

Star 01.02 - B2B programmer guide for aFRR

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Chapter 1. History

Version	Date	Changes
Star 01.01	06-03-2020	Initial version based on new aFRR design
Star 01.02	12-03-2020	Internal Elia review
		-

Chapter 2. Introduction

This document is a developer guide for the use of the STAR B2B REST API for communicating between Bidder and Elia with the STAR application. This document describes the how:

- A bidder can send its offer about aFRR reserves. This is done using the process "aFRRBid" using XML messages exchange
- A bidder can retrieve the results of an auction
- A bidder can retrieve the status of an auction

This document is organized into four sections.

- [Using the Star B2B portal](#)

The first part explains how the communication interface with the B2B portal actually works.

- [aFRRStarBid process description](#)

The second part describes the process of the aFRRStarBid.

- [Messages specifications](#)

The third part is a detailed message specification.

- [Message samples](#)

The last part gives some samples of XML messages.

Chapter 3. Using the B2B portal

3.1. STAR B2B REST API

The STAR REST API is for the interface between Elia Web server and the client Web browser.

3.2. Description of the REST API

3.2.1. Server-side

The STAR REST API is the programmatic interface to a defined request-response message system expressed in XML exposed via HTTPS based web server.

- HTTPS – PUT method for sending AFRRStarBidDocument
 - o URI= <https://star.app.elia.be/b2B/aFRR/offers/v1>
 - Method= PUT
 - o ContentType = text/xml
 - o Authentication using the ISOEXT login
 - o Body: XML as defined in section [aFRRStarBididDocument protocol](#)
 - o BodyResponse: XML as defined in the [aFRRStarBidDocumentResponse](#).
- HTTPS – GET method for receiving BidResultDocumentResponse structure
 - o URI= <https://star.app.elia.be/b2B/aFRR/offers/v1>
 - Method= GET
 - o Accept = application/xml or application/json
 - o Authentication using the ISOEXT login
 - o Parameters:
 - deliveryDate=2018-09-17 (YYYY-MM-DD)
 - o BodyResponse: XML as defined in the [aFRRBidResultDocumentResponse](#).
- HTTPS – GET method to get Auction status (auction status)
 - o URI= <https://star.app.elia.be/b2B/aFRR/auctions/v1> (to be confirmed)
 - Method= GET
 - o Accept = application/xml or application/json
 - o Authentication using the ISOEXT login
 - o Parameters:
 - from=2018-09-17 (YYYY-MM-DD)
 - to=2018-09-17 (YYYY-MM-DD)
 - o BodyResponse: [ArrayOfAuctionDeliveryDate Structure](#)

3.2.2. Client-side

Not Applicable

Chapter 4. aFRR Offer service description

4.1. Introduction

This section describes how B2B process to communicate with STAR is implemented concerning in order for the bidders to send bids to ELIA STAR system.

Using this service it is also possible to retrieve the current status of submitted bids.

This service implements 2 methods

- PUT
- GET

4.2. Send a aFRRStarBidDocument message using PUT method

4.2.1. The Bidder initiates an aFRRStarBidDocument to Elia.

The Bidder decides to generate several bids for a specific CCTU (entire day – 24 hours – or for blocks of 4 hours). To do that he can decide to send a B2B message to the application STAR containing the bid details.

Elia will procure aFRR capacity by running capacity auctions in 2 steps. For Day D:

- Step 1: One “all-CCTU” capacity auction: the “all-CCTU” capacity auction is performed in Day D-2 for all CCTU of day D;
- Step 2: Six “per-CCTU” capacity auctions: all “per-CCTU” capacity auctions are performed at the same time in Day D-1 for each CCTU of Day

Therefore, it is important to understand that there is one message per CCTU. The auction in step 1 (all-CCTU) are bids defined for the entire day and so the corresponding CCTU is 24 hours. For the auction in step 2 (per-CCTU), a CCTU is a period of 4 hours.

If the bidder sends a message for a CCTU already sent (a second time for example), all previous bids will be deleted and replaced by the new ones (no history and going back to previous version is possible).

Therefore, per Delivery day, it is possible to send 7 different messages, each one for each CCTU. However, please note that the gate opening and gate closure times for step 1 and step 2 are different.

In addition “Validation Bids”, as defined in the B2C, process is started after reception of the bids. The status is not automatically returned by the B2B, and so suppliers need to check the bid status on the web site, on the report sent back by email or request the status through [BidResultDocumentResponsestructure](#) using the GET method as described in [Get a aFRRBidResultDocumentResponse message using GET method](#).

The bidder will use an HTTP-PUT method with an XML message (as defined in [Messages specifications](#)) containing all the necessary information to push theirs bids into STAR.

The message contains for each bid, the contract reference related to the bid, the volume, price (€/MW/h) and direction.

The TSO replies by a response giving the result of the transaction.

4.2.2. Message Validation process.

4.2.2.1. Description

The validation process is the process defined in the STAR application to validate the structure and the content of the received message.

aFRRStarBidDocumentResponse is the response message that contains the result of this validation process.

4.2.2.2. Technical validation

4.2.2.2.1. XML structure validation

The received XML message aFRRStarBidDocument will be validated through its XML structure using XSD validation. If this validation fails, the message will be rejected.

4.2.2.2.2. Authentication validation

It is validated at this level that authentication used by the caller is a valid one using the basic authentication.

Based on the ISOEXT login used, STAR application will identify the bidder.

4.2.2.3. Business validation

4.2.2.3.1. Delivery Period Validation

Check is done to verify that Start date /End date specified for the auction period correspond to an existing auction in STAR and for which bids can be entered depending on gate opening datetime. See also A05, A57, A81 at following section [Data structure Reason: Reason identifier](#) to interpret the error message given as response in case of failure for this validation.

4.2.2.3.2. Bidder Contract validation

For all contractReference defined in the bid, following checks are done (See also Error code Z02 at following section [Data structure Reason: Reason identifier](#))

- The contractReference exists
- The contractReference is well associated to the bidder (linked to the ISOEXT login)
- The contractReference is valid for the auction period

4.2.2.3.3. ServiceType validation

Depending on the auction step, there are different rules defined:

- Step 1: One "all-CCTU" capacity auction on D-2. All bids have to specify an offered volume for each capacity product: up **and** down. Thus the bid must contain 2 bid details; one for each capacity product (up and down).
- Step 2: Six "per-CCTU" capacity auctions on D-1. All bids have to specify an offered volume for only one capacity product: up **or** down. Thus the bid must contain only 1 bid detail.

(See also Error code Z15 and Z16 at following section [Data structure Reason: Reason identifier](#))

4.2.2.3.4. Bid details validation

Check that bidNumber is unique in the whole message and so the entire CCTU. (See also Error code Z04 at following section [Data structure Reason: Reason identifier](#))

4.2.2.3.5. Volume validation

This checks consist to verify that the volume ≥ 1 MW for 4h block bids (auction step 2). (See also Error code Z17 at following section [Data structure Reason: Reason identifier](#))

4.2.2.3.6. Prequalified volume validation

The volume offered for a specific aFRR Capacity Product cannot exceed the prequalified volume corresponding with the aFRR Capacity Product for each ContractReference. So in this case, the message is accepted (See also code A01 at following section [Data structure Reason: Reason identifier](#)) and all bids are added in STAR (if no other error message received). However, the status of some bids can be rejected if they do not comply with the validation. To get more details on which Bids are rejected, the GET method can be used.

(See also Error code W01 at following section [Data structure Reason: Reason identifier](#))

4.2.2.3.7. Total cost validation

Only applicable for auction step 1 (all-CCTU capacity auction).

Total cost validation is executed each time a B2B message is received. So in this case, the message is accepted (See also code A01 at following section [Data structure Reason: Reason identifier](#)) and all bids are added in STAR (if no other error message received). However, the status of some bids can be rejected if they do not comply with the validation. To get more details on which Bids are rejected, the GET method can be used. (See also Error code W02 at following section [Data structure Reason: Reason identifier](#))

4.2.2.3.8. Smallest offered volume validation

Only applicable for auction step 1 (all-CCTU capacity auction).

Smallest offered volume validation is executed each time a B2B message is received. So in this case, the message is accepted (See also code A01 at following section [Data structure Reason: Reason identifier](#)) and all bids are added in STAR (if no other error message received). However, the status of some bids can be rejected if they do not comply with the validation. To get more details on which Bids are rejected, the GET method can be used.

(See also Error code W03 at following section [Data structure Reason: Reason identifier](#))

4.2.2.3.9. Volume increment per capacity product validation

Only applicable for auction step 1 (all-CCTU capacity auction).

Volume increment per capacity product validation is executed each time a B2B message is received. So in this case, the message is accepted (See also code A01 at following section [Data structure Reason: Reason identifier](#)) and all bids are added in STAR (if no other error message received). However, the status of some bids can be rejected if they do not comply with the validation. To get more details on which Bids are rejected, the GET method can be used.

(See also Error code W04 at following section [Data structure Reason: Reason identifier](#))

4.3. Get a aFRRBidResultDocumentResponse message using GET method

The Bidder can use this GET method at any time to get the bid status and details. This result is only sent for the entire delivery date and so containing all bids for all CCTU's defined for this delivery date. Refer to [BidResultDocumentResponsestructure](#) for more details.

aFRR Auction service description

4.4. Introduction

This service provides to the BSP a mean to get the status and details of all CCTU's.

4.5. Get Auction details

The is implemented though a GET method using 2 parameters

- from=2018-09-17 (YYYY-MM-DD)
- to=2018-09-17 (YYYY-MM-DD)

The result gives the details of all CCTU's within this period. See also [ArrayOfAuctionDeliveryDate Structure](#) for more details.

Chapter 5. Messages specifications

5.1. aFRRStarBidDocument XML structure

5.1.1. Data structure aFRRStarBidDocument body XML.

The message is applicable for an entire DeliveryPeriod (CCTU). If the bidder has already sent a message for the same CCTU, the existing bids will be deleted and replaced by the ones defined in the message (before close gate datetime).

An empty message is possible (no bid) and so in that case all existing bids will be deleted. Pay attention that if the current message is rejected (A02 as ReasonCode), then the existing bids are still applicable and stored in Elia STAR system.

5.1.1.1. Synopsis

Field	Cardinality	Data type	Description
deliveryPeriod	Mandatory	Period	The CCTU applicable for the whole message
Bid	0 <= n	List of bid	List of bids sent by the bidder.

5.1.1.2. Detailed fields information

5.1.1.2.1. Field deliveryPeriod

This information represents the delivery period (CTTU) for which the aFRRStarBidDocument message is applicable.

This information gives the start and end date period for the current tender. Based on this field, STAR application will check if the gate 1 is well opened for this period.

The format is as follows:YYYY-MM-DD HH:MM/YYYY-MM-DD HH:MM

- Example for step 1 auction:
- 2019-11-11 00:00/2019-11-12 00:00 (local time)
- Example for step 2 auction:
- 2019-11-11 12:00/2019-11-11 16:00 (local time)

Cardinality	Mandatory
Data type	Period

5.1.1.2.2. Field bid

List of Bid

This information describes the list of bids sent by the bidder for the tendering period. If no bid is specified, all existing bids in STAR for this bidder and for the given CCTU will be deleted in STAR.

Cardinality	0 <= n
Data type	list of bid

5.1.1.3. Data structure bid: Base information for a bid

XML Namespace: <http://www.elia.be/namespaces/public/Star/b2bmsg>

5.1.1.3.1. Synopsis

Field	Cardinality	Data type	Description
bidNumber	mandatory	Int	Identifier of the Bid. Must be unique in the whole message
contractReference	Mandatory	string	Contract reference
bidDetail	1 <= 2	List of bidDetail	List of bid details to specify direction price and volume. If you wish to specify a symmetric bid, you have to specify 2 bid details; one for the Up direction and a second for the Down direction

5.1.1.3.2. Detailed fields information

5.1.1.3.2.1 Field bidNumber

This information describes the identifier of the bid. This is a unique number in the aFRRStarBidDocument. Same numbering can be used from a CCTU and other ones.

Cardinality	Mandatory
Data type	Int

5.1.1.3.2.2 Field contractReference

This information represents the contract reference like 'aFRR-xxxx-2015'.

Cardinality	Mandatory
Data type	string

5.1.1.4. Data structure for a bidDetail

XML Namespace: <http://www.elia.be/namespaces/public/Star/b2bmsg>

5.1.1.4.1. Synopsis

Field	Cardinality	Data type	Description
volume	Mandatory	Int	Volume to be considered for the bid in MW
price	mandatory	decimal	Price that applies for this bid
serviceType	mandatory	ServiceType	Capacity Product: Up or down

5.1.1.4.2. Detailed fields information

5.1.1.4.2.1 Field price

This field indicates the price per MW/h for this bid (€/MW/h). Max 2 decimals are accepted.

The price value must be greater than zero.

Cardinality	Mandatory field
Data type	decimal

5.1.1.4.2.2 Field volume

This field indicates the volume of power applicable for this bid.

The volume value must be greater or equal to zero for 24h bids (auction step 2)

The volume value must be greater or equal to 1 for 4h bids (auction step 1)

Cardinality	Mandatory field
Data type	int

5.1.1.4.2.3 Field serviceType

This field indicates the direction of this bid.

Cardinality	Mandatory field
Data type	ServiceType

The following table indicates the valid values:

Value	Description
Up	Fields price and volume are applicable for up direction
Down	Fields price and volume are applicable for down direction

5.2. aFRRStarBidDocumentResponse structure.

This message structure is the one used by STAR in response of the GET method of the service b2B/aFRR/offers as described in [Get a aFRRBidResultDocumentResponse message using GET method](#)

5.2.1. Data structure aFRRStarBidDocumentResponse

5.2.1.1. Synopsis

Field	Cardinality	Data type	Description
bidder	Mandatory	Partner	Identifies the bidder based on its login
deliveryPeriod	optional	Period	Identifies the Delivery period (CCTU) Not present if the input delivery period is unknown.
bidDocumentStatus	Mandatory	boolean	Indicates if the aFRRStarBidDocument has been accepted or not
reason	1 <= n	Reason	

5.2.1.2. Detailed Fields information

5.2.1.2.1. Field bidder

This information represents the identification of the bidder based on the login used when the AFRRStarBidDocument has been sent.

Cardinality	Mandatory
Data type	Partner

5.2.1.2.2. Field deliveryPeriod

This information represents the CCTU for which the AFRRStarBidDocument message has been accepted (or rejected).

This information gives the start and end date period for the current tender. In case the input deliverPeriod cannot be extracted by STAR or is unknown, this field will not be present in the response.

Cardinality	Mandatory
Data type	Period

5.2.1.2.3. Field bidDocumentStatus

If the AFRRStarBidDocument is accepted, this field will return "True" else "False".

Cardinality	mandatory
Data type	boolean

5.2.1.2.4. Field reason

Cardinality	1 <= n
Data type	reason

This contains the reason accepted or rejected AFRRStarBidDocument.

5.3. BidResultDocumentResponsestructure

5.3.1. Data structure BidResultDocumentResponsebody XML.

The message is a response of a request to get the current Bid Result for a DeliveryDate as described in [Get a aFRRBidResultDocumentResponse message using GET method](#)

If no bid has been sent by the BSP prior to this request, an empty message will be returned (no bid).

5.3.2. Synopsis

Field	Cardinality	Data type	Description
auctionDeliveryPeriods	0 <= n	List of auctionDeliveryPeriod	List of period of auctions within this delivery date
deliveryDate	Mandatory	date	The delivery date for which the list of bids are applicable
productType	Mandatory	productType	aFRR

5.3.3. Detailed fields information

5.3.3.1. Field deliveryDate

This field gives the delivery date applicable for this response message (same value as defined in the GET message) with format YYYY-MM-DDTHH:MM:SS

5.3.3.2. Field productType

This information represents the type of product for which the BidResultDocumentResponsebody message is applicable.

The following table indicates the valid values:

Value	Description
aFRR	aFRR product

5.3.3.2.1. Field auctionDeliveryPeriods

This field has the same structure as the one returned when calling the get auction status as defined in [HTTPS – GET method to get auction status](#)

Field	Cardinality	Data type	Description
Bids	0 <= n	List of Bids	See bids details
gateIndex	Mandatory	String	1 or 2 (see also Field GateIndex)
Name	Mandatory	String	Name of the auction delivery period See also Field Name
periodFrom	Mandatory	datetime	See also Field PeriodFrom
periodTo	Mandatory	datetime	See also Field PeriodTo
State	Mandatory	AuctionState	See also Field State
totalVolumeDemand	Mandatory	int	See also Field totalVolumeDemand Can be null if not defined

5.3.3.2.2. Field bids

Field	Cardinality	Data type	Description
BidNumber	Mandatory	int	See also Field BidNumber
ContractReference	Mandatory	string	See also Field ContractReference
ReceptionTime	Mandatory	datetime	See also Field receptionTime
Status	Mandatory	BidState	See also Field status
BidDetail	1 <= 2	BidDetail	See also field BidDetail

5.3.3.2.3. Field bidDetail

Field	Cardinality	Data type	Description
Price	Optional	decimal	See also Field Price
OfferedVolume	Mandatory	decimal	See also Field OfferedVolume
SelectedVolume	Mandatory	decimal	See also Field SelectedVolume
ServiceType	Mandatory	string	See also Field serviceType

5.3.3.3. Detailed fields information

5.3.3.3.1. Field serviceType

This specifies the service type associated to aFRR product.

The following table indicates the valid values:

Value	Description
Up	Identify the bid detail direction for volume, selected volume and price
Down	Identify the bid detail direction for volume, selected volume and price

5.3.3.3.2. Field BidNumber

This identifies the bidNumber as initially sent by BSP through B2B or created by STAR platform using the B2C.

5.3.3.3.3. Field ContractReference

This identifies the contract reference associated to the bid

5.3.3.3.4. Field OfferedVolume

This specifies the offered volume as defined by BSP before selection

5.3.3.3.5. Field SelectedVolume

This specifies the selected volume based on the auction selection and for the service type (Up/Down)

5.3.3.3.6. Field Price

This specifies the price as defined by the BSP during the auction

5.3.3.3.7. Field status

The following table indicates the valid values:

Value	Description
Received	Initial status when offer is created through B2C. Note through B2B, this status is never returned as validation of bids are automatically performed.
Checked	Status returned before Gate Closure when bid is correctly validated
Rejected	Status returned in case the bid validation failed and reject the bid (business validation checks)
Accepted	Status returned after gate closure when bid is correctly validated
Awarded	Status of the bid when volume has been awarded

5.3.3.3.8. Field receptionTime

This field specifies the time for which the bid has been received (through B2B or B2C).

5.3.4. Example

To be completed

5.4. ArrayOfAuctionDeliveryDate Structure

5.4.1. Data structure of ArrayOfAuctionDeliveryDate

The message is a response of a request to get the current status of auctions

5.4.1.1. Synopsis

Field	Cardinality	Data type	Description
AuctionDeliveryDate	0..n	list of AuctionDeliveryDate	List of auctionDeliveryDate inside the request from/to

5.4.2. Data structure of AuctionDeliveryDate

5.4.2.1. Synopsis

Field	Cardinality	Data type	Description
deliveryDate	Mandatory	date	The delivery date for which the list of bids are applicable
productType	Mandatory	productType	aFRR
AuctionDeliveryPeriod	0..n	list of AuctionDeliveryPeriod	

5.4.3. Data structure of AuctionDeliveryPeriod

5.4.3.1. Synopsis

Field	Cardinality	Data type	Description
GateOpeningTime	mandatory	Datetime	See also Field GateOpeningTime
GateIndex	Mandatory	Int	See also Field GateIndex
GateClosingTime	Mandatory	Datetime	See also Field GateClosingTime
Name	Mandatory	String	See also Field Name
PeriodFrom	Mandatory	Datetime	See also Field PeriodFrom
PeriodTo	Mandatory	Datetime	See also Field PeriodTo
State	Mandatory	AuctionState	See also Field State
totalVolumeDemandUp	mandatory	Int	See also Field totalVolumeDemand
totalVolumeDemandDown	mandatory	Int	See also Field totalVolumeDemand

5.4.4. Detailed fields information

5.4.4.1. Field GateOpeningTime

This field gives the datetime corresponding to the opening of the gate. Before that time, bids cannot be sent. Bids can only be sent only from that time and before the GateClosingTime field

5.4.4.2. Field GateIndex

This identifies if this auction delivery period correspond to the first or second gate (if exist). Only values 1 or 2 are used.

5.4.4.3. Field GateClosingTime

This field gives the datetime corresponding to the closing of the gate. Bids cannot be sent after that time. So, bids can only be sent only from GateOpeningTime and before the GateClosingTime time.

5.4.4.4. Field Name

This field identifies that name of the delivery period.

Possible values:

- 0 – 4
- 0 – 4 G2
- 4 – 8
- 4 – 8 G2
- 8 – 12
- 8 – 12 G2
- 12 – 16
- 12 – 16 G2
- 16 – 20
- 16 – 20 G2
- 20 – 24

- 20 – 24 G2

5.4.4.5. Field PeriodFrom

This field identifies the start period of the auction delivery period.

5.4.4.6. Field PeriodTo

This field identifies the end period of the auction delivery period.

5.4.4.7. Field State

This field indicates the status of the auction delivery period.

The following table indicates the valid values:

Value	Description
Open	The gate for the specified delivery period and gate index is open and bids can be submitted to the system
Closed	The gate for the specified delivery period and gate index is closed and bids cannot be submitted to the system
Ended	The auction for the specified delivery period and gate index is closed. Bids can no longer be submitted.

5.4.4.8. Field totalVolumeDemandUp

This field indicates the amount of total volume demand for aFRR for up direction. This Field is an indicative value and can be adapted till GateClosingTime. The value is null till this volume demand is not defined.

5.4.4.9. Field totalVolumeDemandDown

This field indicates the amount of total volume demand for aFRR for down direction. This Field is an indicative value and can be adapted till GateClosingTime. The value is null till this volume demand is not defined.

5.4.5. Example

```
<ArrayOfAuctionDeliveryDate xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Elia.Star.Facade.Dto.Auctions">
  <AuctionDeliveryDate>
    <AuctionDeliveryPeriods>
      <AuctionDeliveryPeriod>
        <GateClosingTime>2019-11-10T09:00:00</GateClosingTime>
        <GateIndex>1</GateIndex>
        <GateOpeningTime>2019-10-12T07:00:00</GateOpeningTime>
        <Name>0 - 4</Name>
        <PeriodFrom>2019-11-11T00:00:00</PeriodFrom>
        <PeriodTo>2019-11-11T04:00:00</PeriodTo>
        <TotalVolumeDemandUp i:nil="true" />
        <State>Open</State>
        <TotalVolumeDemandUp i:nil="true" />
      </AuctionDeliveryPeriod>
      <AuctionDeliveryPeriod>
        <GateClosingTime>2019-11-10T09:00:00</GateClosingTime>
        <GateIndex>1</GateIndex>
        <GateOpeningTime>2019-10-12T07:00:00</GateOpeningTime>
        <Name>4 - 8</Name>
        <PeriodFrom>2019-11-11T04:00:00</PeriodFrom>
        <PeriodTo>2019-11-11T08:00:00</PeriodTo>
```

```

        TotalVolumeDemandDown i:nil="true" />
        <State>Open</State>
        <TotalVolumeDemandUp i:nil="true" />
    </AuctionDeliveryPeriod>
    <AuctionDeliveryPeriod>
        <GateClosingTime>2019-11-10T09:00:00</GateClosingTime>
        <GateIndex>1</GateIndex>
        <GateOpeningTime>2019-10-12T07:00:00</GateOpeningTime>
        <Name>8 - 12</Name>
        <PeriodFrom>2019-11-11T08:00:00</PeriodFrom>
        <PeriodTo>2019-11-11T12:00:00</PeriodTo>
        TotalVolumeDemandDown i:nil="true" />
        <State>Open</State>
        <TotalVolumeDemandUp i:nil="true" />
    </AuctionDeliveryPeriod>
    <AuctionDeliveryPeriod>
        <GateClosingTime>2019-11-10T09:00:00</GateClosingTime>
        <GateIndex>1</GateIndex>
        <GateOpeningTime>2019-10-12T07:00:00</GateOpeningTime>
        <Name>12 - 16</Name>
        <PeriodFrom>2019-11-11T12:00:00</PeriodFrom>
        <PeriodTo>2019-11-11T16:00:00</PeriodTo>
        TotalVolumeDemandDown i:nil="true" />
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        <PeriodTo>2019-11-12T00:00:00</PeriodTo>
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        <PeriodTo>2019-11-12T12:00:00</PeriodTo>
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        <GateIndex>1</GateIndex>
        <GateOpeningTime>2019-10-13T07:00:00</GateOpeningTime>
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        <PeriodTo>2019-11-13T00:00:00</PeriodTo>
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</AuctionDeliveryDate>
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```

5.5. Generic message parts

5.5.1. Data structure Partner: Partner identifier

This data structure is used to identify a partner in a transaction. It forms part of several message structures.

The fact that the code type must be specified in addition to the code itself, allows users to use their preferred code type, provided it is recognised by the system.

In addition, the identity of a partner can be indicated in words to make messages easier to read for humans.

5.5.1.1. Synopsis

Field	Cardinality	Data type	Description
code	mandatory	string (16 characters)	Code
codeType	mandatory	string (3 characters)	Code type
friendlyName	optional	string	Friendly name

5.5.1.2. Detailed fields information

5.5.1.2.1. Field code

Code

Cardinality	mandatory
Data type	string (16 characters)
Min len.	1

5.5.1.2.2. Field codeType

Code type

Cardinality	mandatory
Data type	string (3 charcaters)
Min len.	1

The following table indicates the valid values:

Value	Description
C03	EIC code

5.5.1.2.3. Field friendlyName

Friendly name

Cardinality	optional
Data type	string
Min len.	1

This field is optional and not used by the system which is processing the messages. It is only there to facilitate human reading of the message.

5.5.2. Data structure Reason: Reason identifier

XML Namespace: *http://www.elia.be/namespaces/public/Star/b2bmsg*

This data structure is used to identify the reason for message rejection. It forms part of several message structures.

5.5.2.1. Synopsis

Field	Cardinality	Data type	Description
reasonCode	mandatory	string (3 characters)	Reason code
reasonText	mandatory	string	

5.5.2.2. Detailed fields information

5.5.2.2.1. Field reasonCode

Cardinality	mandatory
Data type	string
Len	3

The following table indicates the valid values:

Value	ReasonText	Comment
A01	Message fully accepted. All received bids are added in the STAR database.	That means that bidDocumentStatus is set to true
A02	Message fully rejected.	That means that bidDocumentStatus is set to false This code is always sent when at least one error occurred during the validation process.
W01	Bid volume exceeds the maximum limit set by the prequalified volume for the specific aFRR capacity product ; not all bids have been accepted. Please check the bid report for the rejected bids.	Bid volume of one bid cannot be greater than the prequalified volume of the corresponding contract
W02	Total cost check validation has rejected at least one bid. Please check the bid report for the rejected bids.	
W03	Smallest volume check validation has rejected at least one bid. Please check the bid report for the rejected bids.	
W04	Volume Increment per capacity product check validation has rejected at least one bid. Please check the bid report for the rejected bids.	
A05	The contract reference %% is not valid for the delivery period.	That means that the identified bidder has specified an incorrect contract reference for the given delivery period
A57	Gate for the given CCTU is not open.	The deliveryPeriod is a valid field but for which the gate is not open. This can occurs if the gate is already closed or not yet open to enter bids
A81	The introduced delivery period is invalid.	The delivery period of one or more offers does not correspond to the delivery period that is currently being auctioned in STAR.
B18	Failure during the aFRRStarBidDocument process	A failure occurred at STAR application.
Z01	XSD validation fails: %S	The XSD validation has failed. The parameter "%S" gives the error(s) returned by this validation.
Z02	Contract reference does not match the user login	That means there the link with login used and bidder identification done using the contractReference has failed.
Z03	Login failure: the user %login% has no access to STAR application.	The login used has no access to the STAR application.
Z04	The received bid number is invalid or not unique	All bid number must be unique

Value	ReasonText	Comment
Z15	Both direction (Up/Down) must be specified for bid %s during auction step1	This indicates that a BidDetail is missing for a bid done during auction step1
Z16	Only 1 direction (Up or Down) must be specified for bid %s during auction step1	This indicates that a BidDetail with Up and Down are sent during auction step2 while this is not allowed
Z17	Volume of 0 is not allowed for a 4h bid	

5.5.2.2.2. Field reasonText

Reason Text

Cardinality	Mandatory
Data type	string
Min len.	1

See the list of valid reasoncode to see the associated ReasonText.

5.6. Data types

The following table describes all the datatypes allowed in XML data structure specifications.

Data type	Typical XML representation	Lexical pattern	Comments
string		.*	The following constraints can be expressed: minimum length, maximum length, pattern, choice of valid values
int	-1, 0, 126789675, +100000	[-+]?[0-9]+	The following constraints can be expressed: minimum value, maximum value. Values must be between 2147483647 and -2147483648 inclusive.
decimal	-1.23, 12678967.543233, +100000.00, 210	[-+]?[0-9]+(\.[0-9]+)?	The following constraints can be expressed: minimum value, maximum value. Values must have at most 28 digits, with.
boolean	1, 0, true, false	1 0 true false	
code		.*	This is similar to string, but allowed values must be part of a documented "code table". The actual signification of the code table constraint is application-dependent
datetime	To indicate 1:20 pm on May the 31st, 1999 in Brussels which is 2 hours ahead of UTC, one would write: 1999-05-	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}?(?:[+-][0-9]{2})(?:[0-	Represents a time instant. UTC notation is required. See also the example below for daylight saving time handling.

Data type	Typical XML representation	Lexical pattern	Comments
	31T11:20:00Z	9]{2})?)?	
time	13:20:00Z	[0-9]{2}(:[0-9]{2}(:[0-9]{2}?)?([+-][0-9]{2}(:[0-9]{2}?)?)?)?	Represents a time instant in the day. UTC notation is required. See also the example below for daylight saving time handling.
date	To indicate May the 31st, 1999, one would write: 1999-05-31	[0-9]{4}-[0-9]{2}-[0-9]{2}	Represents a calendar date.
Period	2015-04-01 00:00/2015-04-01 04:00	[0-9]{4}-[0-9]{2}-[0-9]{2}[0-9]{2}:[0-9]{2}/[0-9]{4}-[0-9]{2}-[0-9]{2}[0-9]{2}:[0-9]{2}	Represent the start date and an end date (local time).
binary		Encoded binary data (the default encoding is base64)	Used to transfer data that is not unicode text.

Chapter 6. Sample message

6.1. aFRRStarBidDocument.

6.2. aFRRStarBidDocumentResponse

6.2.1. Example 1: fully accepted

6.2.2. Example 2: fully accepted but some bids have been rejected

6.2.3. Example 3: fully rejected