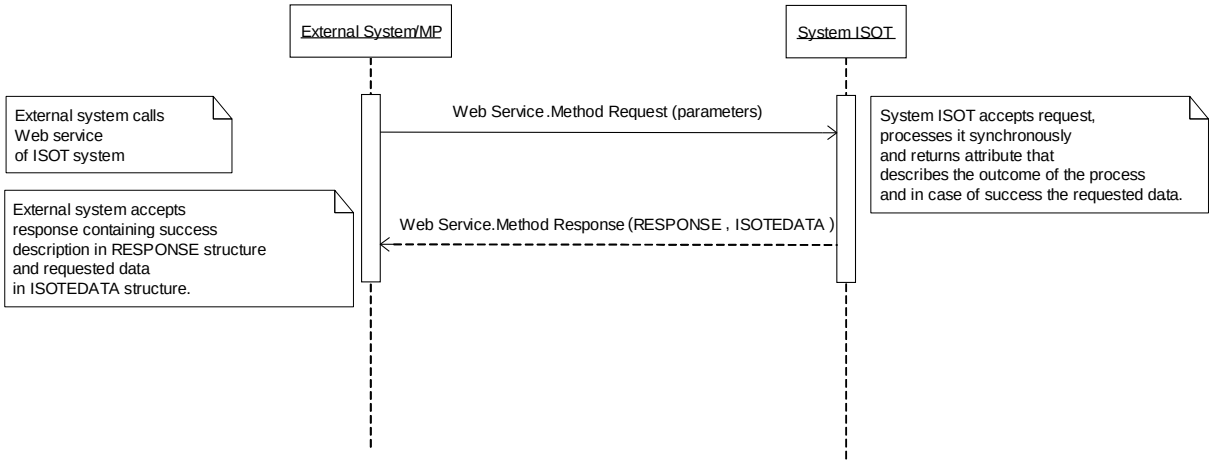

Figure 5 The principle of synchronous communication.

Synchronous call of web method processes the request and returns corresponding response.

3.1.2 SOAP Protocol

The structure of SOAP messages is implemented in SOAP 1.2 version in accordance with recommendations of W3C consortium (http://www.w3.org/TR/soap12) and uses the following extensions:

- WS-Security (http://www.oasis-open.org/specs/index.php#wssv1.0),
- WS-Addressing (http://www.w3.org/Submission/2004/SUBM-ws-addressing-20040810).

In order to shorten the notation of individual SOAP messages, the following namespace aliases are used:

Table 7 Namespace aliases

Alias	Namespace
s	http://www.w3.org/2003/05/soap-envelope
o	http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd
a	http://schemas.xmlsoap.org/ws/2004/08/addressing
u	http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd

Web services are implemented in the namespace of the following format:

http://sfera.sk/ws/xmtrade/isot/interfaces/**NameOfService**/services/**Version**

SOAP messages of systems web services contain two distinctive parts: header and body, while all messages of ISOT system are encoded in UTF-8. In addition to controlling data of the protocol, header contains details for authentication and authorization of the calling system (name, password and digital signature if applicable).

```
<s:Header>
  <!-- WS-Addressing -->
  <!-- WS-Security -->
</s:Header>
```

„WS-Security " contains security tokens necessary for source system authentication and verification of message integrity. This relates to electronic signature tokens, name and password of a user.

„WS-Addressing " contains details to secure addressing of a soap message. Detailed header structure can be found in this example.

Message body contains class element of the message for specific request. Body structure of the message can be defined in general as follows:

Request:

```
<s:Body>
  <MethodNameRequest xmlns=" http://sfera.sk/ws/xmtrade/isot/interfaces/
NameOfService/services/Version">
       <!—message document-->
  </MethodNameRequest>
</s:Body>
```

Response:

```
<s:Body>
  <MethodNameResponse xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/
NameOfService/services/Version">
       <!—message document -->
  </MethodNameResponse>
</s:Body>
```

SOAP Fault

SOAP Fault element serves for generic transfer of error information, which are transferred within SOAP message in *<s:Fault>* element, in accordance with SOAP 1.2 specification (http://www.w3.org/TR/soap12-part1/#soapfault). It mainly relates to system error and exception handling during communication etc. However, defining custom types of Fault messages could be advantageously used to catch general application errors.

3.1.3 Orders

Orders web service allows market participants to use automated interface for submission and reception of own orders on day-ahead market.

The service implements the following methods:

- *Upload* – method for submission of order,
- *Download* – method for reception of own order.

SOAP Upload

Upload method of *Orders* service operates in synchronous mode, i.e. the request is handled by the response within the same call.

Description of request structure

Table 8 Request structure descritpion – Upload method

UploadRequest	Description
ISOTEDATA	Structure of order is in accordance with specification where message-code=811 (see description of E-02_01 data flow).

Description of response structure

Table 9 Response structure description - Upload method

UploadResponse	Description
RESPONSE	Common return structure of request handling effectivity is in accordance with specification where message-code=812 (see description of data flow E-02_01).
ISOTEDATA	Structure of order is in accordance with specification where message-code=813 (see description data flow E-02_01). Description of order is returned as it was registered in the system.

Example of SOAP message

Request:

```
POST /Orders.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/services/2009/04/01">
      <ns:ISOTEDATA
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01" id="1"
message-code="811" date-time="2009-05-01T11:48:51" answer-required="1">
        <!-- order data -->
      </ns:ISOTEDATA>
    </ns:UploadRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/services/2009/04/01">
      <ns:RESPONSE xmlns="http://sfera.sk/ws/xmtrade/isot/ut/types/2009/04/01"
message-code="812" ...>
        <!-- efficiency description -->
      </ns:RESPONSE>
      <ns:ISOTEDATA
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01"
message-code="813" ...>
        <!-- order description data -->
      </ns:ISOTEDATA>
    </ns:UploadResponse>
  </s:Body>
</s:Envelope>
```

SOAP Download

Download method of *Orders* service operates in synchronous mode, i.e. the request is handled by the response within the same call.

Description of request structure

Table 10 Request structure description – Download method

DownloadRequest	Description
CDSREQ	Request structure for reception of own order in accordance with specification, where message-code=831 (see description of E-02_03 data flow).

Description of response structure

Table 11 Response structure description – Download method

DownloadResponse	Description
RESPONSE	Common return structure of request handling effectivity in accordance with specification, where message-code=832 (see description of E-02_03 data flow).
ISOTEDATA	Structure of order in accordance with specification, where message-code=833 (see description of E-02_03 data flow). Description of order is returned as it was registered in the system.

Example of SOAP message

Request:

```
POST /Orders.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/services/2009/04/01">
      <ns:CDSREQ
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01" id="1"
message-code="831" date-time="2009-05-01T11:48:51" >
        <Trade trade-day="2009-05-01" />
      </ns:CDSREQ>
    </ns:DownloadRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/services/2009/04/01">
      <ns:RESPONSE xmlns="http://sfera.sk/ws/xmtrade/isot/ut/types/2009/04/01"
message-code="832" ... >
            <!-- description of efficiency -->
      </ns:RESPONSE>
       <ns:ISOTEDATA
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01"
message-code="833" ... >
            <!-- description of order data -->
       </ns:ISOTEDATA>
    </ns:DownloadResponse>
  </s:Body>
</s:Envelope>
```

3.1.4 IdmOrders

IdmOrders web service allows market participants to use automated interface for submission, modification and reception of own orders on intraday market.

Service implements these methods:

- *Upload* - method for order submission,
- *Modify* – method for order modification (activation/deactivation/cancellation),
- *Download* – method for own order reception.

SOAP Upload

Upload method of *IdmOrders* service operates in synchronous mode, i.e. the request is handled by the response within the same call. Response to this request consists of confirmation of order submission and copy of order data from the request.

Description or request structure

Table 12 Request structure description – Upload method

UploadRequest	Description
ISOTEDATA-VDT	Structure of order is in accordance with specification, where message-code=801 (see description of E-06_01 data flow).

Description of request structure

Table 13 Response structure description - Upload method

UploadResponse	Description
RESPONSE-VDT	Common structure of retrieving processing status is in accordance with specification, where message-code=802 (see description of E-06_01 data flow).
ISOTEDATA-VDT	Structure of order is in accordance with specification, where message-code=803 (see description of E-06_01 data flow). Returned order data sent in request.

Example of SOAP message

Request:

```
POST /IdmOrders.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmorders/services/2009/04/0
1">
      <ns:ISOTEDATA xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01"
id="1" message-code="801" date-time="2016-05-01T11:48:51" answer-required="1">
        <!-- order data -->
      </ns:ISOTEDATA>
    </ns:UploadRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2016 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmorders/services/2016/04/0
1">
      <ns:RESPONSE xmlns="http://sfera.sk/ws/xmtrade/isot/ut/types/2009/04/01"
message-code="802" ...>
            <!--success description -->
      </ns:RESPONSE>
       <ns:ISOTEDATA xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01"
message-code="803" ...>
            <!--order data description -->
       </ns:ISOTEDATA>
    </ns:UploadResponse>
  </s:Body>
</s:Envelope>
```

SOAP Modify

Modify method of *IdmOrders* web service operates in synchronous mode, i.e. the request is handled by the response within the same call. Response to this request consists of order modification processing status and order modification data copy from the request.

Description of request structure

Table 14 Request structure description – Method Modify

UploadRequest	Description
ISOTEDATA-VDT	Structure of order is in accordance with specification, where message-code=804 (see description of E-06_02 data flow).

Description of response structure

Table 15 Response structure description – Method Modify

UploadResponse	Description
RESPONSE-VDT	Common structure of retrieving processing status is in accordance with specification, where message-code=805 (see description of E-06_02 data flow).
ISOTEDATA-VDT	Structure of order is in accordance with specification, where message-code=806 (see description of E-06_02 data flow). Response includes modification description sent in the request.

Example of SOAP messages

Request:

```
POST /IdmOrders.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmorders/services/2009/04/0
1">
      <ns:ISOTEDATA xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01"
id="1" message-code="804" date-time="2016-05-01T11:48:51" answer-required="1">
        <!— data of order modification-->
      </ns:ISOTEDATA>
    </ns:UploadRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2016 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmorders/services/2016/04/0
1">
      <ns:RESPONSE xmlns="http://sfera.sk/ws/xmtrade/isot/ut/types/2009/04/01"
message-code="805" ...>
            <!-- processing status description-->
      </ns:RESPONSE>
       <ns:ISOTEDATA xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01"
message-code="806" ...>
            <!-- order description -->
       </ns:ISOTEDATA>
    </ns:UploadResponse>
  </s:Body>
</s:Envelope>
```

SOAP Download

Download method of *IdmOrders* web service operates in synchronous mode, i.e. the request is handled by the response within the same call. Response to request for order submission consists of request processing status and data of chosen order or all orders within a specified time interval.

Description of request structure

Table 16 Request structure description – Method Download

UploadRequest	Description
CDSREQ-VDT	Order structure is in accordance with specification, where message-code=807 (see description of E-06_03 data flow).

Description of response structure

Table 17 Response structure description - Method Download

UploadResponse	Description
RESPONSE-VDT	Common structure of retrieving processing status is in accordance with specification, where message-code=808 (see description of E-06_03 data flow).
ISOTEDATA-VDT	Structure of order is in accordance with specification, where message-code=809 (see description of E-06_03 data flow). Returned data contains information about specific order or all orders in specified time interval depending on request formulation.

Example of SOAP messages

Request:

```
POST /IdmOrders.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmorders/services/2009/04/0
1">
      <ns:CDSREQ xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01" id="1"
message-code="807" date-time="2016-05-01T11:48:51" answer-required="1">
        <!-- data from order modification -->
      </ns:CDSREQ>
    </ns:UploadRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2016 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmorders/services/2016/04/0
1">
      <ns:RESPONSE xmlns="http://sfera.sk/ws/xmtrade/isot/ut/types/2009/04/01"
message-code="808" ...>
            <!-- processing status description -->
      </ns:RESPONSE>
       <ns:ISOTEDATA xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01"
message-code="809" ...>
            <!-- description of order -->
       </ns:ISOTEDATA>
    </ns:UploadResponse>
  </s:Body>
</s:Envelope>
```

3.1.5 IdmOrderBook

Web service *IdmOrderBook* allows market participant to access immediate data from order book (available quantities and prices) on intraday market.

Service implements the following method:

- *Download* – method for data acquisition of order book on intraday market.

SOAP Download

Download method of *IdmOrderBook* web service operates in synchronous mode, i.e. the request is handled by the response within the same call.

Note for AMQP interfaces:

System of the market participant, which is concurrently connected to AMQP interface for intraday notifications, must insure that the processing of queues during *Download* method call will be paused. In other case order book update may be incorrectly processed, as during *Download* method call multiple changes can occur in order book, which won‘t be included in the results.

Request structure description

Table 18 Request structure description - Method Download

DownloadRequest	Description
CDSREQ-VDT	Structure of request for data acquisition of intraday order book is in accordance with specification, where message-code=810 (see description of E-08_01 data flow).

Response structure description

Table 19 Response structure description - Method Download

DownloadResponse	Description
RESPONSE-VDT	Common structure of retrieving processing status is in accordance with specification, where message-code=811 (see description of E-08_01 data flow).
ISOTEDATA-VDT	Structure for accessing data from order book is in accordance with specification, where message-code=812 (see description of E-08_01 data flow).

SOAP message example

Request:

```
POST /Orders.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/evaluations/services/2009/0
4/01">
      <ns:CDSREQ
          xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01"
          id="1" message-code="810" date-time="2017-05-01T11:48:51" >
          <!-- message data for order book retrieval-->
      </ns:CDSREQ>
    </ns:DownloadRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2016 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:UploadResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmorders/services/2016/04/0
1">
      <ns:RESPONSE xmlns="http://sfera.sk/ws/xmtrade/isot/ut/types/2009/04/01"
message-code="811" ...>
            <!-- status of request processing -->
      </ns:RESPONSE>
       <ns:ISOTEDATA xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01"
message-code="812" ...>
            <!-- data from order book -->
       </ns:ISOTEDATA>
    </ns:UploadResponse>
  </s:Body>
</s:Envelope>
```

3.1.6 Evaluations

Evaluations web service allows market participants to use automated interface for results/evaluations retrieval of day-ahead market.

The service implements the following methods:

- Download – method for retrieval of own results/evaluations of day-ahead market.

SOAP Download

Download method of *Evaluations* service operates in synchronous mode, i.e. the request is handled by the response within the same call.

Request structure description

Table 20 Request structure description – Download method

DownloadRequest	Description
CDSREQ	Request structure for retrieval of own order is in accordance with specification, where message-code=941, 951 or 961 (see description of E-03_02, E-05_01, E-05_02 data flows).

Response structure description

Table 21 Response structure description – Download method

DownloadResponse	Description
RESPONSE	Common return structure of retrieving processing status is in accordance with specification, whereas message-code=942, 952 or 962 (see description of E-03_02, E-05_01, E-05_02 data flows).
ISOTEDATA	Structure of results/evaluations is in accordance with specification where message-code=943, 953 or 963 (see description of E-03_02, E-05_01, E-05_02 data flows).

Example of SOAP message

Request:

```
POST /Orders.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/evaluations/services/2009/0
4/01">
      <ns:CDSREQ
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01" id="1"
message-code="941" date-time="2009-05-01T11:48:51" >
        <Trade trade-day="2009-05-01" />
      </ns:CDSREQ>
    </ns:DownloadRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/services/2009/04/01">
      <ns:RESPONSE xmlns="http://sfera.sk/ws/xmtrade/isot/ut/types/2009/04/01"
message-code="942" ... >
            <!-- description of processing status -->
      </ns:RESPONSE>
       <ns:ISOTEDATA
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01"
message-code="943" ... >
            <!-- description of DM results -->
       </ns:ISOTEDATA>
    </ns:DownloadResponse>
  </s:Body>
</s:Envelope>
```

3.1.7 IdmEvaluations

IdmEvaluations web service allows market participants to use automated interface for results/evaluations retrieval of intraday market.

The service implements the following methods:

- Download – method for retrieval of own results/evaluations on intraday market.

SOAP Download

Download method of *IdmEvaluations* service operates in synchronous mode, i.e. the request is handled by the response within the same call.

Request structure description

Table 22 Request structure description – Download method

DownloadRequest	Description
CDSREQ-VDT	Request structure description for IDM results for market participant is in accordance with specification, where message-code=961 (see data flow description E-07_01) for daily results, message-code=571 (see data flow description E-07_02) for monthly results message-code=951 (see data flow description E-07_03) for results per periods.

Response structure description

Table 23 Response structure description – Download method

DownloadResponse	Description
RESPONSE-VDT	Common return structure of retrieving processing status is in accordance with specification, whereas message-code=962,572 or 952 (see description of E-07_01, E-07_02, E-07_03 data flows).
ISOTEDATA-VDT	Structure of results/evaluations is in accordance with specification where message-code=963,573 or 953 (see description of E-07_021, E-07_02, E-07_03 data flows).

SOAP message example

Request:

```
POST /IdmOrders.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmevaluations/services/201
6/04/01">
      <ns:CDSREQ
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01" id="1"
message-code="961" date-time="2016-05-01T11:48:51" >
        <Trade trade-day="2016-05-01″ />
      </ns:CDSREQ>
    </ns:DownloadRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2016 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmevaluations/services/2016
/04/01">
      <ns:RESPONSE xmlns="http://sfera.sk/ws/xmtrade/isot/ut/types/2009/04/01"
message-code="962" ... >
            <!—processing status -->
      </ns:RESPONSE>
       <ns:ISOTEDATA
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/idmevaluations/types/2009/04/01
" message-code="963" ... >
            <!—IDM results description -->
       </ns:ISOTEDATA>
    </ns:DownloadResponse>
  </s:Body>
</s:Envelope>
```

3.1.8 StatusRequest

StatusRequest web service allows market participants to use automated interface for status/information retrieval about processes within *ENTSO-E* specification. Currently it provides an option to retrieve MCC values.

The service implements the following methods:

- DownloadMCC – method for MCC values retrieval for a given trading day.

SOAP DownloadMCC

DownloadMCC method of *StatusRequest* service operates in synchronous mode, i.e. the request is handled by the response within the same call.

Request structure description

Table 24 Request structure description – DownloadMCC method

DownloadMCCRequest	Description
StatusRequest	Request structure for retrieval of MCC values is in accordance with ESR.StatusRequest specification.

Response structure description

Table 25 Response structure description – DownloadMCC method

DownloadMCCResponse	Description
Acknowledgement	Common return structure of for retrieving processing status is in accordance with EAD.Acknowledgement specification.
CapacityDocument	Structure is in accordance with ECAN.CapacityDocument specification.

Example of SOAP message

Request:

```
POST /StatusRequest.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadMCCRequest
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/statusrequest/services/2009/
04/01">
      <ns:StatusRequest DtdVersion="1" DtdRelease="1"
xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/esrv1r1/2009/04/01">
       <!--  Request description -->
      </ns:StatusRequest>
    </ns:DownloadMCCRequest>
  </s:Body>
</s:Envelope>
```

Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-
utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ns:DownloadMCCResponse
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/interfaces/statusrequest/services/2009/
04/01">
      <ns:Acknowledgement
xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ackv5r0/2009/04/01">
            <!-- request processing status -->
      </ns:Acknowledgement >
       <ns:CapacityDocument
xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01">
            <!-- MCC Description -->
       </ns:CapacityDocument >
    </ns:DownloadResponse>
  </s:Body>
</s:Envelope>
```

3.1.9 Communication Security

Web services are available exclusively through secured *https* protocol that allows encryption of transmitted messages. Therefore, messages at the SOAP protocol level are not encrypted.

Web service interfaces are secured in accordance with *WS-Security (WSS)* standard, version 1.0, pursuant to which the following techniques of security are designed:

- Electronic signature of sent SOAP requests and responses,
- Transmission of authentication details within SOAP request (username/password, certificate).

Electronic signature

Support for electronic signature of SOAP messages is secured within implementation of *WS-Security* standard, version 1.0.

(http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wss).

Signature is stored in the header of SOAP message, i.e. separately from the message body transmitting data. *WSS* standard implements the signature on *xmldsig* standard (http://www.w3.org/TR/xmldsig-core).

Following signed elements are required:

- message body (s:Body),
- username/password token of a user (o:UsernameToken),
- timestamp (u:Timestamp),
- specification of method name of web service (a:Action),
- sender specification (a:ReplyTo),
- message identification (a:MessageID),

- specification of service target address (a:To).

Example of SOAP message

The following example demonstrates the message structure consisting of soap message elements (envelope), header (header), address specification header elements and security and message body.

Beginning

```
<s:Envelope
  xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://schemas.xmlsoap.org/ws/2004/08/addressing"
  xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
1.0.xsd">
<s:Header>
```

WS-Addressing

```
<a:Action s:mustUnderstand="1" u:Id="id-17567474" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
1.0.xsd">http://sfera.sk/ws/xmtrade/isot/interfaces/NameOfService/services/2009/04/01/NameOfS
erviceContract/NameOfMethod</a:Action>
<a:ReplyTo s:mustUnderstand="1" u:Id="id-235207" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <a:Address>http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous</a:Address>
</a:ReplyTo>
<a:MessageID s:mustUnderstand="1" u:Id="id-11090325" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">b83ac27b-9a4f-40e3-a782-
96df2cbea73e</a:MessageID>
<a:To s:mustUnderstand="1" u:Id="id-27256294" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">ServiceAddress</a:To>
```

WS-Security

```
<o:Security xmlns:o="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-
1.0.xsd">
  <o:BinarySecurityToken EncodingType="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
s-message-security-1.0#Base64Binary" ValueType="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-x509-token-profile-1.0#X509v3" u:Id="CertId-17206535" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"><!-- REMOVED --
></o:BinarySecurityToken>
  <d:Signature Id="Signature-190585" xmlns:d="http://www.w3.org/2000/09/xmldig#">
    <d:SignedInfo>
      <d:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
      <d:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldig#rsa-sha1"/>
      <d:Reference URI="#UsernameToken-13236543">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
              </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1"/>
        <d:DigestValue>lm0E+rpDJ8oSP8Fh+ZlqZRiMjc8=</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#Timestamp-2175170">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
              </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1"/>
        <d:DigestValue>02CsUF1As77a6I3+BkQZ22TogWI=</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-4652787">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
              </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1"/>
        <d:DigestValue>ktXRJoijcGSFrHaUKaLXUnH43XU=</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-17567474">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
              </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1"/>
        <d:DigestValue>lLOeuXRDI1Gs5IX+zvaWuFIhVzw=</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-11090325">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
              </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1"/>
        <d:DigestValue>ZsiiDzGRLHuyb8bKASKDo8ryoqc=</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-235207">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
              </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1"/>
        <d:DigestValue>9p44ZJinb/97IPlX0C7yFayRHpc=</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-27256294">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
              </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1"/>
        <d:DigestValue>BCxp9HRQ6cJAykEdliom9mU86vA=</d:DigestValue>
      </d:Reference>
    </d:SignedInfo>
    <d:SignatureValue><!-- REMOVED --></d:SignatureValue>
    <d:KeyInfo Id="KeyId-33119438">
      <o:SecurityTokenReference u:Id="STRId-28732159" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
        <o:Reference URI="#CertId-17206535" ValueType="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-x509-token-profile-1.0#X509v3"/>
      </o:SecurityTokenReference>
    </d:KeyInfo>
  </d:Signature>
  <o:UsernameToken u:Id="UsernameToken-13236543" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
    <o:Username><!-- REMOVED --></o:Username>
    <o:Password Type="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-token-
profile-1.0#PasswordText"><!-- REMOVED --></o:Password>
  </o:UsernameToken>
  <u:Timestamp u:Id="Timestamp-2175170" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-utility-1.0.xsd">
    <u:Created>2009-07-01T09:24:06.011Z</u:Created>
    <u:Expires>2009-07-01T12:10:46.011Z</u:Expires>
  </u:Timestamp>
</o:Security>
```

Header ending + body + message ending

```
</s:Header>
  <s:Body u:Id="id-4652787">
    <!--  request body -->
  </s:Body>
</s:Envelope>
```

Authentication and authorization of web service call

Web services are secured against unauthorized use. System user is required to have an assigned user account in XMtrade®/ISOT system with the client certificate for signing and verification of identity. User is required to have assigned rights for calling relevant web services.

3.1.10 Description of web services

Description of web services of the market organizer information system XMtrade®/ISOT is given in the form of WSDL (http://www.w3.org/TR/wsdl) documents on the following addresses.

Production environment

Table 26 Description of web services XMtrade®/ISOT – production environment

ID	Web service name	Service address /WSDL document
OB-01	Orders	https://isot.okte.sk/interfaces/Orders/Service.svc https://isot.okte.sk/interfaces/Orders/Service.svc?wsdl
OB-02	IdmOrders	https://isot.okte.sk/interfaces/IdmOrders/Service.svc https://isot.okte.sk/interfaces/IdmOrders/Service.svc?wsdl
OB-03	IdmOrderBook	https://isot.okte.sk/interfaces/IdmOrderBook/Service.svc https://isot.okte.sk/interfaces/IdmOrderBook/Service.svc?wsdl
EV-01	Evaluations	https://isot.okte.sk/interfaces/Evaluations/Service.svc https://isot.okte.sk/interfaces/Evaluations/Service.svc?wsdl
EV-02	IdmEvaluations	https://isot.okte.sk/interfaces/IdmEvaluations/Service.svc https://isot.okte.sk/interfaces/IdmEvaluations/Service.svc?wsdl
SR-01	StatusRequest	https://isot.okte.sk/interfaces/StatusRequest/Service.svc https://isot.okte.sk/interfaces/StatusRequest/Service.svc?wsdl

Testing environment

Table 27 Description of web services XMtrade®/ISOT – testing environment

ID	Web service name	Service address /WSDL document
OB-01	Orders	https://test-isot.okte.sk/interfaces/Orders/Service.svc https://test-isot.okte.sk/interfaces/Orders/Service.svc?wsdl
OB-02	IdmOrders	https://test-isot.okte.sk/interfaces/IdmOrders/Service.svc https://test-isot.okte.sk/interfaces/IdmOrders/Service.svc?wsdl
OB-03	IdmOrderBook	https://test-isot.okte.sk/interfaces/IdmOrderBook/Service.svc https://test-isot.okte.sk/interfaces/IdmOrderBook/Service.svc?wsdl
EV-01	Evaluations	https://test-isot.okte.sk/interfaces/Evaluations/Service.svc

ID	Web service name	Service address /WSDL document
		https://test-isot.okte.sk/interfaces/Evaluations/Service.svc?wsdl
EV-02	IdmEvaluations	https://test-isot.okte.sk/interfaces/IdmEvaluations/Service.svc https://test-isot.okte.sk/interfaces/IdmEvaluations/Service.svc?wsdl
SR-01	StatusRequest	https://test-isot.okte.sk/interfaces/StatusRequest/Service.svc https://test-isot.okte.sk/interfaces/StatusRequest/Service.svc?wsdl

Addresses of testing environment services are almost identical to production addresses. They only differ in the domain name of the address: http://test-isot.okte.sk instead of http://isot.okte.sk.

3.2 AMQP interface

AMQP interface is communication extension within intraday market. This interface improves possibilities of web services and allows full trading automation on intraday market through external interfaces.

AMPQ interface allows market participants to receive notifications about their own orders and public changes in order book:

- Successful order submission and own order modification (change of status),
- Status change of order book (increase/decrease of available quantity).

AMQP interface is built on open source product RabbitMQ that implements AMQP protocol. AMQP (Advanced Message Queuing Protocol) is network protocol for high performance and reliable communication based on message exchange. AMQP is open standard for so called middleware messaging layers.

Versions of AMQP components:

- AMQP protocol: 0-9-1,
- RabbitMQ server: 3.6.x.

AMQP 0-9-1 uses concept of intermediary communication through so called brokers. Brokers receive messages from sender (message producer) and sends/routes the messages to consumer.

Technically, there are following elements in the protocol:

- Exchanges: input point/container to which sender sends messages.
- Queues: queue/destination address, on which broker delivers message based on basic rules (bindings).
- Bindings: rules for message delivering.

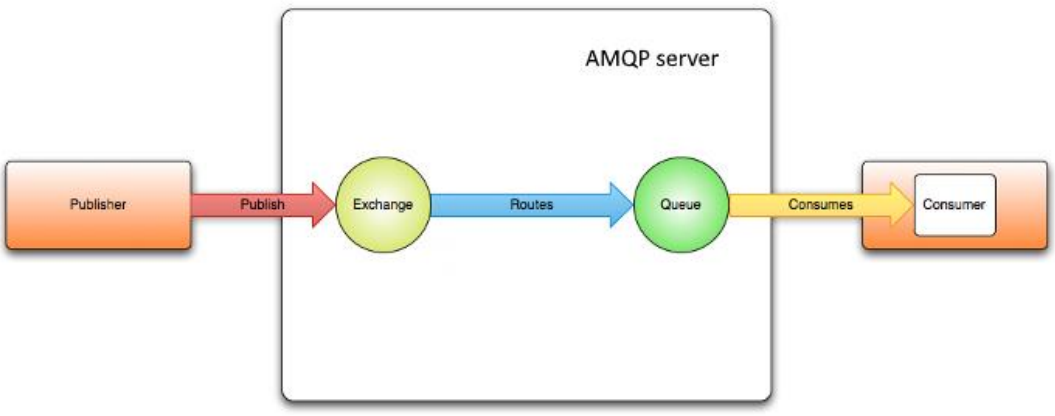

Figure 6 AMQP communication concept

Communication works on channel principle within one connection (TCP connection).

Basic description of AMQP communication principles and its elements can be found here: https://www.rabbitmq.com/tutorials/amqp-concepts.html.

3.2.1 Connecting to RabbitMQ server

RabbitMQ on http://www.rabbitmq.com/clients.html provides complex documentation for technical realization of connection and communication with it on various development platforms (Java, .NET). For these platforms, it provides complete libraries for clients.

Prerequisites for successful connection:

- only one connection per user account intended for AMQP communication,
- name of user account does not contain white symbols (space) or '.' (dot) sign,
- login certificate must be assigned to user account. This certificate must be issued with client authentication function and from supported certification authority.

For reliable long-term connection with AMQP server, it is recommended to create AMQP connection with heartbeat setting to minimum 5-20 seconds. Technical details can be found here: https://www.rabbitmq.com/heartbeats.html.

3.2.2 Communication scenarios

XMtrade®/ISOT system has several supported communication scenarios:

- *Broadcast* communication where system XMtrade®/ISOT sends notifications that are public and available to all market participants or private which are addressed only to particular market-participant. This type of connection is initiated by XMtrade®/ISOT system, and participants can then register for message subscription, which are interesting for them.

Broadcast

System XMtrade®/ISOT sends following types of information in the form of broadcast messages:

- Notifications about changes on intraday market.

Broadcast messages are distributed from system XMtrade®/ISOT through AMQP server to all connected users that are subscribed for given message type.

Notifications about changes on intraday market

Within intraday market, system provides notifications about changes related to own orders or public changes in order book, which occurred as a result of changes invoked by market participant (order submission etc.) or indirectly as a result of trade creation etc.

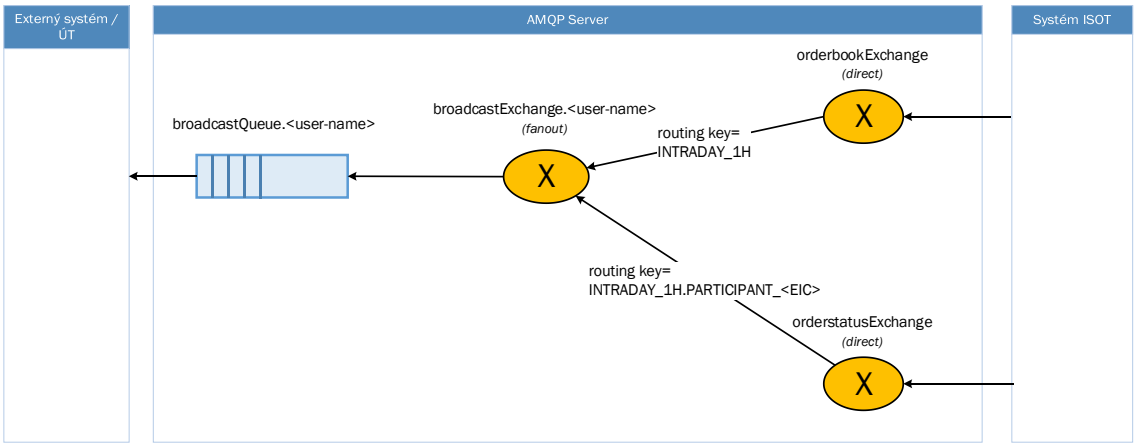

Figure 7 Scheme of notification messages flow on intraday market

Table 28 Data flow distribution keys tags description

Distribution keys	Description
INTRADAY_1H	Information of public nature: - change in order book data (E-10_02).
INTRADAY_1H.PARTICIPANT_<EIC>	Information relevant for particular market participant, where <EIC> is EIC code of a market participant: - Change of status/creation of own order (E-10_01).

Receiving notifications

For notification reception client (consumer) has to connect (subscribe) to private queue called *broadcastQueue.<user-name>*, where *<user-name>* is user name given after account registration. Queue on AMQP server is automatically created after account registration and access approval. Internally connection (binding) to system exchange objects with distribution keys corresponding to internal model for supported message routing is created.

User can register (subscribe) to message reception only from his private queue. Attempt to connect to a queue of a different user will fail.

All types of notifications that the user has authorization to will be distributed into private queue.

Broadcast queues are set up as permanent which means messages distributed into this queue will not be lost with client disconnect or short outage of XMtrade®/ISOT system. However, these broadcast messages have limited life span (for example 60 seconds) on grounds of AMQP server security. This precaution protects AMQP server from system resource depletion.

Failure cases

In case of AMQP server shutdown, all connections to broadcast queue are lost. However, if client is subscribed for so-called shutdown notification, AMQP server can respond to this situation. After the AMQP server is up, client has to create new connection and register private queues again.

In case of XMtrade®/ISOT system outage or malfunction, connection or registration to private queues is not lost but no new notifications will be added until XMtrade®/ISOT system is up and running.

In case of client outage (client is not connected to private queue) messages sent to this queue will be lost if the client will not connect for message consuming before maximum life span of broadcast messages is reached.

3.2.3 Communication security

Communication is cyphered on network layer with TLS protocol and authentication with client certificate while only TLS 1.2 and higher is accepted.

On https://www.rabbitmq.com/ssl.html web page, it is possible to find instructions for connecting with the required security prerequisites for example, Configuring TLS Version in Java Client chapters or more precisely Configuring the .NET Client and Presenting and validating certificates.

Authentication

For authentication, it is necessary to create connection on AMQP server with the following login credentials:

- Name/password.
- Client certificate for authentication on TLS protocol layer where mutual validation of client and server certificates occurs at which moment key and cryptographic algorithm for further communication is arranged.

AMQP server identifies user based on user name while verifies credentials mentioned above (checks password and certificate validity of the given user).

Authorization

Authorization works on two levels:

- AMQP server, which verifies users access to AMQP entities (queue, exchange, binding).
- System XMtrade®/ISOT, which sends messages only to authorized users (market participants).

3.2.4 Message format

All transferred AMQP messages contain UTF-8 coded data (payload) encapsulated in XML format and metadata on AMQP layer properties.

AMQP message properties

Every message has the following properties filled in metadata.

Table 29 Message properties in metadata description

AMQP Message Property	Description
content-type	Indicates the type of XML data and its version encapsulated in AMQP. These are the valid values: - x-isot-vdt/order-status, - x-isot-vdt/orderbook-status.
correlation-id	Serves for correlation on AMQP message layer. Allows correlation of requests filled through web services with broadcast messages for example activation of order with notification about order activation. In this case, the *correlation-id* is same as id attribute of the request sent in ISOTEDATA-VDT structure (see chapter 4.3.3). Correlation is also possible on XML data level through id attribute of reference structure element RESPONSE-VDT and ISOTEDATA-VDT.

3.2.5 AMQP server

Connection to AMQP server is established through AMQP specific URI with accordance to specification https://www.rabbitmq.com/uri-spec.html.

Production environment

URI parameters:

hostname	isot.okte.sk
port	5671 (TLS)
vhost	(empty)

Example URI on AMQP server:

amqp://userName:password@isot.okte.sk:5671/

TLS parameters:

Server certificate**:** *.okte.sk

Test environment

URI parameters:

hostname	test-isot.okte.sk
port	5671 (TLS)
vhost	(empty)

Example URI on AMQP server:

amqp://userName:password@test-isot.okte.sk:5671/

TLS parameters:

Server certificate**:** *.okte.sk

4 SPECIFICATION OF DATA STRUCTURES

The market organizer information system XMtrade®/ISOT allows automated data exchange through interface that involves use of data structures based on XML format in accordance with *ENTSO-E* standards and data structures based on established XML formats of the IS OTE and IS OKTE systems:

- ENTSO-E Capacity Allocation and Nomination (ECAN)
  (System of capacity allocation and nomination),
- ENTSO-E Acknowledgement Process (EAD)
  (Process for acknowledgement documents),
- ENTSO-E Status Request (ESR)
  (Retrieval of status information),
- Energy Identification Coding Scheme (EIC)
  (System of identification in the energy sector),
- ENTSO-E General Code List for Data Interchange (ECL)
  (Code lists used in *ENTSO-E* standards),
- ENTSO-E Harmonized Electricity Market Role Model
  (Role model on the electricity market),
- ISOT: ISOTEDATA, ISOTEDATA-VDT, RESPONSE, RESPONSE-VDT, CDSREQ, CDSREQ-VDT.

(Structures are derived from the information system of market operator in the Czech Republic).

Date and time items in structures are used in UTC (Universal Time) format.

Table 30 Structures and data flows overview

Interface	Process	ID	Direction	Format
Market participant order administration	Reception of orders	E-02_01	Input	ISOTEDATA.811
			Output	RESPONSE.812 ISOTEDATA.813
	Provision of orders	E-02_03	Input	CDSREQ.831
			Output	RESPONSE.832 ISOTEDATA.833
ID market Order administration	Reception of orders	E-06_01	Input	ISOTEDATA-VDT.801
			Output	RESPONSE-VDT.802 ISOTEDATA-VDT.803
	Modification of orders	E-06_02	Input	ISOTEDATA-VDT.804
			Output	RESPONSE-VDT.805 ISOTEDATA-VDT.806
	Provision of orders	E-06_03	Input	CDSREQ-VDT.807
			Output	RESPONSE-VDT.808 ISOTEDATA-VDT.809

Interface	Process	ID	Direction	Format
ID market order book data	Access to order book	E-08_01	Input	CDSREQ-VDT.810
			Output	RESPONSE-VDT.811 ISOTEDATA-VDT.812
Results and evaluations of DM	Notification of results and evaluations	E-03_02	Input	CDSREQ.941
			Output	RESPONSE.942 ISOTEDATA.943
		E-05_01	Input	CDSREQ.951
			Output	RESPONSE.952 ISOTEDATA.953
		E-05_02	Input	CDSREQ.961
			Output	RESPONSE.962 ISOTEDATA.963
ID Results	Notification about evaluation	E-07_01	Input	CDSREQ-VDT.961
			Output	RESPONSE-VDT.962 ISOTEDATA-VDT.963
		E-07_02	Input	CDSREQ-VDT.571
			Output	RESPONSE-VDT.572 ISOTEDATA-VDT.573
		E-07_03	Input	CDSREQ-VDT.951
			Output	RESPONSE-VDT.952 ISOTEDATA-VDT.953
MCC Details	Notification of MCC values	E-01_02	Input	ESR.StatusRequest
			Output	EAD.AcknowledgementDocument ECAN.CapacityDocument
Own order status change	Notification about modification/creation of own order through AMQP	E-10_01	Output	ISOTEDATA-VDT.820
Change in order book	Notification about change in order book through AMQP	E-10_02	Output	ISOTEDATA-VDT.830

4.1 Common data structures

4.1.1 ISOTEDATA

ISOTEDATA structure is a generic data structure that is derived from structures used by the IS OTE system within data exchange with market participants in the Czech Republic.

The principle of using this structure in different communication scenarios is based on the specification, i.e. message code (*message-code* attribute) that determines the type/purpose of the content. Due to clarity, types of this structure are further used in the text in *ISOTEDATA.message-code* format.

Order structure

Order represented by *ISOTEDATA* structure consists of the following parts:

- *ISOTEDATA* - contains general details relating to the entire message (message header),
- *Trade* – represents the order itself (order header),
- *ProfileData* – order blocks, stated always in a pair – once it represents amount of electricity, next time it represents the price (*profile-role* attribute specifies the type),
- *Data* – contains values for specific hours of a trading day in the meaning according to *ProfileData* type.

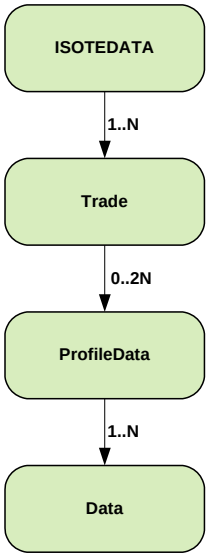

Figure 8 Scheme of order structure

ISOTEDATA

ISOTEDATA root element contains attribute values in accordance with the following table.

Table 31 ISOTEDATA root element

Attribute	Value	Description	Use
id	string	Unique message identifier within the sender system. Maximum 35 characters.	Required
message-code	number/code of the message	– It determines the purpose of structure content: – 811 – submission of order,	Required

Attribute	Value	Description	Use
		– 813 – description of order data (response to 811), – 833 - description of order data (response to CDSREQ.831 request).	
date-time	YYYY-MM-DDTHH:mm:SSZ	Date and time of message sending in UTC (Universal Time): – YYYY – year, – MM – month, – DD – day, – HH – hour, – mm – minute, – SS – second.	Required
answer-required	0/1	Attribute of response requirement: – 0 – no, – 1 – yes.	Required

Message header contains values of particular elements in accordance with the following table.

Table 32 Message header of displayed values of particular elements

Element/Attribute	Value	Description	Use
Sender Identification/id	Sender EIC	Message sender identification. Entity EIC is used (it determines *coding-scheme=15* attribute). Maximum 16 characters.	Required
Receiver Identification/id	24X-OT-SK------V	Message receiver identification. EIC = 24X-OT-SK------V is used.	Required
Reference/id	String	Identification of related message, e.g. message involving request for own order data (it is used in responses to the message correlation).	Optional

Trade

Trade order element contains values of particular attributes in accordance with the following table.

Table 33 Trade order element

Attribute	Value	Description	Use
id	non-negative number	Order identification in the system (it is used in responses to the order or	Optional

Attribute	Value	Description	Use
		in the request for modification of existing order).	
version	non-negative number	Order version registered in the system (it is used in responses to the order).	Optional
trade-day	YYYY-MM-DD	Date of trading day. Date and time format: – YYYY – year, – MM – month, – DD – day.	Required
trade-type	N/P	Order class: – N – purchase (in Slovak: nákup), – P – sale (in Slovak: predaj).	Required
trade-stage	N/P	Order status in the system: – N – invalid (in Slovak: neplatný), – P – valid (in Slovak: platný), – (it is used in the response/ description of the order).	Optional
acceptance	A/N	Indicator of total acceptance of block No. 1. – A - yes, block no. 1 is accepted in whole (in Slovak: áno). – N - no, order is divisible by the time periods. In case of new form of orders this element will not be used.	Optional
block-order	A/N	Indication of block order. – A – yes, the submitted order is block. – N – no, the submitted order is a simple hourly order. Attibute is required in case of new form of orders.	Optional
block-type	SB/LB/FB/EG	Block order type. – SB – simple block order, – LB – linked block order, – FB – flexible block order, – EG – exclusive group of simple block orders. Required in case block-order = “A”.	Optional

Attribute	Value	Description	Use
linked-order-id	non-negative number	Identification of linked order. Required in case block-type="LB".	Optional
sett-curr	EUR	Trading currency.	Required
market-area	SK	Trading area (SK).	Required

Trade order element contains particular elements values in accordance with the following table.

Table 34 Trade order element

Element/Attribute	Value	Description	Use
Party/id	Data owner EIC.	Identification of data owner on behalf of whom the data are sent. When owner of the data is sending them for himself, it is identical to SenderIdentification. Entity EIC is used. Maximum 16 characters.	Required
Party/role	TO	Role of the owner. – TO – owner of trade.	Required
Comment	string	Comment on the order.	Optional
TimeData/ datetime	YYYY-MM-DDTHH:mm:SSZ	Order timestamp in UTC (Universal Time): – YYYY – year, – MM – month, – DD – day, – HH – hour, – mm – minute, – SS – second *(system generated value).*	Optional
TimeData/ datetime-type	DTC	Type of timestamp: – DTC – date and time of order submission into the system (system generated value).	Optional

ProfileData

ProfileData element of order block contains values of particular attributes in accordance with the following table.

Table 35 ProfileData element of order block

Attribute	Value	Description	Use
profile-role	BC01 - BC25 BP01 - BP25	Determines the order and purpose of a block. BC01 - BC24: 1. - 24. block containing the amount of energy. BP01 - BP24: 1. - 24. block containing price of corresponding amount of energy. During time shift from Central European time to Central European Summer time and backwards, 23 or 25 values are used, respectively. BC01 - BC25, or BC01 - BC23 respectively. BP01 - BP23, or BP01 - BP23 respectively.	Required

ProfileData are always entered in a pair, where one element contains details on energy amounts (BC01-BC25) and the second contains the corresponding price details to amounts (BP01-BP25).

Data

Data element of data block contains values for specific hours within the day in the meaning according to block type (ProfileData/@profile-role).

Table 36 Data element of data block

Attribute	Value	Description	Use
period	Non-negative number	Specifies the index of hour within the day. 1…24. During time shift from Central European time to Central European Summer time and backwards, 23 or 25 values are used, respectively.	Required
value	Decimal number	Contains Amount/Price. Amount with precision to one decimal place. Price with precision to two decimal places. Separator of decimal places “.“ (point).	Required
unit	MWH/EUR	Data unit used in value.	Required
splitting	A/N	Divisibility – performance divisibility: – A - yes, amount is divisible (default value) (in Slovak: áno), – N - no, amount is not divisible (in Slovak: nie).	Optional

Structure of DM results and evaluations

Results of DM trading are represented by *ISOTEDATA* structure consisting of the following parts:

- *ISOTEDATA* - contains general details relating to the entire message (message header),
- *Trade* – represents DM results in a given day (result header),
- *ProfileData* – blocks of results (*profile-role* attribute specifies the type),
- *Data* – contains values for specific hours within the day with the meaning according to *ProfileData* type.

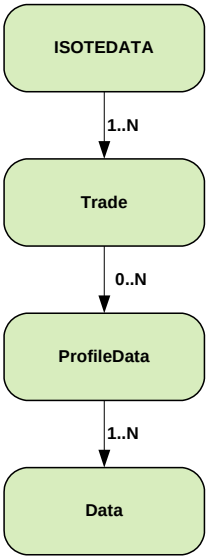

Figure 9 DM results structure scheme

ISOTEDATA

ISOTEDATA root element contains attribute values according to the following table.

Table 37 ISOTEDATA root element

Attribute	Value	Description	Use
id	string	Unique message identifier within the sender system. Maximum 35 characters.	Required
message -code	number/code of the message	Determines the purpose of structure content: – 943 – results per entity, – 953 – evaluation per hour, – 963 – evaluation for day.	Required
date-time	YYYY-MM-DDTHH:mm:SSZ	Date and time of message sending in UTC (Universal Time): – YYYY – year, – MM – month, – DD – day, – HH – hour, – mm – minute, – SS – second.	Required

Attribute	Value	Description	Use
answer-required	0/1	Attribute of response requirement: – 0 - no, – 1 - yes.	Required

Message header contains values of particular elements in accordance with the following table.

Table 38 Displayed values message header of particular elements

Element/Attribute	Value	Description	Use
Sender Identification/id	Sender EIC	Message sender identification. Entity EIC is used (it determines *coding-scheme=15* attribute). Maximum 16 characters.	Required
Receiver Identification/id	24X-OT-SK------V	Message receiver Identification. EIC = 24X-OT-SK------V is used.	Required
Reference/id	String	Identification of related message, e.g. the message on request for own order data (it is used in response to message correlation).	Optional

Trade

Trade element of DM result/evaluation for a given trading day contains values of particular attributes in accordance with the following table.

Table 39 Trade element 1 of DM result/evaluation for a given trading day

Attribute	Value	Description	Use
trade-day	YYYY-MM-DD	Date of trading day. Date and time format: – YYYY - year, – MM - month, – DD - day.	Required

Trade element of DM result/evaluation for a given trading day contains values of particular elements in accordance with the following table.

Table 40 Trade element 2 of DM result/evaluation for a given trading day

Element/Attribute	Value	Description	Use
Party/id	Data owner EIC	Identifier of data owner for whom the data are sent. In case of owner sending data for himself, it is identical with SenderIdentification. Entity EIC is used. Maximum 16 characters.	Required
Party/role	TO	Role of the owner: – TO - owner of trade.	Required
ResultStatus/status	P, F	Result status: – P – preliminary, – F – final. Usage of element only in case of data flows E-03_02, E-05_01 a E-05_02. Status of the result for already closed days before D (while D is the trading day) is by default assigned as final. Element is used only for trading days which are operated under Interim Coupling regime or during local auction resulted from this regime.	Optional

ProfileData

ProfileData element of result block contains values of particular attributes in accordance with the following table.

Table 41 ProfileData element of result block

Attribute	Value	Description	Use
profile-role	SP02, SC02, SP03, SC03, SP05, SC05, SC19, SP20, SC20, SP90, SC90, SP91, SC91, SP92, SC92, SP93, SC93, ST16	Specifies the meaning of result blocks. *Results:* – SC19 – amount of electricity purchased for null or positive prices (positive number), – SC20 – amount of electricity sold for null or positive prices (positive number), – SP20 – marginal price (negative, null or positive number), – SC92 – amount of electricity purchased for negative prices (positive number), – SC93 – amount of electricity sold for negative prices (positive number). *Evaluation:* – SP02 – clearing/payment for electricity purchased for null or positive prices (null or positive number), – SC02 – amount of electricity purchased for null or positive prices (positive number), – SP03 – clearing/payment for electricity sold for null or positive prices (null or positive	Required

Attribute	Value	Description	Use
		number), – SC03 – amount of electricity sold for null or positive prices (positive number), – SP05 – fee for traded electricity (positive number), – SC05 – amount of traded electricity (sum of electricity sold and purchased for positive, null and also negative prices) (positive number), – ST16 – monthly fee for access to daily market (positive number); stated in the period 0 on the last day of the month, – SP90 – fee for trading transactions relating to data manipulation (positive number), – SC90 – amount of trading transactions relating to data manipulation (positive number), – SP91 – fee for trading transactions using automated interfaces (positive number), – SC91 – amount of trading transactions using automated interfaces (positive number), – SP92 – clearing/payment for electricity purchased for negative prices (positive number), – SC92 – amount of electricity purchased for negative prices (positive number), – SP93 – clearing/payment for electricity sold for negative prices (positive number), – SC93 – amount of electricity sold for negative prices (positive number). *Note: payments and fees are stated excluding VAT and electricity tax*	

Data

Data element of data block contains values for specific hours within the day in the meaning according to block type (ProfileData/@profile-role).

Table 42 Data element of data block

Attribute	Value	Description	Use
period	Non-negative number	Specifies the index of hour within the day, whereas it can hold values from 1 to 24 (during time shift from Central European time to Central European Summer time and backwards, 23 or 25 periods are used, respectively). Summary daily values are stated in the period with index 0.	Required

Attribute	Value	Description	Use
value	Decimal number	In case of amount with the precision to: one decimal place. In case of price with the precision to: two decimal places. Separator of decimal places "." (point).	Required
unit	MWH, EUR	Unit of amount stated in values.	Required

4.1.2 ISOTEDATA-VDT

ISOTEDATA-VDT structure is common data structure used for data exchange with market participants within intraday continuous market.

The principle of using this structure in various communication scenarios resides in so-called message code (attribute message-code), with which the type/purpose of content is determined. Types of this structure due to clarity are used in text bellow as ISOTEDATA-VDT.message-code.

ISOTEDATA-VDT structure is used even for sending notification messages through AMQP protocol.

ISOTEDATA-VDT Structure

Order or order book description represented by ISOTEDATA-VDT structure consists of these parts:

- *ISOTEDATA* – contains common data relating to the whole message (message header),
- *Trade* – represents the order itself (order header) or group of quantities and prices in the case of order book data transfer,
- *ProfileData* – order blocks, always shown in pair – first time it states amount of energy and second it states the price (attribute profile-role determines the type),
- *Data* – contains the values for specific hours of trade day in meaning according to type ProfileData.

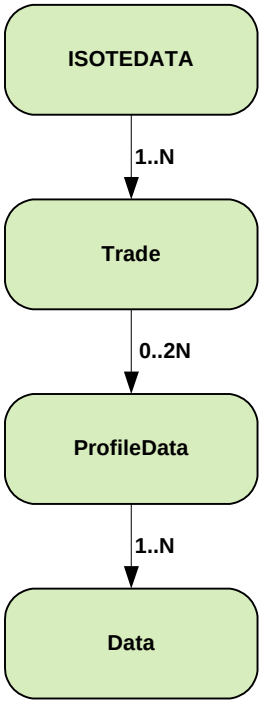

Figure 10 Scheme of order structure

ISOTEDATA-VDT

ISOTEDATA-VDT root element contains attribute values in accordance with the following table.

Table 43 ISOTEDATA-VDT root element

Attribute	Value	Description	Use
id	string	Unique message identifier within the sender system. Maximum 35 characters.	Required
message-code	number/code of the message	Determinates purpose of structure content: – 573 – monthly evaluation IDM (response to CDSREQ-VDT.571), – 801 – submission of order, – 803 – description of order data (response to ISOTEDATA-VDT.801), – 804 – order modification, – 806 - data description of modified order (response to ISOTEDATA-VDT.804), – 809 – data description of order (response to CDSREQ-VDT.807), – 812 – description of order book data (response to CDSREQ-VDT.810), – 820 – notification about status change of order through AMQP (automatically), – 830 – notification about order book status change through AMQP (automatically), – 953 – IDM evaluation per periods (response to CDSREQ-VDT.951), – 963 – daily IDM evaluation (response to CDSREQ-VDT.961).	Required
date-time	YYYY-MM-DDTHH:mm:SSZ	Date and time of message sending in UTC (Universal Time): – YYYY - year, – MM - month, – DD - day, – HH - hour, – mm - minute, – SS - second.	Required
answer-required	0/1	Attribute of response requirement. – 0 – no, – 1 – yes.	Required

Message header contains values of particular elements in accordance with the following table.

Table 44 Message header displayed values of single elements

Attribute	Value	Description	Use
Sender Identification/id	Sender EIC	Message sender identification. Depending on the direction of communication: • In direction MP -> ISOT: Entity EIC is used (determinates coding-schema=15 attribute), • In direction ISOT -> MP: EIC = 24X-OT-SK------V. Maximum is 16 symbols.	Required
Receiver Identification/id	Receiver EIC	Message receiver. Depending on the direction of communication: • In direction MP -> ISOT: EIC = 24X-OT-SK------V, • In direction ISOT -> MP: Entity EIC (determinates coding-scheme=15 attribute). Maximum is 16 symbols. It is not filled in case of E-10_02 data flow.	Optional
Reference/id	String	Reference message identifier for example requests on data of own orders (used in responses for message correlation). Used with notification binding about change of own orders sent through AMQP protocol (data flow E-10_01).	Optional

Trade

Trade element of order, contains values of single attributes in accordance with the following table.

Table 45 Elements of order, Trade

Attribute	Value	Description	Use
id	Non-negative number	Identifier of order in the system (used in responses to order).	Optional
version	Non-negative number	Version of order registered in the system (used in responses to order).	Optional
trade-day	YYYY-MM-DD	Date of trade day. Format of date and time: – YYYY - year, – MM - month, – DD - day.	Optional
trade-month	YYYY-MM	Date of month for which evaluation is	Optional

Attribute	Value	Description	Use
		provided.	
order-expiration	YYYY-MM-DDTHH:MM:SS	Date and time of order expiration. If not stated it expires at the time of trade period closure. Format of date and time: – YYYY - year, – MM - month, – DD - day, – HH - hour, – MM - minute, – SS - second.	Optional
block-order	A/N	Attribute for block order: – A - yes, – N - no.	Required
Block-type	BL/PL/OP/V	Type of block order used only for block orders: – BL - Base Load, – PL - Peak Load, – OP - Off Peak Load, – V - User defined block.	Optional
Indication	N/FOK/IOC/AON	Identification of order: – N - no limitations, – FOK - Fill or Kill, – IOC - Immediate or Cancel, – AON - All or None – only for user-defined block orders.	Required
trade-type	N/P	Class of order: – N - buy, – P - sell.	Required
trade-stage	N/P	Status of order in the system: – N - inactive, – P - active, – C - partially traded, – S - completely traded, – E - expired, – R - expired inactive, – Z - cancelled.	Optional
trader-id	Non-negative number	Anonymous identifier of market participant. Used in data flows E-06_03 and E-10_01.	Optional
sett-curr	EUR	Trade currency.	Required
market-area	SK	Trade location (SK).	Required
Market	VDT	Type of market: – VDT - intraday market.	Required

Element/Attribute	Value	Description	Use
Party/id	EIC of data owner.	Identifier of data owner for whom the data are sent. In case of owner sending data for himself, it is identical with enderIdentification. Uses EIC of subject. Max. 16 symbols.	Required
Party/role	TO	Role of owner. – TO - owner of trade.	Required
Comment	string	Commentary for order.	Optional
TimeData/ datetime	YYYY-MM-DDTHH:mm:SSZ	Order timestamp in UTC (Universal Time): – YYYY - year, – MM - month, – DD - day, – HH - hour, – mm - minute, – SS - second (value is submitted by system).	Optional
TimeData/ datetime-type	DTC DTR DTO	Type of timestamp: – DTC - date and time of order input into the system, – DTR - date and time of order modification, – DTO - date and time of data access (value is submitted by system).	Optional

ProfileData

ProfileData element of order contains values of single attributes in accordance with the following table.

Table 46 Element of order, ProfileData

Attribute	Value	Description	Use
trade-id	string	Identifier of trade in the system (used in responses for order description or notifications about change in order status in case the order has traded quantity). Anonym ID of user-defined block order (used in responses for order book access or notifications about change in order book). It serves as an identifier for user-defined block orders with same parameters.	Optional
profile-role	BC01 BP01 TC01 TP01	Designates order and purpose of a block. BC01: block containing energy quantity. BP01: block containing price corresponding to energy quantity. TC01: block containing amount of traded energy quantity. TP01: block containing paired price	Required

Attribute	Value	Description	Use
		(mean value in case of several prices) corresponding to amount of traded energy.	

ProfileData is inputted always in pair. One element contains energy quantity data (BC01) and the second corresponding prices to quantity data (BP01).

Data

Element of block data, *Data*, contains values for specific periods within day in relation to block type (ProfileData/@profile-role).

Table 47 Element of block data, Data

Attribute	Value	Description	Use
period-from	Non-negative number	Designates beginning of term for which the order is entered. 0…24 (during transition from CET to CEST and back, there are 23, or 25 periods).	Optional
period-to	Non-negative number	Designates end of term for which the order is entered. 1…25 (during transition from CET to CEST and back, there are 23, or 25 periods).	Optional
value	Decimal number	Contains quantity/price. Quantity with one decimal position precision. Price with two decimal position precision. Separator of decimal position is "." (dot).	Required
unit	MW, EUR	Unit of entered value.	Required
seq-num	Non-negative number	Sequence number of records about quantity for given price and period. Used within message for order book data access. (data flow E-08_01 and E-10_02).	Optional

4.1.3 RESPONSE

RESPONSE structure, derived from the IS OTE system, is used in communication scenarios for confirmation of transaction success during data exchange in *ISOTEDATA* structures.

The so-called message type (message-code attribute) determines the meaning of content, similarly to ISOTEDATA. Due to clarity, specific structure types are further used in *RESPONSE.message-code* format.

RESPONSE structure

Response is represented by *RESPONSE* structure consisting of the following parts:

- *RESPONSE* - contains general details relating to the entire message (message header),
- *Reason* – represents reason/response of request processing.

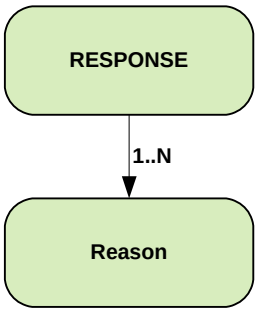

Figure 11 Scheme of RESPONSE structure

RESPONSE

RESPONSE root element contains attribute values according to the following table.

Table 48 RESPONSE root element

Attribute	Value	Description	Use
id	string	Unique message identifier within the sender system. Maximum 35 characters.	Required
message-code	number/code of the message	Determines the purpose of structure content: – 812 - error/confirmation at submission/replacement of order on DM (E-02_01), – 832 - error/confirmation at sending of request for retrieval of order status on DM (E-02_03), – 942 - error/confirmation at sending of request for data – DM results (E-03_02), – 952 - error/confirmation at sending of request for data – evaluation per hours (E-05_01), – 962 - error/confirmation at sending of request for data – evaluation for day (E-05_02).	Required
date-time	YYYY-MM-DDTHH:mm:SSZ	Date and time of message sending in UTC (Universal Time): – YYYY - year, – MM - month, – DD - day, – HH - hour, – mm - minute, – SS - second.	Required

Message header contains values of particular elements in accordance with the following table.

Table 49 Message header of displayed values of particular elements

Element/Attribute	Value	Description	Use
Sender Identification/id	24X-OT-SK------V	Message sender identification. EIC = 24X-OT-SK------V is used.	Required
Receiver Identification/id	Receiver EIC	Message receiver identification. Entity EIC is used (it determines *coding-scheme=15* attribute). Maximum 16 characters.	Required
Reference/id	String	Identification of related message, for which the response is given.	Optional

REASON

Reason element contains attribute values according to the following table.

Table 50 Reason element

Attribute	Value	Description	Use
code	String	Detailed reason/code of response: • -1 – Nonexistence of details, • 0 – Not specified, • 1 – Noncompliance with ascending/descending price development of blocks, • 2 - Maximal number of blocks exceeded, • 3 – Noncompliance with condition for divisibility of the first block, • 4 – Noncompliance with permitted minimal and maximal amount, • 5 - Noncompliance with permitted minimal and maximal price, • 6 – Noncompliance with requested resolution, • 7 – Noncompliance with input of amount and price in at least one hour of block, • 8 – Noncompliance with paired input of details, • 9 – Insufficient financial security towards clearing agent, • 10 – Insufficient financial security towards market organizer.	Required
type	AXY	Type of response: • A01 – Rejection due to syntax error, • A02 – Rejection due to application reasons, • A03 – Acceptance without reservation, • A04 – Acceptance with reservation	Required

Attribute	Value	Description	Use
trade-id	Non-negative number	Order identification registered in the system.	Optional
version	Non-negative number	Order version registered in the system.	Optional

4.1.4 RESPONSE-VDT

RESPONSE-VDT structure, derived from the IS OTE system, is used in communication scenarios for confirmation of transaction success during data exchange in *ISOTEDATA-VDT* structures.

The so-called message type (message-code attribute) determines the meaning of content, similarly to ISOTEDATA-VDT. Due to clarity, specific structure types are in *RESPONSE-VDT.message-code* format.

RESPONSE-VDT structure

Response is represented by *RESPONSE-VDT* structure consisting of the following parts:

- *RESPONSE* - contains general details relating to the entire message (message header),
- *Reason* – represents reason/response of request processing.

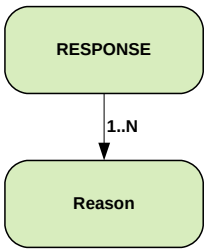

Figure 12 Scheme of RESPONSE-VDT structure

RESPONSE

RESPONSE root element contains attribute values in accordance with the following table.

Table 51 Root element RESPONSE

Attribute	Value	Description	Use
id	string	Unique message identifier within the sender system. Maximum 35 characters.	Required
message-code	number/code of message	Determines the purpose of structure content: • 572 – error/confirmation after data request – results for month (E-07_02), • 802 – error/confirmation after order submission to IDM (E-06_01), • 805 – error/confirmation after IDM order modification (E-06_02), • 808 – error/confirmation after IDM order data provision	Required

Attribute	Value	Description	Use
		request (E-06_03), • 811 – error/confirmation after order book provision request (E-08_01), • 952 – error/confirmation after results per periods data request (E-07_03), • 962 – error/confirmation after results for day data request (E-07_01).	
date-time	YYYY-MM-DDTHH:mm:SSZ	Date and time of message sending in UTC (Universal Time): • YYYY – year, • MM – month, • DD – day, • HH – hour, • mm – minute, • SS – second.	Required

Message header contains values of particular elements in accordance with the following table.

Table 52 Message header of displayed values of particular elements

Element/Attribute	Value	Description	Use
Sender Identification/id	24X-OT-SK------V	Message sender identification. EIC = 24X-OT-SK------V is used.	Required
Receiver Identification/id	Receiver EIC	Message receiver identification. Entity EIC is used (it determines *coding-scheme=15* attribute). Maximum 16 characters.	Required
Reference/id	String	Identification of related message, for which the response is given.	Optional

REASON

Reason element contains attribute values according to the following table.

Table 53 Reason element

Attribute	Value	Description	Use
code	String	Detailed reason/code of response: • -1 – Nonexistence of details, • 0 – Not specified, • 4 – Noncompliance with permitted minimal and maximal amount, • 5 - Noncompliance with permitted minimal and maximal price, • 8 – Noncompliance with paired input of details,	Required

Attribute	Value	Description	Use
		• 9 – Insufficient financial security towards clearing agent, • 10 – Insufficient financial security towards market organizer, • 11- Incorrect combination of order parameters, • 12- Validity of order after given time period closure, • 13-Order submission for close trade period.	
type	AXY	Type of response: • A01 – Rejection due to syntax error, • A02 – Rejection due to application reasons, • A03 – Acceptance without reservation, • A04 – Acceptance with reservation.	Required
trade-id	Non-negative number	Order identification registered in the system.	Optional
version	Non-negative number	Order version registered in the system.	Optional

4.1.5 CDSREQ

CDSREQ structure, derived from the IS OTE system, is used in communication scenarios for data retrieval from the ISOT system in *ISOTEDATA* structures.

The meaning of content, i.e. the type of requested data is determined by so-called message type (*message-code* attribute) that is further used in the text in *CDSREQ.message-code* format due to clarity.

CDSREQ structure

Data request represented by *CDSREQ* structure consists of the following parts:

- *CDSREQ* - contains general details relating to the entire message (message header),
- *Trade* – identification of requested data.

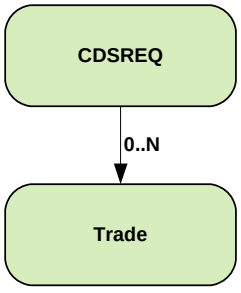

Figure 13 Scheme of CDSREQ structure

CDSREQ

CDSREQ root element contains attribute values according to the following table.

Table 54 CDSREQ root element

Attribute	Value	Description	Use
Id	string	Unique message identifier within the sender system. Maximum 35 characters.	Required
message-code	number/code of the message	It determines the purpose of structure content: • 831 – Request for data on own order (retrieval of status), • 941 – Request for DM results for subject of settlement, • 951 – Request for DM evaluation per hours, • 961 – Request for DM evaluation for day.	Required
date-time	YYYY-MM-DDTHH:mm:SSZ	Date and time of message sending in UTC (Universal Time): • YYYY – year, • MM – month, • DD – day, • HH – hour, • mm – minute, • SS – second.	Required

Message header contains values of particular elements according to the following table.

Table 55 Message header of displayed values of particular elements

Element/Attribute	Value	Description	Use
Sender Identification/id	Sender EIC	Message sender identification. Entity EIC is used (it determines *coding-scheme=15* attribute). Maximum 16 characters.	Required
Receiver Identification/id	24X-OT-SK------V	Message receiver identification. EIC = 24X-OT-SK------V is used.	Required

Trade

Trade element contains attribute values according to the following table.

Table 56 Trade header element

Attribute	Value	Description	Use
Id	non-negative number	Order identification in the system.	Optional

Attribute	Value	Description	Use
Version	non-negative number	Order version registered in the system.	Optional
trade-day	YYYY-MM-DD	Date of trading day. Date and time format: • YYYY – year, • MM – month, • DD – day.	Optional

4.1.6 CDSREQ-VDT

CDSREQ structure, derived from the IS OTE system and further expanded for intraday continuous trading, is used in communication scenarios for data retrieval from the ISOT system in *ISOTEDATA-VDT* structures.

The meaning of content, i.e. the type of requested data is determined by so-called message type (*message-code* attribute) that is further used in the text in *CDSREQ-VDT.message-code* format due to clarity.

CDSREQ structure

Data request represented by *CDSREQ-VDT* structure consists of the following parts:

- *CDSREQ* - contains general details relating to the entire message (message header),
- *Trade* – identification of requested data.

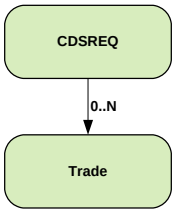

Figure 14 Scheme of CDSRWQ-VDT structure

CDSREQ

CDSREQ-VDT root element contains attribute values according to the following table.

Table 57 CDSREQ root element

Attribute	Value	Description	Use
Id	string	Unique message identifier within the sender system. Maximum 35 characters.	Required
message-code	number/code of the message	Determines the purpose of structure content: • 571 - Request for IDM evaluation for month (E-07_02), • 807 - Request for order data access, • 810 - Request for order book access (E-08_01), • 951 – Request for IDM evaluation per periods (E-07_03),	Required

Attribute	Value	Description	Use
		• 961 – Request for IDM evaluation for day (E-07_01).	
date-time	YYYY-MM-DDTHH:mm:SSZ	Date and time of message sending in UTC (Universal Time): • YYYY – year, • MM – month, • DD – day, • HH – hour, • mm – minute, • SS – second.	Required

Message header contains values of particular elements according to the following table.

Table 58 Message header of displayed values of particular elements

Element/Attribute	Value	Description	Use
Sender Identification/id	Sender EIC	Message sender identification. Entity EIC is used (it determines *coding-scheme=15* attribute). Maximum 16 characters.	Required
Receiver Identification/id	24X-OT-SK------V	Message receiver identification. EIC = 24X-OT-SK------V is used.	Required

Trade

Element Trade contains values of particular elements according to the following table.

Table 59 Trade header element

Attribute	Value	Description	Use
id	non-negative number	Order identification on the system	Optional
version	non-negative number	Order version registered in the system	Optional
trade-day	YYYY-MM-DD	Date of trading day. Date and time format: • YYYY – year, • MM - month, • DD – day.	Optional
trade-month	YYYY-MM	Date of trading month. Date and time format: • YYYY – year, • MM – month.	Optional
period-from	non-negative number	Designates the beginning of the term for which the data are accessed. 0…24 (during transition from CET to CEST and back, there are 23, or 25 periods).	Optional
period-to	non-negative number	Designates the end of the term for which the data are accessed. 1…25 (during transition from CET to CEST and back, there are 23, or 25 periods).	Optional

4.2 Administration of market participant orders

Market participant order administration is carried out through operations of order reception and availability registered in ISOT via Orders web service.

4.2.1 Processing level

Market participants enter their orders into ISOT by the deadline for order registration at the latest (during D-1). Orders can be entered into the system in advance, even several days in advance.

Market participant can register unlimited number of sale orders and unlimited number of purchase orders for a single trading day. Order can contain following characteristics:

- Standard hourly order (order containing maximum of 25 blocks without the possibility to define total acceptance of block no. 1). This order type is defined by element *block-order="N".*
- Block order with one of the following types:
  - simple profile block order with possibility to fill up one block containing the quantity for maximum of 24 (23/25 in case of clock change day) periods with definition of one weighted-average price, defined by *block-order="A" a block-type="SB",*
  - linked block order with possibility to defined parent simple block order, which must be accepted in order to trade the linked block order, defined by *block-order="A", block-type="LB"* and *linked-order-id="nnnnnn",*

- flexible hourly block order with definition of price and quantity for one trading period, which will be selected by the matching algorithm according to matching rules, defined by *block-order="A"* and *block-type="FB",*
- exclusive group of block orders with possibility to submit at least 2 and maximum 8 simple block orders, where only one order may be accepted according to matching rules, defined by *block-order="A"* and *block-type="EG"*. Relevant orders within the group are submitted as separate blocks within the order.

In the case that market participant, using the modification of existing order, replaces already existing order, or removes the order from the system, it is not allowed to return to the previous version of the order i.e. not even in case that the original order was valid and the new order is invalid.

In case of invalid order, user is required to remove reasons for its invalidity by replacement with a new version or by deleting the existing order and creation of new one respectively. Orders non-compliant with the check at submission (invalid) shall be removed and will not enter the matching process.

Removal of already entered and accepted orders is carried out through submission of a new order with null values in the first block (paired values of amount/price).

4.2.2 Reception of orders (E-02_01)

Reception of orders is carried out by request for order submission in *ISOTEDATA.811* structure (message-code=811) and by response in *RESPONSE.812* structure (indication of success/fail) and *ISOTEDATA.813* structure (description of order registered in the system).

Figure 15 Scheme of market participant order reception

ISOTEDATA.811

The structure contains message-code=811 attribute in the header and is filled out in accordance with order structure. Only a single order can be concurrently entered, i.e. submission of multiple orders is carried out through multiple calls.

```
<ISOTEDATA id="1" message-code="811" date-time="2009-06-20T00:00:00" dtd-version="1" dtd-
release="1" answer-required="false"
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="24X-ENTRADE-SK-9" coding-scheme="15" />
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade trade-day="2009-09-21" trade-type="P" block-order="N" market-area="SK" sett-
curr="EUR">
    <ProfileData profile-role="BC01">
      <Data period="1" value="100.0" unit="MWH" splitting="A" />
      <Data period="2" value="100.0" unit="MWH" splitting="A" />
      <Data period="3" value="100.0" unit="MWH" splitting="A" />
      <Data period="4" value="100.0" unit="MWH" splitting="A" />
      <Data period="5" value="100.0" unit="MWH" splitting="A" />
      <Data period="6" value="100.0" unit="MWH" splitting="N" />
      <Data period="7" value="100.0" unit="MWH" splitting="N" />
      <Data period="8" value="100.0" unit="MWH" splitting="N" />
      <Data period="9" value="100.0" unit="MWH" splitting="N" />
      <Data period="10" value="100.0" unit="MWH" splitting="N" />
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period="1" value="15.00" unit="EUR" splitting="A" />
      <Data period="2" value="15.00" unit="EUR" splitting="A" />
      <Data period="3" value="15.00" unit="EUR" splitting="A" />
      <Data period="4" value="15.00" unit="EUR" splitting="A" />
      <Data period="5" value="15.00" unit="EUR" splitting="A" />
      <Data period="6" value="15.00" unit="EUR" splitting="N" />
      <Data period="7" value="15.00" unit="EUR" splitting="N" />
      <Data period="8" value="15.00" unit="EUR" splitting="N" />
      <Data period="9" value="15.00" unit="EUR" splitting="N" />
      <Data period="10" value="15.00" unit="EUR" splitting="N" />
    </ProfileData>
    <Party id="24X-ENTRADE-SK-9" role="TO" />
  </Trade>
</ISOTEDATA>
```

Example 1 Submission of standard hourly sale order

```
<ISOTEDATA id="1" message-code="811" date-time="2009-06-20T00:00:00" dtd-version="1" dtd-
release="1" answer-required="false"
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="24X-ENTRADE-SK-9" coding-scheme="15" />
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade trade-day="2009-09-21" trade-type="P" block-order="A" block-type="SB" market-
area="SK" sett-curr="EUR">
    <ProfileData profile-role="BC01">
      <Data period="1" value="100.0" unit="MWH" splitting="A" />
      <Data period="2" value="100.0" unit="MWH" splitting="A" />
      <Data period="3" value="100.0" unit="MWH" splitting="A" />
      <Data period="4" value="100.0" unit="MWH" splitting="A" />
      <Data period="5" value="100.0" unit="MWH" splitting="A" />
      <Data period="6" value="100.0" unit="MWH" splitting="N" />
      <Data period="7" value="100.0" unit="MWH" splitting="N" />
      <Data period="8" value="100.0" unit="MWH" splitting="N" />
      <Data period="9" value="100.0" unit="MWH" splitting="N" />
      <Data period="10" value="100.0" unit="MWH" splitting="N" />
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period="1" value="15.00" unit="EUR" splitting="A" />
      <Data period="2" value="15.00" unit="EUR" splitting="A" />
      <Data period="3" value="15.00" unit="EUR" splitting="A" />
      <Data period="4" value="15.00" unit="EUR" splitting="A" />
      <Data period="5" value="15.00" unit="EUR" splitting="A" />
      <Data period="6" value="15.00" unit="EUR" splitting="N" />
      <Data period="7" value="15.00" unit="EUR" splitting="N" />
      <Data period="8" value="15.00" unit="EUR" splitting="N" />
      <Data period="9" value="15.00" unit="EUR" splitting="N" />
      <Data period="10" value="15.00" unit="EUR" splitting="N" />
    </ProfileData>
    <Party id="24X-ENTRADE-SK-9" role="TO" />
  </Trade>
```

Example 2 Submission of simple block sale order

RESPONSE.812

In case of successful or failed order processing, response is returned in accordance with specification of RESPONSE structure, with *message-code=812* in the header. Identification, under which the order is registered in the system, is returned in *Reason/@trade-id* attribute.

```
<RESPONSE id="cb4d980f-2f9a-4be7-96ef-850be04b214" message-code="812"
       date-time="2009-07-03T13:46:26Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X-ENTRADE-SK-9" coding-scheme="15" />
  <Reference id="1"/>
  <Reason code="0" type="A03" trade-id="1016"/>
</RESPONSE>
```

Example 3 Response on success of order submission

ISOTEDATA.813

In case of successful order processing, the structure is returned as it was registered in the system, where *message-code=813* can be found in the header. Identification and version, under which the order is registered in the system, are returned in *Trade/@id* and *Trade/@version* attribute. Own order data can be retrieved back based on this identification (see E-02_03).

```
<ISOTEDATA id="ac5e799q-2qtr-75e7-9bef-8aabc02b7f4" message-code="813"
       date-time="2009-07-03T13:46:26Z" dtd-version="1" dtd-release="1" answer-
required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="24X-ENTRADE-SK-9" coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Reference id="1"/>
  <Trade id="1016" trade-day="2009-09-21" version="1" trade-type="P" block-order="N" trade-
stage="P" sett-curr="EUR" market-area="SK">
    <TimeData datetime="2009-07-03T13:46:26Z" datetime-type="DTC"/>
    <ProfileData profile-role="BC01">
      <Data period="1" value="100.0" unit="MWH" splitting="A"/>
      <Data period="2" value="100.0" unit="MWH" splitting="A"/>
      <Data period="3" value="100.0" unit="MWH" splitting="A"/>
      <Data period="4" value="100.0" unit="MWH" splitting="A"/>
      <Data period="5" value="100.0" unit="MWH" splitting="A"/>
      <Data period="6" value="100.0" unit="MWH" splitting="N"/>
      <Data period="7" value="100.0" unit="MWH" splitting="N"/>
      <Data period="8" value="100.0" unit="MWH" splitting="N"/>
      <Data period="9" value="100.0" unit="MWH" splitting="N"/>
      <Data period="10" value="100.0" unit="MWH" splitting="N"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period="1" value="15.00" unit="EUR" splitting="A"/>
      <Data period="2" value="15.00" unit="EUR" splitting="A"/>
      <Data period="3" value="15.00" unit="EUR" splitting="A"/>
      <Data period="4" value="15.00" unit="EUR" splitting="A"/>
      <Data period="5" value="15.00" unit="EUR" splitting="A"/>
      <Data period="6" value="15.00" unit="EUR" splitting="N"/>
      <Data period="7" value="15.00" unit="EUR" splitting="N"/>
      <Data period="8" value="15.00" unit="EUR" splitting="N"/>
      <Data period="9" value="15.00" unit="EUR" splitting="N"/>
      <Data period="10" value="15.00" unit="EUR" splitting="N"/>
    </ProfileData>
    <Party id="24X-ENTRADE-SK-9" role="TO"/>
  </Trade>
</ISOTEDATA>
```

Example 4 Response with description of entered order in the system

4.2.3 Removal of orders (E-02_01)

Removal of order is carried out by submission of specific order in *ISOTEDATA.811* structure (message-code=811) containing null values for amount and price in the first block for all periods of a given trading day. Response to order removal is returned in *RESPONSE.812* structure (indication of

success/failure) and *ISOTEDATA.813* structure (description of order that was removed from the system).

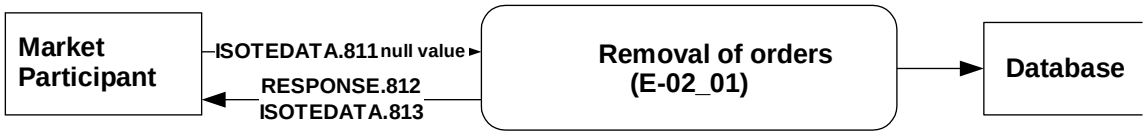

Figure 16 Scheme of market participant order removal

ISOTEDATA.811

The structure contains *message-code=811* attribute in the header and is filled out in accordance with order structure specification, where only the 1. block is entered containing null values for amount and price. Request can be entered for removal of orders for specific trading day (*trade-day* attribute), removal of specific trading day and order type (*trade-day* and *trade-type* attributes) or removal of specific order via order identification of relevant order (*id* attribute returned in responses at order submission).

```
<ISOTEDATA id="1" message-code="811" date-time="2009-06-20T00:00:00" dtd-version="1" dtd-
release="1" answer-required="false"
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="24X-ENTRADE-SK-9" coding-scheme="15" />
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade id="1016" trade-day="2009-09-21" trade-type="P" market-area="SK" sett-curr="EUR">
    <ProfileData profile-role="BC01">
      <Data period="1" value="0.0" unit="MWH" splitting="A"/>
      <Data period="2" value="0.0" unit="MWH" splitting="A"/>
      <Data period="3" value="0.0" unit="MWH" splitting="A"/>
      <Data period="4" value="0.0" unit="MWH" splitting="A"/>
      <Data period="5" value="0.0" unit="MWH" splitting="A"/>
      <Data period="6" value="0.0" unit="MWH" splitting="A"/>
      <Data period="7" value="0.0" unit="MWH" splitting="A"/>
      <Data period="8" value="0.0" unit="MWH" splitting="A"/>
      <Data period="9" value="0.0" unit="MWH" splitting="A"/>
      <Data period="10" value="0.0" unit="MWH" splitting="A"/>
      <Data period="11" value="0.0" unit="MWH" splitting="A"/>
      <Data period="12" value="0.0" unit="MWH" splitting="A"/>
      <Data period="13" value="0.0" unit="MWH" splitting="A"/>
      <Data period="14" value="0.0" unit="MWH" splitting="A"/>
      <Data period="15" value="0.0" unit="MWH" splitting="A"/>
      <Data period="16" value="0.0" unit="MWH" splitting="A"/>
      <Data period="17" value="0.0" unit="MWH" splitting="A"/>
      <Data period="18" value="0.0" unit="MWH" splitting="A"/>
      <Data period="19" value="0.0" unit="MWH" splitting="A"/>
      <Data period="20" value="0.0" unit="MWH" splitting="A"/>
      <Data period="21" value="0.0" unit="MWH" splitting="A"/>
      <Data period="22" value="0.0" unit="MWH" splitting="A"/>
      <Data period="23" value="0.0" unit="MWH" splitting="A"/>
      <Data period="24" value="0.0" unit="MWH" splitting="A"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period="1" value="0.0" unit="EUR" splitting="A"/>
      <Data period="2" value="0.0" unit="EUR" splitting="A"/>
      <Data period="3" value="0.0" unit="EUR" splitting="A"/>
      <Data period="4" value="0.0" unit="EUR" splitting="A"/>
      <Data period="5" value="0.0" unit="EUR" splitting="A"/>
      <Data period="6" value="0.0" unit="EUR" splitting="A"/>
      <Data period="7" value="0.0" unit="EUR" splitting="A"/>
      <Data period="8" value="0.0" unit="EUR" splitting="A"/>
      <Data period="9" value="0.0" unit="EUR" splitting="A"/>
      <Data period="10" value="0.0" unit="EUR" splitting="A"/>
      <Data period="11" value="0.0" unit="EUR" splitting="A"/>
      <Data period="12" value="0.0" unit="EUR" splitting="A"/>
      <Data period="13" value="0.0" unit="EUR" splitting="A"/>
      <Data period="14" value="0.0" unit="EUR" splitting="A"/>
      <Data period="15" value="0.0" unit="EUR" splitting="A"/>
      <Data period="16" value="0.0" unit="EUR" splitting="A"/>
      <Data period="17" value="0.0" unit="EUR" splitting="A"/>
      <Data period="18" value="0.0" unit="EUR" splitting="A"/>
      <Data period="19" value="0.0" unit="EUR" splitting="A"/>
      <Data period="20" value="0.0" unit="EUR" splitting="A"/>
      <Data period="21" value="0.0" unit="EUR" splitting="A"/>
      <Data period="22" value="0.0" unit="EUR" splitting="A"/>
      <Data period="23" value="0.0" unit="EUR" splitting="A"/>
      <Data period="24" value="0.0" unit="EUR" splitting="A"/>
    </ProfileData>
    <Party id="24X-ENTRADE-SK-9" role="TO" />
  </Trade>
</ISOTEDATA>
```

Example 5 Removal of specific sale order

RESPONSE.812

In accordance with specification of RESPONSE structure, response is given in case of successful or unsuccessful order processing. In this case message-code=812 can be found in the header.

```
<RESPONSE id="cb4d980f-2f9a-4be7-96ef-850be04b214" message-code="812"
       date-time="2009-07-03T13:46:26Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X-ENTRADE-SK-9" coding-scheme="15" />
  <Reference id="1"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 6 Response on success of order removal

ISOTEDATA.813

In case of successful order removal, the original order that was removed from the system will be returned. Message-code=813 can be found in the header.

```
<ISOTEDATA id="ac5e799q-2qtr-75e7-9bef-8aabc02b7f4" message-code="813"
       date-time="2009-07-03T13:46:26Z" dtd-version="1" dtd-release="1" answer-
required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="24X-ENTRADE-SK-9" coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Reference id="1"/>
  <Trade id="1016" trade-day="2009-09-21" version="1" trade-type="P" block-order="N" trade-
stage="P" sett-curr="EUR" market-area="SK">
    <TimeData datetime="2009-07-03T13:46:26Z" datetime-type="DTC"/>
    <ProfileData profile-role="BC01">
      <Data period="1" value="100.0" unit="MWH" splitting="A"/>
      <Data period="2" value="100.0" unit="MWH" splitting="A"/>
      <Data period="3" value="100.0" unit="MWH" splitting="A"/>
      <Data period="4" value="100.0" unit="MWH" splitting="A"/>
      <Data period="5" value="100.0" unit="MWH" splitting="A"/>
      <Data period="6" value="100.0" unit="MWH" splitting="N"/>
      <Data period="7" value="100.0" unit="MWH" splitting="N"/>
      <Data period="8" value="100.0" unit="MWH" splitting="N"/>
      <Data period="9" value="100.0" unit="MWH" splitting="N"/>
      <Data period="10" value="100.0" unit="MWH" splitting="N"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period="1" value="15.00" unit="EUR" splitting="A"/>
      <Data period="2" value="15.00" unit="EUR" splitting="A"/>
      <Data period="3" value="15.00" unit="EUR" splitting="A"/>
      <Data period="4" value="15.00" unit="EUR" splitting="A"/>
      <Data period="5" value="15.00" unit="EUR" splitting="A"/>
      <Data period="6" value="15.00" unit="EUR" splitting="N"/>
      <Data period="7" value="15.00" unit="EUR" splitting="N"/>
      <Data period="8" value="15.00" unit="EUR" splitting="N"/>
      <Data period="9" value="15.00" unit="EUR" splitting="N"/>
      <Data period="10" value="15.00" unit="EUR" splitting="N"/>
    </ProfileData>
    <Party id="24X-ENTRADE-SK-9" role="TO"/>
  </Trade>
</ISOTEDATA>
```

Example 7 Response with description of removed order from the system

4.2.4 Order modification (E-02_01)

Modification of order is carried out by entry of specific order that is to be modified in *ISOTEDATA.811* structure (message-code=811) containing updated values for amount and price for desired trading periods of a given trading day. Response to order removal is returned in *RESPONSE.812* structure (indication of success/failure) and *ISOTEDATA.813* structure (description of modified order saved in the system). Order header modification is not possible. In order to modify the order header (i.e. type or direction), delete the existing order and submit a new one with required parameters.

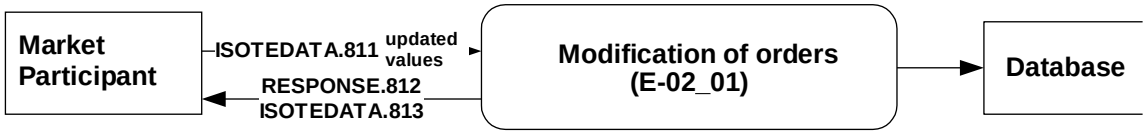

Figure 17 Scheme of market participant order modification

ISOTEDATA.811

The structure contains *message-code=811* attribute in the header and is filled out in accordance with order structure specification. The order that is to be modified must be identified by specification of its ID in the attribute *Trade/id*. Only a single order can be concurrently modified, i.e. modification of multiple orders is carried out through multiple calls.

```
<ISOTEDATA id="1" message-code="811" date-time="2009-06-20T00:00:00" dtd-version="1" dtd-
release="1" answer-required="false"
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="24X-ENTRADE-SK-9" coding-scheme="15" />
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade id="1016" trade-day="2009-09-21" trade-type="P" block-order="N" market-area="SK" sett-
curr="EUR">
    <ProfileData profile-role="BC01">
      <Data period="1" value="10.0" unit="MWH" splitting="A"/>
      <Data period="2" value="10.0" unit="MWH" splitting="A"/>
      <Data period="3" value="10.0" unit="MWH" splitting="A"/>
      <Data period="4" value="10.0" unit="MWH" splitting="A"/>
      <Data period="5" value="20.0" unit="MWH" splitting="A"/>
      <Data period="6" value="20.0" unit="MWH" splitting="A"/>
      <Data period="7" value="20.0" unit="MWH" splitting="A"/>
      <Data period="8" value="10.0" unit="MWH" splitting="A"/>
      <Data period="9" value="10.0" unit="MWH" splitting="A"/>
      <Data period="10" value="10.0" unit="MWH" splitting="A"/>
      <Data period="11" value="10.0" unit="MWH" splitting="A"/>
      <Data period="12" value="10.0" unit="MWH" splitting="A"/>
      <Data period="13" value="10.0" unit="MWH" splitting="A"/>
      <Data period="14" value="10.0" unit="MWH" splitting="A"/>
      <Data period="15" value="20.0" unit="MWH" splitting="A"/>
      <Data period="16" value="20.0" unit="MWH" splitting="A"/>
      <Data period="17" value="20.0" unit="MWH" splitting="A"/>
      <Data period="18" value="20.0" unit="MWH" splitting="A"/>
      <Data period="19" value="20.0" unit="MWH" splitting="A"/>
      <Data period="20" value="20.0" unit="MWH" splitting="A"/>
      <Data period="21" value="10.0" unit="MWH" splitting="A"/>
      <Data period="22" value="10.0" unit="MWH" splitting="A"/>
      <Data period="23" value="10.0" unit="MWH" splitting="A"/>
      <Data period="24" value="10.0" unit="MWH" splitting="A"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period="1" value="50.0" unit="EUR" splitting="A"/>
      <Data period="2" value="50.0" unit="EUR" splitting="A"/>
      <Data period="3" value="50.0" unit="EUR" splitting="A"/>
      <Data period="4" value="50.0" unit="EUR" splitting="A"/>
      <Data period="5" value="50.0" unit="EUR" splitting="A"/>
      <Data period="6" value="50.0" unit="EUR" splitting="A"/>
      <Data period="7" value="50.0" unit="EUR" splitting="A"/>
      <Data period="8" value="50.0" unit="EUR" splitting="A"/>
      <Data period="9" value="50.0" unit="EUR" splitting="A"/>
      <Data period="10" value="50.0" unit="EUR" splitting="A"/>
      <Data period="11" value="50.0" unit="EUR" splitting="A"/>
      <Data period="12" value="50.0" unit="EUR" splitting="A"/>
      <Data period="13" value="50.0" unit="EUR" splitting="A"/>
      <Data period="14" value="50.0" unit="EUR" splitting="A"/>
      <Data period="15" value="50.0" unit="EUR" splitting="A"/>
      <Data period="16" value="50.0" unit="EUR" splitting="A"/>
      <Data period="17" value="50.0" unit="EUR" splitting="A"/>
      <Data period="18" value="50.0" unit="EUR" splitting="A"/>
      <Data period="19" value="50.0" unit="EUR" splitting="A"/>
      <Data period="20" value="50.0" unit="EUR" splitting="A"/>
      <Data period="21" value="50.0" unit="EUR" splitting="A"/>
      <Data period="22" value="50.0" unit="EUR" splitting="A"/>
      <Data period="23" value="50.0" unit="EUR" splitting="A"/>
      <Data period="24" value="50.0" unit="EUR" splitting="A"/>
    </ProfileData>
    <Party id="24X-ENTRADE-SK-9" role="TO" />
  </Trade>
</ISOTEDATA>
```

Example 8 Modifikácia konkrétnej objednávky

RESPONSE.812

In accordance with specification of RESPONSE structure, response is given in case of successful or unsuccessful order processing. In this case message-code=812 can be found in the header.

```
<RESPONSE id="cb4d980f-2f9a-4be7-96ef-850be04b214" message-code="812"
       date-time="2009-07-03T13:46:26Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X-ENTRADE-SK-9" coding-scheme="15" />
  <Reference id="1"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 9 Response on success of order modification

ISOTEDATA.813

In case of successful order modification, the succesfully modified order will be returned with increased version in comparison to original order. Message-code=813 can be found in the header.

```
<ISOTEDATA id="ac5e799q-2qtr-75e7-9bef-8aabc02b7f4" message-code="813"
       date-time="2009-07-03T13:46:26Z" dtd-version="1" dtd-release="1" answer-required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="24X-ENTRADE-SK-9" coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Reference id="1"/>
  <Trade id="1016" trade-day="2009-09-21" version="2" trade-type="P" block-order="N" trade-
stage="P" sett-curr="EUR" market-area="SK">
    <TimeData datetime="2009-07-03T13:46:26Z" datetime-type="DTC"/>
    <ProfileData profile-role="BC01">
      <Data period="1" value="10.0" unit="MWH" splitting="A"/>
      <Data period="2" value="10.0" unit="MWH" splitting="A"/>
      <Data period="3" value="10.0" unit="MWH" splitting="A"/>
      <Data period="4" value="10.0" unit="MWH" splitting="A"/>
      <Data period="5" value="20.0" unit="MWH" splitting="A"/>
      <Data period="6" value="20.0" unit="MWH" splitting="A"/>
      <Data period="7" value="20.0" unit="MWH" splitting="A"/>
      <Data period="8" value="10.0" unit="MWH" splitting="A"/>
      <Data period="9" value="10.0" unit="MWH" splitting="A"/>
      <Data period="10" value="10.0" unit="MWH" splitting="A"/>
      <Data period="11" value="10.0" unit="MWH" splitting="A"/>
      <Data period="12" value="10.0" unit="MWH" splitting="A"/>
      <Data period="13" value="10.0" unit="MWH" splitting="A"/>
      <Data period="14" value="10.0" unit="MWH" splitting="A"/>
      <Data period="15" value="20.0" unit="MWH" splitting="A"/>
      <Data period="16" value="20.0" unit="MWH" splitting="A"/>
      <Data period="17" value="20.0" unit="MWH" splitting="A"/>
      <Data period="18" value="20.0" unit="MWH" splitting="A"/>
      <Data period="19" value="20.0" unit="MWH" splitting="A"/>
      <Data period="20" value="20.0" unit="MWH" splitting="A"/>
      <Data period="21" value="10.0" unit="MWH" splitting="A"/>
      <Data period="22" value="10.0" unit="MWH" splitting="A"/>
      <Data period="23" value="10.0" unit="MWH" splitting="A"/>
      <Data period="24" value="10.0" unit="MWH" splitting="A"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period="1" value="50.0" unit="EUR" splitting="A"/>
      <Data period="2" value="50.0" unit="EUR" splitting="A"/>
      <Data period="3" value="50.0" unit="EUR" splitting="A"/>
      <Data period="4" value="50.0" unit="EUR" splitting="A"/>
      <Data period="5" value="50.0" unit="EUR" splitting="A"/>
      <Data period="6" value="50.0" unit="EUR" splitting="A"/>
      <Data period="7" value="50.0" unit="EUR" splitting="A"/>
      <Data period="8" value="50.0" unit="EUR" splitting="A"/>
      <Data period="9" value="50.0" unit="EUR" splitting="A"/>
      <Data period="10" value="50.0" unit="EUR" splitting="A"/>
      <Data period="11" value="50.0" unit="EUR" splitting="A"/>
      <Data period="12" value="50.0" unit="EUR" splitting="A"/>
      <Data period="13" value="50.0" unit="EUR" splitting="A"/>
      <Data period="14" value="50.0" unit="EUR" splitting="A"/>
      <Data period="15" value="50.0" unit="EUR" splitting="A"/>
      <Data period="16" value="50.0" unit="EUR" splitting="A"/>
      <Data period="17" value="50.0" unit="EUR" splitting="A"/>
      <Data period="18" value="50.0" unit="EUR" splitting="A"/>
      <Data period="19" value="50.0" unit="EUR" splitting="A"/>
      <Data period="20" value="50.0" unit="EUR" splitting="A"/>
      <Data period="21" value="50.0" unit="EUR" splitting="A"/>
      <Data period="22" value="50.0" unit="EUR" splitting="A"/>
      <Data period="23" value="50.0" unit="EUR" splitting="A"/>
      <Data period="24" value="50.0" unit="EUR" splitting="A"/>
    </ProfileData>
    <Party id="24X-ENTRADE-SK-9" role="TO"/>
  </Trade>
</ISOTEDATA>
```

Example 10 Odpoveď s opisom modifikovanej objednávky

4.2.5 Provision of orders (E-02_03)

Provision of orders is carried out by request for order retrieval in *CDSREQ.831* structure (message-code=831) and response in *RESPONSE.832* structure (indication of success/failure) and ISOTEDATA.833 *structure* (description of order registered in the system).

Figure 18 Scheme of market participant order provision

CDSREQ.831

Request can be formulated either for specific trading day (trade-day) or for specific order (id and version) and is filled out according to the specification of CDSREQ structure. Order identification has precedence over trading day.

```
<CDSREQ id="4a6s5d45f" message-code="831" date-time="2014-09-19T01:18:33" dtd-version="1"
dtd-release="1" xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="11XKORLEAINVESTY" coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <Trade trade-day="2009-09-21"/>
</CDSREQ>
```

Example 11 Request for retrieval of orders for specific day

RESPONSE.832

In case of successful or failed request processing, response is returned in accordance with specification of RESPONSE structure, where message-code=832 can be found in the header.

```
<RESPONSE id="a9e40366-ad70-45ac-8b36-bd8fbce5ef7" message-code="832"
       date-time="2009-07-03T14:02:36Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="11XKORLEAINVESTY" coding-scheme="15" />
  <Reference id="4a6s5d45f"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 12 Response on success of order provision for specific day

ISOTEDATA.833

In case of successful request processing, the structure is returned as it was registered in the system and message-code=833 can be found in the header. Identification and version, under which the order is registered in the system, are returned in *Trade/@id* and *Trade/@version* attribute. If there is a single purchase order and a single sale order registered in the system for a given trading day, return structure of request for specific trading day contains two orders (either valid or invalid).

```
<ISOTEDATA id="1" message-code="833" date-time="2009-07-03T14:02:36Z"
       dtd-version="1" dtd-release="1" answer-required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="11XKORLEAINVESTY" coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <Reference id="4a6s5d45f"/>
  <Trade id="977" trade-day="2009-09-21" trade-type="P" block-order="N" trade-stage="P"
       sett-curr="EUR" market-area="SK">
    <TimeData datetime="2009-07-02T09:00:43Z" datetime-type="DTC"/>
    <ProfileData profile-role="BC01">
      <Data period="1" value="5.0" unit="MWH" splitting="A"/>
      <Data period="2" value="5.0" unit="MWH" splitting="A"/>
      <Data period="3" value="5.0" unit="MWH" splitting="A"/>
      <Data period="4" value="5.0" unit="MWH" splitting="A"/>
      <Data period="5" value="5.0" unit="MWH" splitting="A"/>
      <Data period="6" value="5.0" unit="MWH" splitting="A"/>
      <Data period="7" value="5.0" unit="MWH" splitting="A"/>
      <Data period="8" value="5.0" unit="MWH" splitting="A"/>
      <Data period="9" value="5.0" unit="MWH" splitting="A"/>
      <Data period="10" value="5.0" unit="MWH" splitting="A"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period="1" value="24.00" unit="EUR" splitting="A"/>
      <Data period="2" value="24.00" unit="EUR" splitting="A"/>
      <Data period="3" value="24.00" unit="EUR" splitting="A"/>
      <Data period="4" value="24.00" unit="EUR" splitting="A"/>
      <Data period="5" value="24.00" unit="EUR" splitting="A"/>
      <Data period="6" value="24.00" unit="EUR" splitting="A"/>
      <Data period="7" value="24.00" unit="EUR" splitting="A"/>
      <Data period="8" value="24.00" unit="EUR" splitting="A"/>
      <Data period="9" value="24.00" unit="EUR" splitting="A"/>
      <Data period="10" value="24.00" unit="EUR" splitting="A"/>
    </ProfileData>
    <Party id="11XKORLEAINVESTY" role="TO"/>
  </Trade>
</ISOTEDATA>
```

Example 13 Response containing orders for specific day

4.3 Administration of Intraday Market orders

Administration of orders of market participants is carried out through operations for order reception, order modification and order provision via IdmOrders web service at Intraday Market.

4.3.1 Processing level

Market participants enter their orders into ISOT by the deadline for given trading hour, where orders can be entered into the system in advance, even for more trading time periods if they are open. Opening of trading hour for next day begins at 3 p.m. every day.

In case of invalid order, user is required to remove reasons for its invalidity by replacing it with a new version. Orders non-compliant with the check at submission (invalid) shall be removed and will not enter the matching process.

4.3.2 Reception of orders (E-06_01)

Reception of orders is carried out by request for order submission in *ISOTEDATA-VDT.801* structure (message-code=801) and by response in *RESPONSE-VDT.802* structure (indication of success/failure) and *ISOTEDATA-VDT.803* structure (description of order registered in the system). Market participant is not informed about successfully submitted order, but is informed about successful reception of order on ISOT side due to manners of synchronous communication (see chapter 3.2).

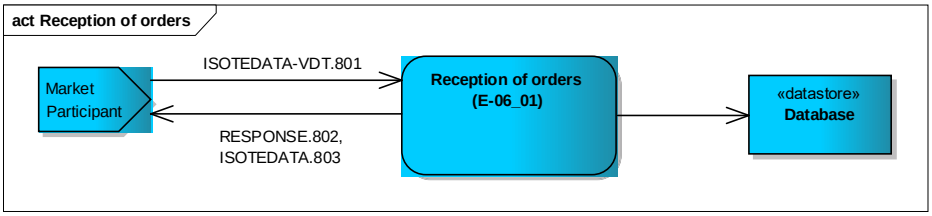

Figure 19 Schema of market participant order reception

ISOTEDATA-VDT.801

The structure contains *message-code=801* attribute in the header and is filled out in accordance with ISOTEDATA-VDT. Only a single order can be concurrently entered, i.e. submission of multiple orders is carried out through multiple calls.

```
<ISOTEDATA id="1" message-code="801" date-time="2016-06-20T00:00:00" dtd-version="1" dtd-
release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01">
  <SenderIdentification id="24X--YOUR-EIC--B " coding-scheme="15" />
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade trade-day="2016-02-16" order-expiration="2016-02-15T19:30:10" trade-type="N" block-
order="N" indication="N" trade-stage="P" market-area="SK" sett-curr="EUR" market="VDT" >
    <ProfileData profile-role="BC01">
      <Data period-from="0" period-to="1" value="19.1" unit="MW" />
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="0" period-to="1" value="75.00" unit="EUR" />
    </ProfileData>
    <Party id="24X--YOUR-EIC--B " role="TO" />
  </Trade>
</ISOTEDATA>
```

Example 14 Submission of sale order

RESPONSE-VDT.802

In accordance with specification of RESPONSE-VDT structure, response is given in case of successful or unsuccessful order processing. In this case message-code=802 can be found in the header.

```
<RESPONSE id="cb4d980f-2f9a-4be7-96ef-850be04b214" message-code="812"
       date-time="2009-07-03T13:46:26Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X-ENTRADE-SK-9" coding-scheme="15" />
  <Reference id="1"/>
  <Reason code="0" type="A03" trade-id="1016"/>
</RESPONSE>
```

Example 15 Response on success of order submission

ISOTEDATA-VDT.803

The structure is returned in the form it was registered in the system in case of successful order processing. In this case message-code=803 can be found in the header.

```
<ISOTEDATA id="ac5e799q-2qtr-75e7-9bef-8aabc02b7f4" message-code="803"
       date-time="2016-02-15T16:30:10Z" dtd-version="1" dtd-release="1" answer-
required="false"
       xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04/01">
  <SenderIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Reference id="1"/>
  <Trade trade-day="2016-02-16" order-expiration="2016-02-15T19:30:10" trade-type="N" block-
order="N" indication="N" trade-stage="P" market-area="SK" sett-curr="EUR" market="VDT">
    <TimeData datetime="2016-02-15T16:30:10Z" datetime-type="DTC"/>
    <ProfileData profile-role="BC01">
      <Data period-from="0" period-to="1" value="19.1" unit="MW" />
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="0" period-to="1" value="75.00" unit="EUR" />
    </ProfileData>
    <Party id="24X--YOUR-EIC--B " role="TO"/>
  </Trade>
</ISOTEDATA>
```

Example 16 Response with description of entered order in the system

4.3.3 Modification of orders (E-06_02)

Modification of orders is realized by request for modification of order in structure ISOTEDATA-VDT.804 and by response in structure RESPONSE-VDT.805 (indication of success/failure). Market participant is not informed about successfully modified order, but is informed about successful reception of instruction for order modification on ISOT side due to manners of synchronous communication (see chapter 3.2).

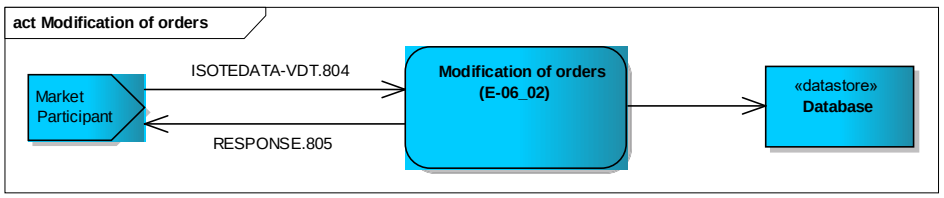

Figure 20 Reception of order scheme

Market participant can modify status of the order in case of request for modification. Activating, deactivating or canceling already inputted order can be done through external interfaces.

ISOTEDATA-VDT.804

The structure contains *message-code=804* attribute in the header and is filled out in accordance with ISOTEDATA-VDT. Only a single order can be concurrently entered, i.e. submission of multiple orders is carried out through multiple calls.

```
<ISOTEDATA id="Your_own_ID_for_this_message" message-code="802" date-time="2011-01-
18T09:52:37" dtd-version="1" dtd-release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
   <SenderIdentification id="24X--YOUR-EIC--B" coding-scheme="15" />
   <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15" />
   <Trade id="1234" trade-stage="N" market-area="SK" market="VDT">
      <Party id="24X--YOUR-EIC--B" role="TO" />
   </Trade>
</ISOTEDATA>
```

Example 17 Deactivation of order

RESPONSE-VDT.805

In accordance with specification of RESPONSE-VDT structure response is given in case of successful or unsuccessful order processing. In this case message-code=805 can be found in the header.

```
<RESPONSE id="cb4d980f-2f9a-4be7-96ef-850be04b214" message-code="805"
       date-time="2016-02-15T16:30:10Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15" />
  <Reference id="1"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 18 Successful modification of order response

4.3.4 Provision of orders (E-06_03)

Provision of orders is carried out by request for provision of order in *CDSREQ-VDT.807* structure and response in *RESPONSE-VDT.809* structure (indication of success/fail) and ISOTEDATA-VDT.809 structure (description of modified order).

Market participant can ask for provision of a specific order or every order for specific time frame in a request for modification of an order.

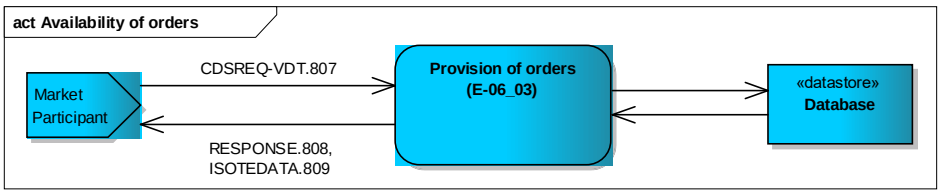

Figure 21 Provision of orders scheme

CDSREQ-VDT.807

The structure contains *message-code=807* attribute in the header and is filled out in accordance with structure specification of order provision. Request for order´s data can be formulated either for specific order with order´s identification in attribute Trade/@id, or via request for every order in given time period with attribute Trade/@trade-day. It is possible to specify time period with Trade/@period-from and Trade/@period-to.

```
<CDSREQ date-time="2017-04-11T07:00:00" dtd-release="1" dtd-version="1"  id="45t" message-
code="807"
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
    <SenderIdentification coding-scheme="15" id="24X--YOUR-EIC--B"/>
    <ReceiverIdentification coding-scheme="15" id="24X-OT-SK------V"/>
    <Trade id=1/>
</CDSREQ>
```

Example 19 Provision of specific order

```
<CDSREQ date-time="2017-04-11T07:00:00" dtd-release="1" dtd-version="1"  id="45t" message-
code="807"
xmlns:ns=" http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
   <SenderIdentification coding-scheme="15" id="24X--YOUR-EIC--B"/>
   <ReceiverIdentification coding-scheme="15" id="24X-OT-SK------V"/>
   <Trade trade-day="2017-02-12" period-from="8" period-to="16"/>
</CDSREQ>
```

Example 20 Provision of all orders in given time period

RESPONSE-VDT.808

In accordance with specification of RESPONSE-VDT structure response is given in case of successful or unsuccessful order processing. In this case message-code=808 can be found in the header.

```
<RESPONSE id="cb4d980f-2f9a-4be7-96ef-850be04b214" message-code="808"
       date-time="2016-02-15T16:30:10Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15" />
  <Reference id="1"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 21 Successful modification of order response

ISOTEDATA-VDT.809

In case of successful order processing, the structure is returned as it was registered in the system with a message-code=809 in the header. Attribute Trade/@trade-stage contains status in which the order currently is. Interval of delivery is specified in attributes Trade/ProfileData/Data/@period-from and Trade/ProfileData/Data/@period-to. These intervals represent time periods order of a given day.

```
<ISOTEDATA id="ac5e799q-2qtr-75e7-9bef-8aabc02b7f4" message-code="809" date-time="2016-02-
15T16:30:10Z" dtd-version="1" dtd-release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
     <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
     <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
     <Reference id="1"/>
     <Trade id="1" trade-day="2016-02-16" order-expiration="2016-02-15T19:30:10" trade-
type="N" block-order="N" indication="N" trade-stage="P" trader-id="123456" market-area="SK"
sett-curr="EUR" market="VDT">
        <TimeData datetime="2016-02-15T16:30:10Z" datetime-type="DTC"/>
        <ProfileData profile-role="BC01">
           <Data period-from="10" period-to="11" value="19.1" unit="MW" />
        </ProfileData>
        <ProfileData profile-role="BP01">
            <Data period-from="10" period-to="11" value="75.00" unit="EUR" />
        </ProfileData>
        <Party id="24X--YOUR-EIC--B " role="TO"/>
     </Trade>
     <Trade id="2" trade-day="2016-02-16" order-expiration="2016-02-15T19:30:10" trade-
type="N" block-order="N" indication="N" trade-stage="P" trader-id="123456" market-area="SK"
sett-curr="EUR" market="VDT">
        <TimeData datetime="2016-02-15T16:35:10Z" datetime-type="DTC"/>
        <ProfileData profile-role="BC01">
           <Data period-from="10" period-to="11" value="2" unit="MW" />
        </ProfileData>
        <ProfileData profile-role="BP01">
            <Data period-from="10" period-to="11" value="60.00" unit="EUR" />
        </ProfileData>
        <Party id="24X--YOUR-EIC--B " role="TO"/>
     </Trade>
</ISOTEDATA>
```

Example 22 Response with description of two available orders

4.4 Administration of intraday order book

Administration of intraday order book is carried out through operation intraday order book provision via IdmOrderBook web service.

4.4.1 Processing level

Market participants have the option to request data about the current order book status. Communication runs via AMQP protocol which automatically informs market participants about changes in the order book. For more information about automated notifications which inform about changes in intraday order book, see Chapters 3.2 and 4.7.

Using web service IdmOrderBook market participant gets information about all available quantities of offered/demanded limited prices per each period in case of simple orders, or for all products, alternatively intervals in case of block orders.

4.4.2 The order book data (E-08_01)

Provision of order book data is realized by request for provision of order book in CDSREQ-VDT.810 structure and response in RESPONSE-VDT.811 structure (success/failure) and ISOTEDATA-VDT.81 (description of the order book data).

In response, market participant gets all available amounts for a specific time frame in the order book.

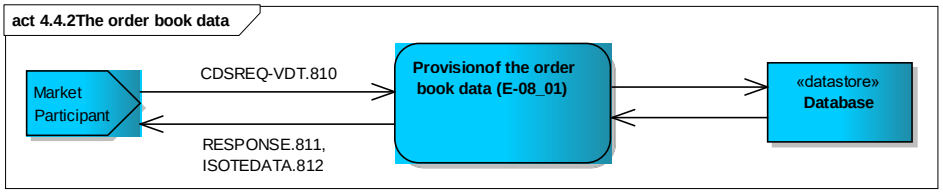

Figure 22 Provision of order book data scheme

CDSREQ-VDT.810

The structure contains message-code=810 attribute in the header and is filled out in accordance with specification of order book provision structure. Request for the order book data is realized without any specification. System automatically evaluate current status of the order book after reception of a request and enable status for time period. Market participant receive data for specific time period in response.

```
<CDSREQ date-time="2017-04-11T07:00:00" dtd-release="1" dtd-version="1"  id="45t" message-
code="810"
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
   <SenderIdentification coding-scheme="15" id="24X--YOUR-EIC--B"/>
   <ReceiverIdentification coding-scheme="15" id="24X-OT-SK------V"/>
</CDSREQ>
```

Example 23 Provision of order book

RESPONSE-VDT.811

In accordance with specification of RESPONSE structure, response is given in case of successful or unsuccessful order processing. In this case message-code=811 can be found in the header.

```
<RESPONSE id="cb4d980f-2f9a-4be7-96ef-850be04b214" message-code="811"
       date-time="2016-02-15T16:30:10Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15" />
  <Reference id="1"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 24 Response about successful processing of order book data provision request

ISOTEDATA-VDT.812

In case of successful order processing, all available order book data are returned for a given time period and message-code=812 can be found in the header. Information about amount of particular types of orders are ordered in limited prices and periods can be found in response. Attribute Trade/ProfileData/Data/@seq-num order different prices of periods according to view of the market participant from the best price (the highest for purchase, the lowest for sale) to the worst price (the lowest for purchase, the lowest for sale). Matching of user-defined block orders is established on different principals as other type of orders, so it is not possible aggregate amount of orders after inputted prices. For this reason, availability of marked user-defined block orders is shown under anonymous ID in attribute Trade/ProfileData/@trade-id.

```
<?xml version="1.0" encoding="utf-8"?>
<ISOTEDATA id="ac5e799q-2qtr-75e7-9bef-8aabc02b7f4" message-code="812"
date-time="2016-02-15T16:30:10Z" dtd-version="1" dtd-release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24X--YOUR-EIC--B" coding-scheme="15"          />
  <Reference id="1"/>
  <!--simple orders, purchase, day D-->
  <Trade trade-day="2016-07-13" trade-type="N" block-order="N" market-area="SK" sett-curr="EUR" market="VDT">
    <!-- timestamp of orderbook snapshot-->
    <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
    <ProfileData profile-role="BC01">
      <Data period-from="12" period-to="13" value="5" unit="MW" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="12" period-to="13" value="31" unit="EUR" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="12" period-to="13" value="5" unit="MW" seq-num="2"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="12" period-to="13" value="25" unit="EUR" seq-num="2"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="15" period-to="16" value="3" unit="MW" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="15" period-to="16" value="35" unit="EUR" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="16" period-to="17" value="10" unit="MW" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="16" period-to="17" value="30" unit="EUR" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="16" period-to="17" value="10" unit="MW" seq-num="2"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="16" period-to="17" value="20" unit="EUR" seq-num="2"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="16" period-to="17" value="5" unit="MW" seq-num="3"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="16" period-to="17" value="18.73" unit="EUR" seq-num="3"/>
    </ProfileData>
  </Trade>
  <!--simple orders, sale, day D-->
  <Trade trade-day="2016-07-13" trade-type="P" block-order="N" market-area="SK" sett-curr="EUR" market="VDT">
    <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
    <ProfileData profile-role="BC01">
      <Data period-from="12" period-to="13" value="10" unit="MW" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="12" period-to="13" value="33" unit="EUR" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="12" period-to="13" value="10" unit="MW" seq-num="2"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="12" period-to="13" value="40" unit="EUR" seq-num="2"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="12" period-to="13" value="5" unit="MW" seq-num="3"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="12" period-to="13" value="41" unit="EUR" seq-num="3"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="14" period-to="15" value="1" unit="MW" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="14" period-to="15" value="20" unit="EUR" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="16" period-to="17" value="10" unit="MW" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="16" period-to="17" value="45" unit="EUR" seq-num="1"/>
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="16" period-to="17" value="10" unit="MW" seq-num="2"/>
    </ProfileData>
```

```
  <ProfileData profile-role="BP01">
    <Data period-from="16" period-to="17" value="46" unit="EUR" seq-num="2"/>
  </ProfileData>
  <ProfileData profile-role="BC01">
    <Data period-from="16" period-to="17" value="2" unit="MW" seq-num="3"/>
  </ProfileData>
  <ProfileData profile-role="BP01">
    <Data period-from="16" period-to="17" value="46.15" unit="EUR" seq-num="3"/>
  </ProfileData>
 </Trade>
 !--simple orders, purchase, day D+1-->
 <Trade trade-day="2016-07-14" trade-type="N" block-order="N" market-area="SK" sett-curr="EUR" market="VDT">
   <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
   <ProfileData profile-role="BC01">
     <Data period-from="0" period-to="1" value="5" unit="MW" seq-num="1"/>
   </ProfileData>
   <ProfileData profile-role="BP01">
     <Data period-from="0" period-to="1" value="20" unit="EUR" seq-num="1"/>
   </ProfileData>
   </Trade>
   <!--simple orders, sale, day D+1-->
   <Trade trade-day="2016-07-14" trade-type="P" block-order="N" market-area="SK" sett-curr="EUR" market="VDT">
     <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
     <ProfileData profile-role="BC01">
       <Data period-from="0" period-to="1" value="1" unit="MW" seq-num="1"/>
     </ProfileData>
     <ProfileData profile-role="BP01">
       <Data period-from="0" period-to="1" value="21" unit="EUR" seq-num="1"/>
     </ProfileData>
     <ProfileData profile-role="BC01">
       <Data period-from="0" period-to="1" value="1" unit="MW" seq-num="2"/>
     </ProfileData>
     <ProfileData profile-role="BP01">
       <Data period-from="0" period-to="1" value="23" unit="EUR" seq-num="2"/>
     </ProfileData>
   </Trade>
   <!--block orders, purchase, Base load-->
   <Trade trade-day="2016-07-14" trade-type="N" block-order="A" block-type="BL" market-area="SK" sett-curr="EUR" market="VDT">
     <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
     <ProfileData profile-role="BC01">
       <Data value="5" unit="MW" seq-num="1"/>
     </ProfileData>
     <ProfileData profile-role="BP01">
       <Data value="20" unit="EUR" seq-num="1"/>
     </ProfileData>
     <ProfileData profile-role="BC01">
       <Data value="1" unit="MW" seq-num="2"/>
     </ProfileData>
     <ProfileData profile-role="BP01">
       <Data value="18" unit="EUR" seq-num="2"/>
     </ProfileData>
   </Trade>
     <!--block orders, sale, Base load-->
     <Trade trade-day="2016-07-14" trade-type="P" block-order="A" block-type="BL" market-area="SK" sett-curr="EUR" market="VDT">
       <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
       <ProfileData profile-role="BC01">
           <Data value="2" unit="MW" seq-num="1"/>
       </ProfileData>
       <ProfileData profile-role="BP01">
         <Data value="22" unit="EUR" seq-num="1"/>
       </ProfileData>
       <ProfileData profile-role="BC01">
         <Data value="1" unit="MW" seq-num="2"/>
       </ProfileData>
       <ProfileData profile-role="BP01">
         <Data value="23" unit="EUR" seq-num="2"/>
       </ProfileData>
     </Trade>
     <!--block orders, purchase, Peak load-->
     <Trade trade-day="2016-07-14" trade-type="N" block-order="A" block-type="PL" market-area="SK" sett-curr="EUR" market="VDT">
       <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
       <ProfileData profile-role="BC01">
           <Data value="4" unit="MW" seq-num="1"/>
       </ProfileData>
      <ProfileData profile-role="BP01">
           <Data value="17" unit="EUR" seq-num="1"/>
       </ProfileData>
       <ProfileData profile-role="BC01">
           <Data value="2" unit="MW" seq-num="2"/>
       </ProfileData>
       <ProfileData profile-role="BP01">
           <Data value="15" unit="EUR" seq-num="2"/>
       </ProfileData>
     </Trade>
```

```
    <!--block orders, sale, Peak load-->
    <Trade trade-day="2016-07-14" trade-type="P" block-order="A" block-type="PL" market-area="SK" sett-curr="EUR" market="VDT">
      <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
      <ProfileData profile-role="BC01">
          <Data value="3" unit="MW" seq-num="1"/>
      </ProfileData>
      <ProfileData profile-role="BP01">
          <Data value="18" unit="EUR" seq-num="1"/>
      </ProfileData>
    </Trade>
    <!--block orders, purchase, Off-peak-->
    <Trade trade-day="2016-07-14" trade-type="N" block-order="A" block-type="OP" market-area="SK" sett-curr="EUR" market="VDT">
      <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
      <ProfileData profile-role="BC01">
          <Data value="1" unit="MW" seq-num="1"/>
      </ProfileData>
      <ProfileData profile-role="BP01">
          <Data value="12" unit="EUR" seq-num="1"/>
      </ProfileData>
    </Trade>
    <!--block orders, sale, Off-peak-->
    <Trade trade-day="2016-07-14" trade-type="P" block-order="A" block-type="OP" market-area="SK" sett-curr="EUR" market="VDT">
      <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
      <ProfileData profile-role="BC01">
          <Data value="3" unit="MW" seq-num="1"/>
      </ProfileData>
      <ProfileData profile-role="BP01">
          <Data value="12.1" unit="EUR" seq-num="1"/>
      </ProfileData>
      <ProfileData profile-role="BC01">
          <Data value="3" unit="MW" seq-num="2"/>
      </ProfileData>
      <ProfileData profile-role="BP01">
          <Data value="12.5" unit="EUR" seq-num="2"/>
      </ProfileData>
    </Trade>
    <!--block orders, purchase, user-defined -->
    <Trade trade-day="2016-07-13" trade-type="N" block-order="A" block-type="V" market-area="SK" sett-curr="EUR" market="VDT">
      <TimeData datetime="2016-07-13T09:30:10.123Z" datetime-type="DTO"/>
      <ProfileData profile-role="BC01" trade-id="2920CAF91042B1841B32D9E3E63E7C75">
          <Data period-from="16" period-to="19" value="1" unit="MW"/>
      </ProfileData>
      <ProfileData profile-role="BP01" trade-id="2920CAF91042B1841B32D9E3E63E7C75">
          <Data period-from="16" period-to="19" value="12" unit="EUR"/>
      </ProfileData>
    </Trade>
</ISOTEDATA>
```

Example 25 Response with description of two available orders

4.5 DM results and evaluations

Results and evaluations of day-ahead market are available for market participants via operations for DM results and evaluation retrieval for every hour or a whole day.

4.5.1 Processing level

Results of day-ahead market are available immediately after order matching and contain accepted amount and final marginal price (system or area price). Market participant is notified about results availability via ISOT system.

Evaluations of day-ahead market are available immediately after clearing of day-ahead market in the form of summary day-ahead evaluation as well as detailed evaluation per hours. Evaluations contain market organizer obligations and receivables towards a market participant. (receivables are stated with a negative sign). Market participant is notified about evaluations availability via ISOT system. Results of day-ahead market are made available in ISOT system on D-1 by 11:45 am.

4.5.2 Notification of results for market participants (E-03_02)

Notification of results for entities is carried out by request in *CDSREQ.941* structure (message-code=941) and response with data in *RESPONSE.942* and *ISOTEDATA.943* structure.

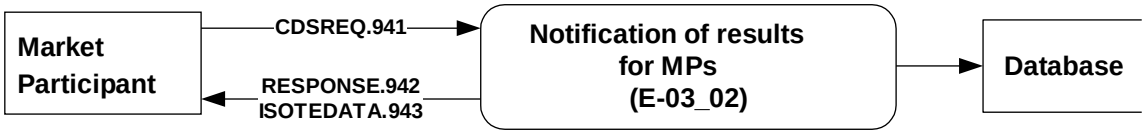

Figure 23 Notification schema of DM results for market participant

CDSREQ.941

Request is formulated for specific trading day (trade-day) and is filled out in accordance with the specification of CDSREQ structure.

```
<CDSREQ id="45t" message-code="941" date-time="2014-09-19T01:18:33"
       dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <Trade trade-day="2009-09-21"/>
</CDSREQ>
```

Example 26 Request for retrieval of results for specific day

RESPONSE.942

In case of successful or failed request processing, response is returned in accordance with specification of RESPONSE structure, where message-code=942 can be found in the header.

```
<RESPONSE id="bd12362f-361b-4085-ade0-9ed678efff1" message-code="942"
       date-time="2009-07-03T14:11:43Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <Reference id="45t"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 27 Response on success of results retrieval for a specific day

ISOTEDATA.943

In case of successful request processing, the structure of DM results is returned as it was registered in the system, where message-code=943 can be found in the header.

SC19 (amount of purchased electricity), *SC20* (amount of sold electricity) and *SP20* (original price) type is used in *ProfileData/@profile-role* attribute for description of returned data.

```
<ISOTEDATA id="ec1b50c0-afe1-4f5e-b6a1-d94c365099e" message-code="943"
       date-time="2009-07-03T14:11:43Z" dtd-version="1" dtd-release="1" answer-
required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/evaluations/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <Reference id="45t"/>
  <Trade trade-day="2009-09-21">
    <ProfileData profile-role="SC19">
      <Data period="1" value="50" unit="MWH"/>
      <Data period="2" value="23" unit="MWH"/>
      <Data period="3" value="65" unit="MWH"/>
      <Data period="4" value="45" unit="MWH"/>
      <Data period="5" value="12.6" unit="MWH"/>
      <Data period="6" value="65" unit="MWH"/>
      <Data period="7" value="98" unit="MWH"/>
      <Data period="8" value="78" unit="MWH"/>
      <Data period="9" value="45" unit="MWH"/>
      <Data period="10" value="41" unit="MWH"/>
      <Data period="11" value="42" unit="MWH"/>
      <Data period="12" value="12" unit="MWH"/>
      <Data period="13" value="65" unit="MWH"/>
      <Data period="14" value="31.1" unit="MWH"/>
      <Data period="15" value="32.5" unit="MWH"/>
    </ProfileData>
    <ProfileData profile-role="SC20">
      <Data period="1" value="0" unit="MWH"/>
      <Data period="2" value="64.3" unit="MWH"/>
      <Data period="3" value="0" unit="MWH"/>
      <Data period="4" value="0" unit="MWH"/>
      <Data period="5" value="0" unit="MWH"/>
      <Data period="6" value="23.4" unit="MWH"/>
      <Data period="7" value="78.9" unit="MWH"/>
      <Data period="8" value="0" unit="MWH"/>
      <Data period="9" value="0" unit="MWH"/>
      <Data period="10" value="30.1" unit="MWH"/>
      <Data period="11" value="0" unit="MWH"/>
      <Data period="12" value="0" unit="MWH"/>
      <Data period="13" value="0" unit="MWH"/>
      <Data period="14" value="50" unit="MWH"/>
      <Data period="15" value="40" unit="MWH"/>
    </ProfileData>
    <ProfileData profile-role="SP20">
      <Data period="1" value="20.45" unit="EUR"/>
      <Data period="2" value="32.45" unit="EUR"/>
      <Data period="3" value="20" unit="EUR"/>
      <Data period="4" value="20" unit="EUR"/>
      <Data period="5" value="21.65" unit="EUR"/>
      <Data period="6" value="24.95" unit="EUR"/>
      <Data period="7" value="24.35" unit="EUR"/>
      <Data period="8" value="32.65" unit="EUR"/>
      <Data period="9" value="17.65" unit="EUR"/>
      <Data period="10" value="24.87" unit="EUR"/>
      <Data period="11" value="23.98" unit="EUR"/>
      <Data period="12" value="15.45" unit="EUR"/>
      <Data period="13" value="19.87" unit="EUR"/>
      <Data period="14" value="33.54" unit="EUR"/>
      <Data period="15" value="17.65" unit="EUR"/>
    </ProfileData>
    <Party id="24XDSO---------Q" role="TO"/>
    <ResultStatus status="F"/>
  </Trade>
</ISOTEDATA>
```

Example 28 Response containing requested results

4.5.3 Notification of evaluations per hours (E-05_01)

Notification of evaluations per hours is carried out by sending a request in *CDSREQ.951* structure (message-code=951) and response with data in *RESPONSE.952* and *ISOTEDATA.953* structures.

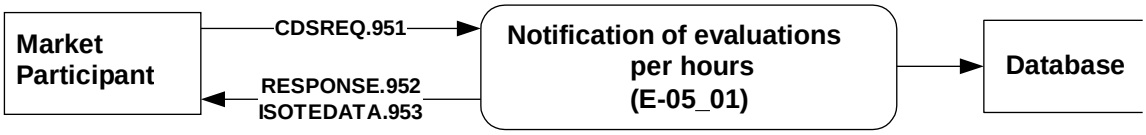

Figure 24 Notification schema of evaluations per hours for market participant

CDSREQ.951

To be filled out in accordance with specification of CDSREQ structure. Request is formulated for specific trading day (trade-day).

```
<CDSREQ id="45t" message-code="951" date-time="2014-09-19T01:18:33"
       dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <Trade trade-day="2009-09-21" />
</CDSREQ>
```

Example 29 Request for retrieval of evaluations per hours for specific day

RESPONSE.952

In case of successful or failed request processing, response is returned in accordance with specification of RESPONSE structure, where message-code=952 can be found in the header.

```
<RESPONSE id="7cdd21c0-e21f-4e70-a617-2d55db510e8" message-code="952"
       date-time="2009-07-03T14:16:54Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <Reference id="45t"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 30 Response on success of evaluations retrieval per hours for a specific day

ISOTEDATA.953

In the event of successful request processing, the structure of trading results is returned as it was registered in the system, where message-code=953 can be found in the header.

The following result types are used in *ProfileData/@profile-role* attribute:

- SP02 – clearing/payment for purchased electricity,
- SC02 – amount of purchased electricity,
- SP03 – clearing/payment for sold electricity,
- SC03 – amount of sold electricity,
- SP05 – fee for traded electricity,
- SC05 – amount of traded electricity (the sum of sold and purchased electricity),
- SP90 – fee for trading transactions relating to data manipulation,
- SC90 – amount of trading transactions relating to data manipulation,
- SP91 – fee for trading transactions relating to use of automated interfaces,
- SC91 – amount of trading transactions relating to use of automated interfaces.

```
<ISOTEDATA id="9d1bd4cd-5c92-4f51-adde-6253a08cfbb" message-code="953"
       date-time="2009-07-03T14:16:54Z" dtd-version="1" dtd-release="1" answer-
required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/evaluations/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <Reference id="45t"/>
  <Trade trade-day="2009-09-21">
    <ProfileData profile-role="SP02">
      <Data period="1" value="1022.5" unit="EUR"/>
      <Data period="2" value="746.35" unit="EUR"/>
      <Data period="3" value="1300" unit="EUR"/>
      <Data period="4" value="900" unit="EUR"/>
      <Data period="5" value="272.79" unit="EUR"/>
      <Data period="6" value="1621.75" unit="EUR"/>
      <Data period="7" value="2386.3" unit="EUR"/>
      <Data period="8" value="2546.7" unit="EUR"/>
      <Data period="9" value="794.25" unit="EUR"/>
      <Data period="10" value="1019.67" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SC02">
      <Data period="1" value="50" unit="MWH"/>
      <Data period="2" value="23" unit="MWH"/>
      <Data period="3" value="65" unit="MWH"/>
      <Data period="4" value="45" unit="MWH"/>
      <Data period="5" value="12.6" unit="MWH"/>
      <Data period="6" value="65" unit="MWH"/>
      <Data period="7" value="98" unit="MWH"/>
      <Data period="8" value="78" unit="MWH"/>
      <Data period="9" value="45" unit="MWH"/>
      <Data period="10" value="41" unit="MWH"/>
    </ProfileData>
    <ProfileData profile-role="SP03">
      <Data period="1" value="0" unit="EUR"/>
      <Data period="2" value="2086.535" unit="EUR"/>
      <Data period="3" value="0" unit="EUR"/>
      <Data period="4" value="0" unit="EUR"/>
      <Data period="5" value="0" unit="EUR"/>
      <Data period="6" value="583.83" unit="EUR"/>
      <Data period="7" value="1921.215" unit="EUR"/>
      <Data period="8" value="0" unit="EUR"/>
      <Data period="9" value="0" unit="EUR"/>
      <Data period="10" value="748.587" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SC03">
      <Data period="1" value="0" unit="MWH"/>
      <Data period="2" value="64.3" unit="MWH"/>
      <Data period="3" value="0" unit="MWH"/>
      <Data period="4" value="0" unit="MWH"/>
      <Data period="5" value="0" unit="MWH"/>
      <Data period="6" value="23.4" unit="MWH"/>
      <Data period="7" value="78.9" unit="MWH"/>
      <Data period="8" value="0" unit="MWH"/>
      <Data period="9" value="0" unit="MWH"/>
      <Data period="10" value="30.1" unit="MWH"/>
    </ProfileData>
    <Party id="24XDSO---------Q" role="TO"/>
    <ResultStatus status="F"/>
  </Trade>
</ISOTEDATA>
```

Example 31 Response containing request evaluations per hours

4.5.4 Notification of evaluation for a day (E-05_02)

Notification of evaluations for day is carried out by sending a request in *CDSREQ.961* structure (message-code=961) and response with data in *RESPONSE.962* and *ISOTEDATA.963* structure.

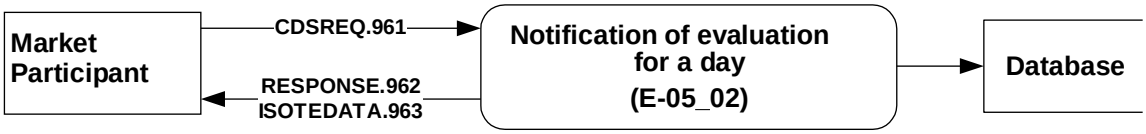

Figure 25 Notification schema of evaluations for day for market participant

CDSREQ.961

Request is formulated for specific trading day (trade-day) and is filled out according to the specification of CDSREQ structure.

```
<CDSREQ id="45t" message-code="961" date-time="2014-09-19T01:18:33"
        dtd-version="1" dtd-release="1"
        xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <Trade trade-day="2009-09-21"/>
</CDSREQ>
```

Example 32 Request for retrieval of evaluations cumulatively for trading day

RESPONSE.962

In case of successful or failed request processing, response is returned according to specification of RESPONSE structure, where message-code=962 can be found in the header.

```
<RESPONSE id="8a848bad-46c2-4e3d-ab78-2c7c4545a21" message-code="962"
        date-time="2009-07-03T14:20:40Z" dtd-version="1" dtd-release="1"
        xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <Reference id="45t"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 33 Response on success of evaluations retrieval cumulatively for trading day

ISOTEDATA.963

In case of successful request processing, the structure of trading results is returned as it was registered in the system, where message-code=963 can be found in the header.

The following result types are used in *ProfileData /@profile-role* attribute:

- SP02 – clearing/payment for purchased electricity,
- SC02 – amount of purchased electricity,
- SP03 – clearing/payment for sold electricity,
- SC03 – amount of sold electricity,
- SP05 – fee for traded electricity,
- SC05 – amount of traded electricity (the sum of sold and purchased electricity),
- ST16 – monthly fee for access on day-ahead market; the last day of month is specified,
- SP90 – fee for trading transactions relating to data manipulation,
- SC90 – amount of trading transactions relating to data manipulation,
- SP91 – fee for trading transactions relating to use of automated interfaces,
- SC91 – amount of trading transactions relating to use of automated interfaces.

```
<ISOTEDATA id="526539ee-9bb7-465b-8e5c-0b660674f0f" message-code="963"
       date-time="2009-07-03T14:20:40Z" dtd-version="1" dtd-release="1" answer-
required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/evaluations/types/2009/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24XDSO---------Q" coding-scheme="15"/>
  <Reference id="45t"/>
  <Trade trade-day="2009-09-21">
    <ProfileData profile-role="SP02">
      <Data period="0" value="27875.987" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SC02">
      <Data period="0" value="1146.7" unit="MWH"/>
    </ProfileData>
    <ProfileData profile-role="SP03">
      <Data period="0" value="17278.838" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SC03">
      <Data period="0" value="639.3" unit="MWH"/>
    </ProfileData>
    <Party id="24XDSO---------Q" role="TO"/>
    <ResultStatus status="F"/>
  </Trade>
</ISOTEDATA>
```

Example 34 Response containing requested results cumulatively for trading day

4.6 Evaluation of IDM

Evaluations of intraday market are available for market participants via operations evaluation for a day or for a whole month retrieval.

4.6.1 Processing level

Results of intraday market are available anytime during a day. Summary results for a day or a month are completed when all periods are closed. Information about traded amount, invoices and debts of market organizer to market participant (debts with minus sign) are in summary result.

4.6.2 Notice of an evaluation for a day (E-07_01)

Notice of an evaluation for a day is carried out by request CDSREQ-VDT.961 structure (message-code=961) and by a response RESPONSE-VDT.962 structure and ISOTEDATA-VDT.963 structure with data.

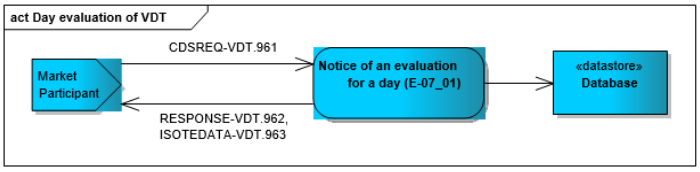

Figure 26 Notice of an evaluation for a day scheme

CDSREQ-VDT.961

The structure contains message-code=961 attribute in the header and is filled out in accordance with CDSREQ-VDT.961 structure. Request is formulated for a specific trade day.

```
<CDSREQ id="45t" message-code="961" date-time="2016-09-19T01:18:33"
       dtd-version="1" dtd-release="1"
xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2016/04/01">
<SenderIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
<ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15"/>
<Trade trade-day="2016-09-21" />
</CDSREO>
```

Example 35 Request for a summary evaluation of a day

RESPONSE-VDT.962

In accordance with specification of RESPONSE-VDT structure response is given in case of successful or unsuccessful order processing. In this case message-code=802 can be found in the header.

```
<RESPONSE id="8a848bad-46c2-4e3d-ab78-2c7c4545a21" message-code="962"
       date-time="2016-07-03T14:20:40Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2016/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
  <Reference id="45t"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 36 Response about successful retrieval of day evaluation

ISOTEDATA-VDT.963

In case of successful order processing, the trading results structure is returned with a message-code=963 in the header.

In attribute ProfileData/@profile-role following results can be found:

- SP08 – reckoning/payment for purchased electricity for a positive price,
- SC08 – amount of purchased electricity for a positive price,
- SP58 – reckoning/payment for purchased electricity for a negative price,
- SC58 – amount of purchased electricity for a negative price,
- SP09 – reckoning/payment for a sold electricity for a positive price,
- SC09 – amount of sold electricity for a positive price,
- SP59 – reckoning/payment for a sold electricity for a negative price,
- SC59 – amount of a sold electricity for a positive price.

```
<ISOTEDATA id="526539ee-9bb7-465b-8e5c-0b660674f0f" message-code="963"
       date-time="2016-07-03T14:20:40Z" dtd-version="1" dtd-release="1" answer-
required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/evaluations/types/2016/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
  <Reference id="45t"/>
  <Trade trade-day="2009-09-21">
    <ProfileData profile-role="SP08">
      <Data value="27875.987" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SC08">
      <Data value="1146.7" unit="MWH"/>
    </ProfileData>
    <ProfileData profile-role="SP09">
      <Data value="17278.838" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SC09">
      <Data value="639.3" unit="MWH"/>
    </ProfileData>
    <Party id="24X--YOUR-EIC--B " role="TO"/>
  </Trade>
```

Example 37 Response with day evaluation results

4.6.3 Notice of an evaluation for a month (E-07_02)

Notice of an evaluation for a month is carried out by request CDSREQ-VDT.571 structure (message-code=571) and by a response RESPONSE-VDT.572 structure and ISOTEDATA-VDT.573 structure with data.

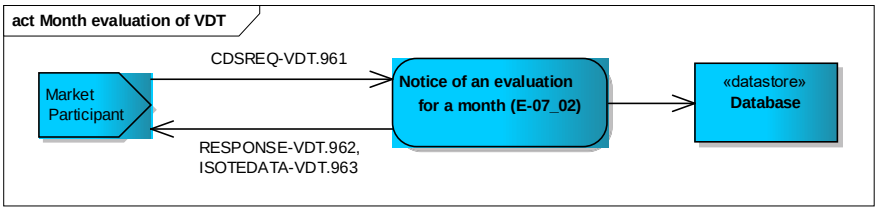

Figure 27 Notice of an evaluation for a month scheme

CDSREQ-VDT.571

The structure contains message-code=571 attribute in the header and is filled out in accordance with CDSREQ-VDT structure. Request is formulated for a concrete trade month.

```
<CDSREQ id="45t" message-code="571" date-time="2016-09-19T01:18:33"
       dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2016/04/01">
  <SenderIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
  <ReceiverIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <Trade trade-month="2016-09" />
</CDSREQ>
```

Example 38 Request for a summary evaluation of a month

RESPONSE-VDT.572

According to specification of RESPONSE-VDT structure response is given in case of successful or unsuccessful order processing. In this case message-code=572 can be found in the header.

```
<RESPONSE id="8a848bad-46c2-4e3d-ab78-2c7c4545a21" message-code="572"
       date-time="2016-07-03T14:20:40Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2016/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
  <Reference id="45t"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 39 Response about successful retrieval of month evaluation

ISOTEDATA-VDT.573

In case of successful order processing, the trading results structure is returned with a message-code=573 in the header.

In attribute ProfileData/@profile-role following results can be found:

- SP08 – reckoning/payment for purchased electricity for a positive price,
- SC08 – amount of purchased electricity for a positive price,
- SP58 – reckoning/payment for purchased electricity for a negative price,
- SC58 – amount of purchased electricity for a negative price,
- SP09 – reckoning/payment for a sold electricity for a positive price,
- SC09 – amount of sold electricity for a positive price,
- SP59 – reckoning/payment for a sold electricity for a negative price,
- SC59 – amount of a sold electricity for a positive price,
- SP10 – charge for traded electricity,
- SC10 – amount of traded electricity (price of sold and purchased).

```
<ISOTEDATA id="526539ee-9bb7-465b-8e5c-0b660674f0f" message-code="573"
       date-time="2016-07-03T14:20:40Z" dtd-version="1" dtd-release="1" answer-
required="false"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/evaluations/types/2016/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
  <Reference id="45t"/>
  <Trade trade-month="2016-09">
    <ProfileData profile-role="SP08">
      <Data value="27875.987" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SC08">
      <Data value="1146.7" unit="MWH"/>
    </ProfileData>
    <ProfileData profile-role="SP09">
      <Data value="17278.838" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SC09">
      <Data value="639.3" unit="MWH"/>
    <ProfileData profile-role="SP10">
      <Data value="727.8" unit="EUR"/>
    </ProfileData>
    <ProfileData profile-role="SP10">
      <Data value="88839.3" unit="MWH"/>
    </ProfileData>
    <Party id="24X--YOUR-EIC--B " role="TO"/>
  </Trade>
```

Example 40 Response with month evaluation results

4.6.4 Notice of evaluation for time periods (E-07_03)

Notice of an evaluation for time periods is carried out by request CDSREQ-VDT.951 structure (message-code=951) and by a response RESPONSE-VDT.952 structure and ISOTEDATA-VDT.953 structure with data.

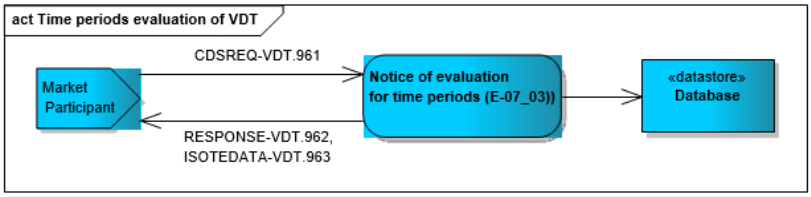

Figure 28 Notice of an evaluation for time periods scheme

CDSREQ-VDT.951

The structure contains message-code=951 attribute in the header and is filled out in accordance with CDSREQ-VDT structure. Request is formulated for a concrete trade day or a concrete day can be specified with period-from, period-to.

```
<CDSREQ date-time="2017-04-11T07:00:00" dtd-release="1" dtd-version="1"  id="45t" message-
code="951" xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
   <SenderIdentification coding-scheme="15" id="24X--YOUR-EIC--B"/>
   <ReceiverIdentification coding-scheme="15" id="24X-OT-SK------V"/>
   <Trade trade-day="2017-02-12"/>
</CDSREQ>
```

Example 41 Request for an evaluation of time periods for whole day

```
<CDSREQ date-time="2017-04-11T07:00:00" dtd-release="1" dtd-version="1"  id="45t" message-
code="951" xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2009/04/01">
   <SenderIdentification coding-scheme="15" id="24X--YOUR-EIC--B"/>
   <ReceiverIdentification coding-scheme="15" id="24X-OT-SK------V"/>
   <Trade trade-day="2017-02-12" period-from="8" period-to="20"/>
</CDSREQ>
```

Example 42 Request for an evaluation of time periods for specific period

RESPONSE-VDT.952

In accordance with RESPONSE-VDT structure response is given in case of successful or unsuccessful order processing. In this case message-code=952 can be found in the header.

```
<RESPONSE id="8a848bad-46c2-4e3d-ab78-2c7c4545a21" message-code="952"
       date-time="2016-07-03T14:20:40Z" dtd-version="1" dtd-release="1"
       xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/ut/types/2016/04/01">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
  <Reference id="45t"/>
  <Reason code="0" type="A03"/>
</RESPONSE>
```

Example 43 Response about successful retrieval of time periods evaluation

ISOTEDATA-VDT.953

In case of successful order processing, the trading results structure is returned with a message-code=953 in the header. In attributes Trade/ProfileData/Data/@period-from and Trade/ProfileData/Data/@period-to can be found specified interval of delivery. These intervals represent order of time periods in a specific day.

In attribute ProfileData/@profile-role following results can be found:

- SP08 – reckoning/payment for purchased electricity for a positive price,
- SC08 – amount of purchased electricity for a positive price,
- SP58 – reckoning/payment for purchased electricity for a negative price,
- SC58 – amount of purchased electricity for a negative price,
- SP09 – reckoning/payment for a sold electricity for a positive price,
- SC09 – amount of sold electricity for a positive price,
- SP59 – reckoning/payment for a sold electricity for a negative price,
- SC59 – amount of a sold electricity for a positive price.

```
<ISOTEDATA id="917de340469d45ab9cc14ec18797c31f" message-code="963" date-time="2017-04-
11T12:17:50Z" dtd-version="1" dtd-release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
   <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
   <ReceiverIdentification id="24X--YOUR-EIC--B " coding-scheme="15"/>
   <Reference id="45t"/>
   <Trade trade-day="2017-02-12">
      <ProfileData profile-role="SP08">
         <Data period-from="0" period-to="1" value="10.0" unit="EUR"/>
      </ProfileData>
      <ProfileData profile-role="SC08">
         <Data period-from="0" period-to="1" value="1.0" unit="MWH"/>
      </ProfileData>
      <ProfileData profile-role="SP58">
         <Data period-from="0" period-to="1" value="0.0" unit="EUR"/>
      </ProfileData>
      <ProfileData profile-role="SC58">
         <Data period-from="0" period-to="1" value="0.0" unit="MWH"/>
      </ProfileData>
      <ProfileData profile-role="SP09">
         <Data period-from="0" period-to="1" value="50.0" unit="EUR"/>
      </ProfileData>
      <ProfileData profile-role="SC09">
         <Data period-from="0" period-to="1" value="2.0" unit="MWH"/>
      </ProfileData>
      <ProfileData profile-role="SP59">
         <Data period-from="0" period-to="1" value="0.0" unit="EUR"/>
      </ProfileData>
      <ProfileData profile-role="SC59">
         <Data period-from="0" period-to="1" value="0.0" unit="MWH"/>
      </ProfileData>
      <ProfileData profile-role="SP08">
         <Data period-from="1" period-to="2" value="10.0" unit="EUR"/>
      </ProfileData>
      <ProfileData profile-role="SC08">
         <Data period-from="1" period-to="2" value="0.5" unit="MWH"/>
      </ProfileData>
      <ProfileData profile-role="SP58">
         <Data period-from="1" period-to="2" value="0.0" unit="EUR"/>
      </ProfileData>
      <ProfileData profile-role="SC58">
         <Data period-from="1" period-to="2" value="0.0" unit="MWH"/>
      </ProfileData>
      <ProfileData profile-role="SP09">
         <Data period-from="1" period-to="2" value="100.0" unit="EUR"/>
      </ProfileData>
      <ProfileData profile-role="SC09">
         <Data period-from="1" period-to="2" value="5.0" unit="MWH"/>
      </ProfileData>
      <ProfileData profile-role="SP59">
         <Data period-from="1" period-to="2" value="0.0" unit="EUR"/>
      </ProfileData>
      <ProfileData profile-role="SC59">
         <Data period-from="1" period-to="2" value="0.0" unit="MWH"/>
      </ProfileData>
      <Party id="24X--YOUR-EIC--B " role="TO"/>
   </Trade>
</ISOTEDATA>
```

Example 44 Response with time periods evaluation results (2 periods)

4.7 AMQP notifications

Notification via AMQP protocol automatically informs market participants about changes in their own orders, or changes in the order book.

4.7.1 Processing level

The market participant connected to AMQP interface has the opportunity to get automatic notifications. Queues are automatically created, and allows users to get notification about following event:

- Successfully created order – dataflow (E-10_01),
- Change of the order (status change) – dataflow E-10_01,
- Change in the order book (change of available amount) – dataflow E-10_02.

4.7.2 Status change/Creation of own order (E-10_01)

Notification via AMQP protocol is send within dataflow and inform market participant about status changes of own order or about creation of new own order. Notification is sent automatically in accordance with ISOTEDATA-VDT.820 structure (message-code=820).

Notification is a reaction on change, which was called by:

- Market participant (creation or modification of an order),
- Another market participant (whole order traded or part of the order traded),
- System (expiration of the order, or more precisely time period in which was the order inputted and changed afterwards).

Following pictures show transmission of messages which are send when the order is created by market participant connected to AMQP interface via web services. Notification about created order is send to market participant connected to AMQP interface even in case when another subject create order for the market participant via web page XMtrade®/ISOT.

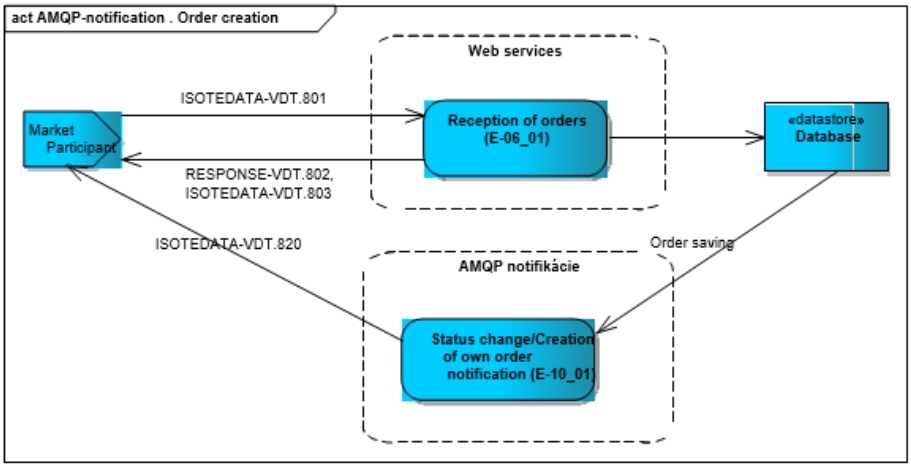

Figure 29 Sending messages scheme – order creation (AMQP notification)

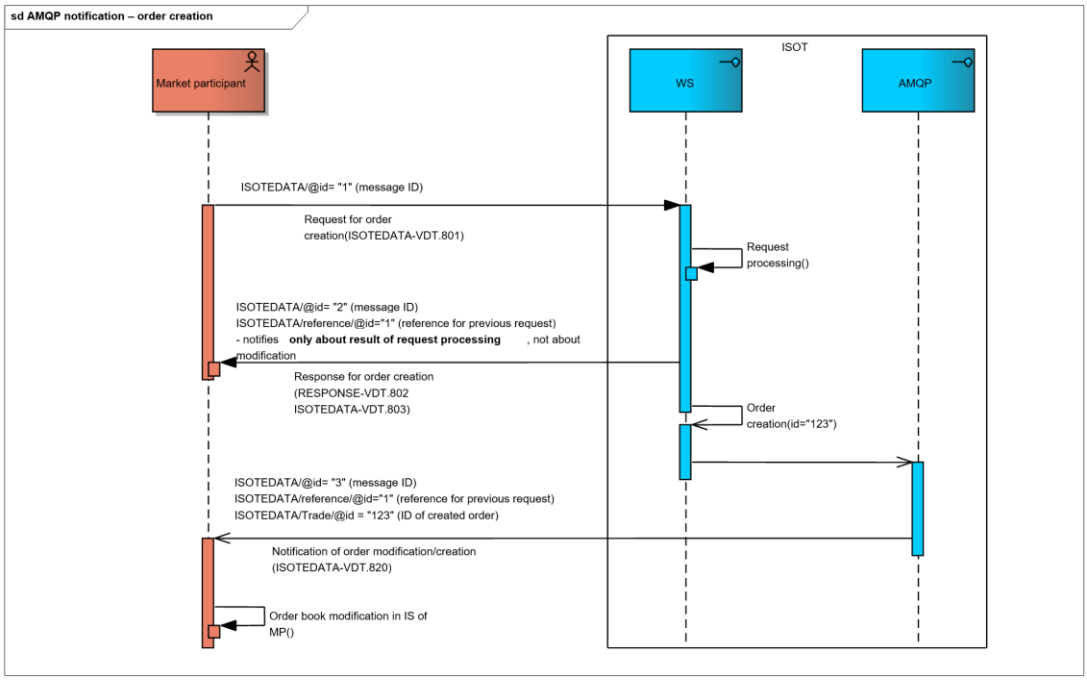

Figure 30 Order of sended messages scheme – order creation (AMQP notification)

Following pictures show transmission of messages which are sent when the order is modified by market participant connected to AMQP interface via web services. Notification about modified order is send to market participant connected to AMQP interface even in case when another subject modified order for the market participant via web page XMtrade®/ISOT.

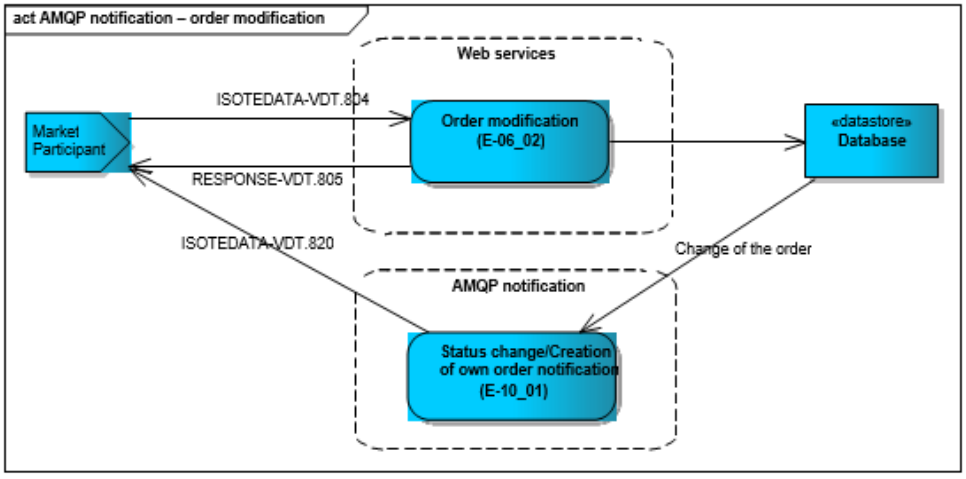

Figure 31 Sending messages scheme – order modification (AMQP notification)

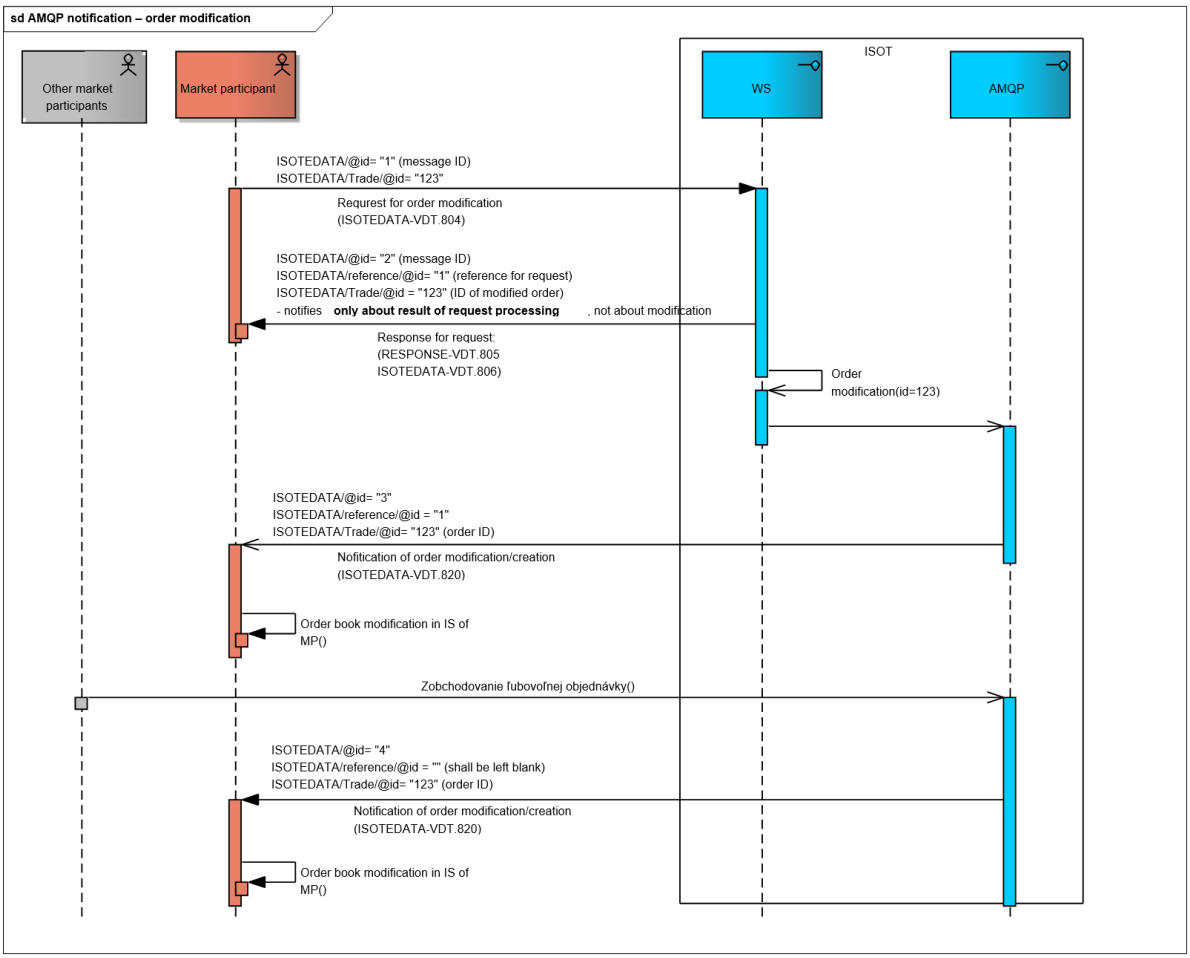

Figure 32 Order of sent messages scheme – order modification (AMQP notification)

ISOTEDATA-VDT.820

In the case of events shown above, the structure of the order data is sent through the AMQP protocol, with a message-code=820 in the header.

In attribute Reference/@id is reference to a message, which called out order creation. ID of created order is returned in attribute Trade/@id, which can be saved or paired in market participant order system via web service.

```
<ISOTEDATA id="ac5e799q-2qtr-75e7-9bef-8aabc02b7f4" message-code="820" date-time="2016-02-
15T16:30:10Z" dtd-version="1" dtd-release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15"/>
  <ReceiverIdentification id="24X--YOUR-EIC--B" coding-scheme="15" />
  <!--reference to message 801 - request for order submission-->
  <Reference id="1"/>
  <Trade id="1016" trade-day="2016-02-16" order-expiration="2016-02-15T19:30:10" trade-
type="N" block-order="N" indication="N" trade-stage="P" trader-id="123456" market-area="SK"
sett-curr="EUR" market="VDT">
    <TimeData datetime="2016-02-15T16:30:10Z" datetime-type="DTC"/>
    <ProfileData profile-role="BC01">
      <Data period-from="0" period-to="1" value="10.1" unit="MW" />
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data period-from="0" period-to="1" value="40.00" unit="EUR" />
    </ProfileData>
    <Party id="24X--YOUR-EIC--B" role="TO"/>
  </Trade>
</ISOTEDATA>
```

Example 45 Example of change in market participant order notification

4.7.3 Change of the order book data (E-10_02)

Notification via AMQP protocol is sent within dataflow and inform market participant about order book status changes. Notification is sent automatically in accordance with ISOTEDATA-VDT.830 structure (message-code=830). Same message is sent to all users connected to AMQP interface, but corresponding notification is not at the same level as the header addressed to a specific market participant (element ReceiverIdentification is not used).

Notification is a reaction to change in the order book, which can be caused by following cases that have consequences to amounts in one or more trading time periods:

- Market participant (adding, trading, modification of an order),
- Change caused by other market participant (adding, trading, modification of an order),
- System (expiration of and order, more precisely time period which can cause annulment of available amount in concrete time period).

Following pictures show messages transmission and sequence of those messages, which are sent to gather actual status of the order book. These messages are sent in case market participant is connected to AMQP interface and do not gather overall data from the order book via web services.

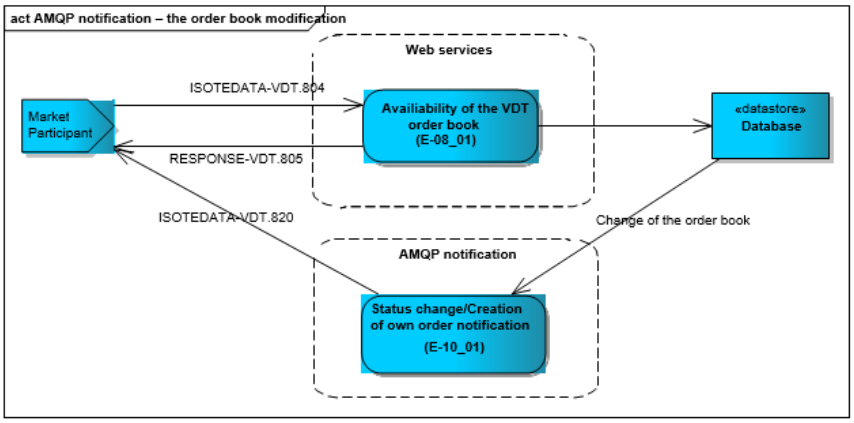

Figure 33 Sent messages scheme – order creation (AMQP notification)

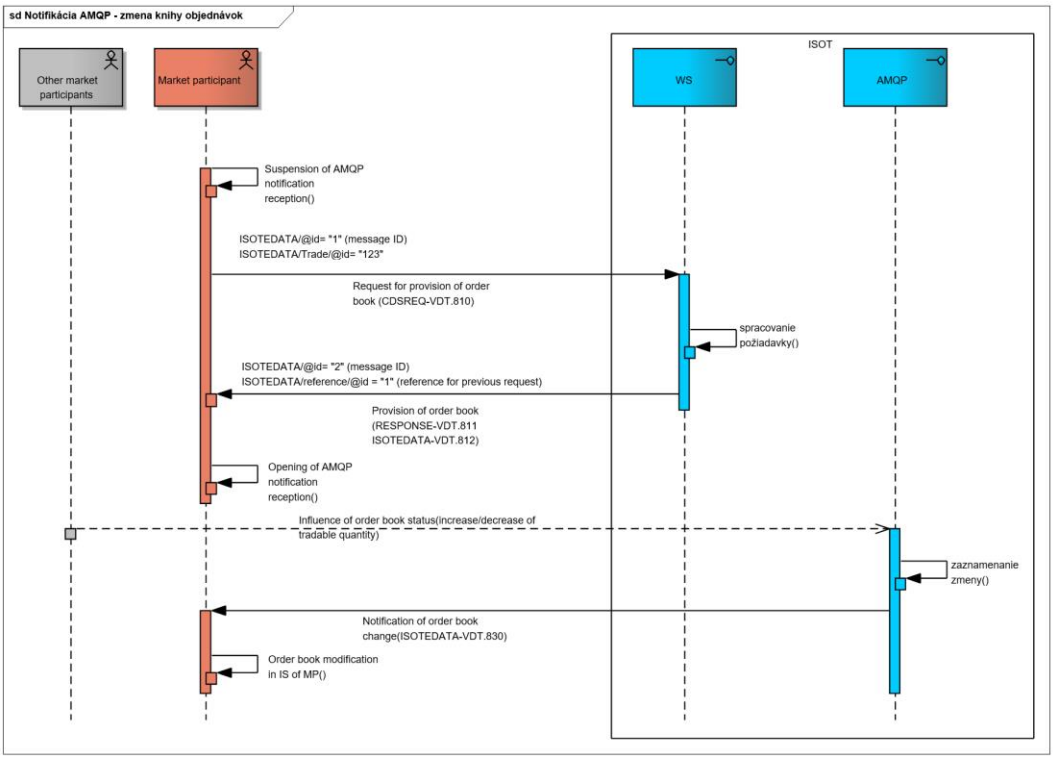

Figure 34 Sequentiality of sent messages scheme – modification of order book (AMQP notification)

Method of gathering and keeping up-to-date status of the order book is following:

1. Connect to AMQP interface
2. Intermit queue processing for income of automatized notifications.
3. Download the data of the order book via web services.
    a. During downloading data of the order book via web services it is necessary for market participant to not receive notification about changes in the order book.
4. Start receiving notification about changes in the order book
    a. This step ensures actualization of the order book – changes which were made during the downloading the order book via web services will be included
    b. The market participant will be informed about following changes automatically
5. In case market participant needs to download the order book again via web services, it is necessary to start with step number 2.
6. More information about connection failure can be found in the chapter Communication security 3.2.3.

Information necessary for correct notification processing and keeping up-to-date order book:

- Every notification regarded to the order book change, rewrite original amount of the order book for the specific type of order, direction(purchase/sale) and limited price.
- Every change represents one notification in a single XML document.
- In case of block order change, (base-load, peak-load and off-peak) notifications are always sent for side of orders and at the same time for side of sale. In case of change in user-defined block order, notifications about change are sent for all own orders in specific trading time periods.

ISOTEDATA-VDT.830

In case of events shown above, structure of the order book is sent through the AMQP protocol, with a message-code=830 in the header.

This type of message is not intended for a specific user, or market participant, but is intended for all users connected to AMQP interface. Element ReceiverIdentification is not filled out in the message. Amount for a specific price in specific time periods is shown in the message.

Following examples show sending of notification principle:

Example 1

1. Period 12-13 has the following amounts on trading day 7/13/2016:

Trading day: 13.7.2016	Purchase		Sale	
	Amount [MWh]	**Price [EUR/MW]**	**Amount [MWh]**	**Price [EUR/MW]**
Period:12-13	10,0	31,00		

2. Simple order for purchase (without indications) is booked for this period with amount of 11MW for 31 EUR/MW.
3. Period 12-13 will contain following amounts after matching:

Trading day: 13.7.2016	Purchase		Sale	
	Amount [MWh]	**Price [EUR/MW]**	**Amount [MWh]**	**Price [EUR/MW]**
Period:12-13	0,0	31,00	1,0	31,00

4. Notification no.1, showed below, represents change in amount at the side of purchase at 12-13 period to 0 MW for price 31 EUR/MW. Notification no.2 represents raise of amount at the side of sale to 1 MW for price 31 EURPMW.

```
<!--notification no.1-->
<?xml version="1.0" encoding="utf-8"?>
<ISOTEDATA xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" id="56f4aab9fd36497497b38fd0ef3a0223"
message-code="830" date-time="2017-08-07T11:04:02Z" dtd-version="1" dtd-release="1" answer-
required="false" xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade trade-day="2017-07-13" trade-type="N" block-order="N" market="VDT" sett-curr="EUR"
market-area="SK">
    <TimeData datetime="2017-07-13T11:04:02.808951Z" datetime-type="DTO" />
    <ProfileData profile-role="BP01">
      <Data period-from="12" period-to="13" value="31" unit="EUR" />
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="12" period-to="13" value="0" unit="MW" />
    </ProfileData>
  </Trade>
</ISOTEDATA>

<!--notification no.2-->
<?xml version="1.0" encoding="utf-8"?>
<ISOTEDATA xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" id="56f4aab9fd36497497b38fd0ef3a0223"
message-code="830" date-time="2017-08-07T11:04:02Z" dtd-version="1" dtd-release="1" answer-
required="false" xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade trade-day="2017-07-13" trade-type="P" block-order="N" market="VDT" sett-curr="EUR"
market-area="SK">
    <TimeData datetime="2017-07-13T11:04:02.808951Z" datetime-type="DTO" />
    <ProfileData profile-role="BP01">
      <Data period-from="12" period-to="13" value="31" unit="EUR" />
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="12" period-to="13" value="1" unit="MW" />
    </ProfileData>
  </Trade>
</ISOTEDATA>
```

Example 46 Example notification of change in the order book (change at the of purchase and sale)

Example 2

1. Period 16-17 has the following amounts on trading day 7/13/2016:

Trading day: 13.7.2016	**Purchase**		**Sale**	
	Amount [MWh]	**Price [EUR/MW]**	**Amount [MWh]**	**Price [EUR/MW]**
Period:16-17			5,0	45,00
			3,0	46,00
			2,0	46,15

2. Simple order for purchase (without indications) is booked for this period with amount of 10MW for 47 EUR/MW.
3. Period 16-17 will contain following amounts after matching:

Trading day: 13.7.2016	**Purchase**		**Sale**	
	Amount [MWh]	**Price [EUR/MW]**	**Amount [MWh]**	**Price [EUR/MW]**
Period:16-17			0,0	45,00
			0,0	46,00
			0,0	46,15

4. Notification no.1 represents change in amount at the side of purchase at 16-17 period to 0 MW for price 45 EUR/MW. Notification no.2 represents change to 0 MW for price 46,15 EURPMW and notification no.3 represents change to 0 MW for price 46 EUR/MW.

```
<!--notification no.1-->
<?xml version="1.0" encoding="utf-8"?>
<ISOTEDATA xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
id="8ddc0826d77847aea837c057865adffd" message-code="830" date-time="2017-08-07T11:11:26Z"
dtd-version="1" dtd-release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade trade-day="2017-07-13" trade-type="P" block-order="N" market="VDT" sett-
curr="EUR" market-area="SK">
    <TimeData datetime="2017-07-13T11:11:26.4356724Z" datetime-type="DTO" />
    <ProfileData profile-role="BP01">
      <Data period-from="16" period-to="17" value="45" unit="EUR" />
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="16" period-to="17" value="0" unit="MW" />
    </ProfileData>
  </Trade>
</ISOTEDATA>

<!--notification no.2-->
<?xml version="1.0" encoding="utf-8"?>
<ISOTEDATA xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
id="8ddc0826d77847aea837c057865adffd" message-code="830" date-time="2017-08-07T11:11:26Z"
dtd-version="1" dtd-release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade trade-day="2017-07-13" trade-type="P" block-order="N" market="VDT" sett-
curr="EUR" market-area="SK">
    <TimeData datetime="2017-07-13T11:11:26.4356724Z" datetime-type="DTO" />
    <ProfileData profile-role="BP01">
      <Data period-from="16" period-to="17" value="46.15" unit="EUR" />
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="16" period-to="17" value="0" unit="MW" />
    </ProfileData>
  </Trade>
</ISOTEDATA>

<!--notification no.3-->
<?xml version="1.0" encoding="utf-8"?>
<ISOTEDATA xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
id="8ddc0826d77847aea837c057865adffd" message-code="830" date-time="2017-08-07T11:11:26Z"
dtd-version="1" dtd-release="1" answer-required="false"
xmlns="http://sfera.sk/xmtrade/isot/types/IDM/2016/04">
  <SenderIdentification id="24X-OT-SK------V" coding-scheme="15" />
  <Trade trade-day="2017-07-13" trade-type="P" block-order="N" market="VDT" sett-
curr="EUR" market-area="SK">
    <TimeData datetime="2017-07-13T11:11:26.4356724Z" datetime-type="DTO" />
    <ProfileData profile-role="BP01">
      <Data period-from="16" period-to="17" value="46" unit="EUR" />
    </ProfileData>
    <ProfileData profile-role="BC01">
      <Data period-from="16" period-to="17" value="0" unit="MW" />
    </ProfileData>
```

Example 47 Example notification of change in the order book (the side of sale, different prices)

4.8 Retrieval of MCC values

MCC values are available for a market participant via operations for retrieval of these values per hours for a specific trading day.

4.8.1 Processing level

Transmission systems operators report capacities assigned for the purpose of interconnection of the CR and SR day-ahead markets for the following day in the form of market coupling (MCC - Market Coupling Capacity). These capacities are stated for each hour of the following trading day for cross-border trading areas which are connected via Market Coupling. Capacities are mentioned for every profile in both directions.

Daily deadline for reception of MCC from transmission system operators is set to 9:00 am. In exceptional cases, transmission system operator is entitled to update these values by the launch time for order coupling. Market participant is notified of eventual update of MCC values after the standard deadline via ISOT system.

Functionality for downloading MCC values is not available within the web service *StatusRequest* and method *DownloadMCC* in case of requesting data for the trading day which is under the CORE regime. During the CORE regime, the cross-border capacities are calculated by a new method of so called *flow-based* matrix. Hyperlink for access to relevant *flow-based* matrix of cross-border capacities is available one the OKTE's website.

4.8.2 Notification of MCC values (E-01_02)

Notification of MCC values is carried out by request in *ESR.StatusRequest* structure and response with data in *ECAN.CapacityDocument* and *EAD.Acknowledgement* structures.

Figure 35 Notification schema of MCC values

In case of failed processing of *StatusRequest* request, only Acknowledgement containing reason for the fail is returned. In case of successful processing, confirming Acknowledgement and CapacityDocument are returned provided that MCC values exist for a given trading day.

4.8.3 ESR.StatusRequest

StatusRequest structure is used in general for retrieval of process status or information on process in accordance with *ENTSO-E* standards. The structure is in accordance with *ESR V1R1* standard and consists a single part:

- *StatusRequest* – contains details related to the entire message.

StatusRequest

Header of request for retrieval of status information contains values of particular attributes according to the following table.

Element	Value	Description	Use
Message Identification	Identification	Unique message identification Maximum 35 characters.	Required
Message Type	A13	Type of message, which status is required. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
Process Type	A07	Type of process, which the message relates to. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required

Element	Value	Description	Use
Sender Identification	Sender EIC	Message sender identification. Entity EIC is used. Maximum 16 characters.	Required
Sender Role	A01	Message sender role. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
Receiver Identification	24X-OT-SK------V	Message receiver identification. EIC = 24X-OT-SK------V is used. Maximum 16 characters.	Required
Receiver Role	A07	Message receiver role. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
Message Date And Time	YYYY-MMDDTHH:MM:SSZ	Date of message sending. Date and time format: • YYYY – year, • MM – month, • DD – day, • HH – hour, • MM – minute. Date and time items are inserted into the message in UTC (Universal Time).	Required
Requested Time Interval	YYYY-MM-DDTHH:MMZ/ YYYY-MM-DDTHH:MMZ	Time interval = trading day, for which information is requested. Date and time format: • YYYY – year, • MM – month, • DD – day, • HH – hour, • MM – minute. Example for trading day 20.08.2009: 2009-08-19T22:00Z/2009-08-20T22:00Z Date and time items are inserted into the message in UTC (Universal Time).	Required

```
<ns:StatusRequest DtdVersion="1" DtdRelease="1"
xmlns:ns="http://sfera.sk/ws/xmtrade/isot/statusrequest/services/2009/04/01"
xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/esrv1r1/2009/04/01">
  <MessageIdentification v="ce75631a99b045e98322d8912b0090b1"/>
  <MessageType v="A13"/>
  <ProcessType v="A07"/>
  <SenderIdentification v="11XSEBRATISLAVA4" codingScheme="A01"/>
  <SenderRole v="A01"/>
  <ReceiverIdentification v="24X-OT-SK------V" codingScheme="A01"/>
  <ReceiverRole v="A07"/>
  <MessageDateTime v="2009-08-18T14:35:07Z"/>
  <RequestedTimeInterval v="2009-08-15T22:00Z/2009-08-16T22:00Z"/>
</ns:StatusRequest>
```

Example 48 Request for retrieval of MCC values

4.8.4 EAD.Acknowledgement

Acknowledgement structure (ACK, Acknowledgement Document) is used for confirmation or rejection of request reception within the communication in *ENTSO-E* structures with the ISOT system. The structure is in accordance with *EAD V5R0* standard and consists of the following parts:

- *Acknowledgement document* – contains details related to the entire message.
- *Time Series Rejection* – contains identification details of respective time series (not used in this context).
- *Time Interval Error* – contains identification details of respective value in time series (not used in this context).
- *Reason* – contains information on acceptance or rejection of the request.

Within notification of MCC values, only *Reason* part of the structure is used and the remaining parts are not relevant in this communication.

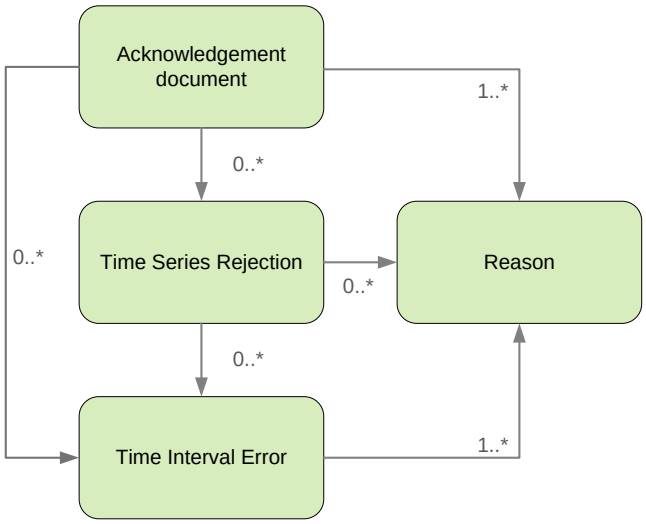

Figure 36 Scheme of Acknowledgement structure

Acknowledgement document

Header of acknowledgement document contains values of particular attributes in accordance with the following table.

Element	Value	Description	Use
Document Identification	Identification	Document identification. Maximum 35 characters.	Required

Element	Value	Description	Use
Document Date And Time	YYYY-MMDDTHH:MM:SSZ	Date of document sending. Date and time format: • YYYY – year, • MM – month, • DD – day, • HH – hour, • MM – minute. Date and time items are inserted into the document in UTC (Universal Time).	Required
Sender Identification	24X-OT-SK------V	Document sender identification. EIC = 24X-OT-SK------V is used. Maximum 16 characters.	Required
Sender Role	A07	Document sender role. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
Receiver Identification	Entity EIC	Message receiver identification. Entity EIC is used. Maximum 16 characters.	Required
Receiver Role	A01	Message receiver role. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
Receiving Document Identification	Identification	Identification of the original message, which the acknowledgement document refers to.	Required
Date Time Receiving Document	YYYY-MMDDTHH:MM:SSZ	Reception date of the original message in UTC (Universal Time), which the acknowledgement document refers to.	Optional

Reason

Information about acceptance or rejection of the message contains values of particular attributes in accordance with the following table.

Element	Value	Description	Use
Reason Code	AXY	Information on acceptance or rejection of the original message and reasons for its rejection. According to ENTSO-E General Code	Required

Element	Value	Description	Use
		List for Data Interchange. At the message level: • A01 - Message fully accepted, • A02 - Message fully rejected, • A04 - Time interval incorrect, • A51 - Message identification or version conflict, • A53 - Receiving party incorrect, • A78 - Sender identification and/or role invalid, • A79 - Process type invalid, • A94 - Document cannot be processed by receiving system.	
Reason Text	open text	Additional text justification.	Optional

```
<Acknowledgement DtdVersion="5" DtdRelease="0">
  <DocumentIdentification v="3e26b8eb34d84eec85de683bdf4ceee9" xmlns=""/>
  <DocumentDateTime v="2009-08-18T14:35:07Z" xmlns=""/>
  <SenderIdentification v="24X-OT-SK------V" codingScheme="A01" xmlns=""/>
  <SenderRole v="A07" xmlns=""/>
  <ReceiverIdentification v="11XSEBRATISLAVA4" codingScheme="A01" xmlns=""/>
  <ReceiverRole v="A01" xmlns=""/>
  <ReceivingDocumentIdentification v="ce75631a99b045e98322d8912b0090b1" xmlns=""/>
  <DateTimeReceivingDocument v="2009-08-18T14:35:08Z " xmlns=""/>
  <Reason xmlns="">
    <ReasonCode v="A01"/>
    <ReasonText v=""/>
  </Reason>
</Acknowledgement>
```

Example 49 ACK, acknowledgement of successful reception for retrieval of MCC values

4.8.5 ECAN.CapacityDocument

CapacityDocument structure is used for retrieval of MCC values and consists of the following parts in accordance with *ECAN V4R0* standard:

- *CapacityDocument* – contains details related to the entire message (header),
- *CapacityTimeSeries* – contains details about time series,
- *Period* – contains details about time periods,
- *Interval* – contains specific MCC details in particular time units,
- *Reason* – contains details about reasons for invalidity of document or specific interval (not used).

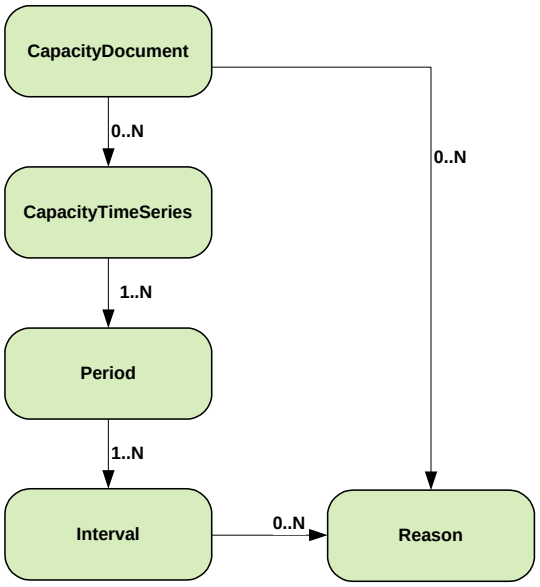

Figure 37 Schema of CapacityDocument structure

CapacityDocument

Header contains values of particular attributes in accordance with the following table.

Element	Value	Description	Use
Document Identification	Identification	Message identification. Maximum 35 characters.	Required
Document Version	non-negative number	Version of the registered document.	Required
Document Type	A13	Document type (Interconnection Capacity). According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
ProcessType	A07	Process type (Capacity Allocation). According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
Sender Identification	24X-OT-SK------V	Message sender identification. EIC = 24X-OT-SK------V is used Maximum 16 characters.	Required
Sender Role	A07	Message sender role. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required

Element	Value	Description	Use
Receiver Identification	Entity EIC	Message receiver identification. Entity EIC is used. Maximum 16 characters.	Required
Receiver Role	A01	Message receiver role. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
Creation Date Time	YYYY-MMDDTHH:MM:SSZ	Date of document creation in the system. Date and time format: • YYYY – year, • MM – month, • DD – day, • HH – hour, • MM – minute. Date and time items are inserted into the message in UTC (Universal Time).	Required
Capacity Time Interval	YYYY-MM-DDTHH:MMZ/ YYYY-MM-DDTHH:MMZ	Time interval = trading day, for which information is returned. Date and time format: • YYYY – year, • MM – month, • DD - day, • HH – hour, • MM – minute. Example of trading day 20.08.2009: 2009-08-19T22:00Z/2009-08-20T22:00Z Date and time items are inserted into the message in UTC (Universal Time).	Required
Domain	10YDOM-CZ-DE-SKK	Domain	Required

CapacityTimeSeries

It covers details for cross-border profiles. Two structures are returned for profiles: *CapacityTimeSeries* or two time series. Values of particular attributes are in accordance with the following table.

Element	Value	Description	Use
TimeSeries Identification	Identification	Identification of time series. Maximum 35 characters.	Required

Element	Value	Description	Use
Business Type	A31	Business type (Offered Capacity). According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
Product	8716867000016	Product identification. According to ENTSO-E General Code List for Data Interchange. Maximum 3 characters.	Required
InArea	10YSK-SEPS-----K / 10YCZ-CEPS-----N	EIC code of area, to which energy is coming.	Required
OutArea	10YCZ-CEPS-----N / 10YSK-SEPS-----K	EIC code of area, out of which energy is coming.	Required
MeasureUnit	MAW	Unit of values. MAW = MW	Required
AuctionIdentification	DAY-AHEAD_IMPLICIT	Identification of auction = implicit auction.	Required

Period

It covers details on particular time period (trading day). Values of particular attributes are in accordance with the following table.

Element	Value	Description	Use
TimeInterval	YYYY-MM-DDTHH:MMZ/ YYYY-MM-DDTHH:MMZ	Time interval = trading day, for which information are retrieved. Date and time format: • YYYY - year, • MM - month, • DD – day, • HH – hour, • MM – minute. Example for trading day 20.08.2009: 2009-08-19T22:00Z/2009-08-20T22:00Z Date and time items are inserted into the message in UTC (Universal Time).	Required
Resolution	PT60M	Resolution of period = hour.	Required

Interval

It contains details on particular capacities in respective hours. Values of particular attributes are in accordance with the following table.

Element	Value	Description	Use
Pos	positive number	Position = hour within a given trading day. It starts from 1.	Required
Qty	number	Quantity	Required

```
<CapacityDocument DtdVersion="4" DtdRelease="0">
  <DocumentIdentification v="7a376855c4644ab990d190e9ccdfbe46"
     xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <DocumentVersion v="1"
xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <DocumentType v="A13"
xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <ProcessType v="A07" xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <SenderIdentification v="24X-OT-SK------V" codingScheme="A01"
     xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <SenderRole v="A07" xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <ReceiverIdentification v="11XSEBRATISLAVA4" codingScheme="A01"
     xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <ReceiverRole v="A01"
xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <CreationDateTime v="2009-08-18T14:35:07Z"
     xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <CapacityTimeInterval v="2009-08-15T22:00Z/2009-08-16T22:00Z"
     xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
  <Domain v="10YDOM-CZ-DE-SKK" codingScheme="A01"
     xmlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01"/>
```

```
    <CapacityTimeSeries mlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01">
       <TimeSeriesIdentification v="103"/>
       <BusinessType v="A31"/>
       <Product v="8716867000016"/>
       <InArea v="10YSK-SEPS-----K" codingScheme="A01"/>
       <OutArea v="10YCZ-CEPS-----N" codingScheme="A01"/>
       <MeasureUnit v="MAW"/>
       <AuctionIdentification v="DAY-AHEAD_IMPLICIT"/>
       <Period>
          <TimeInterval v="2009-08-15T22:00Z/2009-08-16T22:00Z" xmlns=""/>
          <Resolution v="PT60M" xmlns=""/>
          <Interval xmlns=""><Pos v="1"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="2"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="3"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="4"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="5"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="6"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="7"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="8"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="9"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="10"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="11"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="12"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="13"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="14"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="15"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="16"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="17"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="18"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="19"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="20"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="21"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="22"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="23"/><Qty v="80"/></Interval>
          <Interval xmlns=""><Pos v="24"/><Qty v="80"/></Interval>
       </Period>
    </CapacityTimeSeries>
    <CapacityTimeSeries mlns="http://sfera.sk/ws/xmtrade/isot/common/types/ecan/2009/04/01">
       <TimeSeriesIdentification v="101"/>
       <BusinessType v="A31"/>
       <Product v="8716867000016"/>
       <InArea v="10YCZ-CEPS-----N" codingScheme="A01"/>
       <OutArea v="10YSK-SEPS-----K" codingScheme="A01"/>
       <MeasureUnit v="MAW"/>
       <AuctionIdentification v="DAY-AHEAD_IMPLICIT"/>
       <Period>
          <TimeInterval v="2009-08-15T22:00Z/2009-08-16T22:00Z" xmlns=""/>
          <Resolution v="PT60M" xmlns=""/>
          <Interval xmlns=""><Pos v="1"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="2"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="3"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="4"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="5"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="6"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="7"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="8"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="9"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="10"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="11"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="12"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="13"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="14"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="15"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="16"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="17"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="18"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="19"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="20"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="21"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="22"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="23"/><Qty v="100"/></Interval>
          <Interval xmlns=""><Pos v="24"/><Qty v="100"/></Interval>
       </Period>
    </CapacityTimeSeries>
</CapacityDocument>
```

Example 51 Retrieved MCC values – time series

5 LIST OF FIGURES

6 LIST OF TABLES

7 LIST OF EXAMPLES