MARKET ENABLING INTERFACE TO UNLOCK FLEXIBILITY SOLUTIONS FOR COST-EFFECTIVE MANAGEMENT OF SMARTER DISTRIBUTION GRIDS

Deliverable: D2.6

UMEI API management and documentation

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D2.6	UMEI API management and documentation

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Executive Summary

Under the European H2020 program, the EUniversal Project has the main objective to foster the universal access of system operators to the available flexibility, mainly provided by Distributed Energy Resources (DER), through the interaction with new Flexibility Markets and innovative services. With the development of solutions and services that allow the massive integration of the Distributed Generation (DG), energy storage, and the active participation of consumers, the project aims to tailor the concept of the Universal Market Enabling Interface (UMEI). The UMEI will look to overcome the limitations that Distribution System Operators (DSOs), experience in the use of flexibilities, addressing the interlinking of electricity markets with active system management.

The EUniversal project aims to develop a universal approach on the use of flexibility by DSO and their interaction with the new flexibility markets, enabled through the development of the UMEI. The UMEI has materialized in the conceptual architecture design and the implementation of a standard, agnostic, adaptable, and modular combination of different APIs to link DSOs and market parties with flexibility market platforms, in coordination with other flexibility users. This approach allows distributed communication without the need for a central hub.

The UMEI consists of publicly available APIs, allowing any stakeholder to adopt them or to develop new APIs concerning new services while complying with the UMEI interface specification.

The aim of this deliverable is to describe the UMEI, which results from the objective of having a common interface between DSOs, market platforms and flexibility service provider.

This version will be tested within the demonstration efforts, namely in Portugal, Germany, and Poland, and improved according to the collected insight.

The developed code is available at https://euniversal.github.io/umei-api-specification/

ABBREVIATIONS

API	Application Programming Interface
BRP	Balance Responsible Party
DEMO	Demonstrator
DG	Distributed Generation
DER	Distributed Energy Resource
DSO	Distribution System Operator
FMO	Flexibility Market Operator
FSP	Flexibility Service Provider
RES	Renewable Energy Source
TSO	Transmission System Operator
UMEI	Universal Market Enabling Interface

1. Introduction

The electrical system historically relied upon a set of “implicit services”, provided by classical generation plants. Assuming the future scenarios and the upcoming perspectives, the availability of resources that provide these classical types of services will become significantly reduced. The current outlook of electrical systems shows a growing trend towards the incorporation of DER in the networks. Consequently, the introduction of new ancillary services and explicit services (replacing the previous implicit ones) turns out to be an essential requirement to assure the safe management of the electrical system. Addressing such new services strictly follows the evolution and the integration of multiple electricity markets, to stress the new services needed in the forthcoming panorama, whilst promoting the participation of new flexibility resources in the markets, finally leading these markets to integration at the European level.

The constant evolution of the electricity networks associated with electricity markets' structures, follows the advances in promoting renewables, and, through this, new participants are entering the electricity markets, such as the aggregators, the Flexibility Service Providers (FSP), the Balance Responsible Parties (BRP), among many others.

Many projects and conceptual initiatives have been proposed to improve DER integration as active flexibility providers in local (oriented to distribution grid) and system-wide (oriented to transmission grid) services to contribute to a more efficient operation of the system.

The EUniversal project aims to develop a universal approach on the use of flexibility by DSOs and their interaction with the new flexibility markets, enabled through the development of the concept of the Universal Market Enabling Interface (UMEI) – a unique approach to foster interoperability across Europe.

The need for flexibility provision that is fulfilled with distributed resources and the Renewable Energy Source (RES) that are also connected mostly to the distribution grid are clear signs of the decentralization of the energy system. This leads to the need for enhanced coordination schemes to integrate the decentralized actors and the UMEI aims to be part of the enhanced coordination schemes.

This deliverable aims to describe the UMEI interface, designed to support the interactions between the different actors.

The starting point for the present work was Deliverable 2.4 - Functional specification [3], where the main messages to be exchanged were described. Nevertheless, both Deliverable 2.2 - Business use cases [1] and mainly Deliverable 2.3 - System use cases [2] were revisited, and there were some detailed adjustments made on the functional specification considering the intent to the UMEI to be as agnostic as possible of specific market platforms and market models. In summary, this document finalizes the work from Tas2.4, which started with D2.4 that laid down the functional specification of the UMEI, was followed by D2.5 which presented the preliminary technical API specification of the interface.

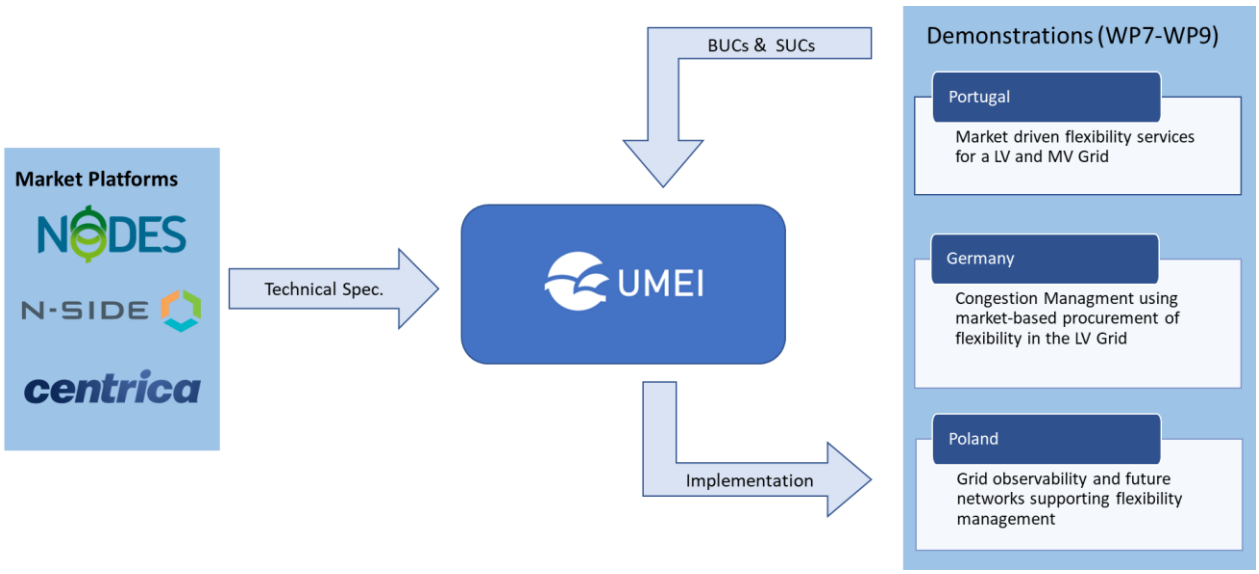

Figure 1 - High-level development methodology

Looking from a high-level perspective on the work carried out within Task 2.4, which is outlined in D2.4, D2.5, and this specific deliverable, the UMEI development process was based on two major inputs:

- Business and System use cases from the demonstrations (D2.2 + D2.3)
- Specifications of existing market and aggregator platform

This harmonization process between what was already available and what needed to be tested and developed led to the creation of the set of APIs that form the UMEI. At the point of writing of this document is being passed back on to the demonstration efforts to be implemented and used in the real test scenarios for supporting the pre-defined use cases.

The document is structured as follows:

- **Chapter 2** – Presents the general objectives which the UMEI allows the market actors to achieve by explaining the communication channels and structure which was followed for the development of the Interface, including the phases of the flexibility mechanism process which were taken as a basis.
- **Chapter 3** – This chapter focuses on the actual structure of the UMEI, by presenting the several process groups in which the UMEI is divided, including who typically uses each one of the sets of allowed operations.
- **Chapter 4** – Explains the adopted methodology for the overall technical development, which lasted for the entire duration of Task 2.4. This part of the document also tackles the steps that preceded and will proceed with the technical developments.
- **Chapter 5** – This chapter provides an overview of the implementation of the UMEI from the perspective of each one of the market participants (DSO, FMO, FSP).

2. Purposes, Objectives, and Limitations

The UMEI has materialized in the conceptual architecture design and the implementation of a standard, agnostic, adaptable, and modular combination of different APIs to link DSOs and market parties with flexibility market platforms, in coordination with other flexibility users. This approach allows distributed communication without the need for a central hub.

The development of the UMEI is inserted in the workstream of WP2, which has several objectives, namely the definition of flexibility services, the definition of global architecture for the project through the several developed business and system use cases, the and the technical development of the UMEI. Hence, the UMEI is the materialization of the whole process which strengthens the cooperation between the several market parties – DSOs, FMOs and FSPs – to enable the provisioning of the previously defined flexibility services, represented in Figure 2.

Through this distributed architecture, in which every party is responsible for performing the necessary setup that is needed for the whole system to operate, several challenges are also posed. As the UMEI is distributed by design, there are no central registries, databases, or instances of applications, so all the data which is exchanged resorting to this tool must be kept at the origin and/or the destination, being each party responsible for ensuring the good handling of the data. In this document, parties that are interested in implementing the proposed set of APIs can obtain some guidelines and insights on the capabilities and precautions which should be taken.

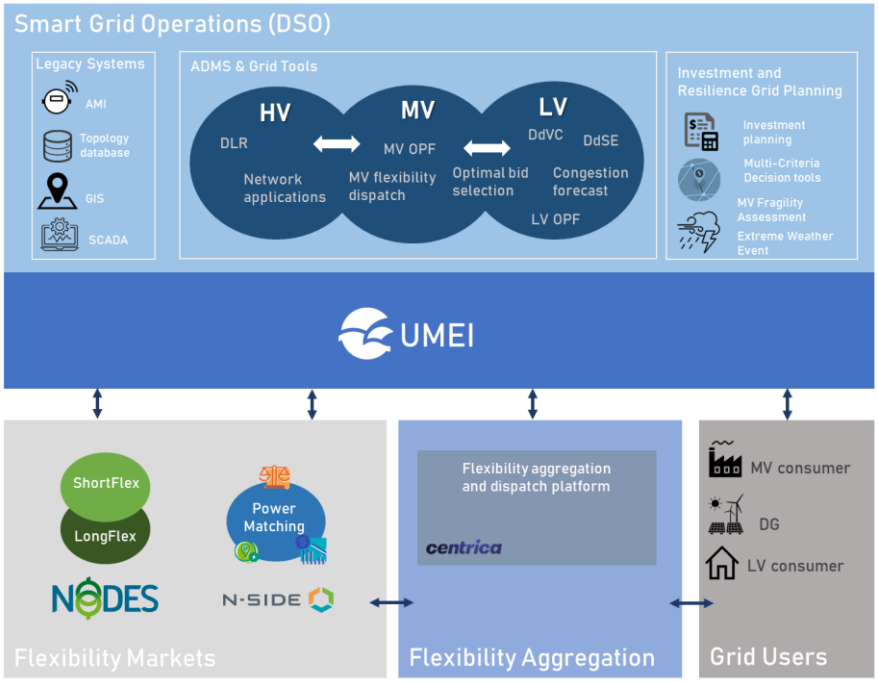

Figure 2 - EUniversal Reference Architecture

The UMEI is publicly available on GitHub, allowing for any stakeholder (DSO, Market Operator, Aggregators, Consumer, and even TSO) to adopt it or to develop new APIs concerning new services while complying with the UMEI interface specification.

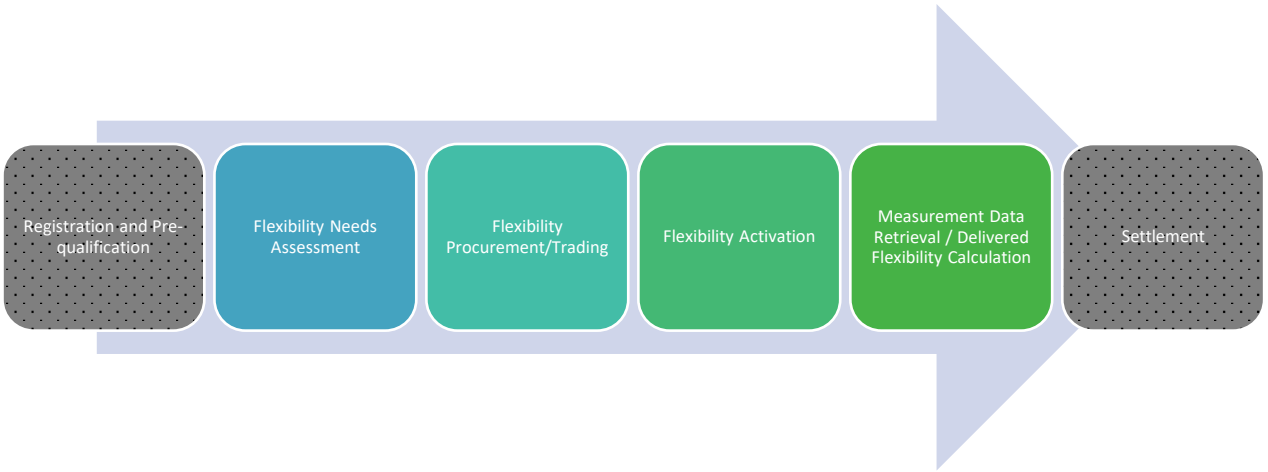

Figure 3 - Flexibility process steps covered by the UMEI

This deliverable presents the following stages included in the present version of the UMEI:

- Flexibility needs assessment
- Flexibility procurement/trading
- Flexibility activation
- Measurement data retrieval

The UMEI development at this stage focuses mainly on technical and operational requirements on each stakeholder side. The registration and pre-qualification phases are therefore not foreseen to be developed and tested within the scope of the project. The payment processes included in the settlement phase will also not be covered by this specification. Certainly, the successful testing of the UMEI will lead to further developments regarding registration and pre-qualification as well as validation and settlement. Anyhow, EUniversal as a research project is not being developed in a specific regulated environment, and without the present definition of flexibility remuneration, this will not allow for any monetary transaction.

3. The UMEI Structure

The UMEI is composed of a set of APIs, which are detailed in the appendix, and are organized in several functional groups, as represented in Figure 4, which allows market participants to retrieve and send information to the Flexibility Market Operators (FMO).

The API interface is divided into several functional groups, as detailed in Table 1. The division follows the natural chronological and functional order of operations:

- Prequalification phase – not covered by this version of the UMEI. In this phase, basic master data like portfolios, grid nodes, etc are set up
- Pre-trading phase
  - Defining baselines, the expected power usage, for portfolios
  - Defining flexibility zones – the expected demand for flexibility
  - Extracting this information, along with market and portfolio information, for use in the next phase
- Trading phase
  - Posting orders, reading orders, and trades
- Post-trading phase
  - Providing meter readings for assets used in trades
  - Settlement - not covered by this version of the UMEI.

Each group is composed of a set of APIs which allow for CRUD (Create, Read, Update and Delete) operations to be performed on the resources registered on the market platform for flexibility trading. For instance, with the order group it is possible to submit new buy and sell orders, coming from the FSP and DSO side, but also to fetch, eliminate and update orders already submitted before the clearing of the market occurs.

Figure 4 - UMEI Groups

This set of interactions may change depending on the adopted implementation of the APIs. For instance, the implementation of meter data exchange in the PT demo is done bilaterally between the DSO (in its role as meter data operator) and the FSP (which has control over the resources). In this case, the FSPs implement the Meter Reading group on its own servers, and the DSO acts

as an API client directly on that implementation, allowing for the very same CRUD[1] operations to be performed in the same way, although interacting with a different actor of the ecosystem. This last case represents the modularity and flexibility of the UMEI.

Table 1 - UMEI overall structure

Group	Name	Usage
Baseline	Managing portfolio baselines	Used by the FSPs to manage baselines into the market platform.
Order	Manage Market Orders	Used by the DSOs and FSPs to view and execute orders' related operations in the market platform. The FMO will perform clearing/matching, either continuously or on a specific schedule, between orders. The result of this process will be the trades.
Meter Reading	Manage Meter Readings	Used by the DSOs, and possibly other market participants, to submit and manage metering data
Market	List All Markets	Used by market participants to get the available markets
Portfolio	Manage Portfolios	Used by FSPs to submit and manage portfolios on the market
Trade	List Market Trades	Used by market participants to retrieve the market trades (the result of the matching process between buy/sell orders)
Flexibility Zones	Manage Flexibility Zones	Used by DSOs to define specific flexibility areas, composed of a set of portfolios

[1] Create, Read, Update and Delete

4. Methodology of the UMEI Development

The specified APIs in the appendix are organized in several functional groups, as detailed previously in Table 1, which allows market participants to retrieve and send information to the Flexibility Market Operators (FMO). This division not only allows for a more intuitive usage of the UMEI, but also permits the segmentation of the UMEI capabilities which may help market entities to choose which functional groups are appropriate to be implemented, depending on their necessities.

NODES and N-Side as market platforms follow different approaches based on each FMO`s background, experience, and reference pilot projects. Specifying a standard that covers the relevant functions of the “trading” phase, while ensuring the correct functioning of each market platform individually, required harmonization between the different visions of NODES and N-SIDE. Setting up an efficient way of working that would allow the specification to be as standard as possible was necessary and required harmonization between the different visions of NODES and N-SIDE on numerous topics. To tackle this objective, NODES and N-SIDE aligned on list of fields for the different resources of the UMEI (ex: orders, portfolios, ...). The discussions concerned the presence of those fields (payload data), as well as their designation, types, and descriptions. Part of these data structures were set to optional as all FMOs may not support them, but N-SIDE and NODES still agreed on their relevance, applying redundancy mechanisms to the UMEI, which allows for other parties to choose what best fits the purpose for its usage.

A GitHub repository was created which allowed us to iterate issues and pull requests based on GitHub. The systematic validation process of the pull request by experts from both NODES and N-SIDE triggered multi-lateral discussions and agreements which led to a harmonized vision in the design of the UMEI specification.

OpenAPI [https://www.openapis.org] was used as the definition language. This is the most common and well-supported way of defining APIs accessible using the standard web technologies of today – JSON over HTTP. The latest version of this standard is 3.1, but not all developer tools are updated to support this version. To make it easier for participants to use the API, version 3.0.3 was selected. Furthermore, the UMEI is publicly available on the euniversal.eu website and added as an appendix to this document.

In order to make the specification as universal as possible and to develop an interface that may be applied to the most of market platform designs, unnecessary restrictions were avoided, even when they applied to the current project.

For example, different FMOs might support different query parameters when performing searches. The UMEI standard defines all possible query parameters, but also explicitly states that not all FMOs will support all features. Standardized error codes were defined so that FMOs can communicate clearly which features are supported. As an example, if a user tries to perform an operation they are not authorized to do, the error message will be similar regardless of which FMO they are integrating with. The standardized error codes are listed in a separate section in the UMEI specification.

Furthermore, UMEI builds on the default web standards whenever applicable. This applies to e.g., error handling, HTTP status codes, return types, and JSON serialization.

5. Harmonized UMEI implementation and interoperability

5.1 Adoption and implementation guidelines

In this section, the implementation processes are described for each one of the parties which implemented the UMEI until the time of writing, namely the FSP (Centrica), FMOs (NODES and N-SIDES), and the DSO (E-REDES). This may help other entities, namely from the demonstration efforts to have some implementation guidelines.

5.1.1 Centrica implementation process

The UMEI is implemented by CENTRICA to build the communication channel with DSO and FMO in both German and Portuguese demos. In general, as shown in **Error! Reference source not found.**, UMEI includes two servers: FMO server and FSP server. FMO server is hosted by FMO (N-SIDE and NODES) and is responsible for communicating all the information regarding the market trades and bids between DSO, FMO, and FSP. Both DSO and FSP are the clients of this server. Moreover, this server is used in both German and Portuguese demos. On the other side, FSP server is hosted by FSP (CENTRICA), and it is responsible for providing data measured by a smart meter at the level of the end-user connection point to the grid. This server enables a direct connection between FSP and DSO. In this server, DSO is the client and this server is tested only within the scope of the Portuguese demo, as smart meter installation is only available in this demo. It should be noted that this FSP server is only needed from the perspective of the project and the Portuguese demo implementation, due to respect the privacy of sharing data with corresponding actors involved in the demo.

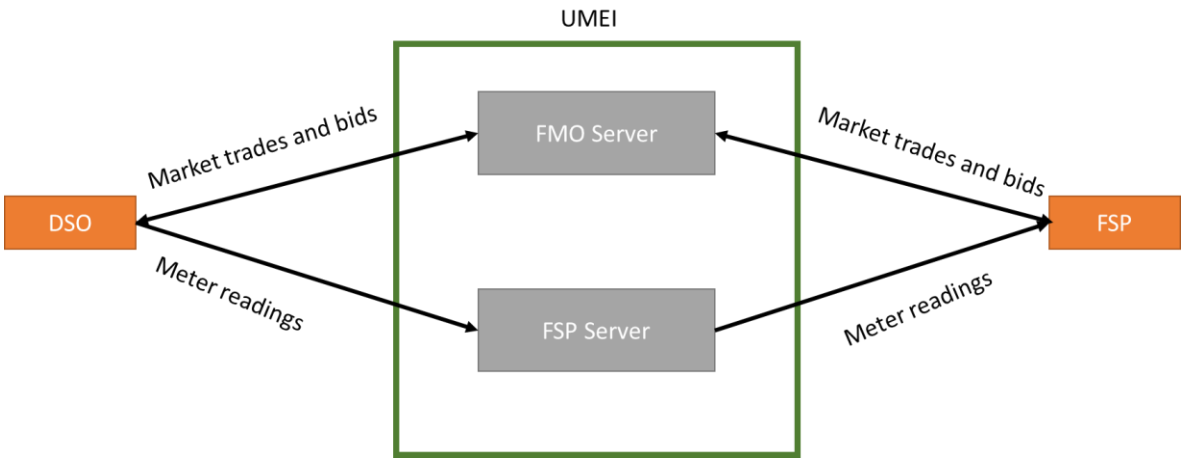

Figure 5 - FMO and FSP servers in UMEI

Regarding the FMO server, authentication information is provided by N-SIDE and NODES which allows CENTRICA to connect and use their API. On the other hand, CENTRICA also provides E-REDES the credentials to connect to the server, which is owned by CENTRICA.

Table 2 shows all the API functions used by CENTRICA in the German and Portuguese demos.

Table 2 - API functions used by CENTRICA in the German and Portuguese demos

ID	Function Name	HTTP Method	Endpoint	Host by
Authentication				
A.1	Verify the authentication (request for OAuth2 access token)	POST	Authorization endpoint	N-SIDE and NODES
Portfolio				
P.1	Create new portfolios	POST	**/portfolios**	NODES
P.2	Get an asset portfolio by Id	GET	**/portfolios/{id}**	NODES
Baseline Interval				
B.1	Submit new interval by FSP	POST	**/BaselineIntervals**	NODES
B.2	Get a portfolio baseline by Id	GET	**/BaselineIntervals/{id}**	NODES
B.3	Patch a baseline	PATCH	**/BaselineIntervals/{id}**	NODES
B.4	Update an existing baseline	PUT	**/BaselineIntervals/{id}**	NODES
B.5	Delete an existing baseline	DELETE	**/BaselineIntervals/{id}**	NODES
Market				
M.1	Access information about all the available markets on the market platform	GET	**/Markets**	N-SIDE and NODES

Order				
O.1	Access information about all public orders on the market platform	GET	**/PublicOrders**	NODES
O.2	Get orders submitted by FSP	GET	**/Orders**	N-SIDE and NODES
O.3	Get order by Id	GET	**/Orders/{id}**	N-SIDE and NODES
O.4	Submit new order by FSP	POST	**/Orders**	N-SIDE and NODES
O.5	Patch an order (submitted by FSP) from the market platform	PATCH	**/Orders/{id}**	N-SIDE and NODES
O.6	Update an existing order (submitted by FSP) from the market platform	PUT	**/Orders/{id}**	N-SIDE and NODES
O.7	Delete an existing order (submitted by FSP) from the market platform	DELETE	**/Orders/{id}**	N-SIDE and NODES
Trade				
T.1	Access information about all available (active) trades on the platform	GET	**/Trades**	N-SIDE and NODES
FlexibilityZone				
F.1	FSP retrieves the definition of the flexibility zones	GET	**/FlexibilityZones**	N-SIDE
F.2	FSP can retrieve only one flexibility zone by its id.	GET	**/FlexibilityZones/{id}**	N-SIDE
MeterReading				
M.1	Access to meter reading data, posted by DSO	-	-	CENTRICA

5.2.1 E-REDES implementation process

The implementation of the UMEI on the DSO (E-REDES) within the scope of the Portuguese pilot is made firstly by mapping up the process from the DSO standpoint, and scenarios that will be executed when performing the actions between the entities. On the implementation of the UMEI by the pilot, the FMO and the FSP host the UMEI APIs and make them available for others to use, which is the case for E-REDES. In this case, the DSO will use the available APIs from NODES, N-SIDE, and CENTRICA to execute the defined process.

Table 3 - Usage of UMEI by E-REDES

Step Description (DSO standpoint)	**Entity**			**UMEI Usage**
	DSO	**FMO**	**FSP**	
Setup Flexibility Zones (Optional – depending on the market mechanism)	X			**GET /FlexibilityZones** **POST /FlexibilityZones** (Optional) PUT /FlexibilityZones PATCH /FlexibilityZones DELETE /FlexibilityZones
Calculate Flexibility Needs	X			
Send (or edit) flexibility orders through the UMEI to the FMO	X			**POST /Orders** (Optional) GET /Orders GET /Orders/{id} PUT /Orders/{id} PATCH /Orders/{id} DELETE /Orders/{id}
FMO bids submission and market clearing		X	X	
Retrieves the market clearing result	X			**GET Trades**
Daily collection of metering data	X			
Send (or verify) Meter Readings to Centrica via the defined API	X		X	**POST MeterReadings/create-multiple** (Optional) GET MeterReadings

The implementation of the necessary software to use available APIs from NODES, N-SIDE, and CENTRICA will be achieved by implementing a set of modules using an Azure cloud resource group, which will host the necessary DSO tools defined for performing the necessary calculations and mechanisms to retrieve and process data. The architecture for such a system is presented in Figure 6.

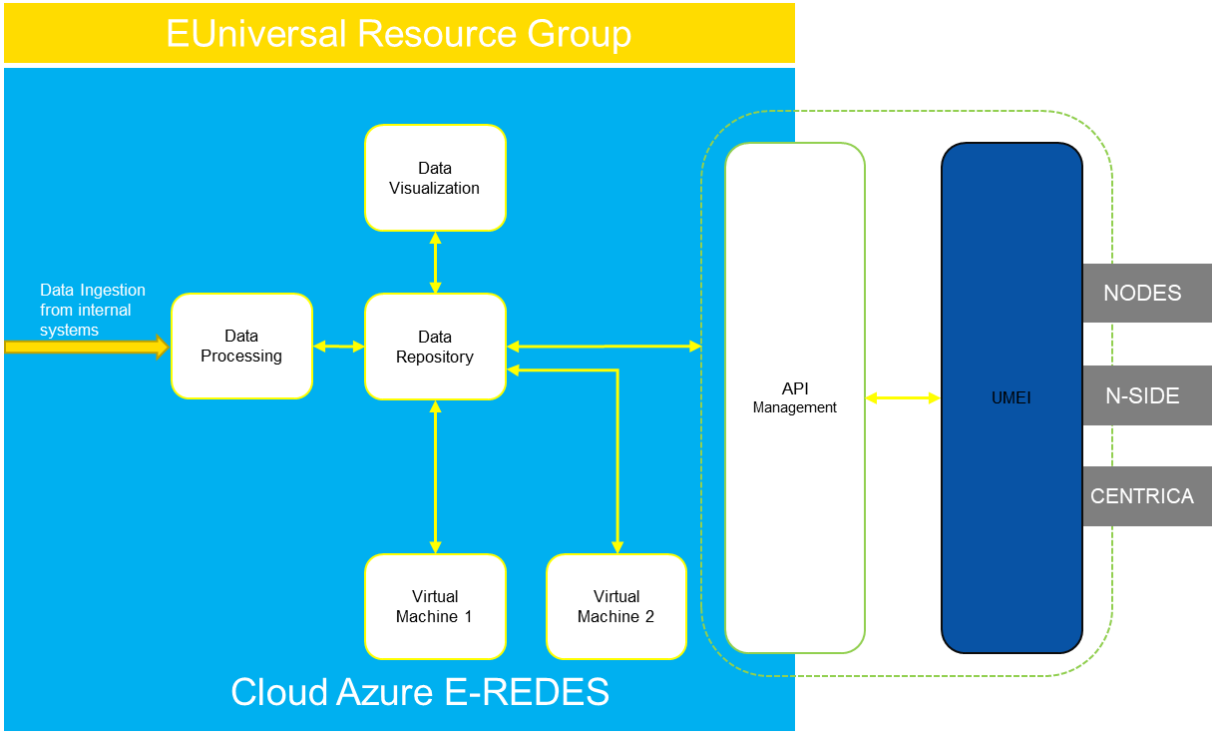

Figure 6 - DSO Architecture

To ensure the safety of the proposed solution, this platform is divided into two areas with different communication requirements/constraints:

- Area 1: Dedicated to important systems that use customer data. This area is designed to contain both the information and the resources, so that is only accessible to key users of the project. The objective of this area is to ensure systems' isolation from potential external threats.
- Area 2: Dedicated to communication with external platforms and the implantation of the software to use the referred APIs. The purpose of this area is to ensure that a separated layer exists between the solution's "core" systems (area 1) and the components responsible for communicating with external platforms.

German Demo Implementation process

According to the UMEI specification, the essential information for a German Demo to retrieve from the UMEI includes:

- Asset Portfolios
- Markets
- Baseline Intervals
- Orders
- Trades

This information is necessary to get a completely up-to-date picture of the situation in the flexibility market to better analyze the flexibilities available and the potential for their fulfillment by means of the DSO. To participate in the market the DSO needs to interact with the FSP and the FMO. The UMEI was designed to connect multiple separate components which come from different stakeholders to work as one and coordinate better, as a stable and reliable interaction system.

To keep data in sync and share data with other market participants, the UMEI has been adapted to the DSO system in several stages represented in Figure 7:

1. UMEI API specification and architecture analysis – to determine operational feasibility and verify seamless data communication between the DSO and the UMEI;
2. UMEI API functional testing – to detect the bottlenecks and report the failures in the operation of UMEI functions;
3. UMEI API adaptation and maintenance - a process integration and implementation to ensure a stable connection to multiple market participants through the UMEI API layer to exchange data and submit orders.

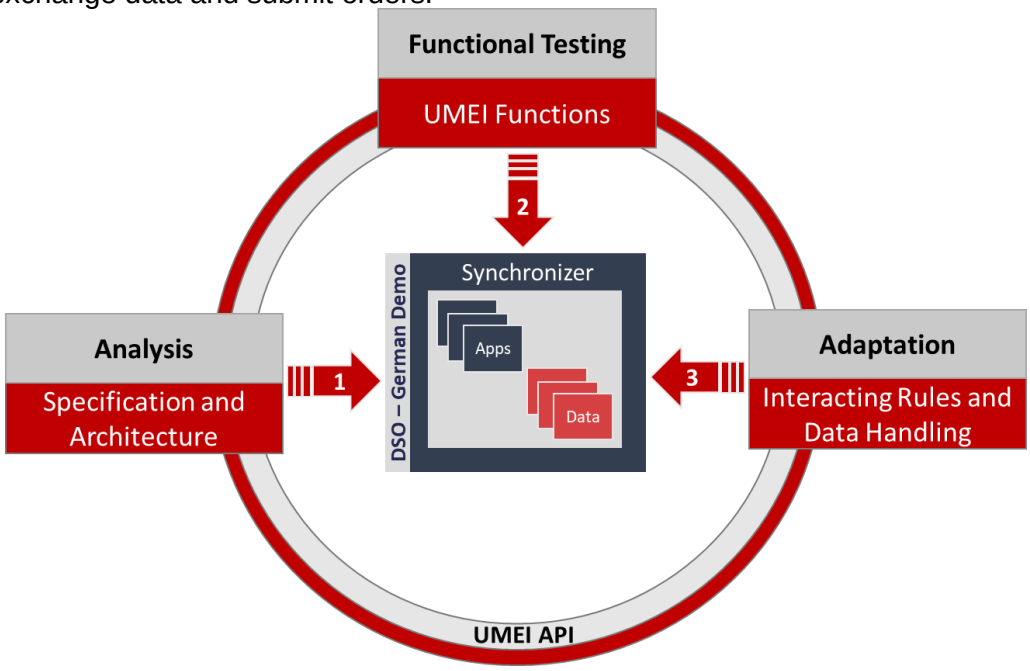

Figure 7 - UMEI API adaptation stages with respect to German Demo

To assess flexibility needs and monitor order status, the DSO must keep track of the following data:

- Asset portfolios, baseline intervals, and orders submitted by FSP;
- Markets and trades supported by market operators;
- Flexibility orders placed by DSO.

A review of the UMEI specification and architecture indicated that the interface meets all of the DSO's stated requirements and needs with respect to obtaining up-to-date information and conducting market transactions by posting flexibility orders.

UMEI API functional testing was carried out in two steps:

1. Testing of the UMEI basic functions;
2. Testing of market operations by means of the UMEI according to predefined scenarios.

The UMEI API testing workflow thereby included the following steps (cf. Figure 8):

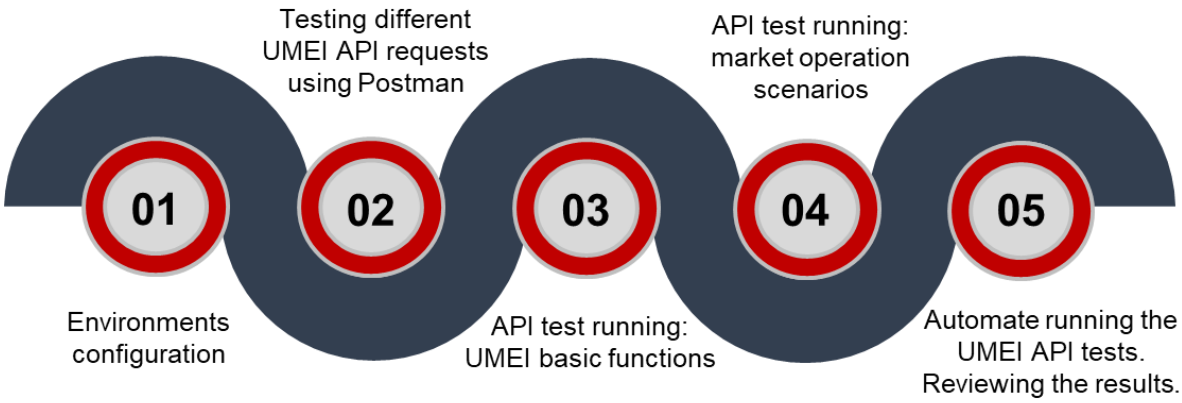

Figure 8 - UMEI API testing workflow

The performed functional testing allowed us to identify minor inaccuracies in the UMEI specification as well as to better understand UMEI functioning, and requirements. After all the inaccuracies were corrected by the UMEI developers, the UMEI fully meets German Demo expectations for functionality, reliability and performance.

Once the UMEI is verified and tested, it was ready to be adapted to the German Demo.
Considering that the pre-qualification phase is not foreseen in the current UMEI specification, pre-qualification is performed with the help of the market operator. Pre-qualification is a prerequisite for trading in the market to keep up with compliance as well as to ensure the validity and accuracy of market data. To overcome complexities and ensure market interoperability, the German Demo system automatically updates data, communicating with the market operator's API on an hourly basis.

After the pre-qualification stage is over, the German Demo is able to play an active role in the market by placing orders and flexibilities trading. Before submitting an order, the DSO, using the built-in HTTP client, communicates with UMEI API through HTTP requests and responses and, as a result, collects the most recent information available on UMEI about baseline intervals, asset

portfolios, and bids placed by the FSP, as shown in Figure 9. As soon as all the JSON responses are successfully formatted, the DSO is in possession of all the necessary information to use in calculations with dedicated tools to select the most appropriate orders. Once all the calculations have been performed, the DSO places or modifies its flexibility orders through the corresponding HTTP requests to the UMEI API. The status of placed orders or information about their participation in trading operations can be also checked by means of respective HTTP requests to the UMEI API.

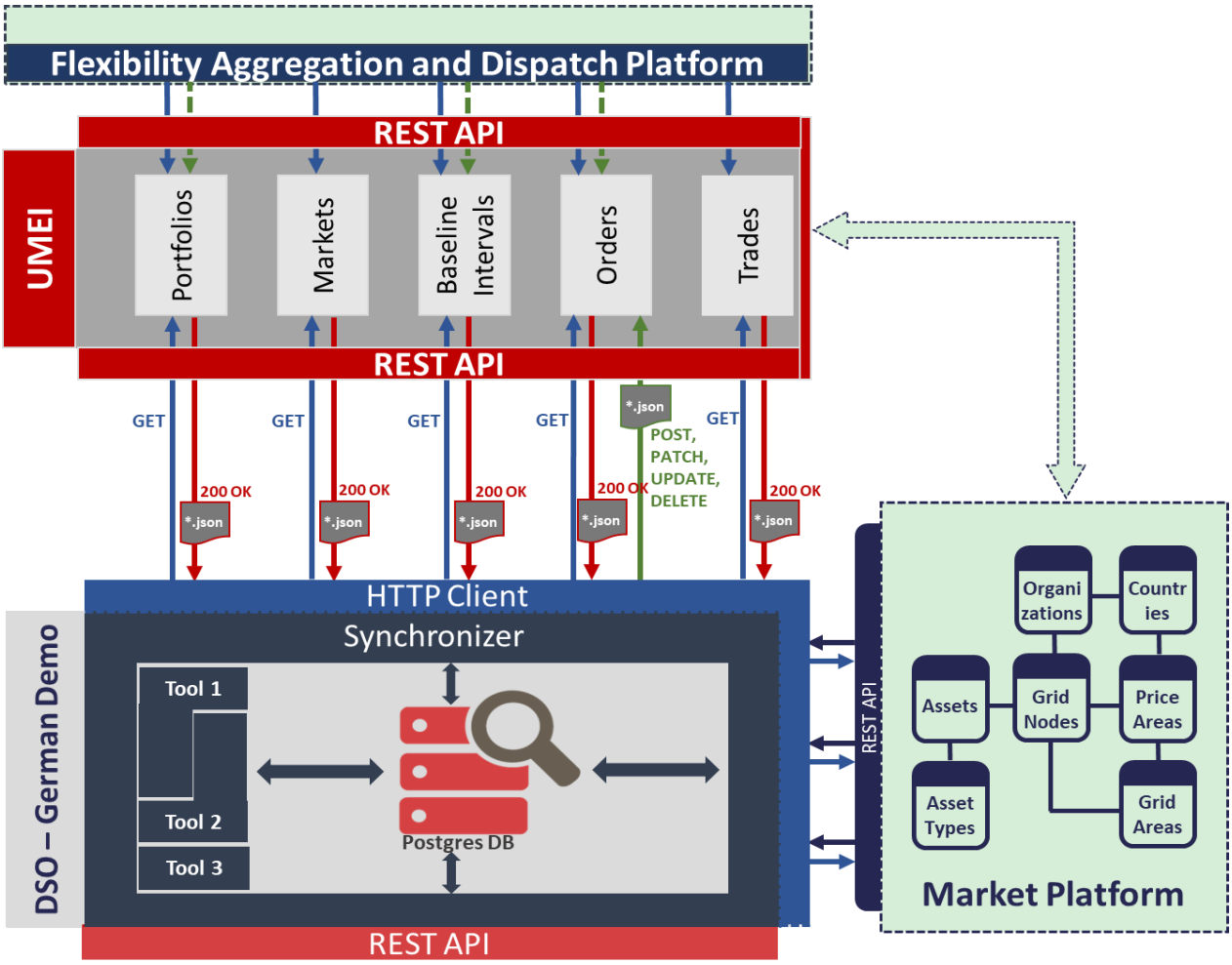

Figure 9 - UMEI API interaction with the German Demo and other market parties

The German Demo communicates with the other market participants through the UMEI using the HTTP requests of Table 4.

Table 4 – API functions used by the DSO in the German Demo

ID	Function Name	HTTP Method	Endpoint
Authentication			
A.1	Verify the authentication (request for OAuth2 access token)	POST	Authorization endpoint
A.2	Verify the acceptance and validation of the Access Token	GET, POST, DELETE, PATCH, PUT	Test API URLs
Portfolio			
P.1	Get all available asset portfolios	GET	**/portfolios**
P.2	Get an asset portfolio by Id	GET	**/portfolios/{id}**
Baseline Interval			
B.1	Get all portfolio baselines available for DSO incl. FSPs submitted	GET	**/BaselineIntervals**
B.2	Get a portfolio baseline by Id	GET	**/BaselineIntervals/{id}**
Market			
M.1	Access information about all the available markets on the market platform	GET	**/Markets**
Order			
O.1	Access information about all public orders on the market platform	GET	**/PublicOrders**
O.2	Get orders submitted by DSO	GET	**/Orders**
O.3	Get order by Id	GET	**/Orders/{id}**
O.4	Submit new order by DSO	POST	**/Orders**
O.5	Patch an order (submitted by DSO) from the market platform	PATCH	**/Orders/{id}**
O.6	Update an existing order (submitted by DSO) from the market platform	PUT	**/Orders/{id}**
O.7	Delete an existing order (submitted by DSO) from the market platform	DELETE	**/Orders/{id}**

Trade			
T.1	Access information about all available (active) trades on the platform	GET	**/Trades**

5.2 Authentication and Authorization Policies

As discussed, the UMEI works as a set of APIs for all the different actors involved in the flexibility value chain. It is now clear that, considering how different the applications at stake are, not all parties will interact through the UMEI in the same way. Furthermore, we are undergoing an important sociological change where great importance is given to personal data and information, considering the technological developments of the past years which led to enormous growth in terms of data retrieval. In other words, today it is possible to collect a wide amount of information on various aspects and at different levels throughout the energy infrastructure, and it is important to ensure proper handling of this information, compliant with all norms related to privacy and anonymization of the information, to make sure that they are used solely for the purpose they are intended to when retrieved.

For instance, a clear example comes in the scenario where the FSP needs to manage a portfolio of assets of residential and industrial consumers. In order to adequately perform their aggregation responsibilities, there is the need to retrieve data such as instantaneous energy consumption, flexibility offer, meter readings, etc. Nonetheless, just as important as using this information, it is to ensure that no other parties outside of their bilateral agreement have visibility over them.

In EUniversal, this item has been taken strongly into account. In the UMEI, the different information can only be uploaded and/or retrieved in a role-based access manner. Depending on the party which is interfacing with the market platforms through the UMEI, a restricted set of available endpoints can be invoked. These restrictions have the purpose of limiting potential misalignments in terms of data, but especially to ensure that only the entities legally entitled to access some information will be technically allowed to do so.

To illustrate this, it is interesting to compare how the access policy allowed to manage restrictions in the information sharing in two different ways for two different demos but always based on the same initial specification.

The first use case we will present is the set-up of the Portuguese demo. Initially, the DSO shares with the FMO, for a given time period, information about the flexibility needed and the assets which can potentially support meeting such needs. To be able to submit flexibility offers, it is obviously required that the FSP can access the information on which assets can help to solve congestion. It should however be avoided that he can access the amount of flexibility needed (the deepness of the congestion) as it would promote gaming and strategic bidding behaviour. Using the UMEI, it is possible to manage this restriction.

In the Polish demo, on the other hand, the FSPs will initially provide asset and asset portfolio information, as well as information about how these assets are connected to the electrical grid. This information needs to be approved by the relevant DSOs.

The FSPs will then be able to upload baselines and meter readings for the approved assets, as+ well as access the data afterward. In the Polish and German demo, business rules state that portfolios must have a valid baseline to post sell orders. This is enforced by the FMO in the relevant markets.

This illustrates how the UMEI specification is generic enough to support these different use cases. The participants use the same endpoint with the same protocol, but access control and other validations will behave differently on different FMOs, and indeed on different markets hosted by the same FMO.

In addition, some FMOs will support users that are belonging to multiple organizations or act on behalf of other organizations. An example of this is trader that trade on behalf of more than one organization. This is supported by ensuring that the relevant models, e.g., *Order*, have an additional field *OrganizationId*, which specifies which organization e.g., an order belongs to. The FMO will verify that the user has the correct access to the given organization.

Let us describe now how these authentication and authorization policies are implemented. The authentication towards an UMEI-compliant FMO server is performed using a token provided by the user. This token should be sent on each request as a “Bearer” token in the HTTP headers. The methodology to acquire this token is not covered by the UMEI specification and is specified by the individual FMO. It could consist in adding an endpoint in the API to acquire a token, this endpoint being secured by client credentials. Then, each FMO is required to authorize, or not individual API calls based on the provided authentication (role-based policy). As described above, FMOs may have different rules for the different demos, and those rules are not covered by the UMEI specification. However, each FMO is required to return correct HTTP status codes and error details if the authorization fails. According to the UMEI, possible error codes are: 401 (Unauthorized: Lack of valid authentication credentials for the requested resource) or 403 (Forbidden: The server understands the request but refuses to authorize it. Insufficient rights to a resource).

5.3 Interoperability Testing

Any standardization effort of this kind requires extensive testing in order to ensure that participants and implementors follow the standard properly.

Testing was performed as part of each of the project, between each FSP/DSO and the FMOs they communicated with.

In addition, a set of test scripts were added to the UMEI repository on Github. These test scripts allow participants to run a standardized set of tests, covering the basic functionality, early in the process. Furthermore, these test scripts act as documentation for client implementors.

The objective of these tests is to check that the market platforms follow all the conventions of the UMEI. The objective is not to check that the different functionalities of the platform are well implemented or that the different clearing / matching rules are satisfied.

5.3.1 Tests performed by N-SIDE

The methodology applied by N-SIDE for testing its market platform is similar for all endpoints and is described hereafter. First, a test database is instantiated, and sample portfolio ids are manually added to the database (since portfolio registration is not part of the demo). Then, the API server is launched. The different requests are launched via the Postman API platform (https://postman.com/) and the response of the request as well as the content of the database are checked in order to see whether the requests were successful. Table 5 provides a non-exhaustive list of the tests performed by N-SIDE.

Table 5 - N-SIDE Tests

Request	**Tests**
Flexibility Zones	
POST/FlexibilityZones	– A flexibility zone is successfully created and added to the database if the request body matches the requested format. – Bad request / 400 error code is sent when the request body does not respect the format requested, and validation errors are listed in the response body. In particular, a validation error is sent if a portfolio is referenced by two different flexibility zones for the same time period. – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “DSO” role
DELETE/FlexibilityZones/{id}	– A flexibility zone is successfully deleted if the given flexibility zone is found in the database. – Not found / 404 error code is sent if the given flexibility zone is not found in the database or is not accessible to the user. – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “DSO” role
GET/FlexibilityZones/{id}	– A flexibility zone is successfully returned if the given flexibility zone id is found in the database. – Not found / 404 error code is sent if the given flexibility zone is not found in the database or is not accessible to the user. – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “DSO” role or an “FSP” role – The flexibility need is not returned when the token provided corresponds to an “FSP” role
PATCH/FlexibilityZones/{id} or POST/FlexibilityZones/{id}	– A flexibility zone is successfully updated if a matching flexibility zone is found in the database and if the request body has the correct format. – Bad request / 400 error code is sent when the request body does not respect the format requested, and validation errors are listed in the response body – Not found / 404 error code is sent if the given flexibility zone is not found in the database or is not accessible to the user. – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “DSO” role

GET/FlexibilityZones	– Flexibility zone(s) is/are successfully returned and implemented filter queries are correctly applied. In particular, the pagination of the results is checked. – Not supported / 405 error code is sent if the filter query is not supported by the platform (I.e.: more than one periodForm filter or more than one periodTo filter) – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “DSO” role or a “FSP” role – The flexibility need is not returned when the token provided corresponds to a “FSP” role
Orders	
POST/Orders	– An order is successfully created and added in the database if the request body matches the requested format and if the referenced flexibility zone is found in the database. – Bad request / 400 error code is sent when the request body does not respect the format requested, and validation errors are listed in the response body. – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “FSP” role
DELETE/Orders/{id}	– An order is successfully deleted if the given order is indeed found in the database. – Not found / 404 error code is sent if the given order is not found in the database or is not accessible to the user. – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “FSP” role
GET/Orders/{id}	– An order is successfully returned if the given order id is found in the database. – Not found / 404 error code is sent if the given order is not found in the database or is not accessible to the user. – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “FSP” role
PATCH Orders/{id} or POST Orders /{id}	– An order is successfully updated if a matching order is found in the database and if the request body has the correct format. – Bad request / 400 error code is sent when the request body does not respect the format requested, and validation errors are listed in the response body – Not found / 404 error code is sent if the given order is not found in the database or is not accessible to the user. – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid

	– Forbidden / 403 error code is sent if the token provided does not correspond to a “FSP” role
GET/Orders	– Order(s) is/are successfully returned and implemented filter queries are correctly applied. In particular, the pagination of the results is checked. – Not supported / 405 error code is sent if the filter query is not supported by the platform (I.e.: orderBy, gridNodeId, marketId, portfolioId, ownerOrganizationId, status, more than one periodForm filter or more than one periodTo filter) – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “FSP” role
Trades	
GET /Trades	– Trade(s) is/are successfully returned and implemented filter queries are correctly applied. In particular, the pagination of the results is checked. – Not supported / 405 error code is sent if the filter query is not supported by the platform (I.e.: orderBy, gridNodeId, marketId, portfolioId, status, more than one periodForm filter or more than one periodTo filter) – Unauthorized / 401 error code is sent if the authentication credentials are not provided or not valid – Forbidden / 403 error code is sent if the token provided does not correspond to a “DSO” or “FSP” role
Portfolios	The prequalification process has been excluded from the Portuguese demo and is therefore not supported. It has been tested that the platform sends a 405 error code for all associated endpoints (POST, GET, DELETE, PATCH, UPDATE).
Baseline	This endpoint is not needed by N-SIDE in the context of the Portuguese demo. It has been tested that the platform sends a 405 error code for all associated endpoints (POST, GET, DELETE, PATCH, UPDATE).
Market	There is only one type of market in the Portuguese Demo. It has been tested that the platform sends a 405 error code when a user tries to get the list of markets.
MeterReadings	This endpoint is not needed by N-SIDE in the context of the Portuguese demo. It has been tested that the platform sends a 405 error code for all associated endpoints (POST, GET, DELETE, PATCH, UPDATE).

5.3.2 Tests performed by NODES:

The basic scenario validates the pre-qualification information (markets, grid nodes, etc) using the UMEI access methods, and uses the UMEI protocol to post buy- and sell orders and to validate that the orders are matched and that trades are created. Which process was like the one described in 0. In addition:

- NODES has developed two separate UMEI client libraries, one in Typescript (based on Denon) and one in C# (dotnet 3.1).
- The UMEI server implementation uses auto-generated service- and model interfaces to ensure that is correct and up to date with the current UMEI specification
- Both the client libraries are used to test a basic but complete scenario against our live test environment6. Lifecycle management beyond the project

6.1 Maintenance and updates of the specification

In the short term, the specification presented is ready to be used in three different demos with different use cases. It is also compatible with two different market platforms. Given the methodology used and extensive testing performed we do not foresee huge maintenance efforts needed in the near future. At this stage, we also envision that small adaptation that would be needed can be carried on by the partners within the demo tasks. A low maintenance effort is however hard to assure, and insights gained from the demos will be fundamental for such purpose.

In the long term, we need to differentiate two kinds of work: maintenance effort and updates.

Maintenance will consist of all actions that are not linked with a new feature. This means small adaptations of existing features, bugs correction, compliance with new REST guidelines, etc.

On the other side, updates will allow the UMEI to evolve with the new challenges that will arise due to the fast-changing energy context. Flexibility management is indeed currently experiencing a lot of momentum. New needs and challenges will trigger the creation of new flexibility products. If we want the UMEI to remain compatible with these new products, new features will have to be added to the specification.

At the current stage, it is very hard to evaluate the effort required by these tasks. It is however already possible to state that the updates should represent the lion's share of effort as maintenance work is foreseen to be rather small.

Given that the UMEI is meant to be an open standard used as widely as possible, it seems reasonable to keep it open source. This way, all the users can collaborate on the maintenance work. Updates can also be proposed by the users or potential new users whenever new needs arise. The owners of the specification who will test and validate the requests are however not identified yet.

6.2 Further development opportunities

The current version of UMEI is a standardized API that covers the most frequently used operations in a Flexibility market. The API covers the daily operations market participants would need in the trading phase, including validation phase aspects like endpoints for baselines and meter readings. However, if UMEI becomes a widely accepted API standard for flexibility markets, all operations market participants can do must be covered by the API standard.

The first natural addition to the UMEI standard would be to include the operations needed for the pre-qualification phase. This includes registering organizations and users, creating and managing the grid structure and the market set up, and creating and managing FSPs flexible resources. Developing a standardized API for the pre-qualification phase would require a great effort, since different MOPs might have significant differences in the marked design, pre-qualification procedures, and requirements, data structure, etc. The design of a standardized API for the pre-qualification phase would benefit from the participation of several stakeholders, to make sure the API specification would support the various use cases in each market design and system.

The pre-qualification and trading phase follows the validation and settlement phase. In this phase, the market participants validate the amount and quality of the dispatched flexibility, which again result in a settlement. The validation and settlement phases are considered to require less effort to design than the pre-qualification phase, especially since the current UMEI standard already includes endpoints for baselines and meter readings.

The order endpoint in the current version of UMEI supports “simple orders”, as the market participants specify location, price, and volume. As the flexibility markets value chain and UMEI standard mature, the need for more complex order scenarios, to support additional asset characteristics, might emerge. With these more complex orders market participants might be able to specify parameters including, but not limited to, multi-block orders, minimum acceptance volume, minimum and maximum blocks, adjacent blocks, and rest time.

An important aspect related to all the phases is that flexibility markets are not particularly mature yet. As the markets, including market participants and their software matures, we expect that the traded products on the different market platforms also will become more standardised in the coming years. With standardized products across different market platforms, an API standard like UMEI will become increasingly important and necessary, and thus more widespread.

Further technical enhancements include:

- Upgrading the specification and tooling to OpenAPI 3.1
- Developing and distributing an official client library, in one or more languages
- Developing and distributing an official implementation validation test suite or set of tools
- Further enhancing the protocol with documentation, support for more search parameters, etc.
- Further, build on the REST aspect of the protocol by providing link and/or link templates

6. Conclusions

The UMEI has materialized in the conceptual architecture design and the implementation of a standard, agnostic, adaptable, and modular combination of different APIs to link DSOs and market parties with flexibility market platforms, in coordination with other flexibility users. This approach allows distributed communication without the need for a central hub.

The specified APIs are organized in several functional groups, which allow market participants to retrieve and send information to the FMO. This division not only allows for a more intuitive usage of the UMEI, but also permits the segmentation of the UMEI capabilities which may help market entities to choose which functional groups are appropriate to be implemented, depending on their necessities.

In order to make the specification as universal as possible and to develop an interface that may be applied to the most of market platform designs, unnecessary restrictions were avoided, even when they applied to the current project.

The UMEI prototype is already available on GitHub https://euniversal.github.io/umei-api-specification/. The next step will be to implement this specification in the three demos, in Portugal, Germany and Poland. More specifically DSOs and FSPs will implement and test the client side of the UMEI, while the FMOs need to implement the server side.

The current version of UMEI is a standardized API that covers the most frequently used operations in a Flexibility market. The API covers the daily operations market participants would need in the trading phase, including validation phase aspects like endpoints for baselines and meter readings. However, if UMEI becomes a widely accepted API standard for flexibility markets, all operations market participants can do must be covered by the API standard.

In the short term, the specification presented is ready to be used in the three different demos with different use cases. It is also compatible with two different market platforms. Given the methodology used and extensive testing performed we do not foresee huge maintenance efforts needed in the near future. At this stage, we also envision that the small adaptation that would be needed can be carried on by the partners within the demo tasks. A low maintenance effort is however hard to assure, and insights gained from the demos will be fundamental for such purpose.

Given that the UMEI is meant to be an open standard used as widely as possible, it seems reasonable to keep it open source. This way, all the users can collaborate on the maintenance work. Updates can also be proposed by the users or potential new users whenever new needs arise. The owners of the specification who will test and validate the requests are however not identified yet.

Being close to the actual start of the demo allows a clearer view of the practical organization in terms of interactions between the FMO and the market actors. Hence, some possible additional messages to ensure an excellent demonstration process are currently being analyzed. The corresponding specification will be developed in due time on the GitHub.

7. References

[1] Deliverable D2.2: Business Use Cases to unlock flexibility service provision

[2] Deliverable: D2.3: System architecture and System Use Cases

[3] Deliverable: D2.4: UMEI functional specification

[4] Deliverable: D2.5: UMEI prototype

Annex – Final UMEI specification + Glossary

API Reference

UMEI API Specification

API Version: 1.0.0

Glossary and abbreviations

Activation market: Flexibility market where the assets are dispatched for the period covered by a trade.

Asset: In this context, an asset represents a physical or virtual device which has power characteristics that can be controlled, thus providing flexibility. Typically, assets are either consumers (e.g. heating systems, factories) or producers (e.g. renewable energy sources or traditional power plants), while some assets (e.g. batteries) can both produce and consume.

Baseline: The forecasted aggregated consumption/production of an asset portfolio (see portfolio) during a defined time period.

DSO: Distribution System Operator, the entity responsible for operating a electrical grid.

Fill-and-kill: Type of order that is immediately matched. The order is killed and instantly removed after matching, whether it is matched fully, partially or not at all. Available in NODES continuous market. Commonly abbreviated as FaK. Also known as Immediate-or-Cancel (IoC).

Fill-or-kill: Type of order that is immediately matched. The order is either matched in full and then killed, or else it is killed and instantly removed. No partial matching is allowed. Available in NODES continuous market. Commonly abbreviated as FoK.

FlexibilityZone Set of several portfolios where the DSO defines specific flexibility needs and sensitivities. A flexibility zone does not necessarily correspond to a physical zone of the electrical grid.

FMO: Flexible Market Operator, the operator of the platform hosting a market on which participants can trade flexibility.

FSP: Flexibility Service Provider, an entity offering flexible assets into a market.

GridNode: Physical node of the electrical grid to which an asset portfolio is connected and on which trading happens.

Interpolated orders: Order with a non-uniform price, i.e. instead of having one single price independently of the accepted part of the order, the price is evolving with the quantity accepted. Available on N-Side auction market.

Limit price: For buy orders, this is the upper limit of what the buyer is willing to pay.
For a sell order, this is the lower limit of what the seller is willing to accept. See "Market price".

Market price: For buy orders, this means that the buyer will is willing to pay the current market sell price. For sell orders, this means that the seller is willing to sell at the current market buy price.

MeterReading: Registration of the actual power consumed/produced by an asset

Order: Flexibility order placed on a market. The order can be either “Buy” in case the market participant wants to procure flexibility or “Sell” in case the market participant wants to offer flexibility.

PayAsBid: This is a market rule stating that the price at which trade between two orders will occur is the proposed price of the first order placed on the platform.

PayAsCleared: This is a market rule stating that the price at which a trade will occur is the one of the market equilibrium (determined by the buy and sell curves).

Portfolio: A portfolio represents one or more assets (aggregated) that can participate in a flexibility market, e.g. batteries, dispatchable generators, etc.

QuantityType: What is traded on a market / in an order. Possible values are
ActivePower, *ReactivePower*, *Energy*, *Capacity*.

Reservation Market: Flexibility market in which participants offer the reservation of their flexibility (possibly weeks or years in advance depending on market rules) before actual dispatching.
The actual dispatching can be done outside the market or in a consecutive activation market.

Trade: A trade either between two participants of a market, or between one participant
and the FMO. A trade is always the result of two or more orders being matched.

Categorization of orders

Orders can be categorized along several *axes*. Some categorizations follow
directly from the market, while other can vary between orders with the same market.

QuantityType: Some orders are for adjusting active power supply, some are for energy etc.
Each market operates in one quantity type.

Quantity: Some orders are can be matched-in-part, and some orders need to be fully "filled". This is deduced from the minimumAcceptanceQuantity. Possible categorizations are *Curtailable* (minimumAcceptanceQuantity < Quantity) and *AllOrNothing* (minimumAcceptanceQuantity == Quantity)

PriceCurve: Some orders have a fixed price regardless of quantity, while some orders have price depending on quantity bought (using the piecewise linear price curve concept). Possible categorizations are *FixedPrice* or *VariablePrice*.

Period: Some orders needs to be matched for the whole period stated in the order
(e.g. 1300-1800), while other orders can be divided into time-slots and some of them met
(e.g. buying 1300-1500 of an order that has period 1300-1800).
Possible categorizations are *SingleSlot* (must match the whole period)
or *MultiSlot* (one can match/buy parts of the period).

FillType: Depending on the fill type, some orders are killed immediately after matching,

while some can remain in the market.
Possible categorizations are *Normal* (remains in market), *FillOrKill*, *FillAndKill*.

PriceType: Some orders have a fixed limit on how high (for buy orders) or low (for sell orders) the price can be. Other orders will buy/sell at the current market price.
Possible categorizations are: *Limit*, *Market*.

Status of items

Each of the items within an FMO can have different statuses at different stages in their lifecycle. Not all status are relevant for all items. Each FMO can have limitations on allowed statuses, depending on entity types and other factors (e.g. market rules).

However, each of the statuses have the same meaning across different FMOs:

Received: The item has been received but not yet processed. If the response includes a link or id, the status of the item can be polled at a later time.

Pending: The item has been received, but is pending approval from an external system, either manual or automatic.

Rejected: The item has been received and stored, but rejected. The rejection can be automatic or manual, by external partners or by the FMO, and can possibly be revoked.

Active: The item is now active in the FMO system.
Note that for orders in a continuous market, this means that the order in financial terms also is referred to as *passive*, meaning that it is lying in the system, awaiting possible future matches.

Inactive: The item has manually or automatically been marked as not operational. The status might be changed at a later time.

Completed: The item has completed it lifecycle and is no longer active. An example of this is an order that has been fully matched.

Deleted: The item has been deleted, manually or automatically, and is no longer active.

Completion Type

In addition to Status, an extra field (CompletionType) is available for orders. It exposes extra information regarding what caused the order to be completed. The usage is dependent on the FMO and it will not be set for statuses other than Completed.

The possible values are:

Filled: The order has been traded in full.

Killed: The order was set up as either FillAndKill or FillOrKill, and was killed after being processed.

Expired: The order has come to the end of the period of validity and still had quantity remaining.

Cancelled: The order was explicitly cancelled.# List of error codes

This is a non-exhaustive list of error codes. The main purpose is to harmonize error codes between different FMOs, enabling users and code to handle common errors in the same way even when interfacing with different FMOs.

Note that this list is non-exhaustive. FMOs are free to perform additional validations and to provide errors messages with error codes not in this list. However, FMOs are strongly encouraged to re-use existing error codes if possible.

See the definition of the ProblemDetails object in the OpenAPI documentation for usage, or the problem details RFC: https://datatracker.ietf.org/doc/html/rfc7807

Security related error codes

Forbidden: The current user is not authorized to perform the requested operation. Corresponds to http status 403 Forbidden.

Unauthenticated: This operation requires a logged-in user, but the request did not specify valid authentication parameters. Corresponds to http status 401 Unauthorized (sic).

Error codes related to invalid request data

EndpointNotSupported The requested endpoint is known by the server, but the market platform does not support this method. The 'allow' header field of the response contains a list of methods that the market platform currently supports.

InconsistentPeriods: 'periodTo' must be subsequent to 'periodFrom'

InvalidBaseline The baseline provided is not valid (input data validation error)

InvalidFlexibilityZone The flexibility zone provided is not valid (input data validation error)

InvalidGridNode: The given grid node does not exist, is not available for the current user, or is otherwise not available for the given order

InvalidLongflexContractId: The given longflex contract does not exist, or is not available for the current user

InvalidMarket The given market does not exist, is not available for the current user, or is otherwise not available for the given order

InvalidMeterReading The meter reading provided is not valid (input data validation error)

InvalidOrder The order provided is not valid (input data validation error)

InvalidPortfolio: The given portfolio is not valid (input data validation error), does not exist, or is not available for the current user

InvalidStatus: The status specified is not valid for the item selected

MarketClosed: The market is not open for trading for the period specified in the order

MarketNotYetOpen: The market has not yet opened for trading for the period specified in the order

NonUpdatablePortfolio: The portfolio can not be updated

NonZeroFirstQuantity: The quantity of the first 'QuantityPricePoint' of an interpolated order must always be zero

ResourceNotFound The resource identified by the path parameter does not exist or the logged-in user does not have

sufficient privileges.Authentication

Authentication towards an UMEI-compliant FMO server is performed using a user-provided token. This token should be sent on each request as a "Bearer" token in the HTTP headers, like this:

```
Authentication: Bearer eyJ...
```

How the token is acquired is not covered by the UMEI specification and is specified by the individual FMO.

Authorization / Access control

Each FMO is required to authorize individual API calls based on the provided authentication. FMOs may have different rules and this is not covered by the UMEI specification.

However, each FMO is required to return correct http status codes and error details if the authorization fails, as detailed in the section of error codes.

INDEX

API

1. BASELINEINTERVAL

1.1 GET /BaselineIntervals

List or search one or several BaselineInterval(s) using a query

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
portfolioId	string	Search by portfolio id
gridNodeId	string	Search by grid node id
status	enum **ALLOWED:** Received, Pending, Rejected, Active, Inactive, Completed, Deleted	Search by status
take	int32	Number of hits to return. If client does not specify Take the server MAY apply a default Take value (which will be returned in the SearchResult object). The default value is not guaranteed to be the same for different requests"
skip	int32	Skip the specified number of hits, used when paging
orderBy	array of string	Order the hits by the specified property. Legal values will depend on the FMO implementation but as a minimum the same properties that can be used for filtering can be used for sorting.
periodFrom	date-time	Specify the "periodFrom" by exact match (with a resolution of one second)
periodFrom.lt	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than this specified value.
periodFrom.lte	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodFrom.gt	date-time	If specified, only return entries with a "periodFrom" that is greater (later) than this specified value.
periodFrom.gte	date-time	If specified, only return entries with a "periodFrom" that is equal to (with a resolution of one second) or greater (later) than this specified value.
periodTo	date-time	Specify the "periodTo" by exact match (with a resolution of one second)
periodTo.lt	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than this specified value.
periodTo.lte	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodTo.gt	date-time	If specified, only return entries with a "periodTo" that is greater (later) than this specified value.
periodTo.gte	date-time	If specified, only return entries with a "periodTo" that is equal to (with a resolution of one second) or greater (later) than this specified value.

RESPONSE

STATUS CODE - 200: BaselineInterval(s) successfully returned

RESPONSE MODEL - application/json

{
numberOfHits integer
items [{
Array of object: Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the baseline (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this baseline

links [{
Array of object:

rel	string
title	string
href	string
method	string

}]

portfolioId	string	The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity	number	multiple of 0.001 Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}]
links [{
Array of object:

rel	string
title	string
href	string
method	string

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

1.2 POST /BaselineIntervals

Create a BaselineInterval

REQUEST

REQUEST BODY - application/json

{
Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the baseline (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this baseline
links [{		
Array of object:		
rel	string	
title	string	
href	string	
method	string	
}]		
portfolioId	string	The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity	number	multiple of 0.001 Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

RESPONSE

STATUS CODE - 201: BaselineInterval successfully created

RESPONSE MODEL - application/json

{
Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the baseline (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this baseline
links [{		
Array of object:		
rel	string	
title	string	
href	string	
method	string	
}]		
portfolioId	string	The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity	number	multiple of 0.001 Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]

}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

1.3 GET /BaselineIntervals/{id}

Get an existing BaselineInterval by id

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 200: BaselineInterval successfully returned

RESPONSE MODEL - application/json

{
Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the baseline (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this baseline

links [{
Array of object:

rel	string
title	string
href	string
method	string

}]

portfolioId	string	The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

quantity number multiple of 0.001

Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.

quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity

The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

1.4 PUT /BaselineIntervals/{id}

Update an existing BaselineInterval, or create if missing

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{
Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.
id string Id of the baseline (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this baseline
links [{
Array of object:
rel string
title string

href string
method string
}]
portfolioId string The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity number multiple of 0.001
Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity
The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.
}

RESPONSE

STATUS CODE - 200: BaselineInterval successfully updated

RESPONSE MODEL - application/json

{
Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id string Id of the baseline (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this baseline
links [{
Array of object:
rel string
title string
href string
method string
}]
portfolioId string The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity number multiple of 0.001
Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity
The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.
}

STATUS CODE - 201: BaselineInterval successfully created

RESPONSE MODEL - application/json

{
Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id string Id of the baseline (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this baseline
links [{
Array of object:

rel string
title string
href string
method string
}]
portfolioId string The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity number multiple of 0.001
Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity
The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.
}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

```
    message   string  Description of the issue with this property
    value     string  Value received as input for this property
  }]
}
```

1.5 DELETE /BaselineIntervals/{id}

Delete/Remove an existing BaselineInterval

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 204: BaselineInterval successfully deleted

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type              string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title             string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status            string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail            string  A human-readable explanation specific to this occurrence of the problem.
  instance          string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property  string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string  Description of the issue with this property
    value     string  Value received as input for this property
  }]
}
```

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type              string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title             string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status            string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail            string  A human-readable explanation specific to this occurrence of the problem.
  instance          string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property  string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
```

```
    message   string  Description of the issue with this property
    value     string  Value received as input for this property
  }]
}
```

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type        string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                      referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                      html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title       string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                      of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status      string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail      string  A human-readable explanation specific to this occurrence of the problem.
  instance    string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                      information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property  string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string  Description of the issue with this property
    value     string  Value received as input for this property
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type        string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                      referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                      html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title       string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                      of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status      string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail      string  A human-readable explanation specific to this occurrence of the problem.
  instance    string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                      information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property  string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string  Description of the issue with this property
    value     string  Value received as input for this property
  }]
}
```

1.6 PATCH /BaselineIntervals/{id}

Patch / partially update an existing BaselineInterval

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{
Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the baseline (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this baseline
links [{		
Array of object:		
rel	string	
title	string	
href	string	
method	string	
}]		
portfolioId	string	The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity	number	multiple of 0.001 Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

RESPONSE

STATUS CODE - 200: BaselineInterval successfully updated

RESPONSE MODEL - application/json

{
Baseline of a portfolio for a time interval.
A baseline covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the baseline (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this baseline
links [{		
Array of object:		
rel	string	
title	string	
href	string	
method	string	
}]		
portfolioId	string	The portfolio for which this baseline applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity	number	multiple of 0.001 Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client

error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property

```
    value      string  Value received as input for this property
  }]
}
```

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type         string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                       referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                       html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title        string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                       of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status       string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail       string  A human-readable explanation specific to this occurrence of the problem.
  instance     string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                       information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property   string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message    string  Description of the issue with this property
    value      string  Value received as input for this property
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type         string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                       referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                       html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title        string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                       of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status       string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail       string  A human-readable explanation specific to this occurrence of the problem.
  instance     string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                       information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property   string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message    string  Description of the issue with this property
    value      string  Value received as input for this property
  }]
}
```

1.7 POST /BaselineIntervals/import

Import (update or create) multiple BaselineIntervals

REQUEST

FORM DATA PARAMETERS

NAME	TYPE	DESCRIPTION
file	array of string	

RESPONSE

STATUS CODE - 204: Baseline intervals successfully imported and created and/or updated

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further

information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

2. FLEXIBILITYZONE

2.1 GET /FlexibilityZones

List or search one or several flexibility zone(s) using a query

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
take	int32	Number of hits to return. If client does not specify Take the server MAY apply a default Take value (which will be returned in the SearchResult object). The default value is not guaranteed to be the same for different requests"
skip	int32	Skip the specified number of hits, used when paging
orderBy	array of string	Order the hits by the specified property. Legal values will depend on the FMO implementation but as a minimum the same properties that can be used for filtering can be used for sorting.
periodFrom	date-time	Specify the "periodFrom" by exact match (with a resolution of one second)
periodFrom.lt	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than this specified value.
periodFrom.lte	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodFrom.gt	date-time	If specified, only return entries with a "periodFrom" that is greater (later) than this specified value.
periodFrom.gte	date-time	If specified, only return entries with a "periodFrom" that is equal to (with a resolution of one second) or greater (later) than this specified value.
periodTo	date-time	Specify the "periodTo" by exact match (with a resolution of one second)
periodTo.lt	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than this specified value.
periodTo.lte	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodTo.gt	date-time	If specified, only return entries with a "periodTo" that is greater (later) than this specified value.
periodTo.gte	date-time	If specified, only return entries with a "periodTo" that is equal to (with a resolution of one second) or greater (later) than this specified value.

RESPONSE

STATUS CODE - 200: Flexibility zone(s) successfully returned

RESPONSE MODEL - application/json

```
{
  numberOfHits                    integer
  items [{
```

Array of object: Flexibility zone defined by a flexibility need, a time period and a list of portfolios

```
    id                string    Id of the flexibility zone (should be unique)
    flexibilityNeed   number    An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being
                                deduced from the market. For both quantities the unit is MW.
```

periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

portfolioIds [string] Id of a portfolio contained in the flexibility zone

}]

links [{

Array of object:

rel string

title string

href string

method string

}]

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

2.2 POST /FlexibilityZones

Create a new flexibility zone

REQUEST

REQUEST BODY - application/json

{
Flexibility zone defined by a flexibility need, a time period and a list of portfolios

id	string	Id of the flexibility zone (should be unique)
flexibilityNeed	number	An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
portfolioIds	[string]	Id of a portfolio contained in the flexibility zone

}

RESPONSE

STATUS CODE - 201: Flexibility zone successfully created

RESPONSE MODEL - application/json

{
Flexibility zone defined by a flexibility need, a time period and a list of portfolios

id	string	Id of the flexibility zone (should be unique)
flexibilityNeed	number	An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
portfolioIds	[string]	Id of a portfolio contained in the flexibility zone

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

2.3 GET /FlexibilityZones/{id}

Get an existing flexibility zone by id

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 200: Flexibility zone successfully returned

RESPONSE MODEL - application/json

{
Flexibility zone defined by a flexibility need, a time period and a list of portfolios

id	string	Id of the flexibility zone (should be unique)
flexibilityNeed	number	An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
portfolioIds	[string]	Id of a portfolio contained in the flexibility zone

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

2.4 PUT /FlexibilityZones/{id}

Update an existing flexibility zone, or create if missing

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{
Flexibility zone defined by a flexibility need, a time period and a list of portfolios

id	string	Id of the flexibility zone (should be unique)
flexibilityNeed	number	An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
portfolioIds	[string]	Id of a portfolio contained in the flexibility zone

}

RESPONSE

STATUS CODE - 200: Flexibility zone successfully updated

RESPONSE MODEL - application/json

{
Flexibility zone defined by a flexibility need, a time period and a list of portfolios

id	string	Id of the flexibility zone (should be unique)
flexibilityNeed	number	An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
portfolioIds	[string]	Id of a portfolio contained in the flexibility zone

}

STATUS CODE - 201: Flexibility zone successfully created

RESPONSE MODEL - application/json

{
Flexibility zone defined by a flexibility need, a time period and a list of portfolios

id	string	Id of the flexibility zone (should be unique)
flexibilityNeed	number	An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
portfolioIds	[string]	Id of a portfolio contained in the flexibility zone

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
    }]
}
```

2.5 DELETE /FlexibilityZones/{id}

Delete/Remove an existing flexibility zone

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 204: Flexibility zone successfully deleted

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

- type string — A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
- title string — A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
- status string — The HTTP status code generated by the origin server for this occurrence of the problem.
- detail string — A human-readable explanation specific to this occurrence of the problem.
- instance string — A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
- validation-errors [{
  Array of object: Reference to a field that failed validation along with an description of the validation error
  - property string — The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
  - message string — Description of the issue with this property
  - value string — Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

- type string — A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
- title string — A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
- status string — The HTTP status code generated by the origin server for this occurrence of the problem.
- detail string — A human-readable explanation specific to this occurrence of the problem.
- instance string — A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
- validation-errors [{
  Array of object: Reference to a field that failed validation along with an description of the validation error
  - property string — The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
  - message string — Description of the issue with this property
  - value string — Value received as input for this property

```
  }]
}
```

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

```
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

```
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
  }]
}
```

2.6 PATCH /FlexibilityZones/{id}

Patch / partially update an existing flexibility zone

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{
Flexibility zone defined by a flexibility need, a time period and a list of portfolios

id	string	Id of the flexibility zone (should be unique)
flexibilityNeed	number	An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
portfolioIds	[string]	Id of a portfolio contained in the flexibility zone

}

RESPONSE

STATUS CODE - 200: Flexibility zone successfully updated

RESPONSE MODEL - application/json

{
Flexibility zone defined by a flexibility need, a time period and a list of portfolios

id	string	Id of the flexibility zone (should be unique)
flexibilityNeed	number	An amount of quantity needed in the zone, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
portfolioIds	[string]	Id of a portfolio contained in the flexibility zone

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

---

3. MARKET

3.1 GET /Markets

List all Markets

REQUEST

No request parameters

RESPONSE

STATUS CODE - 200: Market(s) successfully returned

RESPONSE MODEL - application/json

{
  numberOfHits integer
  items [{
  Array of object:

id	string	Id of the market. This id will be used to define to which market an order belongs.
name	string	The name of the market
description	string	A small description of the market
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

  }]
  links [{
  Array of object:

rel	string
title	string
href	string
method	string

  }]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

  validation-errors [{
  Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

  }]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

4. METERREADING

4.1 GET /MeterReadings/{id}

Get an existing MeterReading by id

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 200: MeterReading successfully returned

RESPONSE MODEL - application/json

{
Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

- id string — Id of the measurement (should be unique)
- status enum — ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
  Status for this measurement
- links [{
  Array of object:
  - rel string
  - title string
  - href string
  - method string

  }]
- portfolioId string — The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.
- periodFrom string — The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
- periodTo string — The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
- quantity number — multiple of 0.001
  Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
- quantityType enum — ALLOWED:ActivePower, ReactivePower, Energy, Capacity
  The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

- type string — A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
- title string — A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
- status string — The HTTP status code generated by the origin server for this occurrence of the problem.
- detail string — A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-

html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

4.2 PUT /MeterReadings/{id}

Update an existing MeterReading, or create if missing

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{

Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id string Id of the measurement (should be unique)

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted

Status for this measurement

links [{

Array of object:

rel string

title string

href string

method string

}]

portfolioId string The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.

periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

quantity number multiple of 0.001

Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.

quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity

The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

RESPONSE

STATUS CODE - 200: MeterReading successfully updated

RESPONSE MODEL - application/json

{
Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the measurement (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this measurement
links [{		

Array of object:

rel	string
title	string
href	string
method	string

}]		
portfolioId	string	The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity	number	multiple of 0.001 Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

STATUS CODE - 201: MeterReading successfully created

RESPONSE MODEL - application/json

{
Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the measurement (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this measurement
links [{		

Array of object:

rel	string
title	string
href	string
method	string

}]		
portfolioId	string	The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity	number	multiple of 0.001 Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

4.3 DELETE /MeterReadings/{id}

Delete/Remove an existing MeterReading

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 204: MeterReading successfully deleted

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property

value string Value received as input for this property
}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

4.4 PATCH /MeterReadings/{id}

Patch / partially update an existing MeterReading

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{
Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id string Id of the measurement (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this measurement

links [{
Array of object:

rel string
title string
href string
method string
}]
portfolioId string The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.
periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

quantity number multiple of 0.001
Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.

quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity
The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

RESPONSE

STATUS CODE - 200: MeterReading successfully updated

RESPONSE MODEL - application/json

{
Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id string Id of the measurement (should be unique)

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this measurement

links [{
Array of object:

rel string
title string
href string
method string
}]

portfolioId string The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.

periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

quantity number multiple of 0.001
Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.

quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity
The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

4.5 GET /MeterReadings

List or search one or several MeterReading(s) using a query

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
portfolioId	string	Search by portfolio id
gridNodeId	string	Search by grid node id
status	enum **ALLOWED:** Received, Pending, Rejected, Active, Inactive, Completed, Deleted	Search by status
take	int32	Number of hits to return. If client does not specify Take the server MAY apply a default Take value (which will be returned in the SearchResult object). The default value is not guaranteed to be the same for different requests"
skip	int32	Skip the specified number of hits, used when paging
orderBy	array of string	Order the hits by the specified property. Legal values will depend on the FMO implementation but as a minimum the same properties that can be used for filtering can be used for sorting.
periodFrom	date-time	Specify the "periodFrom" by exact match (with a resolution of one second)

NAME	TYPE	DESCRIPTION
periodFrom.lt	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than this specified value.
periodFrom.lte	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodFrom.gt	date-time	If specified, only return entries with a "periodFrom" that is greater (later) than this specified value.
periodFrom.gte	date-time	If specified, only return entries with a "periodFrom" that is equal to (with a resolution of one second) or greater (later) than this specified value.
periodTo	date-time	Specify the "periodTo" by exact match (with a resolution of one second)
periodTo.lt	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than this specified value.
periodTo.lte	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodTo.gt	date-time	If specified, only return entries with a "periodTo" that is greater (later) than this specified value.
periodTo.gte	date-time	If specified, only return entries with a "periodTo" that is equal to (with a resolution of one second) or greater (later) than this specified value.

RESPONSE

STATUS CODE - 200: MeterReading(s) successfully returned

RESPONSE MODEL - application/json

```
{
  numberOfHits                          integer
  items [{
  Array of object:  Quantity measured for a portfolio for a time interval.
  A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.
    id              string  Id of the measurement (should be unique)
    status          enum    ALLOWED:Received, Pending, Rejected, Active, Inactive,
                            Completed, Deleted
                            Status for this measurement
    links [{
    Array of object:
      rel     string
      title   string
      href    string
      method  string
    }]
    portfolioId     string  The portfolio for which this measurement applies. An error will be returned if this portfolio does not
                            exist.
    periodFrom      string  The timestamp indicating the start of the interval for which this item applies, with a resolution of
                            seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
    periodTo        string  The timestamp indicating the end of the interval for which this item applies, with a resolution of
                            seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
    quantity        number  multiple of 0.001
                            Average production/consumption in the given period. The unit is deduced from the quantity type. A
                            positive value corresponds to production and a negative value represents consumption.
    quantityType    enum    ALLOWED:ActivePower, ReactivePower, Energy, Capacity
```

The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

```
  }]
  links [{
  Array of object:
    rel     string
    title   string
    href    string
    method  string
  }]
}
```

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

```
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
  }]
}
```

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

```
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

4.6 POST /MeterReadings

Create a MeterReading

REQUEST

REQUEST BODY - application/json

{

Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id string Id of the measurement (should be unique)

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted

Status for this measurement

links [{

Array of object:

rel string

title string

href string

method string

}]

portfolioId string The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.

periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

quantity number multiple of 0.001

Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.

quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity

The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

RESPONSE

STATUS CODE - 201: MeterReading successfully created

RESPONSE MODEL - application/json

{

Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id string Id of the measurement (should be unique)

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this measurement

links [{
Array of object:

rel string
title string
href string
method string
}]

portfolioId string The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.

periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

quantity number multiple of 0.001
Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.

quantityType enum ALLOWED:ActivePower, ReactivePower, Energy, Capacity
The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

```
    message   string  Description of the issue with this property
    value     string  Value received as input for this property
  }]
}
```

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type        string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                      referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                      html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title       string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                      of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status      string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail      string  A human-readable explanation specific to this occurrence of the problem.
  instance    string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                      information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property  string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string  Description of the issue with this property
    value     string  Value received as input for this property
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type        string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                      referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                      html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title       string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                      of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status      string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail      string  A human-readable explanation specific to this occurrence of the problem.
  instance    string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                      information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property  string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string  Description of the issue with this property
    value     string  Value received as input for this property
  }]
}
```

4.7 DELETE /MeterReadings

Delete/Remove one or several existing MeterReading(s) using a query

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
portfolioId	string	Search by portfolio id

NAME	TYPE	DESCRIPTION
gridNodeId	string	Search by grid node id
status	enum **ALLOWED:** Received, Pending, Rejected, Active, Inactive, Completed, Deleted	Search by status
periodFrom	date-time	Specify the "periodFrom" by exact match (with a resolution of one second)
periodFrom.lt	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than this specified value.
periodFrom.lte	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodFrom.gt	date-time	If specified, only return entries with a "periodFrom" that is greater (later) than this specified value.
periodFrom.gte	date-time	If specified, only return entries with a "periodFrom" that is equal to (with a resolution of one second) or greater (later) than this specified value.
periodTo	date-time	Specify the "periodTo" by exact match (with a resolution of one second)
periodTo.lt	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than this specified value.
periodTo.lte	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodTo.gt	date-time	If specified, only return entries with a "periodTo" that is greater (later) than this specified value.
periodTo.gte	date-time	If specified, only return entries with a "periodTo" that is equal to (with a resolution of one second) or greater (later) than this specified value.

RESPONSE

STATUS CODE - 204: MeterReading(s) successfully deleted

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]

}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

4.8 POST /MeterReadings/create-multiple

Create and/or update several MeterReadings

REQUEST

REQUEST BODY - application/json

[{
Array of object: Quantity measured for a portfolio for a time interval.
A measurement covers a fixed interval in time, e.g. one minute from 15:00 to 15:01 on a specific date. Dates are always UTC and should always be sent and parsed as ISO-8856-1 with the UTC time zone reference, 'Z', to avoid ambiguity.

id	string	Id of the measurement (should be unique)
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status for this measurement

links [{
Array of object:

rel	string
title	string
href	string
method	string

}]

portfolioId	string	The portfolio for which this measurement applies. An error will be returned if this portfolio does not exist.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
quantity	number	multiple of 0.001 Average production/consumption in the given period. The unit is deduced from the quantity type. A positive value corresponds to production and a negative value represents consumption.
quantityType	enum	ALLOWED:ActivePower, ReactivePower, Energy, Capacity The type of quantity which this is traded in this market. Each market can operate in only one type of quantity.

}]

RESPONSE

STATUS CODE - 204: MeterReadings successfully created and/or updated

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

4.9 POST /MeterReadings/import

Import (update or create) multiple MeterReadings

REQUEST

FORM DATA PARAMETERS

NAME	TYPE	DESCRIPTION
file	array of string	

RESPONSE

STATUS CODE - 204: MeterReadings successfully imported and created and/or updated

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence

of the problem, except for purposes of localization (e.g., using proactive content negotiation;

```
  status      string   The HTTP status code generated by the origin server for this occurrence of the problem.
  detail      string   A human-readable explanation specific to this occurrence of the problem.
  instance    string   A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                       information if de-referenced.
  validation-errors [{
```

Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property  string   The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string   Description of the issue with this property
    value     string   Value received as input for this property
  }]
}
```

---

5. ORDER

5.1 GET /PublicOrders

View publicly available order information

This endpoint returns information about publicly visible flexibility orders. Publicly visible orders may contain less details then the information in an organizations own orders, in which case some fields will be empty. Different FMOs and different markets may have different rules regarding which information is publicly available. Each 'Order' returned in this endpoint represents either a single order, or multiple orders that have been aggregated together.

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
gridNodeId	string	Search by grid node id
flexibilityZoneId	string	Search by flexibility zone id
marketId	string	Search by market id
portfolioId	string	Search by portfolio id
ownerOrganizationId	string	Search by ownerOrganizationId. This search parameter might be optional, unsupported or mandatory, depending on the FMO. An error message will be returned if the parameter is specified but unsupported, or if the parameter is unspecified but mandatory, or if the parameter is supported and specified but with an invalid value (e.g. an organization you do not have permission to view).
status	enum **ALLOWED:** Received, Pending, Rejected, Active, Inactive, Completed, Deleted	Search by status
completionType	enum **ALLOWED:** Filled, Killed, Expired, Cancelled	Search by completion type
side	enum **ALLOWED:** Buy, Sell	Search by order side
regulationType	enum **ALLOWED:** Up, Down	Search by regulationType
take	int32	Number of hits to return. If client does not specify Take the server MAY apply a default Take value (which will be returned in the SearchResult object). The default value is not guaranteed to be the same for different requests"
skip	int32	Skip the specified number of hits, used when paging
orderBy	array of string	Order the hits by the specified property. Legal values will depend on the FMO implementation but as a minimum the same properties that can be used for filtering can be used for sorting.
periodFrom	date-time	Specify the "periodFrom" by exact match (with a resolution of one second)
periodFrom.lt	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than this specified value.

NAME	TYPE	DESCRIPTION
periodFrom.lte	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodFrom.gt	date-time	If specified, only return entries with a "periodFrom" that is greater (later) than this specified value.
periodFrom.gte	date-time	If specified, only return entries with a "periodFrom" that is equal to (with a resolution of one second) or greater (later) than this specified value.
periodTo	date-time	Specify the "periodTo" by exact match (with a resolution of one second)
periodTo.lt	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than this specified value.
periodTo.lte	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodTo.gt	date-time	If specified, only return entries with a "periodTo" that is greater (later) than this specified value.
periodTo.gte	date-time	If specified, only return entries with a "periodTo" that is equal to (with a resolution of one second) or greater (later) than this specified value.

RESPONSE

STATUS CODE - 200: Order(s) successfully returned

RESPONSE MODEL - application/json

{
  numberOfHits integer
  items [{
  Array of object: Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

    id string Id of the order (should be unique)
    ownerOrganizationId string Which organization this item is owned by
    status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
    Status of the order
    completionType enum ALLOWED:Filled, Killed, Expired, Cancelled
    Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.
    gridNodeId string The grid node this order applies to. An error will be returned if this grid node does not exist.
    flexibilityZoneId string The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.
    marketId string Reference to the market. An error will be returned if this market does not exist.
    portfolioId string The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.
    regulationType enum ALLOWED:Up, Down
    Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).
    side enum ALLOWED:Sell, Buy
    Type of submission of the order (buy / sell)

pricePoints [{
Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity	number	An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW. For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period. For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.
unitPrice	number	The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity	number	The minimum quantity that should be traded/filled in the order.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
longflexContractId	string	A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}]
links [{
Array of object:

rel	string
title	string
href	string
method	string

}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
		A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence

```
  title          string   of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status         string   The HTTP status code generated by the origin server for this occurrence of the problem.
  detail         string   A human-readable explanation specific to this occurrence of the problem.
  instance       string   A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                          information if de-referenced.
  validation-errors [{
  Array of object:  Reference to a field that failed validation along with an description of the validation error
    property     string   The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message      string   Description of the issue with this property
    value        string   Value received as input for this property
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
  type           string   A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                          referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                          html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title          string   A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                          of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status         string   The HTTP status code generated by the origin server for this occurrence of the problem.
  detail         string   A human-readable explanation specific to this occurrence of the problem.
  instance       string   A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                          information if de-referenced.
  validation-errors [{
  Array of object:  Reference to a field that failed validation along with an description of the validation error
    property     string   The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message      string   Description of the issue with this property
    value        string   Value received as input for this property
  }]
}
```

5.2 GET /Orders

List or search Order(s) using a query

This endpoint returns your organization's orders, and possibly other orders which you have full access to. Use the /PublicOrders endpoint to get a (possibly limited) view of all publicly visible orders.

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
gridNodeId	string	Search by grid node id
flexibilityZoneId	string	Search by flexibility zone id
marketId	string	Search by market id
portfolioId	string	Search by portfolio id
ownerOrganizationId	string	Search by ownerOrganizationId. This search parameter might be optional, unsupported or mandatory, depending on the FMO. An error message will be returned if the parameter is specified but unsupported, or if the parameter is unspecified but mandatory, or if the parameter is supported and specified but with an invalid value (e.g. an organization you do not have permission to view).

NAME	TYPE	DESCRIPTION
status	enum ALLOWED: Received, Pending, Rejected, Active, Inactive, Completed, Deleted	Search by status
completionType	enum ALLOWED: Filled, Killed, Expired, Cancelled	Search by completion type
side	enum ALLOWED: Buy, Sell	Search by order side
regulationType	enum ALLOWED: Up, Down	Search by regulationType
take	int32	Number of hits to return. If client does not specify Take the server MAY apply a default Take value (which will be returned in the SearchResult object). The default value is not guaranteed to be the same for different requests"
skip	int32	Skip the specified number of hits, used when paging
orderBy	array of string	Order the hits by the specified property. Legal values will depend on the FMO implementation but as a minimum the same properties that can be used for filtering can be used for sorting.
periodFrom	date-time	Specify the "periodFrom" by exact match (with a resolution of one second)
periodFrom.lt	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than this specified value.
periodFrom.lte	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodFrom.gt	date-time	If specified, only return entries with a "periodFrom" that is greater (later) than this specified value.
periodFrom.gte	date-time	If specified, only return entries with a "periodFrom" that is equal to (with a resolution of one second) or greater (later) than this specified value.
periodTo	date-time	Specify the "periodTo" by exact match (with a resolution of one second)
periodTo.lt	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than this specified value.
periodTo.lte	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodTo.gt	date-time	If specified, only return entries with a "periodTo" that is greater (later) than this specified value.
periodTo.gte	date-time	If specified, only return entries with a "periodTo" that is equal to (with a resolution of one second) or greater (later) than this specified value.

RESPONSE

STATUS CODE - 200: Order(s) successfully returned

RESPONSE MODEL - application/json

{

numberOfHits integer

items [{

Array of object: Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id	string	Id of the order (should be unique)
ownerOrganizationId	string	Which organization this item is owned by
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status of the order
completionType	enum	ALLOWED:Filled, Killed, Expired, Cancelled Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.
gridNodeId	string	The grid node this order applies to. An error will be returned if this grid node does not exist.
flexibilityZoneId	string	The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.
marketId	string	Reference to the market. An error will be returned if this market does not exist.
portfolioId	string	The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.
regulationType	enum	ALLOWED:Up, Down Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).
side	enum	ALLOWED:Sell, Buy Type of submission of the order (buy / sell)

pricePoints [{

Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity	number	An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW. For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period. For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.
unitPrice	number	The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity	number	The minimum quantity that should be traded/filled in the order.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
longflexContractId	string	A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}]

links [{

Array of object:

rel	string
title	string
href	string
method	string

}]

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
    }]
  }
```

5.3 POST /Orders

Create an Order

REQUEST

REQUEST BODY - application/json

{

Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id	string	Id of the order (should be unique)
ownerOrganizationId	string	Which organization this item is owned by
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status of the order
completionType	enum	ALLOWED:Filled, Killed, Expired, Cancelled Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.
gridNodeId	string	The grid node this order applies to. An error will be returned if this grid node does not exist.
flexibilityZoneId	string	The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.
marketId	string	Reference to the market. An error will be returned if this market does not exist.
portfolioId	string	The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.
regulationType	enum	ALLOWED:Up, Down Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).
side	enum	ALLOWED:Sell, Buy Type of submission of the order (buy / sell)

pricePoints [{

Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity	number	An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW. For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period. For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.
unitPrice	number	The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity	number	The minimum quantity that should be traded/filled in the order.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
longflexContractId	string	A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}

RESPONSE

STATUS CODE - 201: Order successfully created

RESPONSE MODEL - application/json

{

Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id	string	Id of the order (should be unique)
ownerOrganizationId	string	Which organization this item is owned by
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status of the order
completionType	enum	ALLOWED:Filled, Killed, Expired, Cancelled Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.
gridNodeId	string	The grid node this order applies to. An error will be returned if this grid node does not exist.
flexibilityZoneId	string	The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.
marketId	string	Reference to the market. An error will be returned if this market does not exist.
portfolioId	string	The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.
regulationType	enum	ALLOWED:Up, Down Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).
side	enum	ALLOWED:Sell, Buy Type of submission of the order (buy / sell)

pricePoints [{

Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity	number	An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW. For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period. For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.
unitPrice	number	The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity	number	The minimum quantity that should be traded/filled in the order.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
longflexContractId	string	A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.

```
  detail      string   A human-readable explanation specific to this occurrence of the problem.
  instance    string   A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                       information if de-referenced.
  validation-errors [{
  Array of object:  Reference to a field that failed validation along with an description of the validation error
    property  string   The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string   Description of the issue with this property
    value     string   Value received as input for this property
  }]
}
```

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

```
{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
  type        string   A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                       referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                       html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title       string   A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                       of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status      string   The HTTP status code generated by the origin server for this occurrence of the problem.
  detail      string   A human-readable explanation specific to this occurrence of the problem.
  instance    string   A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                       information if de-referenced.
  validation-errors [{
  Array of object:  Reference to a field that failed validation along with an description of the validation error
    property  string   The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string   Description of the issue with this property
    value     string   Value received as input for this property
  }]
}
```

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

```
{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
  type        string   A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                       referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                       html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title       string   A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                       of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status      string   The HTTP status code generated by the origin server for this occurrence of the problem.
  detail      string   A human-readable explanation specific to this occurrence of the problem.
  instance    string   A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                       information if de-referenced.
  validation-errors [{
  Array of object:  Reference to a field that failed validation along with an description of the validation error
    property  string   The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string   Description of the issue with this property
    value     string   Value received as input for this property
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
```

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

5.4 GET /Orders/{id}

Get an existing Order by id

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 200: Order successfully returned

RESPONSE MODEL - application/json

{

Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id string Id of the order (should be unique)

ownerOrganizationId string Which organization this item is owned by

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted

Status of the order

completionType enum ALLOWED:Filled, Killed, Expired, Cancelled

Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.

gridNodeId string The grid node this order applies to. An error will be returned if this grid node does not exist.

flexibilityZoneId string The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.

marketId string Reference to the market. An error will be returned if this market does not exist.

portfolioId string The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.

regulationType enum ALLOWED:Up, Down

Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).

side enum ALLOWED:Sell, Buy

Type of submission of the order (buy / sell)

pricePoints [{
Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity	number	An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW. For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period. For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.
unitPrice	number	The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity	number	The minimum quantity that should be traded/filled in the order.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
longflexContractId	string	A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property

```
    value      string  Value received as input for this property
  }]
}
```

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type          string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                        referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                        html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title         string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                        of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status        string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail        string  A human-readable explanation specific to this occurrence of the problem.
  instance      string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                        information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property    string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message     string  Description of the issue with this property
    value       string  Value received as input for this property
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

```
  type          string  A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-
                        referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-
                        html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
  title         string  A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence
                        of the problem, except for purposes of localization (e.g., using proactive content negotiation;
  status        string  The HTTP status code generated by the origin server for this occurrence of the problem.
  detail        string  A human-readable explanation specific to this occurrence of the problem.
  instance      string  A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                        information if de-referenced.
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

```
    property    string  The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message     string  Description of the issue with this property
    value       string  Value received as input for this property
  }]
}
```

5.5 PUT /Orders/{id}

Update an existing Order, or create if missing

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{

Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id	string	Id of the order (should be unique)
ownerOrganizationId	string	Which organization this item is owned by
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status of the order
completionType	enum	ALLOWED:Filled, Killed, Expired, Cancelled Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.
gridNodeId	string	The grid node this order applies to. An error will be returned if this grid node does not exist.
flexibilityZoneId	string	The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.
marketId	string	Reference to the market. An error will be returned if this market does not exist.
portfolioId	string	The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.
regulationType	enum	ALLOWED:Up, Down Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).
side	enum	ALLOWED:Sell, Buy Type of submission of the order (buy / sell)

pricePoints [{

Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity	number	An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW. For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period. For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.
unitPrice	number	The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity	number	The minimum quantity that should be traded/filled in the order.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
longflexContractId	string	A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}

RESPONSE

STATUS CODE - 200: Order successfully updated

RESPONSE MODEL - application/json

{

Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id	string	Id of the order (should be unique)
ownerOrganizationId	string	Which organization this item is owned by

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status of the order

completionType enum ALLOWED:Filled, Killed, Expired, Cancelled
Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.

gridNodeId string The grid node this order applies to. An error will be returned if this grid node does not exist.

flexibilityZoneId string The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.

marketId string Reference to the market. An error will be returned if this market does not exist.

portfolioId string The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.

regulationType enum ALLOWED:Up, Down
Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).

side enum ALLOWED:Sell, Buy
Type of submission of the order (buy / sell)

pricePoints [{
Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity number An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.

For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period.

For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.

unitPrice number The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity number The minimum quantity that should be traded/filled in the order.

periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

longflexContractId string A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}

STATUS CODE - 201: Order successfully created

RESPONSE MODEL - application/json

{
Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id string Id of the order (should be unique)

ownerOrganizationId string Which organization this item is owned by

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status of the order

completionType enum ALLOWED:Filled, Killed, Expired, Cancelled
Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.

gridNodeId string The grid node this order applies to. An error will be returned if this grid node does not exist.

flexibilityZoneId string The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.

marketId string Reference to the market. An error will be returned if this market does not exist.

portfolioId string The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.

regulationType enum ALLOWED:Up, Down

Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).

side enum ALLOWED:Sell, Buy

Type of submission of the order (buy / sell)

pricePoints [{

Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity number An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW.

For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period.

For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.

unitPrice number The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity number The minimum quantity that should be traded/filled in the order.

periodFrom string The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

periodTo string The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset

longflexContractId string A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

5.6 DELETE /Orders/{id}

Delete/Remove an existing Order

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 204: Order successfully deleted

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

5.7 PATCH /Orders/{id}

Patch / partially update an existing Order

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{

Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id	string	Id of the order (should be unique)
ownerOrganizationId	string	Which organization this item is owned by
status	enum	ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status of the order
completionType	enum	ALLOWED:Filled, Killed, Expired, Cancelled Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.
gridNodeId	string	The grid node this order applies to. An error will be returned if this grid node does not exist.
flexibilityZoneId	string	The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.
marketId	string	Reference to the market. An error will be returned if this market does not exist.
portfolioId	string	The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.
regulationType	enum	ALLOWED:Up, Down Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).
side	enum	ALLOWED:Sell, Buy Type of submission of the order (buy / sell)

pricePoints [{

Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity	number	An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW. For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period. For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.
unitPrice	number	The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity	number	The minimum quantity that should be traded/filled in the order.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
longflexContractId	string	A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}

RESPONSE

STATUS CODE - 200: Order successfully updated

RESPONSE MODEL - application/json

{

Order defining a quantity submitted (sell or buy) on a market (defined by a market id) for a given time interval, the type of quantity (i.e. power, energy, ...) being deduced from the market. The portfolio id is required for sell orders. The grid node id is required only for sell orders and buy orders unless it can be derived from the portfolio. The portfolio id and the grid node id are not required if flexibility zones are created by the DSO, but in that case the flexibility zone id is required instead. The order can either be a fixed-price order (i.e. order with uniform/constant price that can be traded/filled only with a minimum quantity) or an interpolated order (i.e. order described by a piecewise linear function described by a list of price-points (prices and quantities).

id	string	Id of the order (should be unique)
ownerOrganizationId	string	Which organization this item is owned by
status	enum	**ALLOWED:** Received, Pending, Rejected, Active, Inactive, Completed, Deleted Status of the order
completionType	enum	**ALLOWED:** Filled, Killed, Expired, Cancelled Completion type of the order. When the status of the order is Completed, it gives extra information regarding how it completed.
gridNodeId	string	The grid node this order applies to. An error will be returned if this grid node does not exist.
flexibilityZoneId	string	The flexibility zone this order applies to. An error will be returned if this flexibility zone does not exist.
marketId	string	Reference to the market. An error will be returned if this market does not exist.
portfolioId	string	The portfolio for which this order applies. Required for sell orders only (an error will be returned if this portfolio does not exist). Not updatable.
regulationType	enum	**ALLOWED:** Up, Down Type of regulation of the order. 'Up' means an increase in available quantity (either increased production or reduced consumption) and 'Down' means a decrease in available quantity (either reduced production or increased consumption).
side	enum	**ALLOWED:** Sell, Buy Type of submission of the order (buy / sell)

pricePoints [{

Array of object: A price-quantity-point of an order. A non-empty set of quantity-price-points describes a piecewise linear mapping from quantity to price.

quantity	number	An amount of quantity offered/bid in the order, the type of quantity (i.e. power, energy, ...) being deduced from the market. For both quantities the unit is MW. For power, it denotes the max (in absolute terms) power consumption/production in MW during the specified period. For energy, it denotes the energy available during the specified period. The unit is still MW, thus the length of the interval needs to be taken into account to calculate the actual energy consumption/production.
unitPrice	number	The price per unit (currency/MWh) for the quantity offered/bid in the order, the currency being deduced from the market.

}]

minimumAcceptanceQuantity	number	The minimum quantity that should be traded/filled in the order.
periodFrom	string	The timestamp indicating the start of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
periodTo	string	The timestamp indicating the end of the interval for which this item applies, with a resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
longflexContractId	string	A reference to the corresponding longflex contract, if this order is part of or based on a longflex contract

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

6. PORTFOLIO

6.1 GET /Portfolios

List or search one or several Portfolio(s) using a query

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
gridNodeId	string	Search by grid node id
flexibilityZoneId	string	Search by flexibility zone id
portfolioId	string	Search by portfolio id
status	enum **ALLOWED:** Received, Pending, Rejected, Active, Inactive, Completed, Deleted	Search by status
take	int32	Number of hits to return. If client does not specify Take the server MAY apply a default Take value (which will be returned in the SearchResult object). The default value is not guaranteed to be the same for different requests"
skip	int32	Skip the specified number of hits, used when paging
orderBy	array of string	Order the hits by the specified property. Legal values will depend on the FMO implementation but as a minimum the same properties that can be used for filtering can be used for sorting.

RESPONSE

STATUS CODE - 200: Portfolio(s) successfully returned

RESPONSE MODEL - application/json

```
{
  numberOfHits                    integer
  items [{
  Array of object:  A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc
    id                  string    Id of the portfolio (should be unique)
    status              enum      ALLOWED:Received, Pending, Rejected, Active, Inactive,
                                  Completed, Deleted
                                  Status for this portfolio
    name                string    Name of the portfolio
    gridNodeId          string    Id of the grid node where the assets are located. An error will be returned if this node does
                                  not exist in the grid.
    ownerOrganizationId string    Which organization this item is owned by
  }]
  links [{
  Array of object:
    rel     string
    title   string
    href    string
    method  string
  }]
```

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

6.2 POST /Portfolios

Create a Portfolio

REQUEST

REQUEST BODY - application/json

{
A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc

id string Id of the portfolio (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this portfolio
name string Name of the portfolio
gridNodeId string Id of the grid node where the assets are located. An error will be returned if this node does not exist in the grid.
ownerOrganizationId string Which organization this item is owned by
}

RESPONSE

STATUS CODE - 201: Portfolio successfully created

RESPONSE MODEL - application/json

{
A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc

id string Id of the portfolio (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this portfolio
name string Name of the portfolio
gridNodeId string Id of the grid node where the assets are located. An error will be returned if this node does not exist in the grid.
ownerOrganizationId string Which organization this item is owned by
}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

6.3 GET /Portfolios/{id}

Get an existing Portfolio by id

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 200: Portfolio successfully returned

RESPONSE MODEL - application/json

{
A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc
id string Id of the portfolio (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this portfolio
name string Name of the portfolio
gridNodeId string Id of the grid node where the assets are located. An error will be returned if this node does not exist in the grid.
ownerOrganizationId string Which organization this item is owned by
}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property

```
  }]
}
```

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

```
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
  }]
}
```

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

```
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

6.4 PUT /Portfolios/{id}

Update an existing Portfolio, or create if missing

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{
A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc

id string Id of the portfolio (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this portfolio
name string Name of the portfolio
gridNodeId string Id of the grid node where the assets are located. An error will be returned if this node does not exist in the grid.
ownerOrganizationId string Which organization this item is owned by
}

RESPONSE

STATUS CODE - 200: Portfolios successfully updated

RESPONSE MODEL - application/json

{
A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc

id string Id of the portfolio (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted
Status for this portfolio
name string Name of the portfolio
gridNodeId string Id of the grid node where the assets are located. An error will be returned if this node does not exist in the grid.
ownerOrganizationId string Which organization this item is owned by
}

STATUS CODE - 201: Portfolios successfully created

RESPONSE MODEL - application/json

{
A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc

id string Id of the portfolio (should be unique)
status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted

Status for this portfolio

name string Name of the portfolio

gridNodeId string Id of the grid node where the assets are located. An error will be returned if this node does not exist in the grid.

ownerOrganizationId string Which organization this item is owned by

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.
type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error
property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

6.5 DELETE /Portfolios/{id}

Delete/Remove an existing Portfolio

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

RESPONSE

STATUS CODE - 204: Portfolio successfully deleted

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

6.6 PATCH /Portfolios/{id}

Patch / partially update an existing Portfolio

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*id	string	The id of the item

REQUEST BODY - application/json

{

A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc

id string Id of the portfolio (should be unique)

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted

Status for this portfolio

name string Name of the portfolio

gridNodeId string Id of the grid node where the assets are located. An error will be returned if this node does not exist in the grid.

ownerOrganizationId string Which organization this item is owned by

}

RESPONSE

STATUS CODE - 200: Portfolio successfully updated

RESPONSE MODEL - application/json

{

A portfolio represents one or more assets that can participate in a flexibility market, e.g. batteries, dispatchable generators etc

id string Id of the portfolio (should be unique)

status enum ALLOWED:Received, Pending, Rejected, Active, Inactive, Completed, Deleted

Status for this portfolio

name string Name of the portfolio

gridNodeId string Id of the grid node where the assets are located. An error will be returned if this node does not exist in the grid.

ownerOrganizationId string Which organization this item is owned by

}

STATUS CODE - 400: The server cannot or will not process the request due to something that is perceived to be a client error

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'

message string Description of the issue with this property

value string Value received as input for this property

}]

}

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

{

An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"

title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;

status string The HTTP status code generated by the origin server for this occurrence of the problem.

detail string A human-readable explanation specific to this occurrence of the problem.

instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{

Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 404: The server has not found anything matching the request URL

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.
detail string A human-readable explanation specific to this occurrence of the problem.
instance string A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.
validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property string The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message string Description of the issue with this property
value string Value received as input for this property
}]
}

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

{
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type string A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title string A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status string The HTTP status code generated by the origin server for this occurrence of the problem.

```
  detail      string   A human-readable explanation specific to this occurrence of the problem.
  instance    string   A URI reference that identifies the specific occurrence of the problem. It may or may not yield further
                       information if de-referenced.
  validation-errors [{
  Array of object:  Reference to a field that failed validation along with an description of the validation error
    property  string   The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
    message   string   Description of the issue with this property
    value     string   Value received as input for this property
  }]
}
```

7. TRADE

7.1 GET /Trades

List or search one or several Trade(s) using a query

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
orderId	string	Search by order id
gridNodeId	string	Search by grid node id
flexibilityZoneId	string	Search by flexibility zone id
marketId	string	Search by market id
portfolioId	string	Search by portfolio id
status	enum **ALLOWED:** Received, Pending, Rejected, Active, Inactive, Completed, Deleted	Search by status
side	enum **ALLOWED:** Buy, Sell	Search by order side
regulationType	enum **ALLOWED:** Up, Down	Search by regulationType
take	int32	Number of hits to return. If client does not specify Take the server MAY apply a default Take value (which will be returned in the SearchResult object). The default value is not guaranteed to be the same for different requests"
skip	int32	Skip the specified number of hits, used when paging
orderBy	array of string	Order the hits by the specified property. Legal values will depend on the FMO implementation but as a minimum the same properties that can be used for filtering can be used for sorting.
periodFrom	date-time	Specify the "periodFrom" by exact match (with a resolution of one second)
periodFrom.lt	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than this specified value.
periodFrom.lte	date-time	If specified, only return entries with a "periodFrom" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodFrom.gt	date-time	If specified, only return entries with a "periodFrom" that is greater (later) than this specified value.
periodFrom.gte	date-time	If specified, only return entries with a "periodFrom" that is equal to (with a resolution of one second) or greater (later) than this specified value.
periodTo	date-time	Specify the "periodTo" by exact match (with a resolution of one second)
periodTo.lt	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than this specified value.

NAME	TYPE	DESCRIPTION
periodTo.lte	date-time	If specified, only return entries with a "periodTo" smaller (earlier) than or equal to (with a resolution of one second) this specified value.
periodTo.gt	date-time	If specified, only return entries with a "periodTo" that is greater (later) than this specified value.
periodTo.gte	date-time	If specified, only return entries with a "periodTo" that is equal to (with a resolution of one second) or greater (later) than this specified value.

RESPONSE

STATUS CODE - 200: Trade(s) successfully returned

RESPONSE MODEL - application/json

```
{
  numberOfHits                    integer
  items [{
  Array of object:
    id                  string   Id of the trade (should be unique)
    ownerOrganizationId string   Which organization this item is owned by
    status              enum     ALLOWED:Received, Pending, Rejected, Active, Inactive,
                                 Completed, Deleted
                                 Status for this trade
    marketId            string   Reference to the market.
    orderId             string   Reference to the order.
    quantity            number   multiple of 0.001
                                 Average production/consumption in the given period. The unit is deduced from the quantity
                                 type. A positive value corresponds to production and a negative value represents
                                 consumption.
    side                enum     ALLOWED:Buy, Sell
                                 Type of the trade (buy / sell)
    unitPrice           number   Price at which the quantity has been traded/filled
    periodFrom          string   The timestamp indicating the start of the interval for which this item applies, with a
                                 resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
    periodTo            string   The timestamp indicating the end of the interval for which this item applies, with a
                                 resolution of seconds, in ISO-8601 format with Z (preferred), timezone identifier or offset
    gridNodeId          string   Reference to the grid node.
    flexibilityZoneId   string   Reference to the flexibility zone.
    portfolioId         string   Reference to the portfolio.
    regulationType      enum     ALLOWED:Up, Down
                                 Type of regulation of the trade. 'Up' means an increase in available quantity (either
                                 increased production or reduced consumption) and 'Down' means an decrease in available
                                 quantity (either reduced production or increased consumption).
    links [{
    Array of object:
      rel     string
      title   string
      href    string
      method  string
    }]
  }]
  links [{
  Array of object:
    rel     string
    title   string
    href    string
    method  string
```

```
  }]
}
```

STATUS CODE - 401: Lack of valid authentication credentials for the requested resource

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

```
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
  }]
}
```

STATUS CODE - 403: The server understands the request but refuses to authorize it (insufficient rights to a resource)

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

```
  validation-errors [{
```
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

```
  }]
}
```

STATUS CODE - 405: The requested endpoint is known by the server, but the market platform does not support this method.

RESPONSE MODEL - application/problem+json

```
{
```
An object describing the problem in a machine-and-user readable version, based on / extending RFC7807.

type	string	A URI reference [RFC3986] that identifies the problem type. This specification encourages that, when de-referenced, it provide human-readable documentation for the problem type (e.g., using HTML [W3C.REC-html5-20141028]). When this member is not present, its value is assumed to be "about:blank"
title	string	A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation;
status	string	The HTTP status code generated by the origin server for this occurrence of the problem.
detail	string	A human-readable explanation specific to this occurrence of the problem.
instance	string	A URI reference that identifies the specific occurrence of the problem. It may or may not yield further information if de-referenced.

validation-errors [{
Array of object: Reference to a field that failed validation along with an description of the validation error

property	string	The name of the property, specified as a relative or absolute json path, e.g. 'marketId' or 'quantities[1].quantity'
message	string	Description of the issue with this property
value	string	Value received as input for this property

}]
}