CRM
Availability Monitoring

Availability Monitoring B2B API

V1.1

Disclaimer
This is a technical document drafted to facilitate the IT implementations needed for the Belgian Capacity Remuneration Mechanism (CRM).

Content

1 Version History

VERSION	REVISION DATE	DESCRIPTION OF CHANGE	AUTHOR
1.0	30/05/2024	Initial Version	Youssef El M'Kaddem
1.1	16/08/2024	Add two new endpoints Declare prices for a CMU & Delete an RMC for a given CMU	Youssef El M'Kaddem Christian Murenzi

2   Introduction

2.1   Capacity Remuneration Mechanism

In connection with the nuclear phase-out legislation and with a view to maintaining the required level of security of supply for Belgium, the Belgian authorities introduced the Capacity Remuneration Mechanism (CRM), which is enshrined in the Electricity Act and forming the legal basis.

The Capacity Remuneration Mechanism aims to compensate electrical capacity holders for that portion of their relevant costs that are not compensated by their revenues, otherwise known as 'missing money'. Such compensation should enable current and new capacities to be available on the market in order to avoid security of supply issues.

When the missing money of an asset exists, there is a risk that the Capacity Holder will not keep capacity in the market or will not invest in new capacity, thus creating a potential risk for Belgium's security of supply.

The introduction of a Capacity Remuneration Mechanism for the Belgian market is part of the federal government's energy strategy, which lays out a number of new measures designed to guarantee Belgium's security of supply in the long term.

The Capacity Remuneration Mechanism is deployed and organised by the authorities, facilitated, and controlled by CREG and supported by Elia as operator and market facilitator of the mechanism.

The Elia documentation is available at https://www.elia.be/en/electricity-market-and-system/adequacy/capacity-remuneration-mechanism

2.2   Purpose

This technical document is drafted to facilitate the IT implementations needed for the Belgian Capacity Remuneration Mechanism.

Once capacity contracts are secured through the CRM auctions, Elia is responsible for monitoring availability of contracted capacity during delivery periods. The availability and price declarations will be submitted to Elia through a web application. However, this manual process could be heavy for large capacity providers with numerous assets.

To address this, Elia is developing a set of RESTful APIs to enable electronic data exchange with large capacity providers in a standardized and automated manner. These B2B APIs aim to streamline the declaration of availability and pricing information for large capacity providers.

The B2B API are limited to the Non-Daily Schedule CMUs for the declaration of their Remaining Maximum Capacity and their prices declaration.

Term	Definition
Active Volume	The component of the Available Capacity measured as the part of a CMU without Daily Schedule that reacted to a market price signal in accordance with its (Partial) Declared Prices or that is reserved as balancing capacity.
AMT MTU	A Day-ahead MTU identified by the Availability Monitoring Trigger, during which the Day-ahead Market Price surpasses the AMT Price.
AMT Moment	A series of consecutive AMT MTUs.
AMT Price	The ex-ante defined price level identifying AMT MTUs for a Delivery Period.
Announced Missing Capacity	The part of the Missing Capacity that is the minimum between the Missing Capacity and the Announced Unavailable Capacity.
Announced Unavailable Capacity	The Unavailable Capacity notified to ELIA before the period of unavailability.
Associate Volume	For a Partial Declared Price, the volume the Capacity Provider is prepared to deliver with his CMU at that price as declared by him or, for the Declared Prices, the Nominal Reference Power.
Capacity Holder	A Capacity Holder is a natural person or legal entity that can offer capacity, either on an individual or aggregated basis (according to the Electricity Act, article 2, 74°). This can also be another entity the Grid User has designated through a Grid User Declaration (Even if this is the case, the rest of the document will still refer to the role "Capacity Holder"). From the moment a Capacity Holder wishes to participate to the CRM, he shall request an access to the Prequalification Platform and this request is done by submitting an application form which must be approved by ELIA.
Capacity Market Unit	A Capacity (« Individual CMU ») or several associated Capacities (« Aggregated CMU») used in the consecutive phases of the Capacity Remuneration Mechanism to deliver the Service.
CRM Actor	All (potential) participants to the CRM, including a Capacity Holder, CRM Candidate, Prequalified CRM Candidate, Capacity Provider, Buyer of an Obligation and Seller of an Obligation.
CRM Candidate	A CRM Candidate is a Capacity Holder whose application form has been accepted by ELIA. It can also be another legal entity the Grid User has designated through a Grid User Declaration.
Declared Price	The collective name of the Declared Day-ahead Price, the Declared Intraday Price and the Declared Balancing Price.
Delivery Period	The delivery period as defined in article 2, 77° of the Electricity Act.
Elia Operator	The Elia operator executes manual activities for the operation of the Prequalification tool and validates the applications and submitted CMU information.
Partial Declared Price	The collective name of the Partial Declared Day-ahead Price, the Partial Declared Balancing Price and the Partial Declared Intraday Price.
Remaining Maximum Capacity	The part of the CMU's Nominal Reference Power (in MW) that remains available after consideration of the Unavailable Capacity.
Scheduled Maintenance	Limitation on the capability of a Delivery Point to either inject or offtake power because of maintenance reasons that was correctly notified to ELIA following the process set out in section 9.3.2.

2.3 Abbreviations

Abbreviation	Description
AM	Availability Monitoring
AMC	Announced Missing Capacity
AMT	Availability Monitoring Trigger
BRP	Balancing Responsible Party
CC	Companies & Contracts
CMU	Capacity Market Unit
CRM	Capacity Remuneration Mechanism
DAM	Day-Ahead Market
DBALP	Declared Balancing Price
DDAP	Declared Day-Ahead Price
DIDP	Declared Intraday Price
DMP	Declared Market Price
DP	Delivery Point
DSR	Demand Side Response
DSO	Public Distribution System Operator
DSO Grid	Public Distribution Grid
IDM	IntraDay Market
MRDB	Market Reporting DataBase
NEMO	Nominated Electricity Market Operator https://www.nemo-committee.eu/nemo_committee
NRP	Nominal Reference Power
PBO	PayBack Obligation
PQ	PreQualification tool
SEAS	SEttlement and Controls of Ancillary Services
SLA	Service Level Agreement
TSO	Transmission System Operator
TULYP	Technical Unique LaYer for Publication
UMC	Unannounced Missing Capacity
UP	Unavailability Period
VCMU	Virtual Capacity Market Unit
Y-1	1 year before the start of the Delivery Period
Y-2	2 years before the start of the Delivery Period
Y-4	4 years before the start of the Delivery Period
WD	Working Day

3 Access, Authentication, Authorization & Data management

3.1 Access

The B2B API is available in the DEMO environment, and later it will be available in PROD. The API has the following base addresses:

- https://availabilitymonitoringdemo.elia.be/ (demo)
- https://availabilitymonitoring.elia.be/ (production, To Be Confirmed)

For the demo environment we expose the OpenAPI (Swagger) specification as documentation only. The Swagger page does not allow request execution and is located here: https://availabilitymonitoringdemo.elia.be/yarp/swagger/B2Binterface/index.html

In the PROD environment we'll not expose the Swagger page for security reasons, but you'll find the corresponding calls by replacing the base URL.

3.2 Authentication

To request your credentials for the DEMO and PROD environments, please follow these steps:

1. Send an email to the following address: B2BAPI.crm@elia.be
2. The email must be sent from a CRM authorized admin's email address to ensure we provide the credentials to an authorized email address.
3. In the email, please inform us of the technical email address that will only be used for the B2B API.

Once the email is sent, we will verify that it complies with the previously explained rules. If it does, we will send the password to the requester's email address. You can expect a response from us within 5 working days.

The password is valid 120 days and can be changed or renewed using this URL https://pwd.elia.be/en/forgotpassword

3.3 Authorization

Basic Authentication is used for API authorization. Elia uses an internal tool to configure the roles and rights. A distinct role will be used by the user accounts for the B2B API and the website. This will enable total job separation between web users and the technical account of the B2B API, enabling independent role development for each.

3.4 Test with monitoring/health check endpoint

To allow the CRM Capacity Provider to verify if the authentication works, we have provided a simple Ping method.
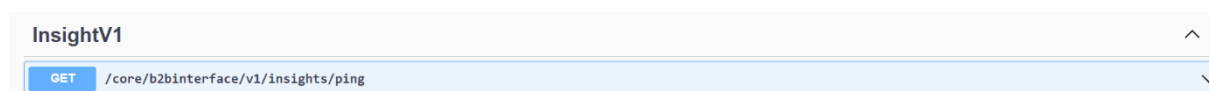
This simple method without parameters will return a HTTP Status code 200 if you are correctly connected.

3.5 Postman log on test

As an example, we will connect to the B2B API using **Postman**, which is a well-known tool for developers.

To log in, the B2B API employs "**Basic Authentication**". In basic HTTP authentication, a request contains a header field in the form **of *Authorization: Basic <credentials>***, where ***<credentials>*** is the Base64 encoding of username and Password joined by a single colon ''':'''' [1] .

Postman makes this easy. We'll construct a basic call to the Ping function down below. You choose the authorization type "Basic Auth" under the Authorization tab. Use the credentials you got through the mailbox and enter your username and password in the designated text fields. Enter the username <u>excluding the domain</u>.
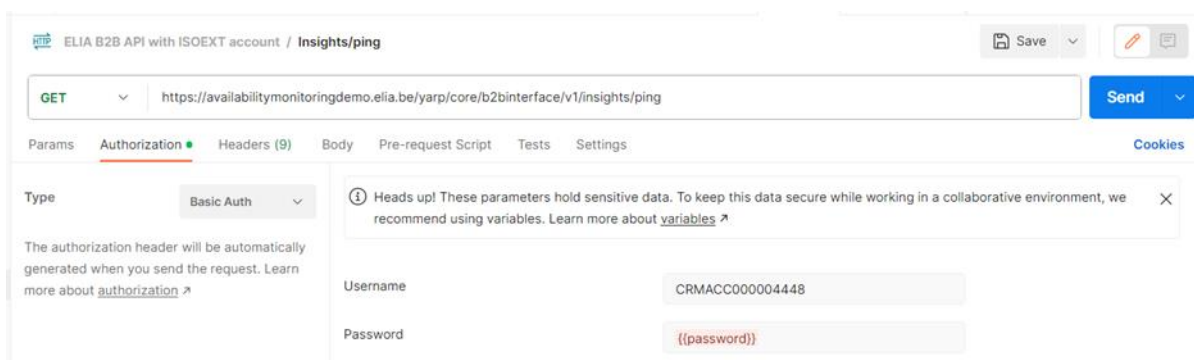
When you make the call, Postman will automatically attach the header to the request. It is visible via the Headers tab.

---
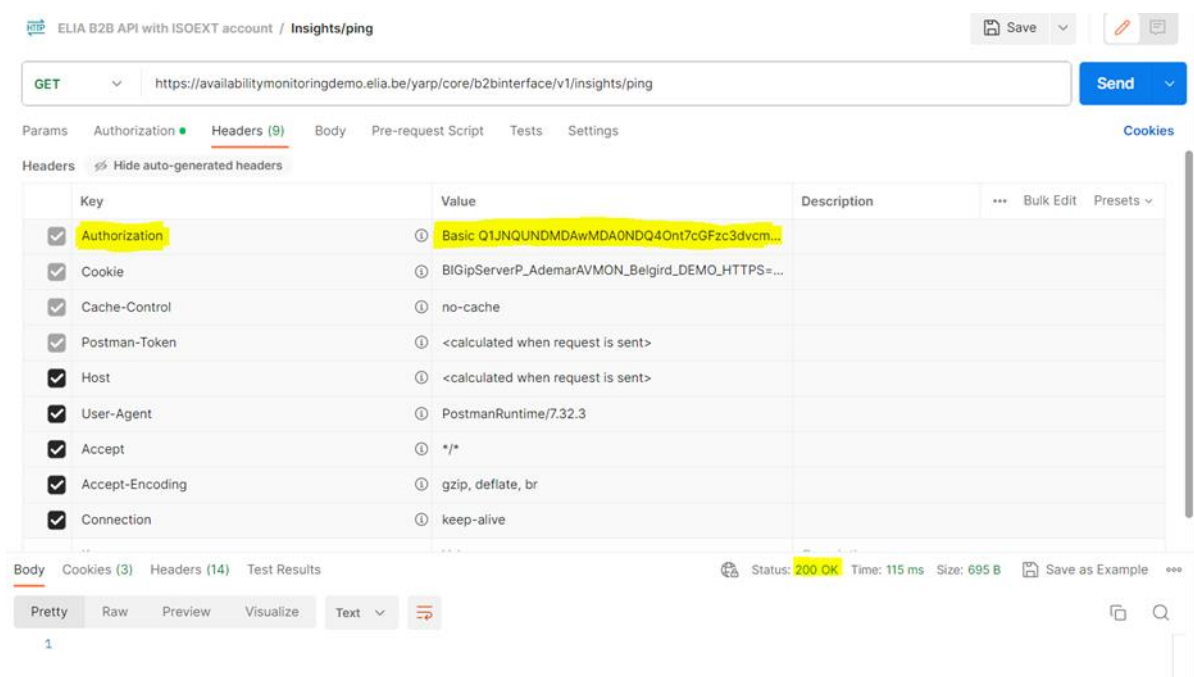
[1] <u>Basic access authentication - Wikipedia</u>

3.6   Data management

3.6.1   CMU Creation

Once your account is granted, you can request the creation of a CMU. Please provide us with the following information for your CMU:

- NRP
- Initial Price (day-ahead price that will be set by default for a delivery period. This price can be updated afterwards.)
- Nemo

After you send this email, we will verify that it complies with the previously explained rules. If it does, we will confirm the creation of the CMU within 5 working days.

4   API Overview

Insight

- Interface to test the availability of the B2B API

Document

- Interface to get the price declaration templates

Capacity Market Unit

- Interface to get the CMUs related to the CRM Capacity Provider

Nominal Reference Power

- Interface to get the latest notified NRP

Price Declaration

- Interface to get, import and delete prices

Remaining Maximum Capacity

- Interface to get, create, update RMC

5 Insight

5.1 Sequence Diagram
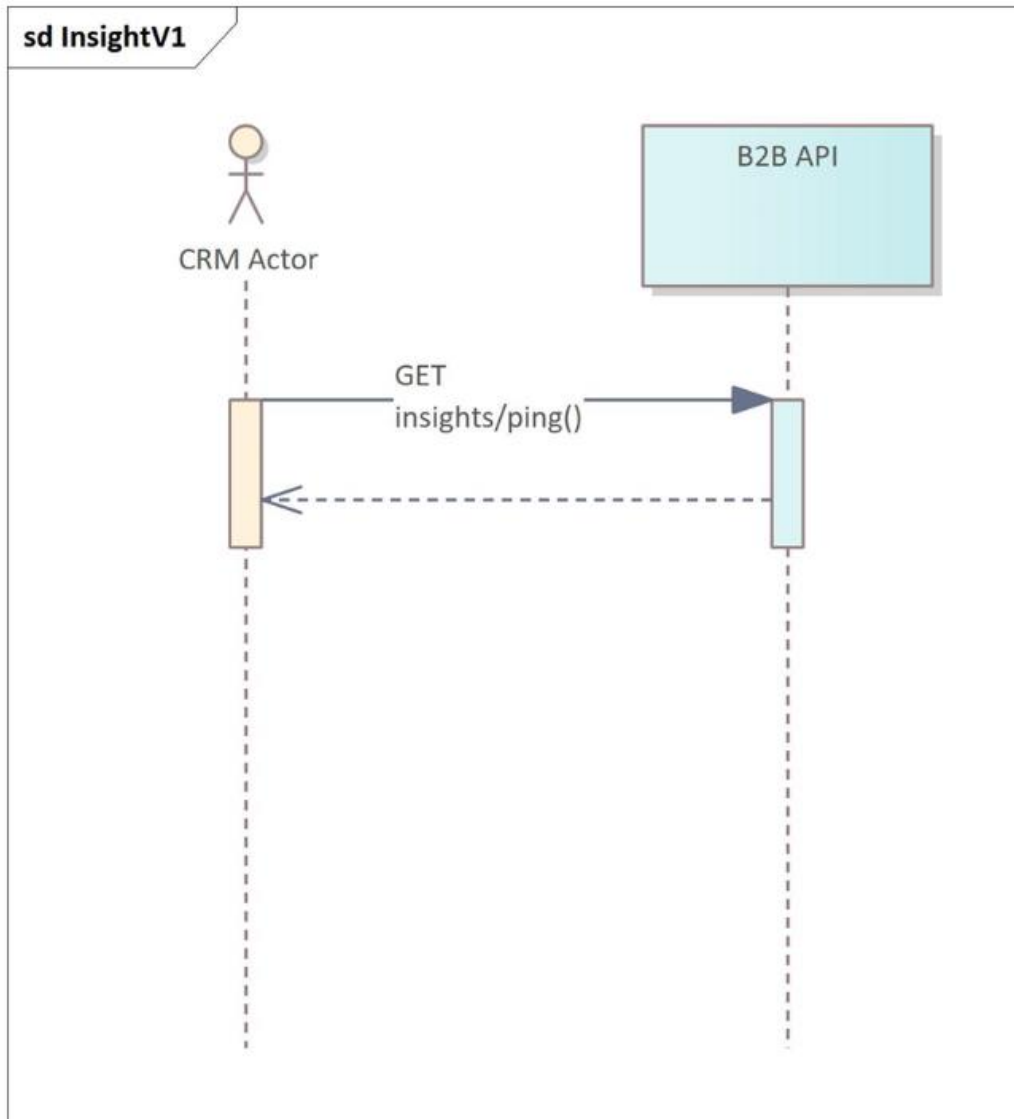
5.2 Gets insights on the B2B API

5.2.1 Description

As a CRM Capacity Provider, I want to check if I'm connected to the Elia's B2B API and/or if the Elia's B2B API available.

5.2.2 Request

Method	URL
GET	/core/b2binterface/v1/insights/ping

5.2.3 Paramters

N/A

5.2.4 Response

Status	Response
200	The retrieval operation succeeded
401	The user is not authorized to access this resource
404	The server can not find the requested resource
500	The server encountered an unexpected condition that prevented it from fulfilling the request

5.2.5 Validation rules

N/A

6 Document

6.1 Sequence Diagram
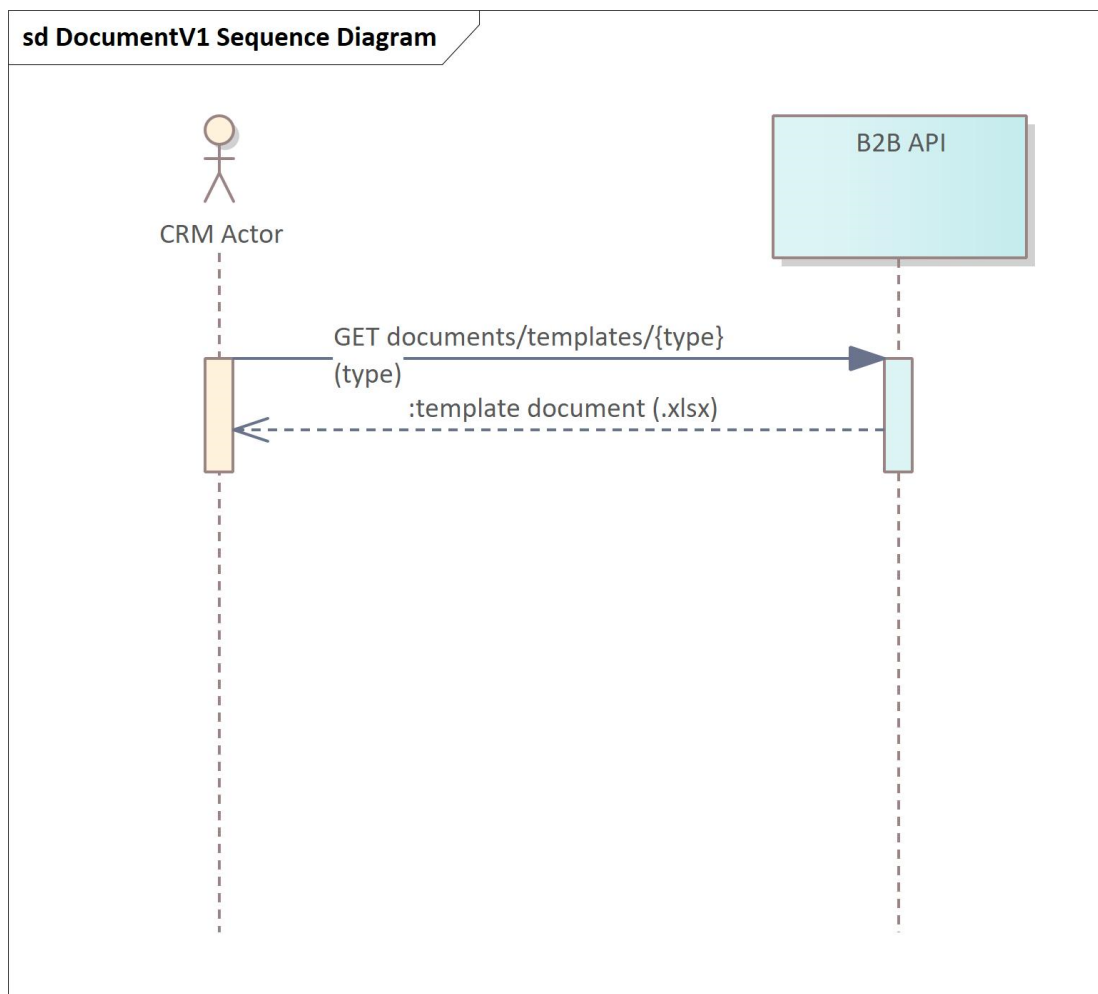
6.2 Get price declaration template

6.2.1 Description

As a Capacity Provider, I want to get one of the 3 available prices templates to declare prices.

6.2.2 Request

Method	URL
GET	/core/b2binterface/v1/documents/templates/{type}

6.2.3 Paramters

Params	Type	Required	Description
type	String($enum)	True	The type of the template document ("PriceDeclaration", "PriceDeclarationSummerDST" or "PriceDeclarationWinterDST")

PriceDeclaration : Generic price template with all the MTUs.

When a user decides to declare prices on a day where time change because of daylight saving time, they should use the appropriate price template.

PriceDeclarationSummerDST : On the last Sunday of March, the date we move from wintertime to summertime, the PriceDeclarationSummerDST template have the MTUs from "02:00" to "02:45" removed.

PriceDeclarationWinterDST : On the last Sunday of October, the date we move from summertime to wintertime, the PriceDeclarationWinterDST template have additional MTUs of "02:00" to "02:45".

6.2.4 Response

Status	Response

200	The retrieval operation succeeded
	
	Structure
	{
	    string($binary)
	}
	
	Example
	{
	    template_price_declaration.xlsx
	}

400	The retrieval operation failed
401	The user is not authorized to access this resource
404	The template document was not found
500	The server encountered an unexpected condition that prevented it from fulfilling the request

6.2.5 Validation rules

N/A

7 Capacity Market Unit

7.1 Sequence Diagram
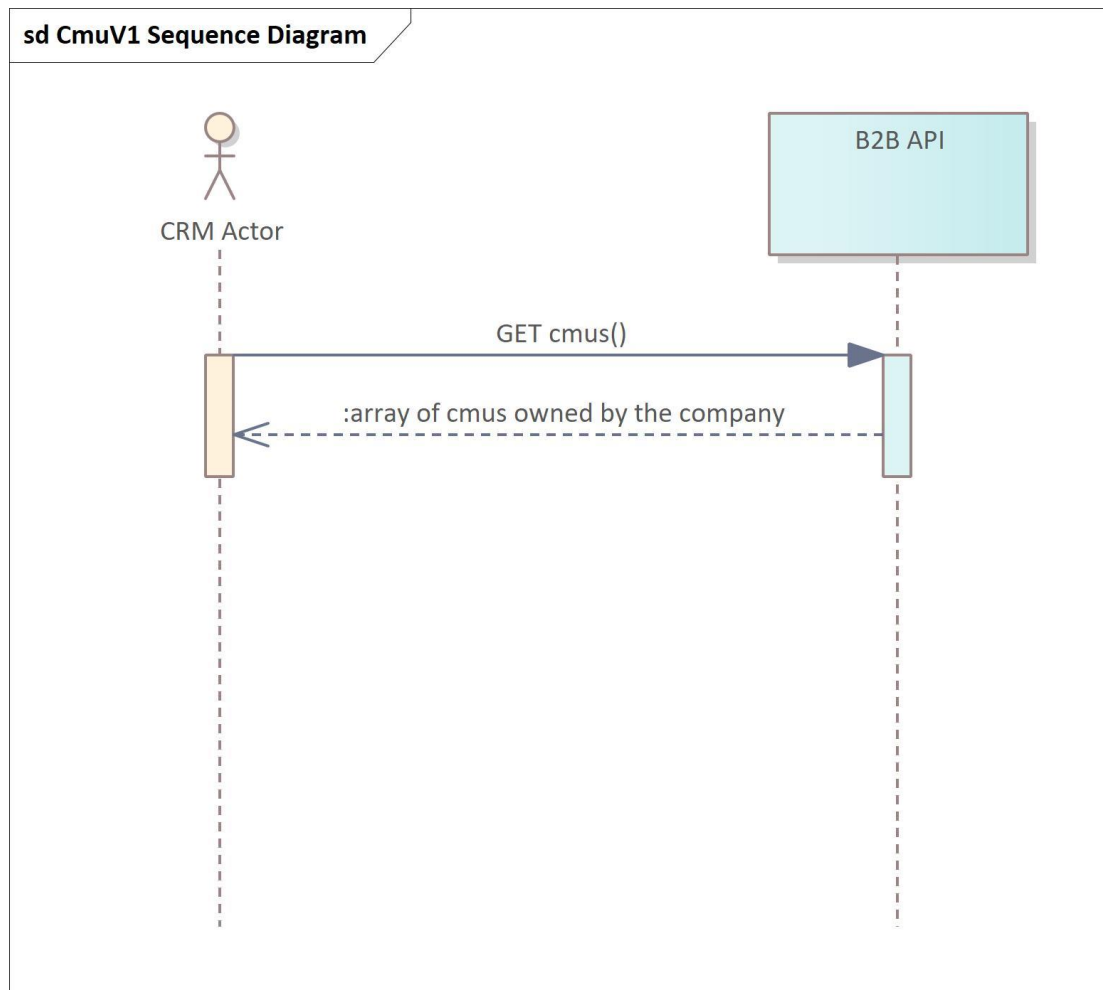
7.2 Gets all my CMUs

7.2.1 Description

As a CRM Capacity Provider, I want to get all my CMUs.

7.2.2 Request

Method	URL
GET	/core/b2binterface/v1/cmus

7.2.3 Paramters
N/A

7.2.4 Response

Status	Response

200	The retrieval operation succeeded
	
	Structure
	{
	   "cmuId": " string($guid)",
	   "cmu": "string",
	   "deliveryPeriod": "string"
	}
	
	Example
	{
	   "cmuId": "73ebea7d- bc92-4c85-afd4- c0b0a3706535",
	   "cmu": "CMU-8Jgjc",
	   "deliveryPeriod": "2024-2025"
	}

400	The retrieval operation failed
401	The user is not authorized to access this resource
403	The access to the resource is forbidden to the user
500	The server encountered an unexpected condition that prevented it from fulfilling the request

7.2.5 Validation rules

N/A

8 Nominal Reference Power

8.1 Sequence Diagram

sd NominalReferencePowerV1 Sequence Diagram
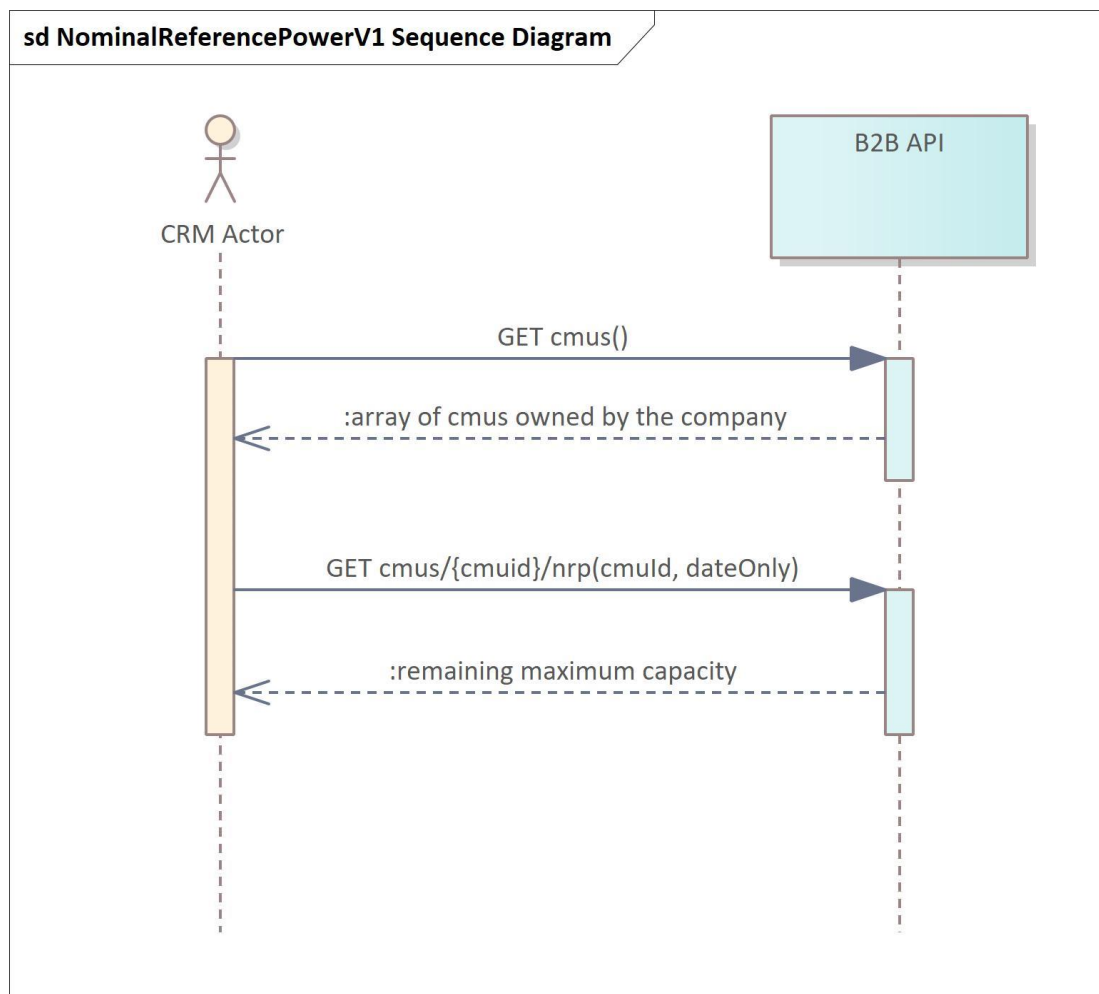
8.2 Get the last notified NRP for a CMU

8.2.1 Description

As a CRM Capacity Provider, I want to get the last notified NRP of a defined CMU at a defined date.

8.2.2 Request

Method	URL
GET	/core/b2binterface/v1/cmus/{cmuId}/nrp

8.2.3 Paramters

Params	Type	Required	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)
dateOnly	string($date)	True	The date at which the user wants to get the last notified NRP. The expected date format is: YYYY-MM-DD

8.2.4 Response

Status	Response

200	The retrieval operation succeeded
	
	Structure
	{
	   "nrp": "number($decimal)"
	}
	
	Example
	{
	   180
	}

400	The retrieval operation failed
401	The user is not authorized to access this resource
403	The access to the resource is forbidden to the user
404	The CMU has no latest notified NRP
500	The server encountered an unexpected condition that prevented it from fulfilling the request

8.2.5 Validation rules

N/A

9 Price Declaration

9.1 Sequence Diagram
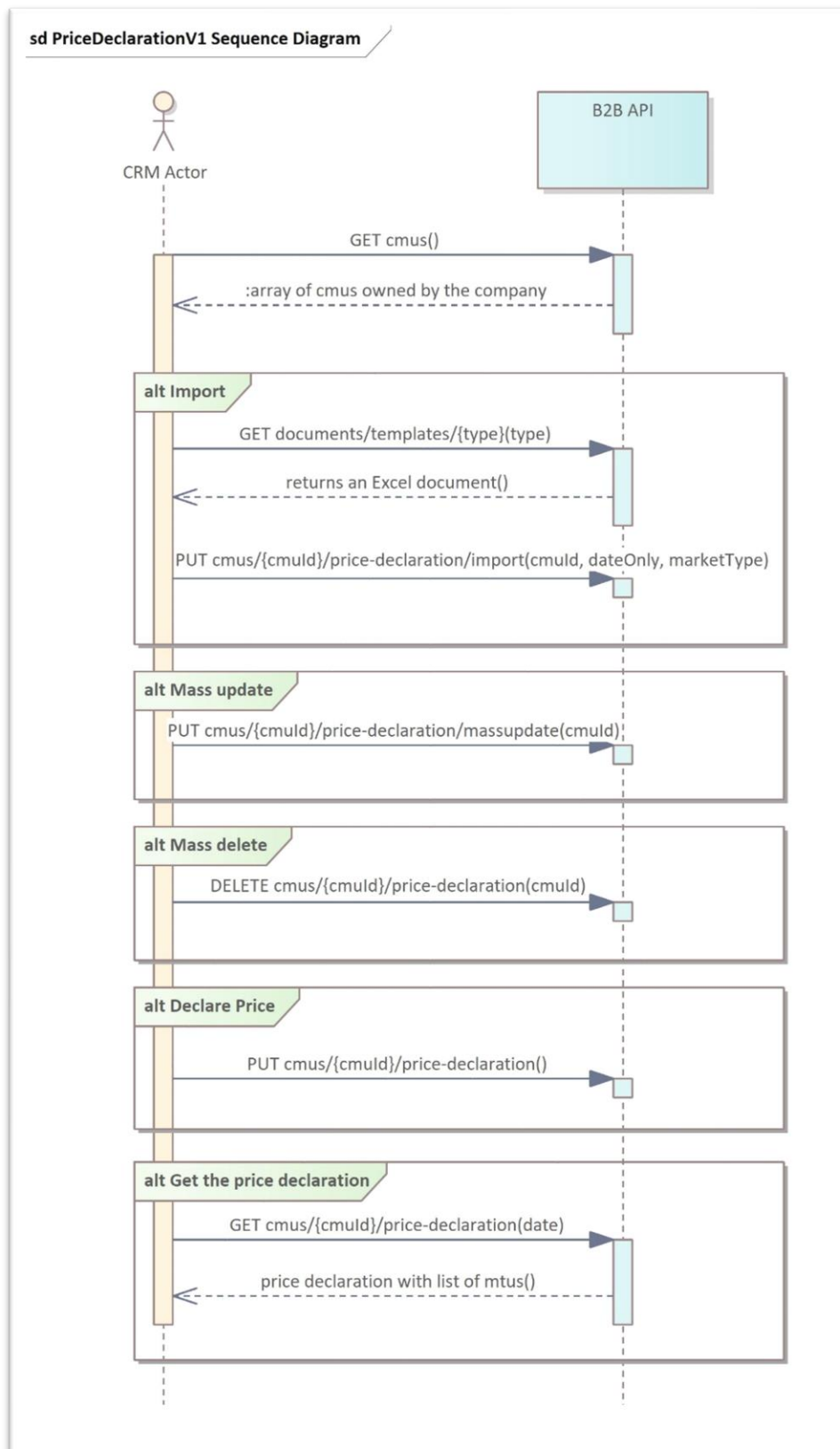
9.2 Import a price declaration file for a CMU

9.2.1 Description

As a CRM Capacity Provider, I wand to import price declaration file for a CMU, given date and a specified market type.

9.2.2 Request

Method	URL
PUT	/core/b2binterface/v1/cmus/{cmuId}/price-declaration/import

9.2.1 Request Body

Params	Type	Required	Description
file	string($binary)	True	The template document ("PriceDeclaration", "PriceDeclarationSummerDST" or "PriceDeclarationWinterDST") (cfr. Get price declaration template)

9.2.1 Paramters

Type	Required	Params	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)
dateOnly	string($date)	True	The date at which the user wants to import prices. The expected date format is: YYYY-MM-DD
marketType	String($enum)	True	The market type ("DayAhead", "IntraDay" or "Balancing")

9.2.2 Response

Status	Response
204	The import operation succeeded
400	The retrieval operation failed
401	The user is not authorized to access this resource

404	No valid cmu found for the specified cmuId
500	The server encountered an unexpected condition that prevented it from fulfilling the request

9.2.3 Validation rules

ID	Validation rule	Error Code	Error Message
#2	A CMU must be linked to a Nemo before price declaration is allowed	E0250	The day-ahead market has no NEMO configured
		E0300	The intra-day market has no NEMO configured
#3	A user must declare an Initial Price for a CMU before declaring prices for that CMU	E0251	The day-ahead market price has not been initialized for the day in the delivery period
		E0201	The market time units refers to a capacity market unit which is different than the one on the endpoint
		E0203	The market time units have to belong to the same capacity market unit
#4	A user cannot declare Day-Ahead prices after 11 AM for the next day	E0253	The price declaration is read-only, editing a day-ahead price declaration for tomorrow after 11:00 is not allowed
#5	A user must declare Intra-Day prices at least 2 hours from the time of submission	E0300R	Prices rejected. Market time units cannot be modified before the earliest time of delivery when declaration is targeting today
		E0301	The price declaration is read-only, editing an intra-day price declaration in the past is not allowed
#6	A user must declare Balancing prices at least 2 hours from the time of submission	E0350R	Prices rejected. Market time units cannot be modified before the earliest time of delivery when declaration is targeting today
		E0351	The price declaration is read-only, editing a balancing price declaration in the past is not allowed

#7	Price declarations must be set within a regulated price range	E0254	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market
		E0255	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market
		E0304	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the intraday market
		E0305	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the intraday market
		E0354	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
		E0355	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
#8	Prices and volumes declared cannot have more than 2 decimals	E0210	Prices rejected. Declared prices and associated volumes must have a maximum of 2 decimals
#9	When main & partial prices are declared, all quarter hours of each day must have a value for price and associated volume.	E204	The market time units for market type Day-Ahead do not provide the number of expected quarters
		E0259	Prices rejected. Declared prices must be defined for all market time units
		E0260	Prices rejected. If at least one Partial declared price and its associated volume are defined, then all market time units of the

			concerned columns must be defined
#10	A Partial Price must be lower than the Declared Price for the same quarter hour	E0256	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU
		E0306	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU
		E0356	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU<
#11	Every stated Partial Declared Price has a stated Associated Volume and vice versa.	E0261	Prices rejected. A Partial Declared Price must have an Associated Volume for the same MTU
		E0262	Prices rejected. An Associated Volume must have a Partial Declared Price for the same MTU
		E0312	Prices rejected. A Partial Declared Price must have an Associated Volume for the same MTU
		E0313	Prices rejected. An Associated Volume must have a Partial Declared Price for the same MTU
		E0362	Prices rejected. A Partial Declared Price must have an Associated Volume for the same MTU
		E0363	Prices rejected. An Associated Volume must have a Partial Declared Price for the same MTU
#12	A Partial Price's Associated Volume cannot be equal or lower than 0.	E0257	Prices rejected. An Associated Volume to a Partial Declared Price cannot be equal to 0 or have a negative value
		E0307	Prices rejected. An Associated Volume to a Partial Declared Price cannot be equal to 0 or have a negative value
		E0357	Prices rejected. An Associated Volume to a Partial Declared Price cannot be equal to 0 or have a negative value

#13	Each Associated Volume to a Partial Price must have the same value for all quarter hours of the day.	E0263	Prices rejected. An Associated Volume must have the same value for all MTUs of the day
		E0314	Prices rejected. An Associated Volume must have the same value for all MTUs of the day
		E0364	Prices rejected. An Associated Volume must have the same value for all MTUs of the day
#14	For each Partial Declared Price, the Capacity Provider must have notified a Declared Price for the same quarter hour (MTU)	E0267	Prices rejected. For each Partial Declared Price, a Declared Price must be notified for the same MTU
		E0318	Prices rejected. For each Partial Declared Price, a Declared Price must be notified for the same MTU
		E0368	Prices rejected. For each Partial Declared Price, a Declared Price must be notified for the same MTU
#15	For any Partial Price in ID/BAL, the CMU has an Associate Volume that also exists in Day-Ahead market.	E0309	Associated Volume rejected. A Partial Declared Price on the Intraday or Balancing market must have an Associated Volume that also exists in the Day-Ahead market
		E0359	Associated Volume rejected. A Partial Declared Price on the Intraday or Balancing market must have an Associated Volume that also exists in the Day-Ahead market
#16	Partial Prices cannot be equal and cannot have the same Associated Volume for the same quarter hour.	E0264	Prices rejected. Partial Declared Prices from different sets cannot be equal for the same MTU
		E0315	Prices rejected. Partial Declared Prices from different sets cannot be equal for the same MTU
		E365	Prices rejected. Partial Declared Prices from different sets cannot be equal for the same MTU
		E0265	Prices rejected. Partial Declared Prices from different sets cannot have equal Associated Volumes for the same MTU

		E0316	Prices rejected. Partial Declared Prices from different sets cannot have equal Associated Volumes for the same MTU
		E366	Prices rejected. Partial Declared Prices from different sets cannot have equal Associated Volumes for the same MTU
#17	Associated volumes of partial prices must be lower than the last registered NRP	E0258	Prices rejected. The Associated Volume of a Partial Declared Price cannot be equal or greater than the last validated NRP
		E0308	Prices rejected. The Associated Volume of a Partial Declared Price cannot be equal or greater than the last validated NRP
		E0358	Prices rejected. The Associated Volume of a Partial Declared Price cannot be equal or greater than the last validated NRP
#18	A Partial Price can only be greater than another one if its Associated Volume is greater for the same quarter hour (MTU)	E0266	Prices rejected. A Partial Declared Price cannot be greater that another one if its Associated Volume is smaller for the same MTU
		E0317	Prices rejected. A Partial Declared Price cannot be greater that another one if its Associated Volume is smaller for the same MTU
		E0367	Prices rejected. A Partial Declared Price cannot be greater that another one if its Associated Volume is smaller for the same MTU
#20	Intraday and Balancing markets cannot have Declared Prices without an existing Day-Ahead Price	E0319	Prices rejected. Declared Prices on the Intraday market are allowed if Declared Prices on the Day-Ahead market exist for the same delivery period
		E0369	Prices rejected. Declared Prices on the Intraday market are allowed if Declared Prices on the Day-Ahead market exist for the same delivery period
#21	In Intraday and Balancing market,	E0302	For all MTUs, they cannot be edited

			if declaration day is today and their StartsOn is lower than the earliest time of delivery
	a user must provide Declared & Partial Declared Prices from the earliest time of delivery to the last MTU of the day	E0320	Prices rejected. There are missing declared prices for one or several market time units
		E0321	Prices rejected. There are missing partial declared prices for one or several market time units
		E0352	For all MTUs, they cannot be edited if declaration day is today and their StartsOn is lower than the earliest time of delivery
		E0370	Prices rejected. There are missing declared prices for one or several market time units
		E0371	Prices rejected. There are missing partial declared prices for one or several market time units
#22	A user can only provide numbers in the price declaration import file	E0210	Prices rejected. Declared prices and associated volumes must have a maximum of 2 decimals
#23	A user cannot partially fill in an import file if they must provide prices for all MTUs of a day.	E0200	The declared price/volume have to be provided
		E0202	The market time units have to belong to the same day
#35	Use of the official Elia Price Declaration template document	E0550	Bad file type
		E0551	Provided document isn't respecting the template and couldn't be read
		E0552	Prices rejected. A value in the price declaration has an invalid format

9.3 Declare prices for a CMU

9.3.1 Description

As a CRM Capacity Provider, I wand to declare prices for a CMU, given date and a specified market type.

9.3.2 Request

Method	URL
PUT	/core/b2binterface/v1/cmus/{cmuId}/price-declaration

9.3.3 Request Body

Params	Type	Required	Description
day	string($date)	True	The date at which the user wants to declare prices. The expected date format is: YYYY-MM-DD.
dayAhead			
startsOnUtc	string($date-time)	True	Start time of the MTU. The expected date format is: YYYY-MM-DDTHH:MM: SS.SSSZ
P00	number($decimal)	True	The main price
V00	number($decimal)	True	The main volume
P01-P25	number($decimal)	False	The partial price 1 to 25
V00-V25	number($decimal)	False	The partial volume 1 to 25
intraday			
startsOnUtc	string($date-time)	False	Start time of the MTU. The expected date format is: YYYY-MM-DDTHH:MM: SS.SSSZ
P00	number($decimal)	False	The main price
V00	number($decimal)	False	The main volume
P01-P25	number($decimal)	False	The partial price 1 to 25
V01-V25	number($decimal)	False	The partial volume 1 to 25
balancing			
startsOnUtc	string($date-time)	False	Start time of the MTU. The expected date format is: YYYY-MM-DDTHH:MM: SS.SSSZ
P00	number($decimal)	False	The main price
V00	number($decimal)	False	The main volume
P01-P25	number($decimal)	False	The partial price 1 to 25
V01-V25	number($decimal)	False	The partial volume 1 to 25

9.3.4 Parameters

Type	Required	Params	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)

9.3.5 Response

Status	Response
204	The price declaration succeeded
400	The price declaration failed
401	The user is not authorized to access this resource
404	No valid cmu found for the specified cmuId
500	The server encountered an unexpected condition that prevented it from fulfilling the request

9.3.6 Validation rules

ID	Validation rule	Error Code	Error Message
#2	A CMU must be linked to a Nemo before price declaration is allowed	E0250	The day-ahead market has no NEMO configured
		E0300	The intra-day market has no NEMO configured
#3	A user must declare an Initial Price for a CMU before declaring prices for that CMU	E0251	The day-ahead market price has not been initialized for the day in the delivery period
		E0201	The market time units refers to a capacity market unit which is different than the one on the endpoint
		E0203	The market time units have to belong to the same capacity market unit
#4	A user cannot declare Day-Ahead prices after 11 AM for the next day	E0253	The price declaration is read-only, editing a day-ahead price declaration for tomorrow after 11:00 is not allowed

#5	A user must declare Intra-Day prices at least 2 hours from the time of submission	E0300R	Prices rejected. Market time units cannot be modified before the earliest time of delivery when declaration is targeting today
		E0301	The price declaration is read-only, editing an intra-day price declaration in the past is not allowed
#6	A user must declare Balancing prices at least 2 hours from the time of submission	E0350R	Prices rejected. Market time units cannot be modified before the earliest time of delivery when declaration is targeting today
		E0351	The price declaration is read-only, editing a balancing price declaration in the past is not allowed
#7	Price declarations must be set within a regulated price range	E0254	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market
		E0255	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market
		E0304	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the intraday market
		E0305	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the intraday market
		E0354	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
		E0355	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and

			{MaximumPriceValue} € for the balancing market
#8	Prices and volumes declared cannot have more than 2 decimals	E0210	Prices rejected. Declared prices and associated volumes must have a maximum of 2 decimals
#9	When main & partial prices are declared, all quarter hours of each day must have a value for price and associated volume.	E204	The market time units for market type Day-Ahead do not provide the number of expected quarters
		E0259	Prices rejected. Declared prices must be defined for all market time units
		E0260	Prices rejected. If at least one Partial declared price and its associated volume are defined, then all market time units of the concerned columns must be defined
#10	A Partial Price must be lower than the Declared Price for the same quarter hour	E0256	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU
		E0306	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU
		E0356	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU<
#11	Every stated Partial Declared Price has a stated Associated Volume and vice versa.	E0261	Prices rejected. A Partial Declared Price must have an Associated Volume for the same MTU
		E0262	Prices rejected. An Associated Volume must have a Partial Declared Price for the same MTU
		E0312	Prices rejected. A Partial Declared Price must have an Associated Volume for the same MTU
		E0313	Prices rejected. An Associated Volume must have a Partial Declared Price for the same MTU
		E0362	Prices rejected. A Partial Declared Price must have an Associated Volume for the same MTU

		E0363	Prices rejected. An Associated Volume must have a Partial Declared Price for the same MTU
#12	A Partial Price's Associated Volume cannot be equal or lower than 0.	E0257	Prices rejected. An Associated Volume to a Partial Declared Price cannot be equal to 0 or have a negative value
		E0307	Prices rejected. An Associated Volume to a Partial Declared Price cannot be equal to 0 or have a negative value
		E0357	Prices rejected. An Associated Volume to a Partial Declared Price cannot be equal to 0 or have a negative value
#13	Each Associated Volume to a Partial Price must have the same value for all quarter hours of the day.	E0263	Prices rejected. An Associated Volume must have the same value for all MTUs of the day
		E0314	Prices rejected. An Associated Volume must have the same value for all MTUs of the day
		E0364	Prices rejected. An Associated Volume must have the same value for all MTUs of the day
#14	For each Partial Declared Price, the Capacity Provider must have notified a Declared Price for the same quarter hour (MTU)	E0267	Prices rejected. For each Partial Declared Price, a Declared Price must be notified for the same MTU
		E0318	Prices rejected. For each Partial Declared Price, a Declared Price must be notified for the same MTU
		E0368	Prices rejected. For each Partial Declared Price, a Declared Price must be notified for the same MTU
#15	For any Partial Price in ID/BAL, the CMU has an Associate Volume that also exists in Day-Ahead market.	E0309	Associated Volume rejected. A Partial Declared Price on the Intraday or Balancing market must have an Associated Volume that also exists in the Day-Ahead market
		E0359	Associated Volume rejected. A Partial Declared Price on the Intraday or Balancing market must have an Associated Volume that

			also exists in the Day-Ahead market
#16	Partial Prices cannot be equal and cannot have the same Associated Volume for the same quarter hour.	E0264	Prices rejected. Partial Declared Prices from different sets cannot be equal for the same MTU
		E0315	Prices rejected. Partial Declared Prices from different sets cannot be equal for the same MTU
		E365	Prices rejected. Partial Declared Prices from different sets cannot be equal for the same MTU
		E0265	Prices rejected. Partial Declared Prices from different sets cannot have equal Associated Volumes for the same MTU
		E0316	Prices rejected. Partial Declared Prices from different sets cannot have equal Associated Volumes for the same MTU
		E366	Prices rejected. Partial Declared Prices from different sets cannot have equal Associated Volumes for the same MTU
#17	Associated volumes of partial prices must be lower than the last registered NRP	E0258	Prices rejected. The Associated Volume of a Partial Declared Price cannot be equal or greater than the last validated NRP
		E0308	Prices rejected. The Associated Volume of a Partial Declared Price cannot be equal or greater than the last validated NRP
		E0358	Prices rejected. The Associated Volume of a Partial Declared Price cannot be equal or greater than the last validated NRP
#18	A Partial Price can only be greater than another one if its Associated Volume is greater for the same quarter hour (MTU)	E0266	Prices rejected. A Partial Declared Price cannot be greater that another one if its Associated Volume is smaller for the same MTU
		E0317	Prices rejected. A Partial Declared Price cannot be greater that another one if its Associated Volume is smaller for the same MTU

		E0367	Prices rejected. A Partial Declared Price cannot be greater that another one if its Associated Volume is smaller for the same MTU
#20	Intraday and Balancing markets cannot have Declared Prices without an existing Day-Ahead Price	E0319	Prices rejected. Declared Prices on the Intraday market are allowed if Declared Prices on the Day-Ahead market exist for the same delivery period
		E0369	Prices rejected. Declared Prices on the Intraday market are allowed if Declared Prices on the Day-Ahead market exist for the same delivery period
#21	In Intraday and Balancing market, a user must provide Declared & Partial Declared Prices from the earliest time of delivery to the last MTU of the day	E0302	For all MTUs, they cannot be edited if declaration day is today and their StartsOn is lower than the earliest time of delivery
		E0320	Prices rejected. There are missing declared prices for one or several market time units
		E0321	Prices rejected. There are missing partial declared prices for one or several market time units
		E0352	For all MTUs, they cannot be edited if declaration day is today and their StartsOn is lower than the earliest time of delivery
		E0370	Prices rejected. There are missing declared prices for one or several market time units
		E0371	Prices rejected. There are missing partial declared prices for one or several market time units
#22	A user can only provide numbers in the price declaration import file	E0210	Prices rejected. Declared prices and associated volumes must have a maximum of 2 decimals
#23	A user cannot partially fill in an import file if they must provide prices for all MTUs of a day.	E0200	The declared price/volume have to be provided
		E0202	The market time units have to belong to the same day

		E0550	Bad file type
#35	Use of the official Elia Price Declaration template document	E0551	Provided document isn't respecting the template and couldn't be read
		E0552	Prices rejected. A value in the price declaration has an invalid format

9.4 Price declaration mass update for a CMU

9.4.1 Description

As a Capacity Provider, I want to do a mass update of the declared main prices for a CMU, given date and a specified market type.

9.4.2 Request

Method	URL
PUT	/core/b2binterface/v1/cmus/{cmuId}/price-declaration/massupdate

9.4.3 Request Body

Params	Type	Required	Description
marketType	String($enum)	True	The market type ("DayAhead", "IntraDay" or "Balancing")
from	string($date-time)	True	The start date & time of the updated declared main prices (inclusive). The expected date format is: YYYY-MM-DDTHH:MM: SS.SSSZ. The Z is the zone designator for the zero UTC offset.
to	string($date-time)	True	The end date & time of the updated declared main prices (exclusive). The expected date format is: YYYY-MM-DDTHH:MM: SS.SSSZ. The Z is the zone designator for the zero UTC offset.
price	number	True	The declared main prices during the period

9.4.4 Paramters

Type	Required	Params	Description

cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)

9.4.5 Response

Status	Response
204	The mass-update operation succeeded
400	The mass-update operation failed
401	The user is not authorized to access this resource
404	No valid cmu found for the specified cmuId
500	The server encountered an unexpected condition that prevented it from fulfilling the request

9.4.6 Validation rules

ID	Validation rule	Error Code	Error Message
#2	A CMU must be linked to a Nemo before price declaration is allowed	E0250	The day-ahead market has no NEMO configured
		E0300	The intra-day market has no NEMO configured
#3	A user must declare an Initial Price for a CMU before declaring prices for that CMU	E0251	The day-ahead market price has not been initialized for the day in the delivery period
		E0201	The market time units refers to a capacity market unit which is different than the one on the endpoint
		E0203	The market time units have to belong to the same capacity market unit
#4	A user cannot declare Day-Ahead prices after 11 AM for the next day	E0253	The price declaration is read-only, editing a day-ahead price declaration for tomorrow after 11:00 is not allowed
#5	A user must declare Intra-Day prices at least 2 hours from the time of submission	E0300R	Prices rejected. Market time units cannot be modified before the earliest time of delivery when

			declaration is targeting today
		E0301	The price declaration is read-only, editing an intra-day price declaration in the past is not allowed
#6	A user must declare Balancing prices at least 2 hours from the time of submission	E0350R	Prices rejected. Market time units cannot be modified before the earliest time of delivery when declaration is targeting today
		E0351	The price declaration is read-only, editing a balancing price declaration in the past is not allowed
#7	Price declarations must be set within a regulated price range	E0254	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market
		E0255	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market
		E0304	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the intraday market
		E0305	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the intraday market
		E0354	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
		E0355	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
		E0416	Prices Rejected. The declared prices

		E0417	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for th intraday market
		E0418	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
#8	Prices and volumes declared cannot have more than 2 decimals	E0210	Prices rejected. Declared prices and associated volumes must have a maximum of 2 decimals
#9	When main & partial prices are declared, all quarter hours of each day must have a value for price and associated volume.	E0206	The market time units for market type Balancing do not provide the number of expected quarters
		E0259	Prices rejected. Declared prices must be defined for all market time units
#10	A Partial Price must be lower than the Declared Price for the same quarter hour	E0256	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU
		E0306	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU
		E0356	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU<
#20	Intraday and Balancing markets cannot have Declared Prices without an existing Day-Ahead Price	E0319	Prices rejected. Declared Prices on the Intraday market are allowed if Declared Prices on the Day-Ahead market exist for the same delivery period
		E0369	Prices rejected. Declared Prices on the Intraday market are allowed if Declared Prices on the Day-Ahead market exist for the same delivery period

(The text "must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market" appears at the top of the first row.)

#21	In Intraday and Balancing market, a user must provide Declared & Partial Declared Prices from the earliest time of delivery to the last MTU of the day	E0302	For all MTUs, they cannot be edited if declaration day is today and their StartsOn is lower than the earliest time of delivery
		E0320	Prices rejected. There are missing declared prices for one or several market time units
		E0321	Prices rejected. There are missing partial declared prices for one or several market time units
		E0352	For all MTUs, they cannot be edited if declaration day is today and their StartsOn is lower than the earliest time of delivery
		E0370	Prices rejected. There are missing declared prices for one or several market time units
		E0371	Prices rejected. There are missing partial declared prices for one or several market time units
#33	The "fromDate" and "toDate" of a mass operation need to be coherent	E0024	'From' must represents a UTC date time
		E0026	'From' must be on a quarter boundary
		E0027	'To' must represents a UTC date time
		E0029	'To' must be on a quarter boundary
		E0030	'From' must be lower or equal than 'To'

9.5 Price declaration mass delete for a CMU

9.5.1 Description

As a Capacity Provider, I want to do a mass update of the declared main prices for a CMU, given date and a specified market type.

9.5.2 Request

Method	URL

DELETE	/core/b2binterface/v1/cmus/{cmuId}/price-declaration

9.5.3 Request Body

Params	Type	Required	Description
marketType	String($enum)	True	The market type ("DayAhead", "IntraDay" or "Balancing")
priceType	String($enum)	True	The type of price declaration ("PartialPrice" or "Both")
fromDate	string($date-time)	True	The start date & time of the deleted declared main prices (inclusive). The expected date format is: YYYY-MM-DDTHH:MM: SS.SSSZ. The Z is the zone designator for the zero UTC offset.
toDate	string($date-time)	True	The end date & time of the deleted declared main prices (exclusive). The expected date format is: YYYY-MM-DDTHH:MM: SS.SSSZ. The Z is the zone designator for the zero UTC offset.

9.5.4 Paramters

Type	Required	Params	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)

9.5.5 Response

Status	Response
204	The mass-delete operation succeeded
400	The mass-delete operation failed
401	The user is not authorized to access this resource
404	No valid cmu found for the specified cmuId
500	The server encountered an unexpected condition that prevented it from fulfilling the request

9.5.1 Validation rules

ID	Validation rule	Error Code	Error Message
#2	A CMU must be linked to a Nemo before price declaration is allowed	E0250	The day-ahead market has no NEMO configured
		E0300	The intra-day market has no NEMO configured
#3	A user must declare an Initial Price for a CMU before declaring prices for that CMU	E0251	The day-ahead market price has not been initialized for the day in the delivery period
		E0201	The market time unit refers to a capacity market unit which is different than the one on the endpoint
		E0203	The market time units have to belong to the same capacity market unit
#4	A user cannot declare Day-Ahead prices after 11 AM for the next day	E0253	The price declaration is read-only, editing a day-ahead price declaration for tomorrow after 11:00 is not allowed
#5	A user must declare Intra-Day prices at least 2 hours from the time of submission	E0300R	Prices rejected. Market time units cannot be modified before the earliest time of delivery when declaration is targeting today
		E0301	The price declaration is read-only, editing an intra-day price declaration in the past is not allowed
#6	A user must declare Balancing prices at least 2 hours from the time of submission	E0350R	Prices rejected. Market time units cannot be modified before the earliest time of delivery when declaration is targeting today
		E0351	The price declaration is read-only, editing a balancing price declaration in the past is not allowed
#7	Price declarations must be set within a regulated price range	E0254	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market

		E0255	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market
		E0304	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the intraday market
		E0305	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the intraday market
		E0354	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
		E0355	Prices Rejected. The partial declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
		E0416	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the dayahead market
		E0417	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for th intraday market
		E0418	Prices Rejected. The declared prices must be set between {MinimumPriceValue} € and {MaximumPriceValue} € for the balancing market
#8	Prices and volumes declared cannot have more than 2 decimals	E0210	Prices rejected. Declared prices and associated volumes must have a maximum of 2 decimals

#9	When main & partial prices are declared, all quarter hours of each day must have a value for price and associated volume.	E204	The market time units for market type Day-Ahead do not provide the number of expected quarters
		E0259	Prices rejected. Declared prices must be defined for all market time units
		E0260	Prices rejected. If at least one Partial declared price and its associated volume are defined, then all market time units of the concerned columns must be defined
#10	A Partial Price must be lower than the Declared Price for the same quarter hour	E0256	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU
		E0306	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU
		E0356	Prices rejected. A Partial Declared Price cannot be higher than the Declared Price for the same MTU<
#20	Intraday and Balancing markets cannot have Declared Prices without an existing Day-Ahead Price	E0319	Prices rejected. Declared Prices on the Intraday market are allowed if Declared Prices on the Day-Ahead market exist for the same delivery period
		E0369	Prices rejected. Declared Prices on the Intraday market are allowed if Declared Prices on the Day-Ahead market exist for the same delivery period
#21	In Intraday and Balancing market, a user must provide Declared & Partial Declared Prices from the earliest time of delivery to the last MTU of the day	E0302	For all MTUs, they cannot be edited if declaration day is today and their StartsOn is lower than the earliest time of delivery
		E0320	Prices rejected. There are missing declared prices for one or several market time units
		E0321	Prices rejected. There are missing partial declared prices for one or several market time units
		E0352	For all MTUs, they cannot be edited if declaration day is today and their

			StartsOn is lower than the earliest time of delivery
		E0370	Prices rejected. There are missing declared prices for one or several market time units
		E0371	Prices rejected. There are missing partial declared prices for one or several market time units
#24	Partial prices on Day-ahead cannot be deleted after 11:00 for the day after	E0423	Prices cannot be deleted anymore. The deletion deadline has passed
#25	Declared prices and partial prices on Intraday/Balancing cannot be deleted after 22:00 for the same day	E0423	Prices cannot be deleted anymore. The deletion deadline has passed
#33	The "fromDate" and "toDate" of a mass operation need to be coherent	E0024	'From' must represents a UTC date time
		E0026	'From' must be on a quarter boundary
		E0027	'To' must represents a UTC date time
		E0029	'To' must be on a quarter boundary
		E0030	'From' must be lower or equal than 'To'
#34	Limitations on mass delete market type	E0420	The mass delete can only target partial prices on the Day-Ahead market, wrong price type {PropertyValue}
		E0421	The mass delete can only target declared prices on either declared/partial prices or both on the Intra-Day market, wrong price type {PropertyValue}
		E0422	The mass delete can only target declared prices on either declared/partial prices or both on the Balancing market, wrong price type {PropertyValue}

9.6 Get declared prices for a CMU on a given date

9.6.1 Description

As a Capacity Provider, I want to get the saved declared price for a CMU on a given date.

9.6.2 Request

Method	URL
GET	/core/b2binterface/v1/cmus/{cmuId}/price-declaration

9.6.3 Paramters

Type	Required	Params	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)
dateOnly	string($date)	True	The date at which the user wants to get the declared prices. The expected date format is: YYYY-MM-DD

9.6.4 Response

Status	Response
200	The retrieval operation succeeded **Structure** { "day": "string($date)", "cmuId": " string($guid)", "dayAhead": [{ "id": " string($guid)", "startsOn": " string($date) YYYY-MM-DDTHH:MM: SS.SSSZ ", "tick": " integer($byte)", "updatedOn": " string($date) YYYY-MM-DDTHH:MM: SS.SSSZ ", "p00": "decimal", "v00": "decimal", "p01": "decimal", "v01": "decimal", "p02": "decimal", "v02": "decimal", "p03": "decimal", "v03": "decimal", "p04": "decimal", "v04": "decimal",

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      ],
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         "startsOn": " string($date) YYYY-MM-DDTHH:MM: SS.SSSZ ",
         "tick": " integer($byte)",
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```

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      }
    ],
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        "tick": " integer($byte)",
        "updatedOn": " string($date) YYYY-MM-DDTHH:MM: SS.SSSZ ",
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        "v17": "decimal",
        "p18": "decimal",
        "v18": "decimal",
        "p19": "decimal",
        "v19": "decimal",
        "p20": "decimal",
        "v20": "decimal",
        "p21": "decimal",
```

```
      "v21": "decimal",
      "p22": "decimal",
      "v22": "decimal",
      "p23": "decimal",
      "v23": "decimal",
      "p24": "decimal",
      "v24": "decimal",
      "p25": "decimal",
      "v25": "decimal",
    }
  ]
}
```

Example

```
{
  "day": "2024-06-25",
  "cmuId": "71a9b52e-29a9-4104-81b9-0a29d0b9dafa",
  "dayAhead": [
    {
      "id": "3c1c4fad-4e2e-4bae-8367-ce92e5484d67",
      "startsOn": "2024-06-24T22:00:00+00:00",
      "tick": 1,
      "updatedOn": "2024-06-06T13:23:20.9023348+00:00",
      "p00": 185,
      "v00": 250,
      "p01": null,
      "v01": null,
      "p02": null,
      "v02": null,
      "p03": null,
      "v03": null,
      "p04": null,
      "v04": null,
      "p05": null,
      "v05": null,
      "p06": null,
      "v06": null,
      "p07": null,
      "v07": null,
      "p08": null,
      "v08": null,
      "p09": null,
      "v09": null,
      "p10": null,
      "v10": null,
      "p11": null,
      "v11": null,
      "p12": null,
      "v12": null,
      "p13": null,
      "v13": null,
```

```
        "p14": null,
        "v14": null,
        "p15": null,
        "v15": null,
        "p16": null,
        "v16": null,
        "p17": null,
        "v17": null,
        "p18": null,
        "v18": null,
        "p19": null,
        "v19": null,
        "p20": null,
        "v20": null,
        "p21": null,
        "v21": null,
        "p22": null,
        "v22": null,
        "p23": null,
        "v23": null,
        "p24": null,
        "v24": null,
        "p25": null,
        "v25": null
      }
    ],
    "intraDay": [],
    "balancing": []
}
```

| 400	The retrieval operation failed
401	The user is not authorized to access this resource
404	The price declaration was not found
500	The server encountered an unexpected condition that prevented it from fulfilling the request

9.6.5 Validation rules

N/A

10 Remaining Maximum Capacity

10.1 Sequence Diagram
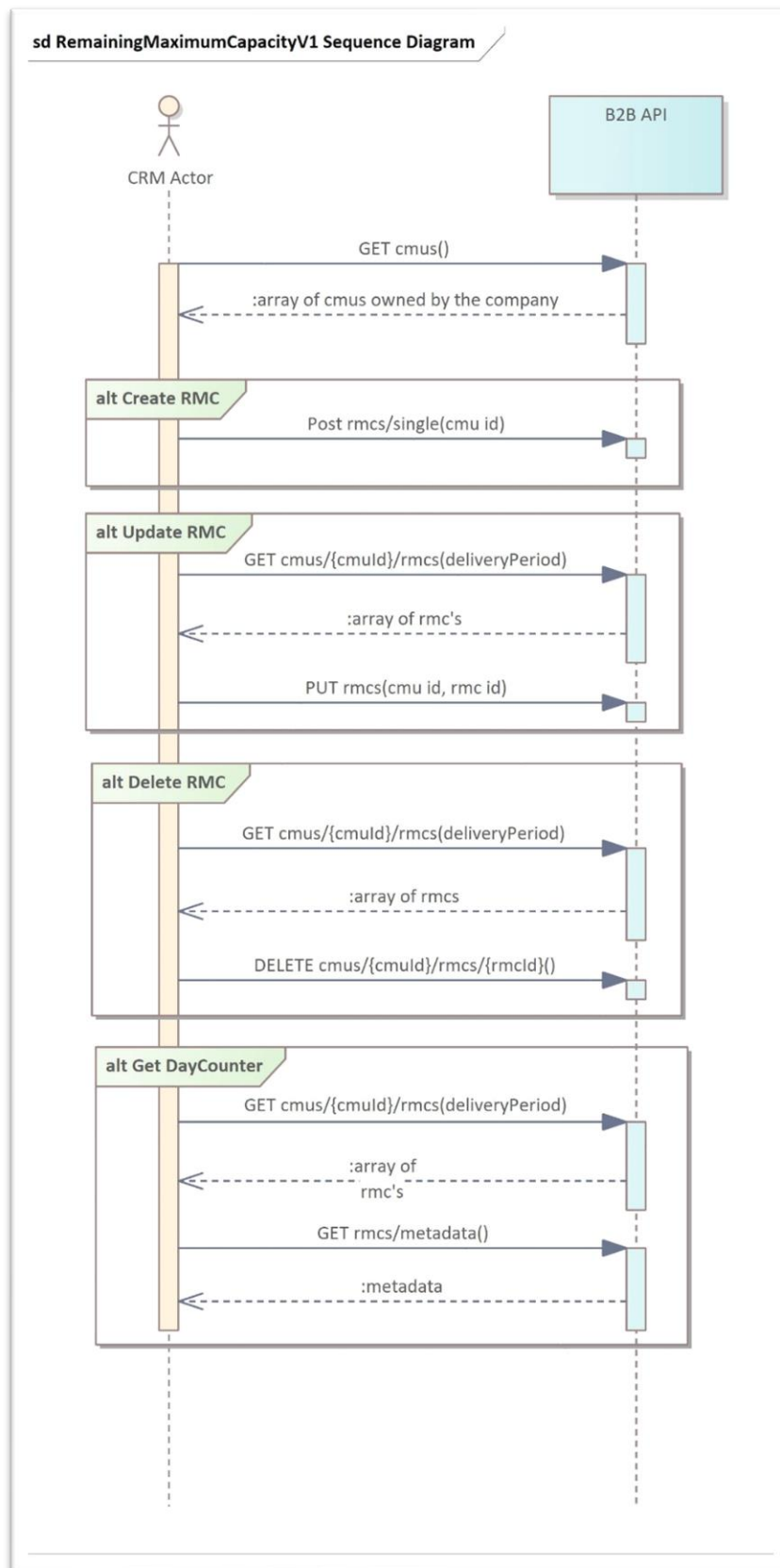
10.2 Create an RMC for a given CMU

10.2.1 Description

As a Capacity Provider, I want to declare unavailability for a given CMU by creating an RMC.

10.2.2 Request

Method	URL
POST	/core/b2binterface/v1/cmus/{cmuId}/rmcs/single

10.2.3 Request Body

Params	Type	Required	Description
deliveryPeriod	string	True	The delivery period during which the RMCs were created. The expected date format is: YYYY-YYYY
periodStart	string($date-time)	True	The start date & time at which the RMC will start. The expected date format is: YYYY-MM-DDTHH:MM:SS.SSSZ. The Z is the zone designator for the zero UTC offset.
periodEnd	string($date-time)	True	The end date & time at which the RMC will end. The expected date format is: YYYY-MM-DDTHH:MM:SS.SSSZ. The Z is the zone designator for the zero UTC offset.
volume	number	True	The volume of the RMC during the period
isAnnounced	boolean	True	Specify if the RMC is announced or not
unavailabilityReason	string	True	The reason the unavailability (PlannedOutage, ForcedOutage, Other)
otherLimitationDescr	string	False	The description of the unavailability. The following field is only required if the field "unavailabilityReason" equals "Other"

10.2.4 Paramters

Params	Type	Required	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. <u>Gets all CMUs that an actor has access to</u>)

10.2.5 Response

Status	Response

201	The creation operation succeeded
	
	Structure
	[
	  {
	    "id": "string($guid)",
	    "cmuId": " string($guid)",
	    "deliveryPeriod": "string",
	    "periodStart": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",
	    "periodEnd": " string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",
	    "volume": "number($decimal)",
	    "isAnnounced": "boolean",
	    "unavailabilityReason": "string ($enum) [PlannedOutage, ForcedOutage, Other]
	    "otherLimitationDescr": "string",
	    "correlationId": " string($guid)",
	    "correlationDate": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",
	    "modifiedOn": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ "
	  }
	]
	
	Example
	
	[
	  {
	    "id": "2e12aa4c-0400-4a26-afe5-20a054e763e5",
	    "cmuId": "73ebea7d- bc92-4c85-afd4- c0b0a3706535",
	    "deliveryPeriod": "2023-2024",
	    "periodStart": "2024-03-29T10:00:00+01:00",
	    "periodEnd": "2024-03-29T13:00:00+01:00",
	    "volume": 150,
	    "isAnnounced": false,
	    "unavailabilityReason": "PlannedOutage",
	    "otherLimitationDescr": null,
	    "correlationId": null,
	    "correlationDate": "2024-03-25T11:31:54.5127857+00:00",
	    "modifiedOn": "2024-03-25T13:47:05.6331042+00:00"
	  }
	]

400	The retrieval operation failed
401	The user is not authorized to access this resource
403	The access to the resource is forbidden to the user
404	The remaining maximum capacity declaration was not found
500	The server encountered an unexpected condition that prevented it from fulfilling the request

10.2.6 Validation rules

The following validation rules will run to validate the RMC creation.

ID	Validation rule	Error Code	Error Message
#26	RMC must be smaller than NRP	E0456	The 'volume' field value must be greater or equal to {MinimumVolumeValue}, volume {PropertyValue} is invalid
		E0457	The 'volume' field value {PropertyValue} in the new RMC declaration from {PeriodStart} to {PeriodEnd} for the CMU {CmuId} during delivery period {DeliveryPeriod} is greater than some NRP values: {RestrictingNrps}
#27	RMC2 < RMC1 for not announced days after 11:00 + overlapping	E0465	The Remaining Maximum Capacity notified after {Rmc.TimeRule} am the day before the start date of the unavailability can not state a higher Remaining Maximum Capacity than the last notified Remaining Maximum Capacity
#28	Rule of 10 days for not announced day	E0464	The remaining Maximum Capacity registered as Unannounced Missing Capacity has to be submitted the latest {UnannouncedDeclarationDaysTolerance} working days after the start date of the unavailability
#29	All infos are filled in (additional checks).	E0451	The 'period start' field with value {PropertyValue} is invalid
		E0452	The 'period end' field with value {PropertyValue} is invalid
		E0453	The 'period start' field value must be lower than the 'period end' field value: {PropertyValue} should be lower than {ComparisonValue}

		E0454	The 'period start' field value must be between [{DeliveryPeriodStart}..{DeliveryPeriodEnd}], {PropertyValue} is invalid
		E0455	The 'period end' field value must be between [{DeliveryPeriodStart}..{DeliveryPeriodEnd}], {PropertyValue} is invalid
		E0458	The 'unavailability reason' field value must be provided, {PropertyValue} is invalid
		E0459	The 'description for the reason of unavailability' field value must be provided
		E0460	The 'description for the reason of unavailability' field value cannot exceed {MaximumDescriptionLength} characters
#30	Rule of 11:00 am for announced day	E0450	The RMC is read-only, editing an RMC for tomorrow after {Rmc.TimeRule} is not allowed
		E0463	The Unavailable Capacity to be registered as Announced Unavailable Capacity has to be notified at the latest at {Rmc.TimeRule} the day before the start date of the unavailability
		E0470	Since it's now later than {Rmc.TimeRule}, it is not allowed to delete an RMC planned for tomorrow
		E0490	The '{PropertyName}' property value must be valid master capacity market unit identifier, '{PropertyValue}' is invalid
		E0491	The 'StartDateIncludedUtc' property value must be a UTC datetimeoffset, '{PropertyValue}' is invalid
		E0492	The 'EndDateExcludedUtc' property value must be a UTC datetimeoffset, '{PropertyValue}' is invalid
		E0493	The 'StartDateIncludedUtc' property value must be lower than the 'EndDateExcludedUtc' property value: {PropertyValue} should be lower than {ComparisonValue}
		E0494	The '{PropertyName}' property value must be

			lower than the '{EndDateExcludedUtcLimitRule}' property value: {PropertyValue} should be lower than {EndDateExcludedUtcLimit}
#31	Counter - max 75 days announced (total) including 25 days (winter)	E0461	The maximum number of days announced unavailable capacity has been exceeded for CMU {CmuId} during delivery period {DeliveryPeriod}
		E0462	The maximum number of days announced unavailable capacity during winter period has been exceeded for CMU {CmuId} during delivery period {DeliveryPeriod}

10.3 Get all RMCs for a CMU during a given delivery period

10.3.1 Description

As a Capacity Provider, I want to get RMCs related to a specific CMU and on a given delivery period.

10.3.2 Request

Method	URL
GET	/core/b2binterface/v1/cmus/{cmuId}/rmcs

10.3.3 Paramters

Params	Type	Required	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)
deliveryPeriod	string	True	The delivery period during which the RMCs were created. The expected date format is: YYYY-YYYY

10.3.4 **Response**

Status	Response

200	The retrieval operation succeeded
	
	Structure
	`[`
	`  {`
	`    "id": "string($guid)",`
	`    "cmuId": " string($guid)",`
	`    "deliveryPeriod": "string",`
	`    "periodStart": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",`
	`    "periodEnd": " string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",`
	`    "volume": "number($decimal)",`
	`    "isAnnounced": "boolean",`
	`    "unavailabilityReason": "string ($enum) [PlannedOutage, ForcedOutage, Other]`
	`    "otherLimitationDescr": "string",`
	`    "correlationId": " string($guid)",`
	`    "correlationDate": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",`
	`    "modifiedOn": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ "`
	`  }`
	`]`
	
	Example
	
	`[`
	`  {`
	`    "id": "2e12aa4c-0400-4a26-afe5-20a054e763e5",`
	`    "cmuId": "73ebea7d- bc92-4c85-afd4- c0b0a3706535",`
	`    "deliveryPeriod": "2023-2024",`
	`    "periodStart": "2024-03-29T10:00:00+01:00",`
	`    "periodEnd": "2024-03-29T13:00:00+01:00",`
	`    "volume": 150,`
	`    "isAnnounced": false,`
	`    "unavailabilityReason": "PlannedOutage",`
	`    "otherLimitationDescr": null,`
	`    "correlationId": null,`
	`    "correlationDate": "2024-03-25T11:31:54.5127857+00:00",`
	`    "modifiedOn": "2024-03-25T13:47:05.6331042+00:00"`
	`  },`
	`  {`
	`    "id": "228d9a71-996b-4cb6-bb40-f48ef9ab02a1",`
	`    "cmuId": "73ebea7d- bc92-4c85-afd4- c0b0a3706535",`
	`    "deliveryPeriod": "2023-2024",`
	`    "periodStart": "2024-10-08T00:00:00+02:00",`
	`    "periodEnd": "2024-10-13T00:00:00+02:00",`
	`    "volume": 150,`
	`    "isAnnounced": true,`
	`    "unavailabilityReason": "PlannedOutage",`
	`    "otherLimitationDescr": null,`

| | ```
    "correlationId": null,
    "correlationDate": "2024-03-28T13:25:03.0554232+00:00",
    "modifiedOn": "2024-03-28T13:25:03.0554232+00:00"
  }
]
``` |
400	The retrieval operation failed
401	The user is not authorized to access this resource
403	The access to the resource is forbidden to the user
500	The server encountered an unexpected condition that prevented it from fulfilling the request

10.3.5 Validation rules

N/A

10.4 Get the RMC declaration for a CMU during and a given RMC

10.4.1 Description

As a Capacity Provider, I want to get the RMC declaration for a CMU during and a given RMC.

10.4.2 Request

Method	URL
GET	/core/b2binterface/v1/cmus/{cmuId}/rmcs/

10.4.3 Paramters

Params	Type	Required	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)
rmcId	string($guid)	True	The ID of the defined RMC (cfr. Get all RMCs for a CMU during a given period)

10.4.4 Response

Status	Response
200	The retrieval operation succeeded **Structure**

```
[
 {
   "id": "string($guid)",
   "cmuId": " string($guid)",
   "deliveryPeriod": "string",
   "periodStart": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",
   "periodEnd": " string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",
   "volume": "number($decimal)",
   "isAnnounced": "boolean",
   "unavailabilityReason": "string ($enum) [PlannedOutage, ForcedOutage, Other]
   "otherLimitationDescr": "string",
   "correlationId": " string($guid)",
   "correlationDate": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ ",
   "modifiedOn": "string($date-time) YYYY-MM-DDTHH:MM: SS.SSSZ "
 }
]
```

Example

```
[
 {
   "id": "2e12aa4c-0400-4a26-afe5-20a054e763e5",
   "cmuId": "73ebea7d- bc92-4c85-afd4- c0b0a3706535",
   "deliveryPeriod": "2023-2024",
   "periodStart": "2024-03-29T10:00:00+01:00",
   "periodEnd": "2024-03-29T13:00:00+01:00",
   "volume": 150,
   "isAnnounced": false,
   "unavailabilityReason": "PlannedOutage",
   "otherLimitationDescr": null,
   "correlationId": null,
   "correlationDate": "2024-03-25T11:31:54.5127857+00:00",
   "modifiedOn": "2024-03-25T13:47:05.6331042+00:00"
 }
]
```

400	The retrieval operation failed
401	The user is not authorized to access this resource
404	The remaining maximum capacity declaration was not found
500	The server encountered an unexpected condition that prevented it from fulfilling the request

10.4.5 Validation rules

N/A

10.5 Update an RMC for a given CMU

10.5.1 Description

As a Capacity Provider, I want to update an unavailability for a given CMU.

10.5.2 Request

Method	URL
PUT	/core/b2binterface/v1/cmus/{cmuId}/rmcs/{rmcId}

10.5.1 Request Body

Params	Type	Required	Description
isAnnounced	boolean	True	Specify if the RMC is announced or not

10.5.2 Paramters

Params	Type	Required	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)
rmcId	string($guid)	True	The ID of the defined RMC (cfr. Get all RMCs for a CMU during a given period)

10.5.3 Response

Status	Response
204	The request has been fulfilled
400	The update operation failed
401	The user is not authorized to access this resource
404	The remaining maximum capacity declaration was not found
500	The server encountered an unexpected condition that prevented it from fulfilling the request

10.5.4 Validation rules

N/A

10.6 Delete an RMC for a given CMU

10.6.1 Description

As a Capacity Provider, I want to delete an RMC for a given CMU.

10.6.2 Request

Method	URL
DELETE	/core/b2binterface/v1/cmus/{cmuId}/rmcs/{rmcId}

10.6.1 Paramters

Params	Type	Required	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)
rmcId	string($guid)	True	The ID of the defined RMC (cfr. Get all RMCs for a CMU during a given period)

10.6.2 Response

Status	Response
204	The delete operation succeeded
400	The delete operation failed
401	The user is not authorized to access this resource
403	The access to the resource is forbidden to the user
404	The remaining maximum capacity declaration was not found
500	The server encountered an unexpected condition that prevented it from fulfilling the request

10.6.3 Validation rules

The following validation rules will run to validate the RMC creation.

ID	Validation rule	Error Code	Error Message
#36	If RMC's start date < [TOMORROW], then I should not be able to delete RMC	E0470	Since it's now later than {Rmc.TimeRule}, it is not allowed to delete a RMC planned for tomorrow

#37	If RMC's start date = [TOMORROW] and current time is = or > 11:00 AM, then I should not be able to delete RMC	E0470	Since it's now later than {Rmc.TimeRule}, it is not allowed to delete a RMC planned for tomorrow
#38	If RMC's start date = [TOMORROW] and current time is < 11:00 AM, then I should be able to delete RMC	E0470	Since it's now later than {Rmc.TimeRule}, it is not allowed to delete a RMC planned for tomorrow
#39	If RMC's start date > [TOMORROW], then I should be able to delete RMC	E0470	Since it's now later than {Rmc.TimeRule}, it is not allowed to delete a RMC planned for tomorrow

10.7 Get the day counter for a given CMU

10.7.1 Description

As a Capacity Provider, I want to get information on the day counter for a given CMU.

10.7.2 Request

Method	URL
GET	/core/b2binterface/v1/cmus/{cmuId}/rmcs/metadata

10.7.3 Paramters

Type	Required	Params	Description
cmuId	string($guid)	True	The ID of the defined CMU (cfr. Gets all CMUs that an actor has access to)
deliveryPeriod	string	True	The delivery period during which the RMCs were created. The expected date format is: YYYY-YYYY

10.7.4 Response

Status	Response

200	The retrieval operation succeeded
	
	Structure
	[
	  {
	   "totalMaximumDays": integer($int32),

	"winterMaximumDays": integer($int32),
	"totalPeriodCounter": integer($int32),
	"insideWinterPeriodCounter": integer($int32),
	"outsideWinterPeriodCounter": integer($int32),
	"remainingDays": integer($int32),
	"state": "string ($enum) [Valid, Overflow, NoDeclarations]",
	}
	]
	
	<u>Example</u>
	
	[
	  {
	"totalMaximumDays": 75,
	"winterMaximumDays": 25,
	"totalPeriodCounter": 2,
	"insideWinterPeriodCounter": 0,
	"outsideWinterPeriodCounter": 2,
	"remainingDays": 73,
	"state": "Valid"
	  }
	]

400	The retrieval operation failed
401	The user is not authorized to access this resource
404	The remaining maximum capacity declaration was not found
500	The server encountered an unexpected condition that prevented it from fulfilling the request

10.7.5 Validation rules

N/A

11 List of common error messages

Error Code	Error Message
E0001	The {OperationTypes} operations are not supported
E0002	The resource unique identifier cannot be null or empty
E0003	The resource creation user must be provided
E0004	The resource creation date must be provided
E0005	The resource creation date must represents a UTC date/time
E0006	The resource modification user must be provided
E0007	The resource modification date must be provided
E0008	The resource modification date must represents a UTC date/time
E0021	'Capacity Market Unit' identifier cannot be empty
E0022	'Delivery Period' cannot be empty
E0023	'Delivery Period' must have format 9999-9999
E0024	'From' must represents a UTC date time
E0025	'From' must represents a date only
E0026	'From' must be on a quarter boundary
E0027	'To' must represents a UTC date time
E0028	'To' must represents a date only
E0029	'To' must be on a quarter boundary
E0030	'From' must be lower or equal than 'To'
E0031	'Delivery Period' is invalid
E0032	'From' must be specified
E0033	'From' cannot be set to a past day
E0034	The given day is outside the current delivery period
E0100	The parameter name cannot be null or empty
E0101	The parameter value cannot be null or empty
E0102	The parameter value type cannot be null or empty