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Conformance Profile

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# INTRODUCTION - API DESCRIPTION

This document is the REST API conformance profile for the Product Inventory Management REST API (TMF 622).  
The Product API provides a standardized mechanism to retrieve product inventory information. The API consists of a simple set of operations that interact with Inventory systems in a consistent manner. Usually, a product is created and modified consequently to product order but could be also ‘directly’ modified for administrative reason.

# RESOURCE MODEL CONFORMANCE

## API MANDATORY RESOURCES

The following table indicates the mandatory resources for this API.

| Resource Name | Comment |
| --- | --- |
| Product |  |

## 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.

## Product Resource Mandatory Attributes

| Mandatory attribute when parent is present | | Rule |
| --- | --- | --- |
| href | | M (in response messages) O (otherwise)  Initially generated by the server and provided in the response upon resource creationValue in response must be the same as the one set in Location header provided upon entity creationNot available in POST request |
| id | | M (in response messages) O (otherwise)  Initially generated by the server and provided in the response upon resource creation.Not available in POST request |
| status | | M (in response messages) O (otherwise)  Only required in response messages from the server when providing the Product entity contents (responses to create-POST and read-GET the entity |
| billingAccount | | zero or one billing accountsame rule applies for billingAccount structure nested in productPriceMust be managed when recurring charge are linked to this product |
|  | id | M |
| productOffering | | 0 or 1At least a productOffering or a productSpecification must be provided. |
|  | id | M |
| productCharacteristic | | Array of Characteristic  Array of product characteristic(s)Required if targetProductSchema not providedand productSpecification features characteristic |
|  | name | M |
|  | value | M |
| relatedParty | | Array of RelatedParty  Array of structuressame rule applies for relatedParty structure nested in productRequired if this product is related to a customer, a user, etc any party and role associated. |
|  | @referredType | M |
|  | id | M |
| productPrice | | Array of ProductPrice  Array of productPriceMandatory if the product is priced |
|  | price | M |
|  | priceType | M |
| productPrice.billingAccount (if present) | | See conditions for BillingAccountRef at billingAccount |
| productPrice.productOfferingPrice (if present) | |  |
|  | id | M |
| productPrice.productPriceAlteration (if present) | | Array of PriceAlteration |
|  | price | M |
|  | priceType | M |
| productPrice.productPriceAlteration.productOfferingPrice (if present) | | See conditions for ProductOfferingPriceRef at productPrice.productOfferingPrice |
| agreement (if present) | | Array of AgreementItemRef  Array of agreement |
|  | id | M |
| place (if present) | | Array of RelatedPlaceRefOrValue |
|  | role | M |
| realizingResource (if present) | | Array of ResourceRef  an array of resource realizing this product |
|  | id | M |
| realizingService (if present) | | Array of ServiceRef  an array of service realizing this product |
|  | id | M |
| productOrderItem (if present) | | Array of RelatedProductOrderItem  An array of productOrderItem embedded in this productOrderItem. |
|  | orderItemId | M |
|  | productOrderId | M |
| productSpecification (if present) | |  |
|  | id | M |
| productSpecification.targetProductSchema (if present) | |  |
|  | @schemaLocation | M |
|  | @type | M |
| productRelationship (if present) | | Array of ProductRelationship  Array of product relationship(s) |
|  | relationshipType | M |
|  | product | M |
| productRelationship.product.agreement (if present) | | Array of AgreementItemRef  See conditions for AgreementItemRef at agreement |
| productRelationship.product.billingAccount (if present) | | See conditions for BillingAccountRef at billingAccount |
| productRelationship.product.place (if present) | | Array of RelatedPlaceRefOrValue  See conditions for RelatedPlaceRefOrValue at place |
| productRelationship.product.productOffering (if present) | | See conditions for ProductOfferingRef at productOffering |
| productRelationship.product.realizingResource (if present) | | Array of ResourceRef  See conditions for ResourceRef at realizingResource |
| productRelationship.product.realizingService (if present) | | Array of ServiceRef  See conditions for ServiceRef at realizingService |
| productRelationship.product.productCharacteristic (if present) | | Array of Characteristic  See conditions for Characteristic at productCharacteristic |
| productRelationship.product.productOrderItem (if present) | | Array of RelatedProductOrderItem  See conditions for RelatedProductOrderItem at productOrderItem |
| productRelationship.product.relatedParty (if present) | | Array of RelatedParty  See conditions for RelatedParty at relatedParty |
| productRelationship.product.productSpecification (if present) | | See conditions for ProductSpecificationRef at productSpecification |
| productRelationship.product.productSpecification.targetProductSchema (if present) | | See conditions for TargetProductSchema at productSpecification.targetProductSchema |
| productRelationship.product.productPrice (if present) | | Array of ProductPrice  See conditions for ProductPrice at productPrice |
| productRelationship.product.productPrice.billingAccount (if present) | | See conditions for BillingAccountRef at billingAccount |
| productRelationship.product.productPrice.productOfferingPrice (if present) | | See conditions for ProductOfferingPriceRef at productPrice.productOfferingPrice |
| productRelationship.product.productPrice.productPriceAlteration (if present) | | Array of PriceAlteration  See conditions for PriceAlteration at productPrice.productPriceAlteration |
| productRelationship.product.productPrice.productPriceAlteration.productOfferingPrice (if present) | | See conditions for ProductOfferingPriceRef at productPrice.productOfferingPrice |
| product (if present) | | Array of ProductRefOrValue  Array of nested product |
|  | productRelationship | M  Array of ProductRelationship  A referred or valued product must be present  See conditions for ProductRelationship at productRelationship |
| product.productRelationship | | M  Array of ProductRelationship  A referred or valued product must be present  See conditions for ProductRelationship at productRelationship |
| product.agreement (if present) | | Array of AgreementItemRef  See conditions for AgreementItemRef at agreement |
| product.billingAccount (if present) | | See conditions for BillingAccountRef at billingAccount |
| product.place (if present) | | Array of RelatedPlaceRefOrValue  See conditions for RelatedPlaceRefOrValue at place |
| product.productOffering (if present) | | See conditions for ProductOfferingRef at productOffering |
| product.realizingResource (if present) | | Array of ResourceRef  See conditions for ResourceRef at realizingResource |
| product.realizingService (if present) | | Array of ServiceRef  See conditions for ServiceRef at realizingService |
| product.productCharacteristic (if present) | | Array of Characteristic  See conditions for Characteristic at productCharacteristic |
| product.productOrderItem (if present) | | Array of RelatedProductOrderItem  See conditions for RelatedProductOrderItem at productOrderItem |
| product.relatedParty (if present) | | Array of RelatedParty  See conditions for RelatedParty at relatedParty |
| product.productSpecification (if present) | | See conditions for ProductSpecificationRef at productSpecification |
| product.productSpecification.targetProductSchema (if present) | | See conditions for TargetProductSchema at productSpecification.targetProductSchema |
| product.productPrice (if present) | | Array of ProductPrice  See conditions for ProductPrice at productPrice |
| product.productPrice.billingAccount (if present) | | See conditions for BillingAccountRef at billingAccount |
| product.productPrice.productOfferingPrice (if present) | | See conditions for ProductOfferingPriceRef at productPrice.productOfferingPrice |
| product.productPrice.productPriceAlteration (if present) | | Array of PriceAlteration  See conditions for PriceAlteration at productPrice.productPriceAlteration |
| product.productPrice.productPriceAlteration.productOfferingPrice (if present) | | See conditions for ProductOfferingPriceRef at productPrice.productOfferingPrice |

# API OPERATIONS CONFORMANCE

For every single resource the following tables includes mandatory operations.

## Product Mandatory Operations

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

| Uniform API Operation |
| --- |
| GET |

# API GET OPERATION CONFORMANCE

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

|  |  |
| --- | --- |
| GET | Mandatory/Optional |
| Response Status Code 200 if successful | M |
| Response Status Code 404 if not found | M |

## Definitions for Filter

The following definitions apply to all the GET operations:

* Filtered Search: A filtered search can be applied using query parameters to obtain only the resources that meet the criteria defined by the filtering parameters included in the query request. Several elements can be applied to the filtered search. In that case logic, a logical AND is applied to combine the criteria (e.g.:?severity=<value>&status=<value>).
* Attribute selection (Limiting Response Data): In order to limit which attributes are included in the response, the GET request can include the ?fields= query parameter. Only those attributes whose names are supplied in this parameter will be returned. Attribute selection capabilities are the same for collections retrieval and individual resource queries.
* Level: The filtering and attribute selection can apply to the top level properties (attributes) and subproperties. The tables below show which attributes need to be supported in top-level or contained resources.

## GET /product?fields=...&{filtering}

This operation list or find Product entities

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /product/{id}?fields=...&{filtering}

This operation retrieves a Product entity. Attribute selection is enabled for all first level attributes.

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

# 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 /product

This operation creates a Product entity.

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

| Mandatory Attributes | Rule |
| --- | --- |
| status |  |

# API PATCH OPERATION CONFORMANCE

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

The mandatory application context is JSON Merge.

|  |  |
| --- | --- |
| PATCH | Mandatory/Optional |
| Status Code 200 if resource modified | M |

## PATCH /product/{id}

This operation updates partially a Product entity.

| Patchable Attributes | Rule |
| --- | --- |
| status |  |

# API DELETE OPERATION CONFORMANCE

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

|  |  |
| --- | --- |
| DELETE | Mandatory/Optional |
| Status Code 204 if resource deleted | M |

## DELETE /product/{id}

This operation deletes a Product entity.

# ACKNOWLEDGEMENTS

## Release History

|  |  |  |  |
| --- | --- | --- | --- |
| **Release Number** | **Date** | **Release led by:** | **Description** |
|  |  |  |  |
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|  |  |  |  |
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