**TM Forum Specification**

API Usage Consumption

Conformance Profile

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# INTRODUCTION - API DESCRIPTION

Usage Consumption API covers the consumption levels of products, services or resources related to 0 or more parties. And so, we can search for remaining, global or used bucket values, or for exceptional consumption normally mentioned as out of bucket consumption.

There are 3 main changes in this API version:

* Usage Consumption is now described as a TASK resource;
* Usage Consumption Buckets may be linked between each other (aggregated buckets, bundled buckets, etc);
* Usage Consumption can be search having in mind services or resources.

Usage Consumption API provides the following operations:

* List of existing usage consumption queries depending on filter criteria;
* Retrieval of an existing usage consumption query by identifier;
* Creation of a new query of usage consumption;
* Deletion of an existing query of usage consumption;

This document identifies the parameters that must be included in a request related to the operations above as well as the parameters expected in the response.

# RESOURCE MODEL CONFORMANCE

## API MANDATORY RESOURCES

The following table indicates the mandatory resources for this API.

| Resource Name | Comment |
| --- | --- |
| QueryUsageConsumption | POST operation is mandatory. if POST send 201 code then GET is also mandatory. If POST send a 200 code GET is optional. |

## General Notes on Resource Attribute Conformance

There are three situations that could occur for an attribute:

* Mandatory attribute,
* Mandatory attribute if the optional parent attribute is present,
* Non-mandatory/Optional attribute. Those are all the other attributes not mentioned in the following subsections. Please refer to the corresponding API REST Specification for more details.
* The tables in the subsections below indicate which attributes are mandatory including mandatory when an optional parent is present.
* Where a resource is an input into an API (e.g. POST, PATCH), Mandatory means that the attribute value must be supplied by the API consumer in the input (and must not be blank or null).
* Where a resource is an output from an API (e.g. GET, POST), Mandatory means that the attribute value must be supplied by the API provider in the output (and must not be blank or null).
* For a sub-resource that is not an array, Mandatory (cardinality 1..1) means that the sub-resource must be present, while Optional (cardinality 0..1) means that the sub-resource may be absent. Mandatory and Optional on the sub-resource attributes apply to the sub-resource if present.
* For a sub-resource that is an array, Mandatory (cardinality 1..\*) means that at least one sub-resource must be present in the array, while Optional (cardinality 0..\*) means that the array may be absent. Mandatory and Optional on the sub-resource attributes apply to each of the sub-resources if present.

In this table are listed all mandatory attributes. A mandatory attribute MUST be retrieved in resource representation when no attribute selection is used (e.g. GET /../{id}) without any attribute selection

When an attribute is listed with an indentation (in second column) it means this attribute is mandatory if root (parent) attribute is present.

## QueryUsageConsumption Resource Mandatory Attributes

| Mandatory attribute when parent is present | | Rule |
| --- | --- | --- |
| partyAccount | | M  Array of PartyAccountRef. Must have at least one of (relatedParty, partyAccount and searchCriteria) |
|  | id | M |
| relatedParty | | M  Array of RelatedParty. Must have at least one of (relatedParty, partyAccount and searchCriteria) |
|  | @referredType | M |
|  | id | M |
| usageConsumption | | M (in response messages)  Array of UsageConsumption |
| usageConsumption.partyAccount (if present) | | Array of PartyAccountRef  See conditions for PartyAccountRef at partyAccount |
| usageConsumption.service (if present) | | Array of ServiceRef |
|  | id | M |
| usageConsumption.relatedParty (if present) | | Array of RelatedParty  See conditions for RelatedParty at relatedParty |
| usageConsumption.logicalResource (if present) | | Array of UsageConsumptionLogicalResourceRef |
|  | id | M |
| usageConsumption.product (if present) | | Array of UsageConsumptionProductRef |
|  | id | M |
| usageConsumption.bucketRefOrValue.reserveBalance (if present) | | Array of ReserveBalanceRef |
|  | id | M |
| usageConsumption.bucketRefOrValue.service (if present) | | Array of ServiceRef  See conditions for ServiceRef at usageConsumption.service |
| usageConsumption.bucketRefOrValue.bucketRelationship (if present) | | Array of BucketRelationship |
|  | bucketRefOrValue | M |
|  | relationshipType | M |
| usageConsumption.bucketRefOrValue.logicalResource (if present) | | Array of UsageConsumptionLogicalResourceRef  See conditions for UsageConsumptionLogicalResourceRef at usageConsumption.logicalResource |
| usageConsumption.bucketRefOrValue.product (if present) | | Array of UsageConsumptionProductRef  See conditions for UsageConsumptionProductRef at usageConsumption.product |
| searchCriteria | | M  Must have at least one of (relatedParty, partyAccount and searchCriteria) |
|  | partyAccount | M  Array of PartyAccountRef. Must have at least one of RelatedParty, PartyAccount, LogicalResouce, Product or Service  See conditions for PartyAccountRef at partyAccount |
|  | service | M  Array of ServiceRef. Must have at least one of RelatedParty, PartyAccount, LogicalResouce, Product or Service  See conditions for ServiceRef at usageConsumption.service |
|  | relatedParty | M  Array of RelatedParty. Must have at least one of RelatedParty, PartyAccount, LogicalResouce, Product or Service  See conditions for RelatedParty at relatedParty |
|  | logicalResource | M  Array of UsageConsumptionLogicalResourceRef. Must have at least one of RelatedParty, PartyAccount, LogicalResouce, Product or Service  See conditions for UsageConsumptionLogicalResourceRef at usageConsumption.logicalResource |
|  | product | M  Array of UsageConsumptionProductRef. Must have at least one of RelatedParty, PartyAccount, LogicalResouce, Product or Service  See conditions for UsageConsumptionProductRef at usageConsumption.product |
| searchCriteria.bucketRefOrValue.reserveBalance (if present) | | Array of ReserveBalanceRef  See conditions for ReserveBalanceRef at usageConsumption.bucketRefOrValue.reserveBalance |
| searchCriteria.bucketRefOrValue.bucketRelationship (if present) | | Array of BucketRelationship  See conditions for BucketRelationship at usageConsumption.bucketRefOrValue.bucketRelationship |

# API OPERATIONS CONFORMANCE

For every single resource the following tables includes mandatory operations.

## QueryUsageConsumption Mandatory Operations

The following table indicates which ones are mandatory for the QueryUsageConsumption resource:

| Uniform API Operation |
| --- |
| POST |

# API POST OPERATION CONFORMANCE

All the POST operations in this API share the same status code pattern.

|  |  |
| --- | --- |
| POST | Mandatory/Optional |
| Status Code 201 if resource created | M |

## POST /queryUsageConsumption

This operation creates a QueryUsageConsumption entity.

The following table provides the list of mandatory attributes when creating an instance of the QueryUsageConsumption resource, including any possible rule, conditions and applicable default values.

| Mandatory Attributes | Rule |
| --- | --- |
| partyAccount | Must have at least one of (relatedParty, partyAccount and searchCriteria) |
| relatedParty | Must have at least one of (relatedParty, partyAccount and searchCriteria) |
| searchCriteria | Must have at least one of (relatedParty, partyAccount and searchCriteria) |

# ACKNOWLEDGEMENTS

## Release History

|  |  |  |  |
| --- | --- | --- | --- |
| **Release Number** | **Date** | **Release led by:** | **Description** |
| 18.5 | 07-Dec-2018 | Sophie Bouleau  Orange [sophie.bouleau@orange.com](mailto:sophie.bouleau@orange.com) | Alignment with the version 4.0 of the Usage Consumption REST API published in the Open APIs release 18.5 |
| 20.0 | 23-Jun-2021 | Lara Silva  Vodafone  lara.silva3@vodafone.com | Alignment with guidelines 4.0.1 |

## Version History

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| **Version Number** | **Date** | **Modified by** | **Description** |
| Version 1.0 | 06-Sep-2017 | Luis Velarde Tazon Telefonica [luis.velardetazon@telefonica.com](mailto:luis.velardetazon@telefonica.com) | First release of the document |
| Version 4.0  *Nota: the version 4.0 is assigned to all the APIs delivered in the release 18.5* | 07-Dec-2018 | Sophie Bouleau  Orange [sophie.bouleau@orange.com](mailto:sophie.bouleau@orange.com) | Alignment with the version 4.0 of the Usage Consumption REST API |
| Version 4.0 | 23-Jun-2021 | Lara Silva  Vodafone  lara.silva3@vodafone.com | Alignment with guidelines 4.0.1 |