TM Forum Specification

TMF 687 Stock Management API User Guide

TMF687

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NOTICE

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N/A

Introduction

The following document is the specification of the REST API TMF687 for Stock Management. It includes the model definition as well as all available operations. This API features several resources:

- Product Stock to describe a stock of a product. It features information related to quantity (in stock, min, max, reorder) but also Product configuration, place or related party.
- Adjust Product Stock is a resource to request a product Sock quantity adjustment. A reason for adjustment could be provided (for example liked to an inventory check)
- Check Product Stock is a task-based resource to check a product configuration availability at a place and a date. It is possible for the server side to provide alternate option (if requested not available).
- Reserve Product Stock is used to perform a reservation for a product configuration. The requester could provide a specific product stock to be used. A related entity could be provided to link the entity related to this reservation (like a product order or quote for example).
- QueryProductStock is a task-based resource to retrieve a list of Product Stock from a list of complex attribute (for example all product stock in a given state, in a place and available for a channel)

Stock Management API performs the following operations

…on Product Stock:

- Retrieval of a product stock or a collection of product stock depending on filter criteria
- Partial update of a product stock (including updating rules)
- Creation of a product stock
- Deletion of product stock (for administration purposes)
- Notification of events on product stock
  - product stock creation
  - product stock deletion
  - product stock state change
  - product stock batch
  - product stock state change

…on AdjustProductStock, CheckProductStock, QueryProductStock and ReserveProductStock:

- Retrieval of a resource depending on filter criteria – or by id.
- Creation of a resource
- Notification of events
  - for creation
  - for attribute value change
  - for state change
  - for batch

SAMPLE USE CASES

We illustrate in this document several use-cases:

- For product stock we illustrate a description of a stock of "TMFPhone x-9" in shop & available in the Lyon shop. We have all information related to this stock as min/max/reorder qty or next replenishment date.
- For adjust Product Stock we request to change previous product stock quantity following an inventory check.
- For check, a requester asks for an 128GB TMFPhone x-9 availability in the Lyon shop. This item is not available but an alternate is available: a 256GB TMFPhone x-9. Because request is ok to get alternate this proposal is sent in the response.
- For reserve product Stock, we reserve this 256GB TMFPhone x-9 in the Lyon shop. The product order related to this reservation is part of the resource information.
- For query Product stock we look for TMFPhone x-9 available in a defined search zone- In the response we have 2 shops listed with this product.

Support of polymorphism and extension

Support of polymorphic collections and types and schema-based extension is provided by means of a list of generic meta-attributes that we describe below. Polymorphism in collections occurs when entities inherit from base entities, for instance a Stock or WarehouseStock inheriting properties from the base ProductStock entity.

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines v3.0 Part 2 document.

The @type attribute provides a way to represent the actual class type of an entity. For example, within a list of ProductStock instances some may be instances of Stock where other could be instances of WarehouseStock. The @type gives this information. All resources and sub-resources of this API have a @type attributes that can be provided when this is useful.

The @referredType can be used within reference entities (like for instance a RelatedParty object) to explicitly denote the actual entity type of the referred class. Notice that in reference entities the @type, when used, denotes the class type of the reference itself, such as RelatedParty, and not the class type of the referred object. However, since reference classes are rarely sub-classed, @type is generally not useful in reference objects.

The @schemaLocation property can be used in resources to allow specifying user-defined properties of an Entity or to specify the expected *characteristics* of an entity.

The @baseType attribute gives a way to provide explicitly the base of class of a given resource that has been extended

RESOURCE MODEL

Managed Entity and Task Resource Models

Product Stock resource

ProductStock is a base class for defining a product (or configured product with values characteristic) stock level.

Resource model
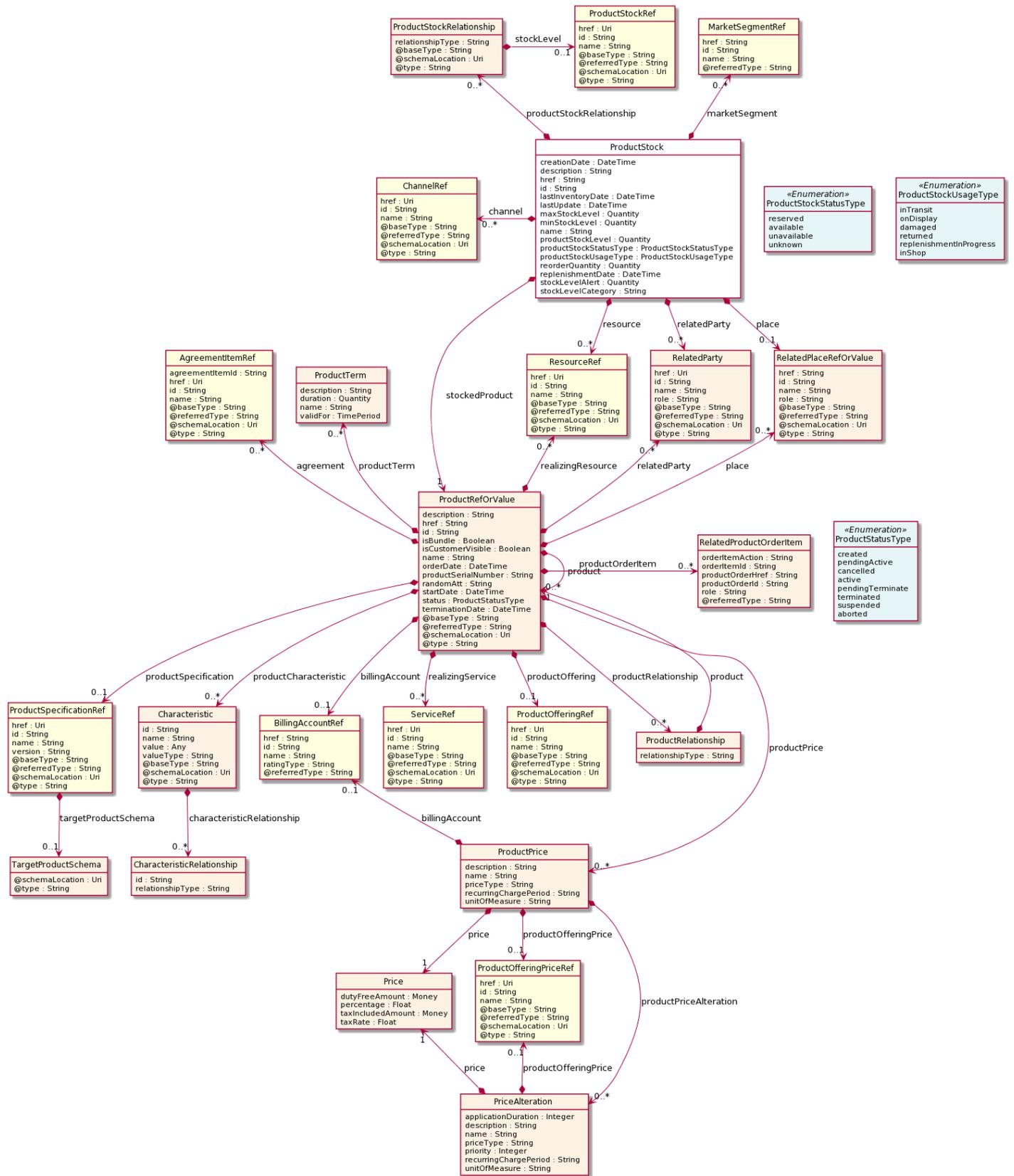
Field descriptions

ProductStock fields

href	A string. Reference of the ProductStock.
id	A string. Unique identifier of the ProductStock.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
channel	A list of channel references (ChannelRef [*]). The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..
creationDate	A date time (DateTime). Date when the ProductStock was created (whatever its status).
description	A string. Free-text description of the ProductStock.
href	A string. Reference of the ProductStock.
id	A string. Unique identifier of the ProductStock.
lastInventoryDate	A date time (DateTime). Last inventory count date for this ProductStock.
lastUpdate	A date time (DateTime). Last date when the ProductStock record was updated.
marketSegment	A list of market segment references (MarketSegmentRef [*]). provides references to the corresponding market segment as target of a product stock. A market segment is grouping of Parties, GeographicAreas, SalesChannels, and so forth.
maxStockLevel	A quantity (Quantity). An amount in a given unit.
minStockLevel	A quantity (Quantity). An amount in a given unit.
name	A string. Name of the ProductStock.
place	A related place ref or value (RelatedPlaceRefOrValue). Used to define a place useful for the ProductStock for example a geographical place where the Product Stock is located.
productStockLevel	A quantity (Quantity). An amount in a given unit.
productStockRelationship	A list of product stock relationships (ProductStockRelationship [*]). relationship to other product stock.

productStockStatusType	A product stock status type (ProductStockStatusType). The status of the ProductStock, such as available, unavailable, reserved, unknown.
productStockUsageType	A product stock usage type (ProductStockUsageType). The usage type of the ProductStock, such as inTransit, damaged, onDisplay, etc..
relatedParty	A list of related parties (RelatedParty [*]). A list of related party references (RelatedParty [*]). A related party defines party or party role linked to a specific entity.
reorderQuantity	A quantity (Quantity). An amount in a given unit.
replenishmentDate	A date time (DateTime). Planned date for future replenishment for this ProductStock.
resource	A list of resource references (ResourceRef [*]). The Resource managed through this ProductStock is used.
stockLevelAlert	A quantity (Quantity). An amount in a given unit.
stockLevelCategory	A string. Category of the ProductStock.
stockedProduct	A product ref or value (ProductRefOrValue). Product stocked in this product stock - could be via a productSpecification, a ProductSpecification + valued characteristic, etc.

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
characteristicRelationship	A list of characteristic relationships (CharacteristicRelationship [*]). Another Characteristic that is related to the current Characteristic.
id	A string. Unique identifier of the characteristic.
name	A string. Name of the characteristic.
value	An any (Any). The value of the characteristic.
valueType	A string. Data type of the value of the characteristic.

CharacteristicRelationship sub-resource

Another Characteristic that is related to the current Characteristic.

href	An uri (Uri). Hyperlink reference.
id	A string. Unique identifier of the characteristic.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
relationshipType	A string. The type of relationship.

Money sub-resource

A base / value business entity used to represent money.

unit	A string. Currency (ISO4217 norm uses 3 letters to define the currency).
value	A float. A positive floating point number.

Price sub-resource

Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
dutyFreeAmount	A money (Money). All taxes excluded amount (expressed in the given currency).
percentage	A float. Percentage to apply for ProdOfferPriceAlteration.
taxIncludedAmount	A money (Money). All taxes included amount (expressed in the given currency).
taxRate	A float. Tax rate.

PriceAlteration sub-resource

Is an amount, usually of money, that modifies the price charged for an order item.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
applicationDuration	An integer. Duration during which the alteration applies on the order item price (for instance 2 months free of charge for the recurring charge).
description	A string. A narrative that explains in detail the semantics of this order item price alteration.
name	A string. Name of the order item price alteration.
price	A price (Price). Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.
priceType	A string. A category that describes the price such as recurring, one time and usage.
priority	An integer. Priority level for applying this alteration among all the defined alterations on the order item price.
productOfferingPrice	A product offering price reference (ProductOfferingPriceRef). ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
recurringChargePeriod	A string. Could be month, week...
unitOfMeasure	A string. Could be minutes, GB...

ProductPrice sub-resource

An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type	A string. When sub-classing, this defines the sub-class Extensible name.
billingAccount	A billing account reference (BillingAccountRef). A BillingAccount is a detailed description of a bill structure.
description	A string. A narrative that explains in detail the semantics of this product price.
name	A string. A short descriptive name such as "Subscription price".
price	A price (Price). Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.
priceType	A string. A category that describes the price, such as recurring, discount, allowance, penalty, and so forth.
productOfferingPrice	A product offering price reference (ProductOfferingPriceRef). ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
productPriceAlteration	A list of price alterations (PriceAlteration [*]). Is an amount, usually of money, that modifies the price charged for an order item.
recurringChargePeriod	A string. Could be month, week...
unitOfMeasure	A string. Could be minutes, GB...

ProductRefOrValue sub-resource

A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the product. It could be the same as the name of the product offering.
href	A string. Reference of the product.
id	A string. Unique identifier of the product.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

description	A string. Is the description of the product. It could be copied from the description of the Product Offering.
isBundle	A boolean. If true, the product is a ProductBundle which is an instantiation of a BundledProductOffering. If false, the product is a ProductComponent which is an instantiation of a SimpleProductOffering.
isCustomerVisible	A boolean. If true, the product is visible by the customer.
orderDate	A date time (DateTime). Is the date when the product was ordered.
productSerialNumber	A string. Is the serial number for the product. This is typically applicable to tangible products e.g. Broadband Router.
randomAtt	A string.
startDate	A date time (DateTime). Is the date from which the product starts.
terminationDate	A date time (DateTime). Is the date when the product was terminated.
agreement	A list of agreement item references (AgreementItemRef [*]). Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
billingAccount	A billing account reference (BillingAccountRef). A BillingAccount is a detailed description of a bill structure.
place	A list of related place ref or values (RelatedPlaceRefOrValue [*]). Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.
product	A list of product ref or values (ProductRefOrValue [*]). A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.
productCharacteristic	A list of characteristics (Characteristic [*]). Describes a given characteristic of an object or entity through a name/value pair.
productOffering	A product offering reference (ProductOfferingRef). A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

productOrderItem	A list of related product order items (RelatedProductOrderItem [*]). RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.
productPrice	A list of product prices (ProductPrice [*]). An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.
productRelationship	A list of product relationships (ProductRelationship [*]). Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.
productSpecification	A product specification reference (ProductSpecificationRef). A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.
productTerm	A list of product terms (ProductTerm [*]). Description of a productTerm linked to this product. This represent a commitment with a duration.
realizingResource	A list of resource references (ResourceRef [*]).
realizingService	A list of service references (ServiceRef [*]). for when Service is used by other entities.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. A related party defines party or party role linked to a specific entity.
status	A product status type (ProductStatusType). Is the lifecycle status of the product.

ProductRelationship sub-resource

Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type	A string. When sub-classing, this defines the sub-class Extensible name.
product	A product ref or value (ProductRefOrValue). A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.
relationshipType	A string. Type of the product relationship, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

ProductStockRelationship sub-resource

Linked product stock with a type relationship.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
relationshipType	A string. The type of relationship between product stock.
stockLevel	A product stock reference (ProductStockRef). A product stock in relationship with this product stock.

ProductTerm sub-resource

Description of a productTerm linked to this product. This represent a commitment with a duration.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
description	A string. Description of the productTerm.
duration	A quantity (Quantity). Duration of the productTerm.

name	A string. Name of the productTerm.
validFor	A time period. productTerm validity period.

Quantity sub-resource

An amount in a given unit.

amount	A float. Numeric value in a given unit.
units	A string. Unit.

RelatedParty sub-resource

Related Entity reference. A related party defines party or party role linked to a specific entity.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string. Role played by the related party.

RelatedPlaceRefOrValue sub-resource

Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. A user-friendly name for the place, such as [Paris Store], [London Store], [Main Home].
href	A string. Unique reference of the place.
id	A string. Unique identifier of the place.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string.

RelatedProductOrderItem sub-resource

RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. The actual type of the target instance when needed for disambiguation.
orderItemAction	A string. Action of the order item for this product.
orderItemId	A string. Identifier of the order item where the product was managed.
productOrderHref	A string. Reference of the related entity.
productOrderId	A string. Unique identifier of a related entity.
role	A string. role of the product order item for this product.

TargetProductSchema sub-resource

The reference object to the schema and type of target product which is described by product specification.

| @schemaLocation | An uri (Uri). This field provides a link to the schema describing the target product. |
| @type | A string. Class type of the target product. |

AgreementItemRef relationship

Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
agreementItemId	A string. Identifier of the agreement.

BillingAccountRef relationship

BillingAccount reference. A BillingAccount is a detailed description of a bill structure.

href	A string. Reference of the billing account.
id	A string. Unique identifier of the billing account.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the billing account.
ratingType	A string. Indicates whether the account follows a specific payment option such as prepaid or postpaid.

ChannelRef relationship

The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the channel.
href	An uri (Uri). Hyperlink reference.

id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

MarketSegmentRef relationship

provides references to the corresponding market segment as target of product offerings. A market segment is grouping of Parties, GeographicAreas, SalesChannels, and so forth.

href	A string. Reference of the market segment.
id	A string. Unique identifier of the market segment.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. (Class) type of the referred market segment.
name	A string. Name of the market segment.

ProductOfferingPriceRef relationship

ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ProductOfferingRef relationship

ProductOffering reference. A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ProductSpecificationRef relationship

Product specification reference: A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
targetProductSchema	A target product schema (TargetProductSchema). A target product schema reference. The reference object to the schema and type of target product which is described by product specification.
version	A string. Version of the product specification.

ProductStockRef relationship

ProductStockRef is a reference to a product stock.

@referredType	A string. The actual type of the target instance when needed for disambiguation.

name	A string. Name of the ProductStockRef.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ResourceRef relationship

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ServiceRef relationship

Service reference, for when Service is used by other entities.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

Json representation sample

We provide below the json representation of an example of a 'ProductStock' resource object

```json
{
  "id": "42",
  "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
  "creationDate": "2020-01-14T08:31:48.243Z",
  "description": "Product Stock for shop",
  "lastInventoryDate": "2020-09-24T08:31:48.243Z",
  "lastUpdate": "2020-09-24T08:31:48.243Z",
  "name": "phone stock 42",
  "replenishmentDate": "2020-09-28T08:31:48.243Z",
  "stockLevelCategory": "retail - stock for the Lyon shop",
  "channel": [
    {
      "id": "11",
      "name": "retail"
    }
  ],
  "maxStockLevel": {
    "amount": 40,
    "units": "box"
  },
  "minStockLevel": {
    "amount": 5,
    "units": "box"
  },
  "place": {
    "id": "89",
    "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
    "role": "Lyon Shop",
    "@type": "PlaceRef",
    "@referredType": "GeographicSite"
  },
  "productStockLevel": {
    "amount": 24,
    "units": "box"
  },
  "productStockStatusType": "available",
  "productStockUsageType": "inShop",
  "relatedParty": [
    {
      "id": "111",
      "href": "http://serverlocation:port/partyManagement/v4/organization/111",
      "role": "stock owner",
      "@type": "OrganizationRef",
      "@referredType": "Organization"
    }
  ],
  "reorderQuantity": {
    "amount": 10,
    "units": "box"
```

```
    },
    "stockLevelAlert": {
      "amount": 10,
      "units": "box"
    },
    "stockedProduct": {
      "productCharacteristic": [
        {
          "id": "1",
          "valueType": "string",
          "name": "Color",
          "value": "Orange"
        },
        {
          "id": "2",
          "valueType": "string",
          "name": "Memory Size",
          "value": "256 GB"
        }
      ],
      "productSpecification": {
        "id": "23",
        "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
        "name": "TMFPhone",
        "version": "x-9",
        "@type": "ProductSpecification"
      },
      "@type": "Product"
    },
    "@type": "ProductStock"
}
```

Adjust Product Stock resource

AdjustProductStock is used to log and execute on or several Product Stock level change.

Resource model
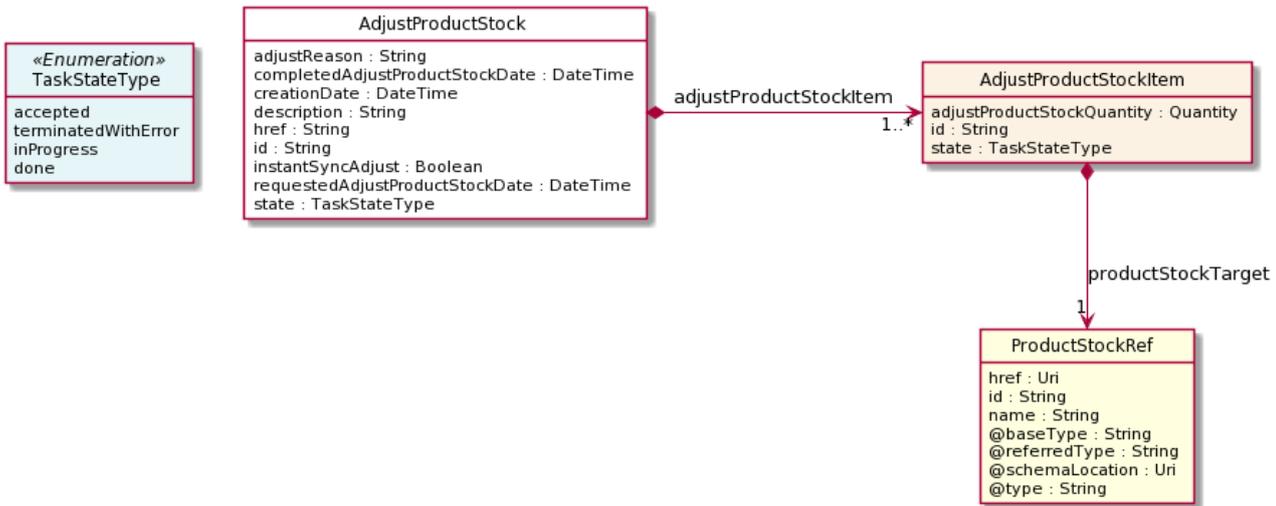
Lifecycle
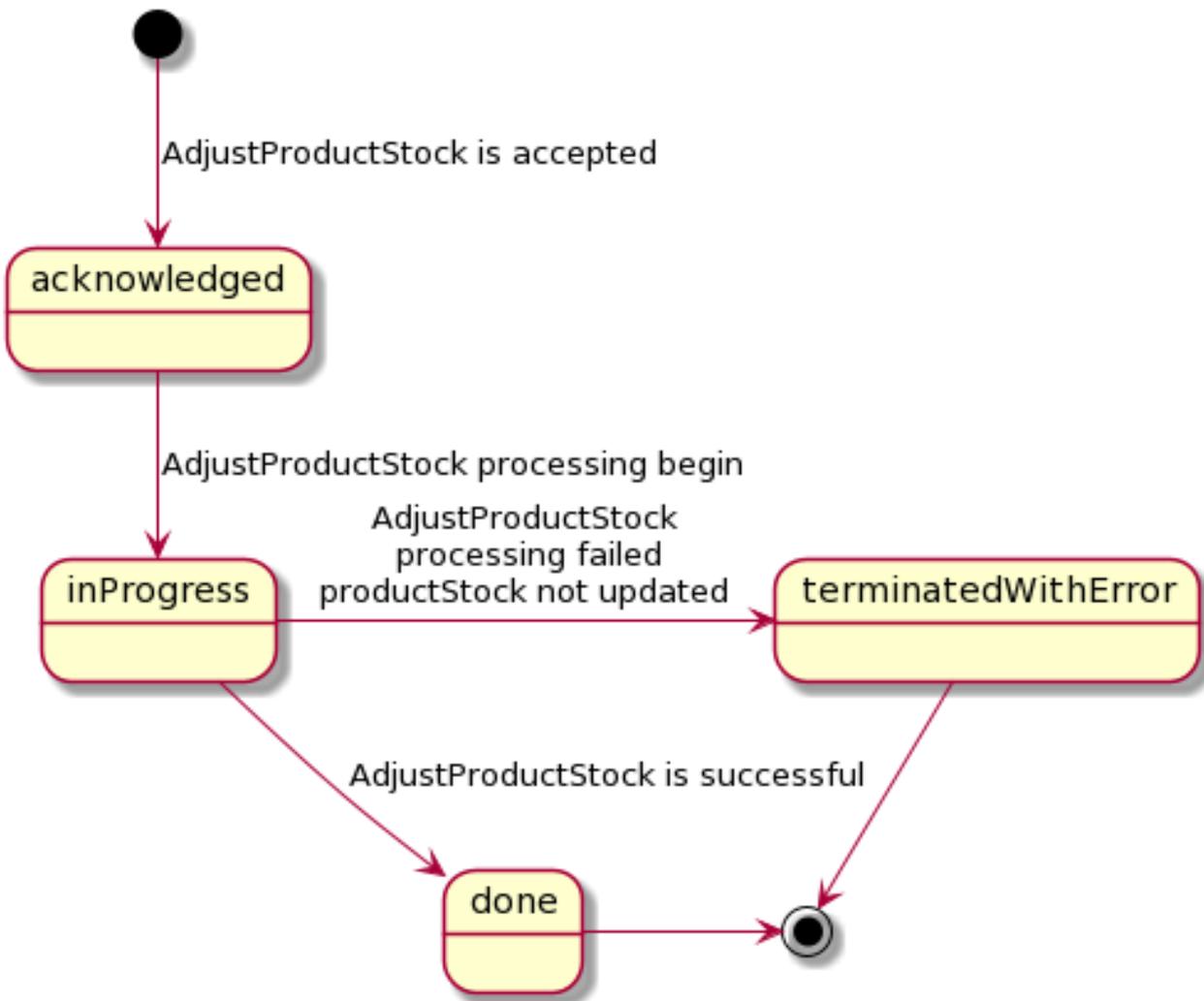
Field descriptions

AdjustProductStock fields

href	A string. Reference of the AdjustProductStock.
id	A string. Unique identifier of the AdjustProductStock.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
adjustProductStockItem	A list of adjust product stock items (AdjustProductStockItem [1..*]). A list of AdjustProductStock items. Every item is a ProductStock adjustement request.
adjustReason	A string. A reason for this product stock adjustment like theft or wastage.
completedAdjustProductStockDate	A date time (DateTime). Date when the AdjustProductStock was created (whatever its status).
creationDate	A date time (DateTime). Date when the AdjustProductStock was created (whatever its status).
description	A string. Free-text description of the AdjustProductStock.
href	A string. Reference of the AdjustProductStock.
id	A string. Unique identifier of the AdjustProductStock.
instantSyncAdjust	A boolean. An indicator which when the value is "true" means that requester expects the adjustment immediately. If the indicator is true then the response code of 200 indicates the operation is successful otherwise a task is created with a response 201.
requestedAdjustProductStockDate	A date time (DateTime). Date when the AdjustProductStock was created (whatever its status).
state	A task state type (TaskStateType). State of the AdjustProductStock (acknowledged, inProgress, terminatedWithError, done).

AdjustProductStockItem sub-resource

A list of AdjustProductStock items. Every item is a ProductStock adjustement request.

href	An uri (Uri). Hyperlink reference.
id	A string. Unique identifier of the AdjustProductStockItem.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
adjustProductStockQuantity	A quantity (Quantity). An amount in a given unit.
productStockTarget	A product stock reference (ProductStockRef). The product stock to adjust .
state	A task state type (TaskStateType). State of the AdjustProductStockItem (acknowledged, inProgress, terminatedWithError, done).

Quantity sub-resource

An amount in a given unit.

amount	A float. Numeric value in a given unit.
units	A string. Unit.

ProductStockRef relationship

ProductStockRef is a reference to a product stock.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the ProductStockRef.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

Json representation sample

We provide below the json representation of an example of a 'AdjustProductStock' resource object

```
{
    "id": "23",
```

```
    "href": "http://serverlocation:port/stockManagement/v4/adjustStock/23",
    "adjustReason": "Inventory check",
    "completedAdjustProductStockDate": "2020-09-24T08:53:33.954Z",
    "creationDate": "2020-09-24T08:53:33.954Z",
    "description": "inventory check update",
    "instantSyncAdjust": true,
    "requestedAdjustProductStockDate": "2020-09-24T08:53:33.954Z",
    "adjustProductStockItem": [
        {
            "id": "1",
            "adjustProductStockQuantity": {
                "amount": 26,
                "units": "box"
            },
            "productStockTarget": {
                "id": "42",
                "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
                "@type": "ProductStock"
            },
            "state": "accepted",
            "@type": "AdjustProductStockItem"
        }
    ],
    "state": "accepted",
    "@type": "AdjustProductStock"
}
```

Check Product Stock resource

CheckProductStock is used to log and execute check about product stock availability.

Resource model

Lifecycle

Field descriptions

CheckProductStock fields

href	A string. Reference of the CheckProductStock.
id	A string. Unique identifier of the CheckProductStock.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

checkProductStockItem	A list of check product stock items (CheckProductStockItem [*]). A list of check product stock item.
completedCheckProductStockDate	A date time (DateTime). Date when the CheckProductStock was completed.
creationDate	A date time (DateTime). Date when the CheckProductStock was created (whatever its status).
href	A string. Reference of the CheckProductStock.
id	A string. Unique identifier of the CheckProductStock.
instantSyncCheck	A boolean. An indicator which when the value is "true" means that requester expects to get result immediately in the response. If the indicator is true, then the response code of 200 indicates the operation is successful otherwise a task is created with a response 201.
place	A place ref or value (PlaceRefOrValue). Used to define a geographical place where requester wants to check stock availability.
provideAlternative	A boolean. When the value is TRUE means that alternative proposal should be provided (from other product stock, different date or quantity).
relatedParty	A list of related parties (RelatedParty [*]). A list of related party references (RelatedParty [*]). A related party defines party or party role linked to this CheckProductStock.
requestedAvailabilityDate	A date time (DateTime). Date when the stock availability should be check.
requestedCheckProductStockDate	A date time (DateTime). Date when the requester wished to have a response for this product stock check query.
state	A task state type (TaskStateType). State of the CheckProductStock (acknowledged, inProgress, terminatedWithError, done).

AlternateProductStock sub-resource

AlternateProductStock is used to log and execute Alternate about product stock availability.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
alternateAvailabilityDate	A date time (DateTime). Alternate date when the product stock is available.

alternatePlace	A place ref or value (PlaceRefOrValue). Alternate place where product stock is available.
alternateProduct	A product ref or value (ProductRefOrValue). Alternat product available.
alternateQuantity	A quantity (Quantity). Alternate quantity available.
alternateStock	A product stock reference (ProductStockRef). Alternate product stock available.
id	A string. identifier of the Alternate product stock.

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
characteristicRelationship	A list of characteristic relationships (CharacteristicRelationship [*]). Another Characteristic that is related to the current Characteristic.
id	A string. Unique identifier of the characteristic.
name	A string. Name of the characteristic.
value	An any (Any). The value of the characteristic.
valueType	A string. Data type of the value of the characteristic.

CharacteristicRelationship sub-resource

Another Characteristic that is related to the current Characteristic.

href	An uri (Uri). Hyperlink reference.
id	A string. Unique identifier of the characteristic.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
relationshipType	A string. The type of relationship.

CheckProductStockItem sub-resource

CheckProductStockItem is used to log and execute query about one product (or configured product) stock availability.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
alternate	A list of alternate product stocks (AlternateProductStock [*]). A list of alternate availability - from other product stock , different date or quantity.
availabilityResult	A string. Result of the availability like available, notAvailable, alternate.
checkedProductStock	A product stock (ProductStock). the product stock too be checked.
id	A string. Unique identifier of the Check Product Stock item.
provideAlternative	A boolean. When the value is TRUE means that alternative proposal should be provided (from other product stock, different date or quantity).
requestedQuantity	A quantity (Quantity). Requested quantity to be checked for this product.
state	A task state type (TaskStateType). State of the CheckProductStockItem (acknowledged, inProgress, terminatedWithError, done).

Money sub-resource

A base / value business entity used to represent money.

unit	A string. Currency (ISO4217 norm uses 3 letters to define the currency).
value	A float. A positive floating point number.

PlaceRefOrValue sub-resource

A place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. A user-friendly name for the place, such as [Paris Store], [London Store], [Main Home].
href	A string. Unique reference of the place.

id	A string. Unique identifier of the place.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

Price sub-resource

Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
dutyFreeAmount	A money (Money). All taxes excluded amount (expressed in the given currency).
percentage	A float. Percentage to apply for ProdOfferPriceAlteration.
taxIncludedAmount	A money (Money). All taxes included amount (expressed in the given currency).
taxRate	A float. Tax rate.

PriceAlteration sub-resource

Is an amount, usually of money, that modifies the price charged for an order item.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
applicationDuration	An integer. Duration during which the alteration applies on the order item price (for instance 2 months free of charge for the recurring charge).

description	A string. A narrative that explains in detail the semantics of this order item price alteration.
name	A string. Name of the order item price alteration.
price	A price (Price). Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.
priceType	A string. A category that describes the price such as recurring, one time and usage.
priority	An integer. Priority level for applying this alteration among all the defined alterations on the order item price.
productOfferingPrice	A product offering price reference (ProductOfferingPriceRef). ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
recurringChargePeriod	A string. Could be month, week...
unitOfMeasure	A string. Could be minutes, GB...

ProductPrice sub-resource

An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
billingAccount	A billing account reference (BillingAccountRef). A BillingAccount is a detailed description of a bill structure.
description	A string. A narrative that explains in detail the semantics of this product price.
name	A string. A short descriptive name such as "Subscription price".
price	A price (Price). Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.

priceType	A string. A category that describes the price, such as recurring, discount, allowance, penalty, and so forth.
productOfferingPrice	A product offering price reference (ProductOfferingPriceRef). ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
productPriceAlteration	A list of price alterations (PriceAlteration [*]). Is an amount, usually of money, that modifies the price charged for an order item.
recurringChargePeriod	A string. Could be month, week...
unitOfMeasure	A string. Could be minutes, GB...

ProductRefOrValue sub-resource

A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the product. It could be the same as the name of the product offering.
href	A string. Reference of the product.
id	A string. Unique identifier of the product.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
description	A string. Is the description of the product. It could be copied from the description of the Product Offering.
isBundle	A boolean. If true, the product is a ProductBundle which is an instantiation of a BundledProductOffering. If false, the product is a ProductComponent which is an instantiation of a SimpleProductOffering.
isCustomerVisible	A boolean. If true, the product is visible by the customer.
orderDate	A date time (DateTime). Is the date when the product was ordered.

productSerialNumber	A string. Is the serial number for the product. This is typically applicable to tangible products e.g. Broadband Router.
randomAtt	A string.
startDate	A date time (DateTime). Is the date from which the product starts.
terminationDate	A date time (DateTime). Is the date when the product was terminated.
agreement	A list of agreement item references (AgreementItemRef [*]). Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
billingAccount	A billing account reference (BillingAccountRef). A BillingAccount is a detailed description of a bill structure.
place	A list of related place ref or values (RelatedPlaceRefOrValue [*]). Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.
product	A list of product ref or values (ProductRefOrValue [*]). A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.
productCharacteristic	A list of characteristics (Characteristic [*]). Describes a given characteristic of an object or entity through a name/value pair.
productOffering	A product offering reference (ProductOfferingRef). A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.
productOrderItem	A list of related product order items (RelatedProductOrderItem [*]). RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.
productPrice	A list of product prices (ProductPrice [*]). An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.
productRelationship	A list of product relationships (ProductRelationship [*]). Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the

	bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.
productSpecification	A product specification reference (ProductSpecificationRef). A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.
productTerm	A list of product terms (ProductTerm [*]). Description of a productTerm linked to this product. This represent a commitment with a duration.
realizingResource	A list of resource references (ResourceRef [*]).
realizingService	A list of service references (ServiceRef [*]). for when Service is used by other entities.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. A related party defines party or party role linked to a specific entity.
status	A product status type (ProductStatusType). Is the lifecycle status of the product.

ProductRelationship sub-resource

Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
product	A product ref or value (ProductRefOrValue). A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.
relationshipType	A string. Type of the product relationship, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already

owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

ProductStock sub-resource

ProductStock is a base class for defining a product (or configured product with values characteristic) stock level.

href	A string. Reference of the ProductStock.
id	A string. Unique identifier of the ProductStock.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
channel	A list of channel references (ChannelRef [*]). The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..
creationDate	A date time (DateTime). Date when the ProductStock was created (whatever its status).
description	A string. Free-text description of the ProductStock.
lastInventoryDate	A date time (DateTime). Last inventory count date for this ProductStock.
lastUpdate	A date time (DateTime). Last date when the ProductStock record was updated.
marketSegment	A list of market segment references (MarketSegmentRef [*]). provides references to the corresponding market segment as target of a product stock. A market segment is grouping of Parties, GeographicAreas, SalesChannels, and so forth.
maxStockLevel	A quantity (Quantity). An amount in a given unit.
minStockLevel	A quantity (Quantity). An amount in a given unit.
name	A string. Name of the ProductStock.
place	A related place ref or value (RelatedPlaceRefOrValue). Used to define a place useful for the ProductStock for example a geographical place where the Product Stock is located.
productStockLevel	A quantity (Quantity). An amount in a given unit.

productStockRelationship	A list of product stock relationships (ProductStockRelationship [*]). relationship to other product stock.
productStockStatusType	A product stock status type (ProductStockStatusType). The status of the ProductStock, such as available, unavailable, reserved, unknown.
productStockUsageType	A product stock usage type (ProductStockUsageType). The usage type of the ProductStock, such as inTransit, damaged, onDisplay, etc..
relatedParty	A list of related parties (RelatedParty [*]). A list of related party references (RelatedParty [*]). A related party defines party or party role linked to a specific entity.
reorderQuantity	A quantity (Quantity). An amount in a given unit.
replenishmentDate	A date time (DateTime). Planned date for future replenishment for this ProductStock.
resource	A list of resource references (ResourceRef [*]). The Resource managed through this ProductStock is used.
stockLevelAlert	A quantity (Quantity). An amount in a given unit.
stockLevelCategory	A string. Category of the ProductStock.
stockedProduct	A product ref or value (ProductRefOrValue). Product stocked in this product stock - could be via a productSpecification, a ProductSpecification + valued characteristic, etc.

ProductStockRelationship sub-resource

Linked product stock with a type relationship.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
relationshipType	A string. The type of relationship between product stock.
stockLevel	A product stock reference (ProductStockRef). A product stock in relationship with this product stock.

ProductTerm sub-resource

Description of a productTerm linked to this product. This represent a commitment with a duration.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
description	A string. Description of the productTerm.
duration	A quantity (Quantity). Duration of the productTerm.
name	A string. Name of the productTerm.
validFor	A time period. productTerm validity period.

Quantity sub-resource

An amount in a given unit.

amount	A float. Numeric value in a given unit.
units	A string. Unit.

RelatedParty sub-resource

Related Entity reference. A related party defines party or party role linked to a specific entity.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string. Role played by the related party.

RelatedPlaceRefOrValue sub-resource

Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. A user-friendly name for the place, such as [Paris Store], [London Store], [Main Home].
href	A string. Unique reference of the place.
id	A string. Unique identifier of the place.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string.

RelatedProductOrderItem sub-resource

RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. The actual type of the target instance when needed for disambiguation.
orderItemAction	A string. Action of the order item for this product.
orderItemId	A string. Identifier of the order item where the product was managed.
productOrderHref	A string. Reference of the related entity.
productOrderId	A string. Unique identifier of a related entity.
role	A string. role of the product order item for this product.

TargetProductSchema sub-resource

The reference object to the schema and type of target product which is described by product specification.

@schemaLocation   An uri (Uri). This field provides a link to the schema describing the target product.

@type   A string. Class type of the target product.

AgreementItemRef relationship

Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

@referredType   A string. The actual type of the target instance when needed for disambiguation.

name   A string. Name of the related entity.

href   An uri (Uri). Hyperlink reference.

id   A string. unique identifier.

@baseType   A string. When sub-classing, this defines the super-class.

@schemaLocation   An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type   A string. When sub-classing, this defines the sub-class Extensible name.

agreementItemId   A string. Identifier of the agreement.

BillingAccountRef relationship

BillingAccount reference. A BillingAccount is a detailed description of a bill structure.

href   A string. Reference of the billing account.

id   A string. Unique identifier of the billing account.

@baseType   A string. When sub-classing, this defines the super-class.

@schemaLocation   An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type   A string. When sub-classing, this defines the sub-class Extensible name.

@referredType   A string. The actual type of the target instance when needed for disambiguation.

name   A string. Name of the billing account.

ratingType	A string. Indicates whether the account follows a specific payment option such as prepaid or postpaid.

ChannelRef relationship

The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the channel.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

MarketSegmentRef relationship

provides references to the corresponding market segment as target of product offerings. A market segment is grouping of Parties, GeographicAreas, SalesChannels, and so forth.

href	A string. Reference of the market segment.
id	A string. Unique identifier of the market segment.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. (Class) type of the referred market segment.
name	A string. Name of the market segment.

ProductOfferingPriceRef relationship

ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.

@referredType	A string. The actual type of the target instance when needed for disambiguation.

name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ProductOfferingRef relationship

ProductOffering reference. A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ProductSpecificationRef relationship

Product specification reference: A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
targetProductSchema	A target product schema (TargetProductSchema). A target product schema reference. The reference object to the schema and type of target product which is described by product specification.
version	A string. Version of the product specification.

ProductStockRef relationship

ProductStockRef is a reference to a product stock.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the ProductStockRef.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ResourceRef relationship

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ServiceRef relationship

Service reference, for when Service is used by other entities.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

Json representation sample

We provide below the json representation of an example of a 'CheckProductStock' resource object

```
{
  "id": "32",
  "href": "http://serverlocation:port/stockManagement/v4/checkProductStock/32",
  "completedCheckProductStockDate": "2020-09-24T09:54:41.127Z",
  "creationDate": "2020-09-24T09:54:41.127Z",
  "instantSyncCheck": true,
  "provideAlternative": true,
  "requestedAvailabilityDate": "2020-09-24T09:54:41.127Z",
  "requestedCheckProductStockDate": "2020-09-24T09:54:41.127Z",
  "checkProductStockItem": [
    {
      "id": "1",
      "availabilityResult": "alternate",
      "provideAlternative": true,
      "alternate": [
        {
          "id": "1",
          "alternateAvailabilityDate": "2020-09-24T09:54:41.127Z",
          "alternateProduct": {
            "place": [
              {
                "id": "89",
                "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
                "role": "Lyon Shop",
                "@type": "PlaceRef",
                "@referredType": "GeographicSite"
              }
            ],
            "productCharacteristic": [
              {
                "id": "1",
```

```
                "valueType": "string",
                "name": "Color",
                "value": "Orange"
              },
              {
                "id": "2",
                "valueType": "string",
                "name": "Memory Size",
                "value": "256 GB"
              }
            ],
            "productSpecification": {
              "id": "23",
              "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
              "name": "TMFPhone",
              "version": "x-9",
              "@type": "ProductSpecification"
            },
            "@type": "AlternateProduct"
          },
          "alternateQuantity": {
            "amount": 1,
            "units": "box"
          },
          "alternateStock": {
            "id": "42",
            "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
            "@type": "ProductStockRef"
          },
          "@type": "AlternateProductStock"
        }
      ],
      "checkedProductStock": {
        "stockedProduct": {
          "productCharacteristic": [
            {
              "id": "1",
              "valueType": "string",
              "name": "Color",
              "value": "Orange"
            },
            {
              "id": "2",
              "valueType": "string",
              "name": "Memory Size",
              "value": "128 GB"
            }
          ],
          "productSpecification": {
            "id": "23",
            "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
            "name": "TMFPhone",
            "version": "x-9",
            "@type": "ProductSpecification"
```

```
        },
          "@type": "Product"
        },
        "@type": "CheckedProductStock"
      },
      "requestedQuantity": {
        "amount": 1,
        "units": "box"
      },
      "state": "done",
      "@type": "CheckProductStockItem"
    }
  ],
  "place": {
    "id": "89",
    "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
    "role": "Lyon Shop",
    "@type": "PlaceRef",
    "@referredType": "GeographicSite"
  },
  "relatedParty": [
    {
      "id": "45",
      "href": "http://serverlocation:port/partyManagement/v4/individual/45",
      "role": "requester",
      "@type": "PartyRef",
      "@referredType": "Individual"
    }
  ],
  "state": "done",
  "@type": "CheckProductStock"
}
```

Reserve Product Stock resource

ReserveProductStock is used to request a product stock reservation.

Resource model

Lifecycle
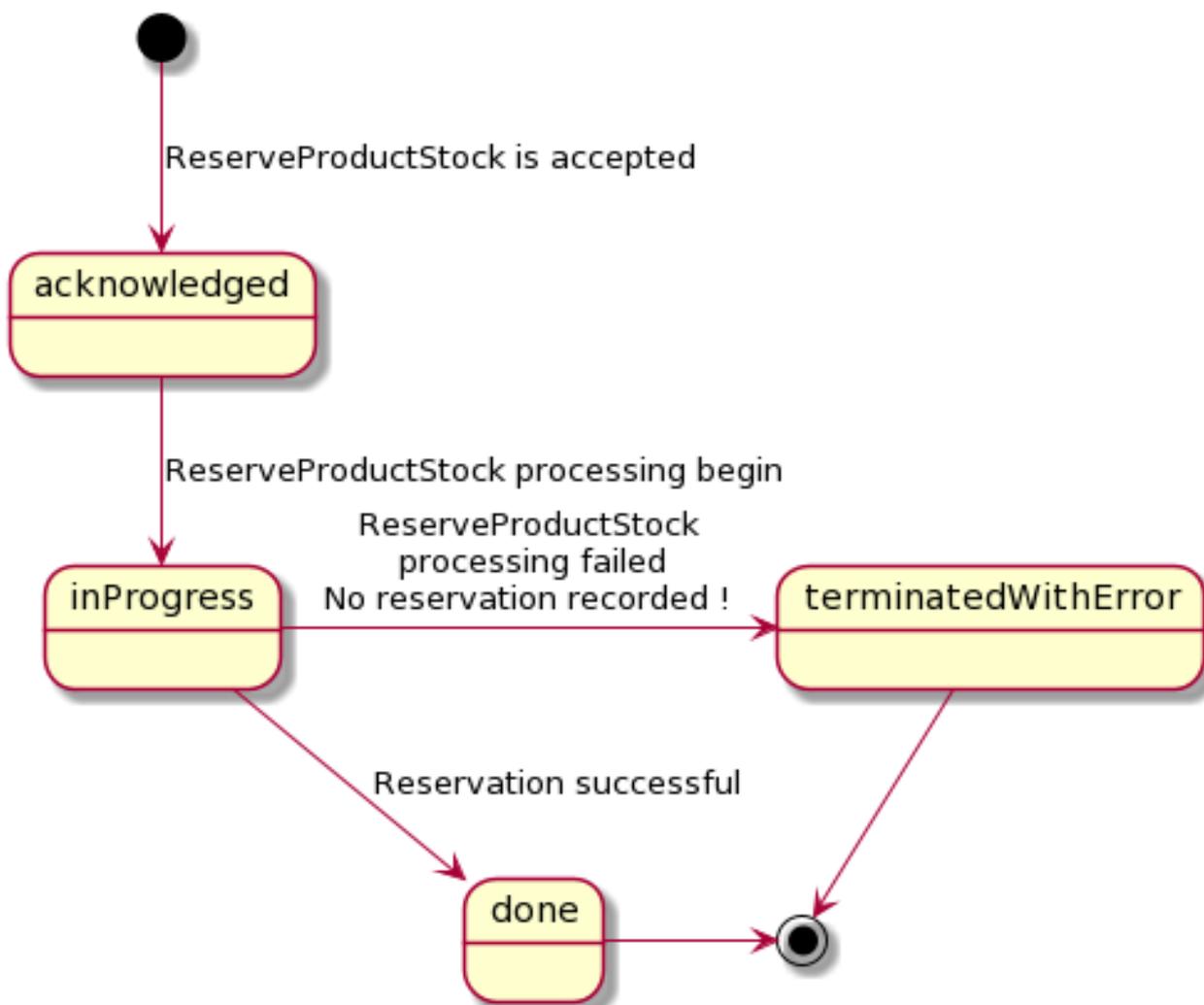
Field descriptions

ReserveProductStock fields

href	A string. Reference of the ReserveProductStock.
id	A string. Unique identifier of the ReserveProductStock.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
channel	A list of channel references (ChannelRef [*]). Channel(s) beneficiary(ies) for this reservation.

creationDate	A date time (DateTime). Date when the ReserveProductStock was created (whatever its status).
href	A string. Reference of the ReserveProductStock.
id	A string. Unique identifier of the ReserveProductStock.
marketSegment	A list of market segment references (MarketSegmentRef [*]). Market segment(s) beneficiary(ies) for this reservation.
place	A related place ref or value (RelatedPlaceRefOrValue). Used to define a place where the product stock must be reserved.
relatedEntity	A list of related entities (RelatedEntity [*]). A list of related entity in relationship with this stock reservation (trouble ticket, quote, product order, etc...).
relatedParty	A list of related parties (RelatedParty [*]). A list of related party references (RelatedParty [*]). A related party defines party or party role linked to a specific entity.
requiredAvailabilityDate	A date time (DateTime). Requested product availability date for the reservation.
reserveProductStockItem	A list of reserve product stock items (ReserveProductStockItem [*]). A list of product stock item reservation.
reserveProductStockState	A task state type (TaskStateType). State of the ReserveProductStock (acknowledged, inProgress, failed, done, cancelled).
validFor	A time period. Reservation validity period.

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
characteristicRelationship	A list of characteristic relationships (CharacteristicRelationship [*]). Another Characteristic that is related to the current Characteristic.
id	A string. Unique identifier of the characteristic.
name	A string. Name of the characteristic.

value
An any (Any). The value of the characteristic.

valueType
A string. Data type of the value of the characteristic.

CharacteristicRelationship sub-resource

Another Characteristic that is related to the current Characteristic.

href
An uri (Uri). Hyperlink reference.

id
A string. Unique identifier of the characteristic.

@baseType
A string. When sub-classing, this defines the super-class.

@schemaLocation
An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type
A string. When sub-classing, this defines the sub-class Extensible name.

relationshipType
A string. The type of relationship.

Money sub-resource

A base / value business entity used to represent money.

unit
A string. Currency (ISO4217 norm uses 3 letters to define the currency).

value
A float. A positive floating point number.

Price sub-resource

Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.

href
An uri (Uri). Hyperlink reference.

id
A string. unique identifier.

@baseType
A string. When sub-classing, this defines the super-class.

@schemaLocation
An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type
A string. When sub-classing, this defines the sub-class Extensible name.

dutyFreeAmount
A money (Money). All taxes excluded amount (expressed in the given currency).

percentage
A float. Percentage to apply for ProdOfferPriceAlteration.

taxIncludedAmount
A money (Money). All taxes included amount (expressed in the given currency).

taxRate	A float. Tax rate.

PriceAlteration sub-resource

Is an amount, usually of money, that modifies the price charged for an order item.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
applicationDuration	An integer. Duration during which the alteration applies on the order item price (for instance 2 months free of charge for the recurring charge).
description	A string. A narrative that explains in detail the semantics of this order item price alteration.
name	A string. Name of the order item price alteration.
price	A price (Price). Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.
priceType	A string. A category that describes the price such as recurring, one time and usage.
priority	An integer. Priority level for applying this alteration among all the defined alterations on the order item price.
productOfferingPrice	A product offering price reference (ProductOfferingPriceRef). ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
recurringChargePeriod	A string. Could be month, week...
unitOfMeasure	A string. Could be minutes, GB...

ProductPrice sub-resource

An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
billingAccount	A billing account reference (BillingAccountRef). A BillingAccount is a detailed description of a bill structure.
description	A string. A narrative that explains in detail the semantics of this product price.
name	A string. A short descriptive name such as "Subscription price".
price	A price (Price). Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.
priceType	A string. A category that describes the price, such as recurring, discount, allowance, penalty, and so forth.
productOfferingPrice	A product offering price reference (ProductOfferingPriceRef). ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
productPriceAlteration	A list of price alterations (PriceAlteration [*]). Is an amount, usually of money, that modifies the price charged for an order item.
recurringChargePeriod	A string. Could be month, week...
unitOfMeasure	A string. Could be minutes, GB...

ProductRefOrValue sub-resource

A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the product. It could be the same as the name of the product offering.
href	A string. Reference of the product.
id	A string. Unique identifier of the product.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
description	A string. Is the description of the product. It could be copied from the description of the Product Offering.
isBundle	A boolean. If true, the product is a ProductBundle which is an instantiation of a BundledProductOffering. If false, the product is a ProductComponent which is an instantiation of a SimpleProductOffering.
isCustomerVisible	A boolean. If true, the product is visible by the customer.
orderDate	A date time (DateTime). Is the date when the product was ordered.
productSerialNumber	A string. Is the serial number for the product. This is typically applicable to tangible products e.g. Broadband Router.
randomAtt	A string.
startDate	A date time (DateTime). Is the date from which the product starts.
terminationDate	A date time (DateTime). Is the date when the product was terminated.
agreement	A list of agreement item references (AgreementItemRef [*]). Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
billingAccount	A billing account reference (BillingAccountRef). A BillingAccount is a detailed description of a bill structure.
place	A list of related place ref or values (RelatedPlaceRefOrValue [*]). Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.
product	A list of product ref or values (ProductRefOrValue [*]). A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.

productCharacteristic	A list of characteristics (Characteristic [*]). Describes a given characteristic of an object or entity through a name/value pair.
productOffering	A product offering reference (ProductOfferingRef). A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.
productOrderItem	A list of related product order items (RelatedProductOrderItem [*]). RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.
productPrice	A list of product prices (ProductPrice [*]). An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.
productRelationship	A list of product relationships (ProductRelationship [*]). Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.
productSpecification	A product specification reference (ProductSpecificationRef). A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.
productTerm	A list of product terms (ProductTerm [*]). Description of a productTerm linked to this product. This represent a commitment with a duration.
realizingResource	A list of resource references (ResourceRef [*]).
realizingService	A list of service references (ServiceRef [*]). for when Service is used by other entities.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. A related party defines party or party role linked to a specific entity.
status	A product status type (ProductStatusType). Is the lifecycle status of the product.

ProductRelationship sub-resource

Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

href	An uri (Uri). Hyperlink reference.

id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
product	A product ref or value (ProductRefOrValue). A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.
relationshipType	A string. Type of the product relationship, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

ProductTerm sub-resource

Description of a productTerm linked to this product. This represent a commitment with a duration.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
description	A string. Description of the productTerm.
duration	A quantity (Quantity). Duration of the productTerm.
name	A string. Name of the productTerm.
validFor	A time period. productTerm validity period.

Quantity sub-resource

An amount in a given unit.

amount	A float. Numeric value in a given unit.

units   A string. Unit.

RelatedEntity sub-resource

A reference to an entity, where the type of the entity is not known in advance.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string. The role of an entity.

RelatedParty sub-resource

Related Entity reference. A related party defines party or party role linked to a specific entity.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string. Role played by the related party.

RelatedPlaceRefOrValue sub-resource

Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. A user-friendly name for the place, such as [Paris Store], [London Store], [Main Home].
href	A string. Unique reference of the place.
id	A string. Unique identifier of the place.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string.

RelatedProductOrderItem sub-resource

RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. The actual type of the target instance when needed for disambiguation.
orderItemAction	A string. Action of the order item for this product.
orderItemId	A string. Identifier of the order item where the product was managed.
productOrderHref	A string. Reference of the related entity.
productOrderId	A string. Unique identifier of a related entity.
role	A string. role of the product order item for this product.

ReserveProductStockItem sub-resource

ReserveProductStockItem is used to request a stock reservation item for a product.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
id	A string. Unique identifier of the ReserveProductStockItem.
productStockRequested	A product stock reference (ProductStockRef). Identifier of the Product Stock requested for this reservation item.
productStockReserved	A product stock reference (ProductStockRef). Identifier of the Product Stock used for this reservation item.
quantityRequested	A quantity (Quantity). Quantity requested for this Product.
quantityReserved	A quantity (Quantity). Quantity reserved for this Product.
requestedProduct	A product ref or value (ProductRefOrValue). Requested product for reservation - a Product configuration could be passed.
reserveProductStockState	A task state type (TaskStateType). State of the ReserveProductStockItem (acknowledged, inProgress, failed, done, cancelled).

TargetProductSchema sub-resource

The reference object to the schema and type of target product which is described by product specification.

@schemaLocation	An uri (Uri). This field provides a link to the schema describing the target product.
@type	A string. Class type of the target product.

AgreementItemRef relationship

Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
agreementItemId	A string. Identifier of the agreement.

BillingAccountRef relationship

BillingAccount reference. A BillingAccount is a detailed description of a bill structure.

href	A string. Reference of the billing account.
id	A string. Unique identifier of the billing account.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the billing account.
ratingType	A string. Indicates whether the account follows a specific payment option such as prepaid or postpaid.

ChannelRef relationship

The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the channel.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

MarketSegmentRef relationship

provides references to the corresponding market segment as target of product offerings. A market segment is grouping of Parties, GeographicAreas, SalesChannels, and so forth.

href	A string. Reference of the market segment.
id	A string. Unique identifier of the market segment.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. (Class) type of the referred market segment.
name	A string. Name of the market segment.

ProductOfferingPriceRef relationship

ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ProductOfferingRef relationship

ProductOffering reference. A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.

id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ProductSpecificationRef relationship

Product specification reference: A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
targetProductSchema	A target product schema (TargetProductSchema). A target product schema reference. The reference object to the schema and type of target product which is described by product specification.
version	A string. Version of the product specification.

ProductStockRef relationship

ProductStockRef is a reference to a product stock.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the ProductStockRef.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ResourceRef relationship

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ServiceRef relationship

Service reference, for when Service is used by other entities.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

Json representation sample

We provide below the json representation of an example of a 'ReserveProductStock' resource object

```
{
    "id": "87",
    "href": "http://serverlocation:port/stockManagement/v4/reserveProductStock/87",
    "creationDate": "2020-09-24T10:12:23.664Z",
```

```
    "requiredAvailabilityDate": "2020-09-25T10:12:23.664Z",
    "channel": [
      {
        "id": "11",
        "name": "retail"
      }
    ],
    "place": {
      "id": "89",
      "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
      "role": "Lyon Shop",
      "@type": "PlaceRef",
      "@referredType": "GeographicSite"
    },
    "relatedEntity": [
      {
        "id": "56",
        "href": "http://serverlocation:port/productOrderManagement/v4/productOrder/56",
        "role": "order triggering the reservation",
        "@type": "EntityRef",
        "@referredType": "ProductOrder"
      }
    ],
    "relatedParty": [
      {
        "id": "45",
        "href": "http://serverlocation:port/partyManagement/v4/individual/45",
        "role": "requester",
        "@type": "PartyRef",
        "@referredType": "Individual"
      }
    ],
    "reserveProductStockItem": [
      {
        "id": "1",
        "productStockReserved": {
          "id": "43",
          "href": "http://serverlocation:port/stockManagement/v4/productStock/43",
          "@type": "ProductStockRef"
        },
        "quantityRequested": {
          "amount": 1,
          "units": "box"
        },
        "quantityReserved": {
          "amount": 1,
          "units": "box"
        },
        "requestedProduct": {
          "productCharacteristic": [
            {
              "id": "1",
              "valueType": "string",
              "name": "Color",
```

```
                  "value": "Orange"
               },
               {
                  "id": "2",
                  "valueType": "string",
                  "name": "Memory Size",
                  "value": "256 GB"
               }
            ],
            "productSpecification": {
               "id": "23",
               "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
               "name": "TMFPhone",
               "version": "x-9",
               "@type": "ProductSpecification"
            },
            "@type": "Product"
         },
         "reserveProductStockState": "accepted",
         "@type": "ReserveProductStockItem"
      }
   ],
   "reserveProductStockState": "accepted",
   "validFor": {
      "endDateTime": "2020-09-24T23:20:50.52Z",
      "startDateTime": "2020-09-26T23:20:50.52Z",
      "@type": "TimePeriod"
   },
   "@type": "ReserveProductStock"
}
```

Query Product Stock resource

QueryProductStock is used to query product stock availability.

Resource model

Lifecycle
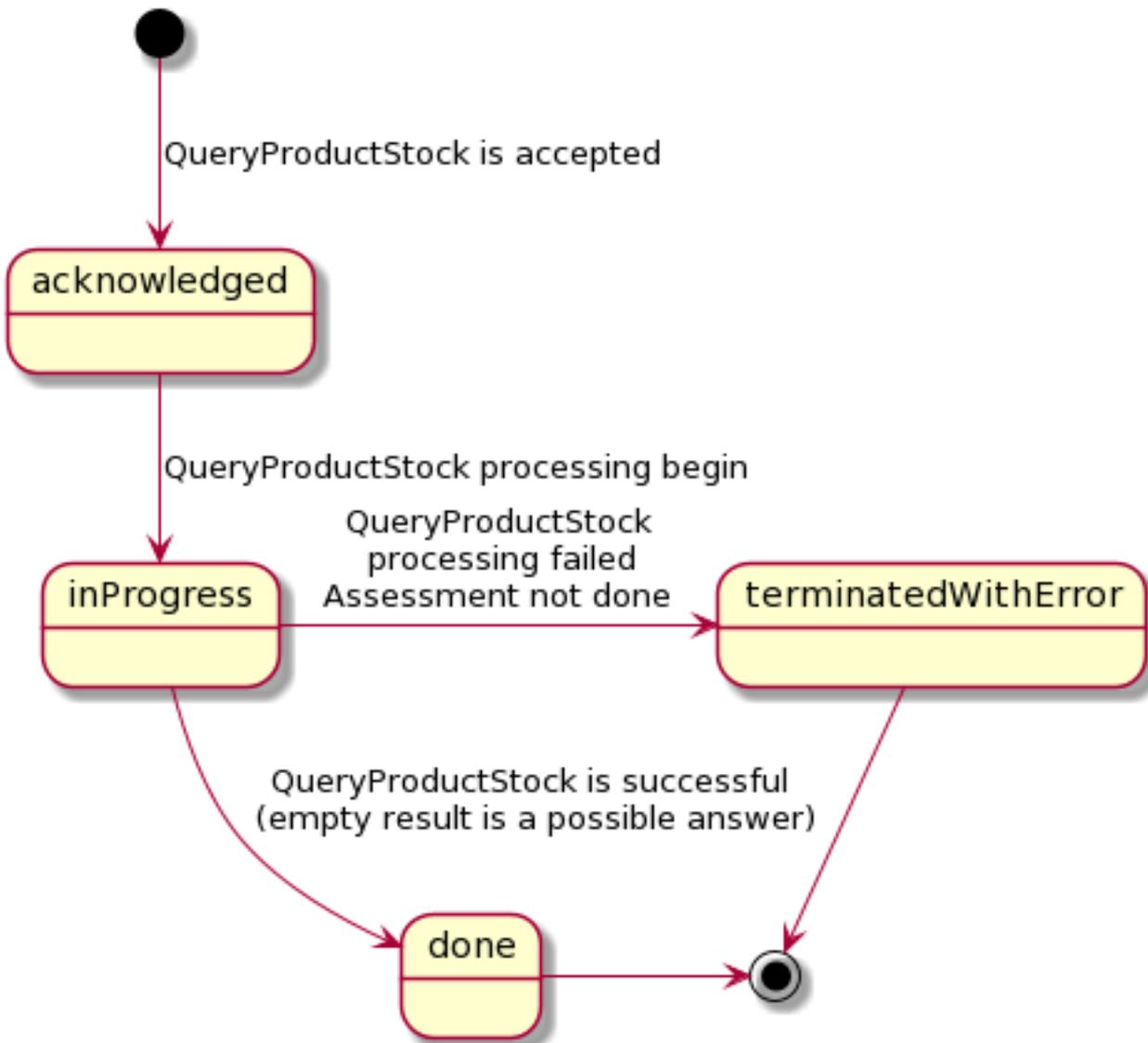
Field descriptions

QueryProductStock fields

href	A string. Reference of the QueryProductStock.
id	A string. Unique identifier of the QueryProductStock.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

completedQueryProductStockDate	A date time (DateTime). Date when the QueryProductStock was completed.
creationDate	A date time (DateTime). Date when the QueryProductStock was created.
href	A string. Reference of the QueryProductStock.
id	A string. Unique identifier of the QueryProductStock.
instantSyncCheck	A boolean. An indicator which when the value is "true" means that requester expects to get result immediately in the response. If the indicator is true then the response code of 200 indicates the operation is successful otherwise a task is created with a response 201.
queryProductStockItem	A list of product stocks (ProductStock [*]). A list of query product stock item - only present in response.
relatedParty	A list of related parties (RelatedParty [*]). A list of related party references (RelatedParty [*]). A related party defines party or party role linked to this QueryProductStock.
requestedAvailabilityDate	A date time (DateTime). Date when the stock availability should be query.
requestedQueryProductStockDate	A date time (DateTime). Date when the requester wished to have a response for this product stock query.
searchCriteria	A product stock (ProductStock). Criterias used to perform the query product stock - To be provided in the request.
state	A task state type (TaskStateType). State of the CheckProductStock (acknowledged, inProgress, terminatedWithError, done).

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
characteristicRelationship	A list of characteristic relationships (CharacteristicRelationship [*]). Another Characteristic that is related to the current Characteristic.
id	A string. Unique identifier of the characteristic.
name	A string. Name of the characteristic.

value   An any (Any). The value of the characteristic.

valueType   A string. Data type of the value of the characteristic.

CharacteristicRelationship sub-resource

Another Characteristic that is related to the current Characteristic.

href   An uri (Uri). Hyperlink reference.

id   A string. Unique identifier of the characteristic.

@baseType   A string. When sub-classing, this defines the super-class.

@schemaLocation   An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type   A string. When sub-classing, this defines the sub-class Extensible name.

relationshipType   A string. The type of relationship.

Money sub-resource

A base / value business entity used to represent money.

unit   A string. Currency (ISO4217 norm uses 3 letters to define the currency).

value   A float. A positive floating point number.

Price sub-resource

Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.

href   An uri (Uri). Hyperlink reference.

id   A string. unique identifier.

@baseType   A string. When sub-classing, this defines the super-class.

@schemaLocation   An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type   A string. When sub-classing, this defines the sub-class Extensible name.

dutyFreeAmount   A money (Money). All taxes excluded amount (expressed in the given currency).

percentage   A float. Percentage to apply for ProdOfferPriceAlteration.

taxIncludedAmount   A money (Money). All taxes included amount (expressed in the given currency).

taxRate	A float. Tax rate.

PriceAlteration sub-resource

Is an amount, usually of money, that modifies the price charged for an order item.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
applicationDuration	An integer. Duration during which the alteration applies on the order item price (for instance 2 months free of charge for the recurring charge).
description	A string. A narrative that explains in detail the semantics of this order item price alteration.
name	A string. Name of the order item price alteration.
price	A price (Price). Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.
priceType	A string. A category that describes the price such as recurring, one time and usage.
priority	An integer. Priority level for applying this alteration among all the defined alterations on the order item price.
productOfferingPrice	A product offering price reference (ProductOfferingPriceRef). ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
recurringChargePeriod	A string. Could be month, week...
unitOfMeasure	A string. Could be minutes, GB...

ProductPrice sub-resource

An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
billingAccount	A billing account reference (BillingAccountRef). A BillingAccount is a detailed description of a bill structure.
description	A string. A narrative that explains in detail the semantics of this product price.
name	A string. A short descriptive name such as "Subscription price".
price	A price (Price). Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.
priceType	A string. A category that describes the price, such as recurring, discount, allowance, penalty, and so forth.
productOfferingPrice	A product offering price reference (ProductOfferingPriceRef). ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
productPriceAlteration	A list of price alterations (PriceAlteration [*]). Is an amount, usually of money, that modifies the price charged for an order item.
recurringChargePeriod	A string. Could be month, week...
unitOfMeasure	A string. Could be minutes, GB...

ProductRefOrValue sub-resource

A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the product. It could be the same as the name of the product offering.
href	A string. Reference of the product.
id	A string. Unique identifier of the product.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
description	A string. Is the description of the product. It could be copied from the description of the Product Offering.
isBundle	A boolean. If true, the product is a ProductBundle which is an instantiation of a BundledProductOffering. If false, the product is a ProductComponent which is an instantiation of a SimpleProductOffering.
isCustomerVisible	A boolean. If true, the product is visible by the customer.
orderDate	A date time (DateTime). Is the date when the product was ordered.
productSerialNumber	A string. Is the serial number for the product. This is typically applicable to tangible products e.g. Broadband Router.
randomAtt	A string.
startDate	A date time (DateTime). Is the date from which the product starts.
terminationDate	A date time (DateTime). Is the date when the product was terminated.
agreement	A list of agreement item references (AgreementItemRef [*]). Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
billingAccount	A billing account reference (BillingAccountRef). A BillingAccount is a detailed description of a bill structure.
place	A list of related place ref or values (RelatedPlaceRefOrValue [*]). Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.
product	A list of product ref or values (ProductRefOrValue [*]). A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.

productCharacteristic	A list of characteristics (Characteristic [*]). Describes a given characteristic of an object or entity through a name/value pair.
productOffering	A product offering reference (ProductOfferingRef). A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.
productOrderItem	A list of related product order items (RelatedProductOrderItem [*]). RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.
productPrice	A list of product prices (ProductPrice [*]). An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.
productRelationship	A list of product relationships (ProductRelationship [*]). Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.
productSpecification	A product specification reference (ProductSpecificationRef). A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.
productTerm	A list of product terms (ProductTerm [*]). Description of a productTerm linked to this product. This represent a commitment with a duration.
realizingResource	A list of resource references (ResourceRef [*]).
realizingService	A list of service references (ServiceRef [*]). for when Service is used by other entities.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. A related party defines party or party role linked to a specific entity.
status	A product status type (ProductStatusType). Is the lifecycle status of the product.

ProductRelationship sub-resource

Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

href	An uri (Uri). Hyperlink reference.

id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
product	A product ref or value (ProductRefOrValue). A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself.
relationshipType	A string. Type of the product relationship, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

ProductStock sub-resource

ProductStock is a base class for defining a product (or configured product with values characteristic) stock level.

href	A string. Reference of the ProductStock.
id	A string. Unique identifier of the ProductStock.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
channel	A list of channel references (ChannelRef [*]). The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..
creationDate	A date time (DateTime). Date when the ProductStock was created (whatever its status).
description	A string. Free-text description of the ProductStock.
lastInventoryDate	A date time (DateTime). Last inventory count date for this ProductStock.
lastUpdate	A date time (DateTime). Last date when the ProductStock record was updated.

marketSegment	A list of market segment references (MarketSegmentRef [*]). provides references to the corresponding market segment as target of a product stock. A market segment is grouping of Parties, GeographicAreas, SalesChannels, and so forth.
maxStockLevel	A quantity (Quantity). An amount in a given unit.
minStockLevel	A quantity (Quantity). An amount in a given unit.
name	A string. Name of the ProductStock.
place	A related place ref or value (RelatedPlaceRefOrValue). Used to define a place useful for the ProductStock for example a geographical place where the Product Stock is located.
productStockLevel	A quantity (Quantity). An amount in a given unit.
productStockRelationship	A list of product stock relationships (ProductStockRelationship [*]). relationship to other product stock.
productStockStatusType	A product stock status type (ProductStockStatusType). The status of the ProductStock, such as available, unavailable, reserved, unknown.
productStockUsageType	A product stock usage type (ProductStockUsageType). The usage type of the ProductStock, such as inTransit, damaged, onDisplay, etc..
relatedParty	A list of related parties (RelatedParty [*]). A list of related party references (RelatedParty [*]). A related party defines party or party role linked to a specific entity.
reorderQuantity	A quantity (Quantity). An amount in a given unit.
replenishmentDate	A date time (DateTime). Planned date for future replenishment for this ProductStock.
resource	A list of resource references (ResourceRef [*]). The Resource managed through this ProductStock is used.
stockLevelAlert	A quantity (Quantity). An amount in a given unit.
stockLevelCategory	A string. Category of the ProductStock.
stockedProduct	A product ref or value (ProductRefOrValue). Product stocked in this product stock - could be via a productSpecification, a ProductSpecification + valued characteristic, etc.

ProductStockRelationship sub-resource

Linked product stock with a type relationship.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
relationshipType	A string. The type of relationship between product stock.
stockLevel	A product stock reference (ProductStockRef). A product stock in relationship with this product stock.

ProductTerm sub-resource

Description of a productTerm linked to this product. This represent a commitment with a duration.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
description	A string. Description of the productTerm.
duration	A quantity (Quantity). Duration of the productTerm.
name	A string. Name of the productTerm.
validFor	A time period. productTerm validity period.

Quantity sub-resource

An amount in a given unit.

| amount | A float. Numeric value in a given unit. |
| units | A string. Unit. |

RelatedParty sub-resource

Related Entity reference. A related party defines party or party role linked to a specific entity.

| @referredType | A string. The actual type of the target instance when needed for disambiguation. |
| name | A string. Name of the related entity. |

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string. Role played by the related party.

RelatedPlaceRefOrValue sub-resource

Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. A user-friendly name for the place, such as [Paris Store], [London Store], [Main Home].
href	A string. Unique reference of the place.
id	A string. Unique identifier of the place.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string.

RelatedProductOrderItem sub-resource

RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. The actual type of the target instance when needed for disambiguation.
orderItemAction	A string. Action of the order item for this product.
orderItemId	A string. Identifier of the order item where the product was managed.
productOrderHref	A string. Reference of the related entity.
productOrderId	A string. Unique identifier of a related entity.
role	A string. role of the product order item for this product.

TargetProductSchema sub-resource

The reference object to the schema and type of target product which is described by product specification.

@schemaLocation	An uri (Uri). This field provides a link to the schema describing the target product.
@type	A string. Class type of the target product.

AgreementItemRef relationship

Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
agreementItemId	A string. Identifier of the agreement.

BillingAccountRef relationship

BillingAccount reference. A BillingAccount is a detailed description of a bill structure.

href	A string. Reference of the billing account.
id	A string. Unique identifier of the billing account.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the billing account.
ratingType	A string. Indicates whether the account follows a specific payment option such as prepaid or postpaid.

ChannelRef relationship

The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the channel.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

MarketSegmentRef relationship

provides references to the corresponding market segment as target of product offerings. A market segment is grouping of Parties, GeographicAreas, SalesChannels, and so forth.

href	A string. Reference of the market segment.
id	A string. Unique identifier of the market segment.

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@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. (Class) type of the referred market segment.
name	A string. Name of the market segment.

ProductOfferingPriceRef relationship

ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ProductOfferingRef relationship

ProductOffering reference. A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

@type	A string. When sub-classing, this defines the sub-class Extensible name.

ProductSpecificationRef relationship

Product specification reference: A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
targetProductSchema	A target product schema (TargetProductSchema). A target product schema reference. The reference object to the schema and type of target product which is described by product specification.
version	A string. Version of the product specification.

ProductStockRef relationship

ProductStockRef is a reference to a product stock.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the ProductStockRef.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ResourceRef relationship

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

ServiceRef relationship

Service reference, for when Service is used by other entities.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

Json representation sample

We provide below the json representation of an example of a 'QueryProductStock' resource object

```
{
    "id": "74",
    "href": "http://serverlocation:port/stockManagement/v4/QueryProductStock/74",
    "completedQueryProductStockDate": "2020-09-24T10:24:04.602Z",
    "creationDate": "2020-09-24T10:24:04.602Z",
    "instantSyncCheck": true,
    "requestedAvailabilityDate": "2020-09-24T10:24:04.602Z",
    "requestedQueryProductStockDate": "2020-09-24T10:24:04.602Z",
    "queryProductStockItem": [
        {
            "id": "42",
            "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
            "place": {
```

```
        "id": "89",
        "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
        "role": "Lyon Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
      },
      "productStockLevel": {
        "amount": 24,
        "units": "string"
      },
      "productStockStatusType": "available",
      "stockedProduct": {
        "productCharacteristic": [
          {
            "id": "1",
            "valueType": "string",
            "name": "Color",
            "value": "Orange"
          },
          {
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "256 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
          "name": "TMFPhone",
          "version": "x-9",
          "@type": "ProductSpecification"
        },
        "@type": "Product"
      },
      "@type": "ProductStock"
    },
    {
      "id": "52",
      "href": "http://serverlocation:port/stockManagement/v4/productStock/52",
      "place": {
        "id": "123",
        "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/123",
        "role": "Ecully Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
      },
      "productStockLevel": {
        "amount": 15,
        "units": "string"
      },
      "productStockStatusType": "available",
      "stockedProduct": {
        "productCharacteristic": [
```

```
            {
              "id": "1",
              "valueType": "string",
              "name": "Color",
              "value": "Orange"
            },
            {
              "id": "2",
              "valueType": "string",
              "name": "Memory Size",
              "value": "256 GB"
            }
          ],
          "productSpecification": {
            "id": "23",
            "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
            "name": "TMFPhone",
            "version": "x-9",
            "@type": "ProductSpecification"
          },
          "@type": "Product"
        },
        "@type": "ProductStock"
      }
    ],
    "searchCriteria": {
      "place": {
        "id": "98",
        "href": "http://serverlocation:port/geographicLocationManagement/v4/geographicLocation/98",
        "role": "Search zone",
        "@type": "PlaceRef",
        "@referredType": "GeographicLocation"
      },
      "productStockStatusType": "available",
      "stockedProduct": {
        "productCharacteristic": [
          {
            "id": "1",
            "valueType": "string",
            "name": "Color",
            "value": "Orange"
          },
          {
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "256 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
          "name": "TMFPhone",
          "version": "x-9",
```

```
            "@type": "ProductSpecification"
        },
        "@type": "Product"
      },
      "@type": "ProductStock"
    },
    "state": "done",
    "@type": "QueryProductStock"
  }
```

We provided in the API illustrative examples for ProductStock status type and ProductStock usage type. These enums could be modified/extended by implementation.

productStockStatusType:

- reserved (stock already reserved for a specific purpose like a product order)
- available (stock ready to be used)
- unavailable (stock not ready to be used)
- unknown (the status of this product stock is unknown)

productStockUsageType:

- inTransit (currently in shipping)
- onDisplay (the product are displaying on storefront
- damaged
- returned (product retrieved in order to be checked)
- replenishmentInProgress (indicate that additionnal quantity will be available soon)
- inShop (located in shop)

Lifecycle

The state machine specifying the typical state change transitions is provided below. This is standard task based resource lifecycle:

Notification Resource Models

21 notifications are defined for this API

Notifications related to ProductStock:
  - ProductStockCreateEvent

- ProductStockAttributeValueChangeEvent
- ProductStockStateChangeEvent
- ProductStockBatchEvent
- ProductStockDeleteEvent

Notifications related to AdjustProductStock:
   - AdjustProductStockCreateEvent
   - AdjustProductStockAttributeValueChangeEvent
   - AdjustProductStockStateChangeEvent
   - AdjustProductStockBatchEvent

Notifications related to CheckProductStock:
   - CheckProductStockCreateEvent
   - CheckProductStockAttributeValueChangeEvent
   - CheckProductStockStateChangeEvent
   - CheckProductStockBatchEvent

Notifications related to ReserveProductStock:
   - ReserveProductStockCreateEvent
   - ReserveProductStockAttributeValueChangeEvent
   - ReserveProductStockStateChangeEvent
   - ReserveProductStockBatchEvent

Notifications related to QueryProductStock:
   - QueryProductStockCreateEvent
   - QueryProductStockAttributeValueChangeEvent
   - QueryProductStockStateChangeEvent
   - QueryProductStockBatchEvent

The notification structure for all notifications in this API follow the pattern depicted by the figure below.
A notification event resource (depicted by "SpecificEvent" placeholder) is a sub class of a generic Event structure containing at least an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the resource (eventType).
This notification structure owns an event payload structure ("SpecificEventPayload" placeholder) linked to the resource concerned by the notification using the resource name as access field ("resourceName" placeholder).
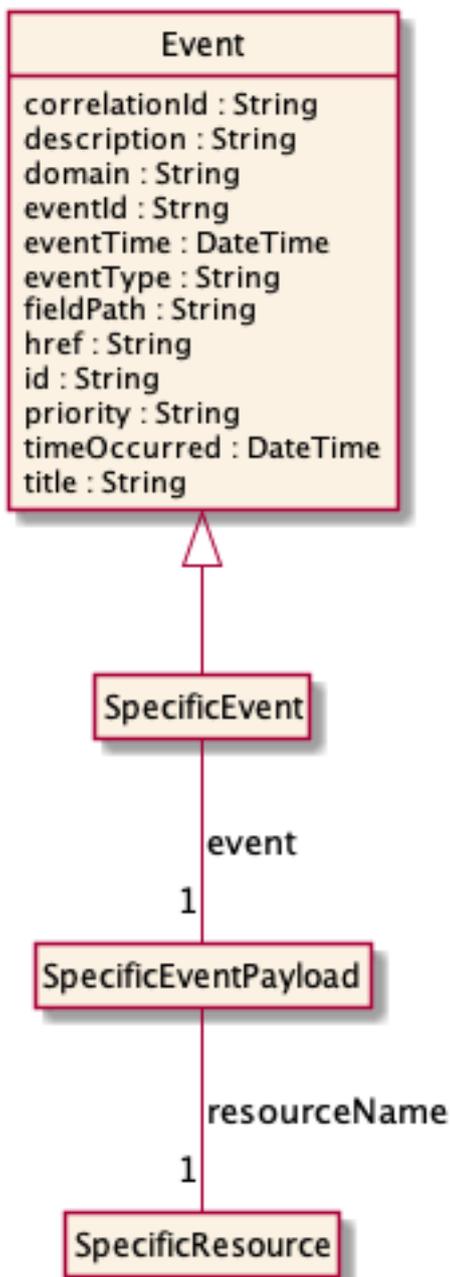
Product Stock Create Event

Notification ProductStockCreateEvent case for resource ProductStock

Json representation sample

We provide below the json representation of an example of a 'ProductStockCreateEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
```

```
    "eventType":"ProductStockCreateEvent",
    "event": {
      "productStock" :
          {-- SEE ProductStock RESOURCE SAMPLE --}
    }
}
```

Product Stock Attribute Value Change Event

Notification ProductStockAttributeValueChangeEvent case for resource ProductStock

Json representation sample

We provide below the json representation of an example of a 'ProductStockAttributeValueChangeEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"ProductStockAttributeValueChangeEvent",
    "event": {
      "productStock" :
          {-- SEE ProductStock RESOURCE SAMPLE --}
    }
}
```

Product Stock State Change Event

Notification ProductStockStateChangeEvent case for resource ProductStock

Json representation sample

We provide below the json representation of an example of a 'ProductStockStateChangeEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"ProductStockStateChangeEvent",
    "event": {
      "productStock" :
          {-- SEE ProductStock RESOURCE SAMPLE --}
    }
}
```

Product Stock Batch Event

Notification ProductStockBatchEvent case for resource ProductStock

Json representation sample

We provide below the json representation of an example of a 'ProductStockBatchEvent' notification event object

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"ProductStockBatchEvent",
    "event": {
      "productStock" :
          {-- SEE ProductStock RESOURCE SAMPLE --}
   }
}
```

Product Stock Delete Event

Notification ProductStockDeleteEvent case for resource ProductStock

Json representation sample

We provide below the json representation of an example of a 'ProductStockDeleteEvent' notification event object

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"ProductStockDeleteEvent",
    "event": {
      "productStock" :
          {-- SEE ProductStock RESOURCE SAMPLE --}
   }
}
```

Adjust Product Stock Create Event

Notification AdjustProductStockCreateEvent case for resource AdjustProductStock

Json representation sample

We provide below the json representation of an example of a 'AdjustProductStockCreateEvent' notification event object

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"AdjustProductStockCreateEvent",
    "event": {
      "adjustProductStock" :
          {-- SEE AdjustProductStock RESOURCE SAMPLE --}
   }
```

tmforum

```
    }
```

Adjust Product Stock Attribute Value Change Event

Notification AdjustProductStockAttributeValueChangeEvent case for resource AdjustProductStock

Json representation sample

We provide below the json representation of an example of a 'AdjustProductStockAttributeValueChangeEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"AdjustProductStockAttributeValueChangeEvent",
    "event": {
      "adjustProductStock" :
          {-- SEE AdjustProductStock RESOURCE SAMPLE --}
    }
}
```

Adjust Product Stock State Change Event

Notification AdjustProductStockStateChangeEvent case for resource AdjustProductStock

Json representation sample

We provide below the json representation of an example of a 'AdjustProductStockStateChangeEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"AdjustProductStockStateChangeEvent",
    "event": {
      "adjustProductStock" :
          {-- SEE AdjustProductStock RESOURCE SAMPLE --}
    }
}
```

Adjust Product Stock Batch Event

Notification AdjustProductStockBatchEvent case for resource AdjustProductStock

Json representation sample

We provide below the json representation of an example of a 'AdjustProductStockBatchEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"AdjustProductStockBatchEvent",
     "event": {
       "adjustProductStock" :
           {-- SEE AdjustProductStock RESOURCE SAMPLE --}
    }
}
```

Check Product Stock Create Event

Notification CheckProductStockCreateEvent case for resource CheckProductStock

Json representation sample

We provide below the json representation of an example of a 'CheckProductStockCreateEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"CheckProductStockCreateEvent",
     "event": {
       "checkProductStock" :
           {-- SEE CheckProductStock RESOURCE SAMPLE --}
    }
}
```

Check Product Stock Attribute Value Change Event

Notification CheckProductStockAttributeValueChangeEvent case for resource CheckProductStock

Json representation sample

We provide below the json representation of an example of a 'CheckProductStockAttributeValueChangeEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"CheckProductStockAttributeValueChangeEvent",
     "event": {
       "checkProductStock" :
           {-- SEE CheckProductStock RESOURCE SAMPLE --}
    }
}
```

Check Product Stock State Change Event

Notification CheckProductStockStateChangeEvent case for resource CheckProductStock

Json representation sample

We provide below the json representation of an example of a 'CheckProductStockStateChangeEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"CheckProductStockStateChangeEvent",
     "event": {
       "checkProductStock" :
          {-- SEE CheckProductStock RESOURCE SAMPLE --}
    }
}
```

Check Product Stock Batch Event

Notification CheckProductStockBatchEvent case for resource CheckProductStock

Json representation sample

We provide below the json representation of an example of a 'CheckProductStockBatchEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"CheckProductStockBatchEvent",
     "event": {
       "checkProductStock" :
          {-- SEE CheckProductStock RESOURCE SAMPLE --}
    }
}
```

Reserve Product Stock Create Event

Notification ReserveProductStockCreateEvent case for resource ReserveProductStock

Json representation sample

We provide below the json representation of an example of a 'ReserveProductStockCreateEvent' notification event object

```
{
    "eventId":"00001",
```

```
     "eventTime":"2015-11-16T16:42:25-04:00",
     "eventType":"ReserveProductStockCreateEvent",
      "event": {
        "reserveProductStock" :
            {-- SEE ReserveProductStock RESOURCE SAMPLE --}
      }
}
```

Reserve Product Stock Attribute Value Change Event

Notification ReserveProductStockAttributeValueChangeEvent case for resource ReserveProductStock

Json representation sample

We provide below the json representation of an example of a 'ReserveProductStockAttributeValueChangeEvent' notification event object

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"ReserveProductStockAttributeValueChangeEvent",
    "event": {
      "reserveProductStock" :
          {-- SEE ReserveProductStock RESOURCE SAMPLE --}
    }
}
```

Reserve Product Stock State Change Event

Notification ReserveProductStockStateChangeEvent case for resource ReserveProductStock

Json representation sample

We provide below the json representation of an example of a 'ReserveProductStockStateChangeEvent' notification event object

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"ReserveProductStockStateChangeEvent",
    "event": {
      "reserveProductStock" :
          {-- SEE ReserveProductStock RESOURCE SAMPLE --}
    }
}
```

Reserve Product Stock Batch Event

Notification ReserveProductStockBatchEvent case for resource ReserveProductStock

Json representation sample

We provide below the json representation of an example of a 'ReserveProductStockBatchEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"ReserveProductStockBatchEvent",
     "event": {
       "reserveProductStock" :
           {-- SEE ReserveProductStock RESOURCE SAMPLE --}
    }
}
```

Query Product Stock Create Event

Notification QueryProductStockCreateEvent case for resource QueryProductStock

Json representation sample

We provide below the json representation of an example of a 'QueryProductStockCreateEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"QueryProductStockCreateEvent",
     "event": {
       "queryProductStock" :
           {-- SEE QueryProductStock RESOURCE SAMPLE --}
    }
}
```

Query Product Stock Attribute Value Change Event

Notification QueryProductStockAttributeValueChangeEvent case for resource QueryProductStock

Json representation sample

We provide below the json representation of an example of a 'QueryProductStockAttributeValueChangeEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"QueryProductStockAttributeValueChangeEvent",
```

```
    "event": {
      "queryProductStock" :
         {-- SEE QueryProductStock RESOURCE SAMPLE --}
    }
}
```

Query Product Stock State Change Event

Notification QueryProductStockStateChangeEvent case for resource QueryProductStock

Json representation sample

We provide below the json representation of an example of a 'QueryProductStockStateChangeEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"QueryProductStockStateChangeEvent",
    "event": {
      "queryProductStock" :
         {-- SEE QueryProductStock RESOURCE SAMPLE --}
    }
}
```

Query Product Stock Batch Event

Notification QueryProductStockBatchEvent case for resource QueryProductStock

Json representation sample

We provide below the json representation of an example of a 'QueryProductStockBatchEvent' notification event object

```
{
    "eventId":"00001",
    "eventTime":"2015-11-16T16:42:25-04:00",
    "eventType":"QueryProductStockBatchEvent",
    "event": {
      "queryProductStock" :
         {-- SEE QueryProductStock RESOURCE SAMPLE --}
    }
}
```

API OPERATIONS

Remember the following Uniform Contract:

Operation on Entities	Uniform API Operation	Description
Query Entities	GET Resource	GET must be used to retrieve a representation of a resource.
Create Entity	POST Resource	POST must be used to create a new resource
Partial Update of an Entity	PATCH Resource	PATCH must be used to partially update a resource
Remove an Entity	DELETE Resource	DELETE must be used to remove a resource
Execute an Action on an Entity	POST on TASK Resource	POST must be used to execute Task Resources
Other Request Methods	POST on TASK Resource	GET and POST must not be used to tunnel other request methods.

Filtering and attribute selection rules are described in the TMF REST Design Guidelines.

Notifications are also described in a subsequent section.

Operations on Product Stock

List product stocks

```
GET /productStock?fields=...&{filtering}
```

Description

This operation list product stock entities.

Attribute selection is enabled for all first level attributes.

Filtering may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a request for retrieving all the product stock with a quantity in stock strictly inferior to stock quantity alert

Request
GET /tmf-api/stock/v4/productStock?fields=id,href,stockLevelAlert.amount,productStockLevel.amount&stockLevelAlert.amount.gt=productStockLevel.amount Accept: application/json
Response

200
 	
[
  {
    "id": "57",
    "href": "http://serverlocation:port/stockManagement/v4/productStock/57",
    "stockLevelAlert": {
      "amount": 10
    },
    "productStockLevel": {
      "amount": 8
    }
  },
  {
    "id": "112",
    "href": "http://serverlocation:port/stockManagement/v4/productStock/112",
    "stockLevelAlert": {
      "amount": 15
    },
    "productStockLevel": {
      "amount": 10
    }
  },
  {
    "id": "214",
    "href": "http://serverlocation:port/stockManagement/v4/productStock/214",
    "stockLevelAlert": {
      "amount": 5
    },

```
      "productStockLevel": {
        "amount": 1
      }
    }
  }
]
```

Retrieve product stock

GET /productStock/{id}?fields=...&{filtering}

Description

This operation retrieves a product stock entity.

Attribute selection is enabled for all first level attributes.

Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's a sample of a request for retrieving a ProductStock resource based on its id

Request
GET /tmf-api/stock/v4/productStock/42 Accept: application/json
Response

200
 	
{
  "id": "42",
  "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
  "creationDate": "2020-01-14T08:31:48.243Z",
  "description": "Product Stock for shop",
  "lastInventoryDate": "2020-09-24T08:31:48.243Z",
  "lastUpdate": "2020-09-24T08:31:48.243Z",
  "name": "phone stock 42",
  "replenishmentDate": "2020-09-28T08:31:48.243Z",
  "stockLevelCategory": "retail - stock for the Lyon shop",
  "channel": [
    {
      "id": "11",
      "name": "retail"
    }
  ],

```json
    "maxStockLevel": {
      "amount": 40,
      "units": "box"
    },
    "minStockLevel": {
      "amount": 5,
      "units": "box"
    },
    "place": {
      "id": "89",
      "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
      "role": "Lyon Shop",
      "@type": "PlaceRef",
      "@referredType": "GeographicSite"
    },
    "productStockLevel": {
      "amount": 24,
      "units": "box"
    },
    "productStockStatusType": "available",
    "productStockUsageType": "inShop",
    "relatedParty": [
      {
        "id": "111",
        "href": "http://serverlocation:port/partyManagement/v4/organization/111",
        "role": "stock owner",
        "@type": "OrganizationRef",
        "@referredType": "Organization"
      }
    ],
    "reorderQuantity": {
      "amount": 10,
      "units": "box"
    },
    "stockLevelAlert": {
      "amount": 10,
      "units": "box"
    },
    "stockedProduct": {
      "productCharacteristic": [
        {
          "id": "1",
          "valueType": "string",
          "name": "Color",
          "value": "Orange"
        },
        {
          "id": "2",
          "valueType": "string",
          "name": "Memory Size",
          "value": "256 GB"
        }
      ],
```

```
      "productSpecification": {
        "id": "23",
        "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
        "name": "TMFPhone",
        "version": "x-9",
        "@type": "ProductSpecification"
      },
      "@type": "Product"
   },
   "@type": "ProductStock"
}
```

Create product stock

POST /productStock

Description

This operation creates a product stock entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a ProductStock, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.

Mandatory Attributes	Rule
productStockStatusType	
productStockLevel	
stockedProduct	

Non Mandatory Attributes	Rule
@baseType	
@schemaLocation	
@type	
channel	
creationDate	
description	
lastInventoryDate	
lastUpdate	
marketSegment	
maxStockLevel	
minStockLevel	
name	
place	
productStockRelationship	
productStockUsageType	

relatedParty	
reorderQuantity	
replenishmentDate	
resource	
stockLevelAlert	
stockLevelCategory	

Additional Rules

The following table provides additional rules indicating mandatory fields in sub-resources or relationships when creating a ProductStock resource.

Context	Mandatory Sub-Attributes
relatedParty	id, @referredType
resource	id
relatedPlace	role, @referredType
productStockRelationship	relationshipType, stockLevel
stockLevel	id
marketSegment	name
channel	name
reorderQuantity	amount
maxStockLevel	amount
minStockLevel	amount
stockLevelAlert	amount
productStockLevel	amount
productSpecification	id
productOffering	id
productRelationship	relationshipType
realizingService	id
billingAccount	id
realizingResource	id

Usage Samples

Here's a sample of a request for creating a ProductStock resource. We use the 'fields' parameter to restrict the numbers of attributes returned in the response.

Request

```
POST /tmf-api/stock/v4/productStock
Content-Type: application/json

{
   "description": "Product Stock for shop",
   "name": "phone stock 42",
```

```
    "replenishmentDate": "2020-09-28T08:31:48.243Z",
    "stockLevelCategory": "retail - stock for the Lyon shop",
    "channel": [
        {
            "id": "11",
            "name": "retail"
        }
    ],
    "maxStockLevel": {
        "amount": 40,
        "units": "box"
    },
    "minStockLevel": {
        "amount": 5,
        "units": "box"
    },
    "place": {
        "id": "89",
        "role": "Lyon Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
    },
    "productStockLevel": {
        "amount": 24,
        "units": "box"
    },
    "productStockStatusType": "available",
    "productStockUsageType": "inShop",
    "relatedParty": [
        {
            "id": "111",
            "role": "stock owner",
            "@type": "OrganizationRef",
            "@referredType": "Organization"
        }
    ],
    "reorderQuantity": {
        "amount": 10,
        "units": "box"
    },
    "stockLevelAlert": {
        "amount": 10,
        "units": "box"
    },
    "stockedProduct": {
        "productCharacteristic": [
            {
                "id": "1",
                "valueType": "string",
                "name": "Color",
                "value": "Orange"
            },
            {
```

```
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "256 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "name": "TMFPhone",
          "version": "x-9",
          "@type": "ProductSpecification"
        },
        "@type": "Product"
      },
    "@type": "ProductStock"
}
```

Response

201
 	
``
{
   "id": "44",
   "href": "http://serverlocation:port/stockManagement/v4/productStock/44"
}
``

Patch product stock

PATCH /productStock/{id}

Description

This operation allows partial updates of a product stock entity. Support of json/merge (https://tools.ietf.org/html/rfc7386) is mandatory, support of json/patch (http://tools.ietf.org/html/rfc5789) is optional.

Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

The tables below provide the list of patchable and non patchable attributes, including constraint rules on their usage.

Patchable Attributes	Rule
@baseType	

@schemaLocation	
@type	
channel	
description	
lastInventoryDate	
lastUpdate	
marketSegment	
maxStockLevel	
minStockLevel	
name	
place	
productStockLevel	
productStockRelationship	
productStockStatusType	
productStockUsageType	
relatedParty	
reorderQuantity	
replenishmentDate	
resource	
stockLevelAlert	
stockLevelCategory	
stockedProduct	

Non Patchable Attributes	Rule
id	
href	
creationDate	

Usage Samples

Here's an example of a request using merge-patch syntax for patching a ProductStock resource (created via previous POST) with change on following attributes: minStockLevel.amount, reorderQuantity.amount & replenishmentDate

---

Request

```
PATCH /tmf-api/stock/v4/productStock/42
Content-Type: application/merge-patch+json

{
    "id": "42",
    "replenishmentDate": "2020-10-05T08:31:48.243Z",
    "minStockLevel": {
        "amount": 2,
        "units": "box"
```

```
    },
    "reorderQuantity": {
      "amount": 5,
      "units": "box"
    },
    "@type": "ProductStock"
}
```

Response

```
200

{
  "id": "42",
  "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
  "creationDate": "2020-01-14T08:31:48.243Z",
  "description": "Product Stock for shop",
  "lastInventoryDate": "2020-09-24T08:31:48.243Z",
  "lastUpdate": "2020-09-24T08:31:48.243Z",
  "name": "phone stock 42",
  "replenishmentDate": "2020-10-05T08:31:48.243Z",
  "stockLevelCategory": "retail - stock for the Lyon shop",
  "channel": [
    {
      "id": "11",
      "name": "retail"
    }
  ],
  "maxStockLevel": {
    "amount": 40,
    "units": "box"
  },
  "minStockLevel": {
    "amount": 2,
    "units": "box"
  },
  "place": {
    "id": "89",
    "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
    "role": "Lyon Shop",
    "@type": "PlaceRef",
    "@referredType": "GeographicSite"
  },
  "productStockLevel": {
    "amount": 24,
    "units": "box"
  },
  "productStockStatusType": "available",
  "productStockUsageType": "inShop",
  "relatedParty": [
    {
```

```
          "id": "111",
          "href": "http://serverlocation:port/partyManagement/v4/organization/111",
          "role": "stock owner",
          "@type": "OrganizationRef",
          "@referredType": "Organization"
      }
    ],
    "reorderQuantity": {
      "amount": 5,
      "units": "box"
    },
    "stockLevelAlert": {
      "amount": 10,
      "units": "box"
    },
    "stockedProduct": {
      "productCharacteristic": [
        {
          "id": "1",
          "valueType": "string",
          "name": "Color",
          "value": "Orange"
        },
        {
          "id": "2",
          "valueType": "string",
          "name": "Memory Size",
          "value": "256 GB"
        }
      ],
      "productSpecification": {
        "id": "23",
        "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
        "name": "TMFPhone",
        "version": "x-9",
        "@type": "ProductSpecification"
      },
      "@type": "Product"
    },
    "@type": "ProductStock"
}
```

Here's an example of a request using json-patch syntax for patching a ProductStock resource (created via previous POST) with change on following attributes: minStockLevel.amount, reorderQuantity.amount & replenishmentDate

---

Request

```
PATCH /tmf-api/stock/v4/productStock/42
Content-Type: application/json-patch+json
```

```
[
  {
    "op": "replace",
    "path": "replenishmentDate",
    "value": "2020-10-05T08:31:48.243Z"
  },
  {
    "op": "replace",
    "path": "minStockLevel.amount",
    "value": 2
  },
  {
    "op": "replace",
    "path": "reorderQuantity.amount",
    "value": 5
  }
]
```

Response

```
200

{
  "id": "42",
  "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
  "creationDate": "2020-01-14T08:31:48.243Z",
  "description": "Product Stock for shop",
  "lastInventoryDate": "2020-09-24T08:31:48.243Z",
  "lastUpdate": "2020-09-24T08:31:48.243Z",
  "name": "phone stock 42",
  "replenishmentDate": "2020-10-05T08:31:48.243Z",
  "stockLevelCategory": "retail - stock for the Lyon shop",
  "channel": [
    {
      "id": "11",
      "name": "retail"
    }
  ],
  "maxStockLevel": {
    "amount": 40,
    "units": "box"
  },
  "minStockLevel": {
    "amount": 2,
    "units": "box"
  },
  "place": {
    "id": "89",
    "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
    "role": "Lyon Shop",
    "@type": "PlaceRef",
```

```
      "@referredType": "GeographicSite"
    },
    "productStockLevel": {
      "amount": 24,
      "units": "box"
    },
    "productStockStatusType": "available",
    "productStockUsageType": "inShop",
    "relatedParty": [
      {
        "id": "111",
        "href": "http://serverlocation:port/partyManagement/v4/organization/111",
        "role": "stock owner",
        "@type": "OrganizationRef",
        "@referredType": "Organization"
      }
    ],
    "reorderQuantity": {
      "amount": 5,
      "units": "box"
    },
    "stockLevelAlert": {
      "amount": 10,
      "units": "box"
    },
    "stockedProduct": {
      "productCharacteristic": [
        {
          "id": "1",
          "valueType": "string",
          "name": "Color",
          "value": "Orange"
        },
        {
          "id": "2",
          "valueType": "string",
          "name": "Memory Size",
          "value": "256 GB"
        }
      ],
      "productSpecification": {
        "id": "23",
        "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
        "name": "TMFPhone",
        "version": "x-9",
        "@type": "ProductSpecification"
      },
      "@type": "Product"
    },
    "@type": "ProductStock"
}
```

Delete product stock

DELETE /productStock/{id}

Description

This operation deletes a product stock entity.

Usage Samples

Here's an example of a request for deleting a ProductStock.

Request
DELETE /tmf-api/stock/v4/productStock/44
Response
204

Operations on Adjust Product Stock

List adjust product stocks

GET /adjustProductStock?fields=...&{filtering}

Description

This operation list adjust product stock entities.
Attribute selection is enabled for all first level attributes.
Filtering may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a request for retrieving a list of Adjust Product Stock request(s). The given criteria is the state (accepted).

Request

```
GET /tmf-api/stock/v4/adjustProductStock?fields=id,href,completedAdjustProductStockDate,
requestedAdjustProductStockDate&requestedAdjustProductStockDate.gt=2020-09-22
Accept: application/json
```

Response

```
200

[
  {
    "id": "23",
    "href": "http://serverlocation:port/stockManagement/v4/adjustProductStock/23",
    "completedAdjustProductStockDate": "2020-09-24T08:53:33.954Z",
    "requestedAdjustProductStockDate": "2020-09-24T08:53:33.954Z"
  },
  {
    "id": "36",
    "href": "http://serverlocation:port/stockManagement/v4/adjustProductStock/36",
    "completedAdjustProductStockDate": "2020-09-28T08:53:33.954Z",
    "requestedAdjustProductStockDate": "2020-09-28T08:53:33.954Z"
  },
  {
    "id": "48",
    "href": "http://serverlocation:port/stockManagement/v4/adjustProductStock/48",
    "completedAdjustProductStockDate": "2020-09-28T09:53:33.954Z",
    "requestedAdjustProductStockDate": "2020-09-28T09:53:33.954Z"
  }
]
```

Retrieve adjust product stock

`GET /adjustProductStock/{id}?fields=...&{filtering}`

Description

This operation retrieves an adjust product stock entity.
Attribute selection is enabled for all first level attributes.
Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a adjust stock request retrieval. The given criteria is the adjust request id.

Request

```
GET /tmf-api/stock/v4/adjustProductStock/23
Accept: application/json
```

Response

```
200

{
    "id": "23",
    "href": "http://serverlocation:port/stockManagement/v4/adjustStock/23",
    "adjustReason": "Inventory check",
    "completedAdjustProductStockDate": "2020-09-24T08:53:33.954Z",
    "creationDate": "2020-09-24T08:53:33.954Z",
    "description": "inventory check update",
    "instantSyncAdjust": true,
    "requestedAdjustProductStockDate": "2020-09-24T08:53:33.954Z",
    "adjustProductStockItem": [
        {
            "id": "1",
            "adjustProductStockQuantity": {
                "amount": 26,
                "units": "box"
            },
            "productStockTarget": {
                "id": "42",
                "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
                "@type": "ProductStock"
            },
            "state": "accepted",
            "@type": "AdjustProductStockItem"
        }
    ],
    "state": "accepted",
    "@type": "AdjustProductStock"
}
```

Create adjust product stock

POST /adjustProductStock

Description

This operation creates an adjust product stock entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a AdjustProductStock, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.

Mandatory Attributes	Rule
adjustProductStockItem	

Non Mandatory Attributes	Rule
@baseType	
@schemaLocation	
@type	
adjustReason	
completedAdjustProductStockDate	
creationDate	
description	
instantSyncAdjust	
requestedAdjustProductStockDate	
state	

Additional Rules

The following table provides additional rules indicating mandatory fields in sub-resources or relationships when creating a AdjustProductStock resource.

Context	Mandatory Sub-Attributes
productStockTarget	id
adjustProductStockItem	id, productStockTarget, adjustProductStockQuantity
adjustProductStockQuantity	amount

Usage Samples

Here's an example of a AdjustProductStock creation - the resulting AdjustProductStock request is 23.

Request

POST /tmf-api/stock/v4/adjustProductStock
Content-Type: application/json

{
   "adjustReason": "Inventory check",
   "description": "inventory check update",
   "instantSyncAdjust": true,
   "requestedAdjustProductStockDate": "2020-09-24T08:53:33.954Z",
   "adjustProductStockItem": [
      {

```
        "id": "1",
        "adjustProductStockQuantity": {
          "amount": 26,
          "units": "box"
        },
        "productStockTarget": {
          "id": "42",
          "@type": "ProductStock"
        },
        "@type": "AdjustProductStockItem"
      }
    ],
    "@type": "AdjustProductStock"
}
```

Response

```
201

{
  "id": "23",
  "href": "http://serverlocation:port/stockManagement/v4/adjustStock/23",
  "adjustReason": "Inventory check",
  "completedAdjustProductStockDate": "2020-09-24T08:53:33.954Z",
  "creationDate": "2020-09-24T08:53:33.954Z",
  "description": "inventory check update",
  "instantSyncAdjust": true,
  "requestedAdjustProductStockDate": "2020-09-24T08:53:33.954Z",
  "adjustProductStockItem": [
    {
      "id": "1",
      "adjustProductStockQuantity": {
        "amount": 26,
        "units": "box"
      },
      "productStockTarget": {
        "id": "42",
        "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
        "@type": "ProductStock"
      },
      "state": "accepted",
      "@type": "AdjustProductStockItem"
    }
  ],
  "state": "accepted",
  "@type": "AdjustProductStock"
}
```

Operations on Check Product Stock

List check product stocks

GET /checkProductStock?fields=...&{filtering}

Description

This operation list check product stock entities.
Attribute selection is enabled for all first level attributes.
Filtering may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a request for retrieving a list of Check Product Stock request(s). The given criteria is the state (accepted).

Request
GET /tmf-api/stock/v4/checkProductStock?fields=id,href, creationDate,checkProductStockItem.id,checkProductStockItem.availabilityResult&state=done Accept: application/json

Response

200
 	
``
[
  {
    "id": "32",
    "href": "http://serverlocation:port/stockManagement/v4/checkProductStock/32",
    "creationDate": "2020-09-24T08:53:33.954Z",
    "checkProductStockItem": [
      {
        "id": "1",
        "availabilityResult": "alternate"
      }
    ]
  },
  {
    "id": "36",
    "href": "http://serverlocation:port/stockManagement/v4/checkProductStock/36",
    "creationDate": "2020-09-28T08:53:33.954Z",
    "checkProductStockItem": [
      {
        "id": "1",
        "availabilityResult": "available"
      },
``

```
            {
               "id": "2",
               "availabilityResult": "notAvailable"
            }
        ]
    },
    {
        "id": "848",
        "href": "http://serverlocation:port/stockManagement/v4/checkProductStock/848",
        "creationDate": "2020-09-28T09:53:33.954Z",
        "checkProductStockItem": [
            {
               "id": "1",
               "availabilityResult": "alternate"
            },
            {
               "id": "2",
               "availabilityResult": "available"
            },
            {
               "id": "3",
               "availabilityResult": "notAvailable"
            }
        ]
    }
]
```

Retrieve check product stock

GET /checkProductStock/{id}?fields=...&{filtering}

Description

This operation retrieves a check product stock entity.
Attribute selection is enabled for all first level attributes.
Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a check product stock retrieval. The given criteria is the check product stock id.

Request
GET /tmf-api/stock/v4/checkProductStock/23 Accept: application/json

Response

```
200

{
    "id": "32",
    "href": "http://serverlocation:port/stockManagement/v4/checkProductStock/32",
    "completedCheckProductStockDate": "2020-09-24T09:54:41.127Z",
    "creationDate": "2020-09-24T09:54:41.127Z",
    "instantSyncCheck": true,
    "provideAlternative": true,
    "requestedAvailabilityDate": "2020-09-24T09:54:41.127Z",
    "requestedCheckProductStockDate": "2020-09-24T09:54:41.127Z",
    "checkProductStockItem": [
        {
            "id": "1",
            "availabilityResult": "alternate",
            "provideAlternative": true,
            "alternate": [
                {
                    "id": "1",
                    "alternateAvailabilityDate": "2020-09-24T09:54:41.127Z",
                    "alternateProduct": {
                        "place": [
                            {
                                "id": "89",
                                "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
                                "role": "Lyon Shop",
                                "@type": "PlaceRef",
                                "@referredType": "GeographicSite"
                            }
                        ],
                        "productCharacteristic": [
                            {
                                "id": "1",
                                "valueType": "string",
                                "name": "Color",
                                "value": "Orange"
                            },
                            {
                                "id": "2",
                                "valueType": "string",
                                "name": "Memory Size",
                                "value": "256 GB"
                            }
                        ],
                        "productSpecification": {
                            "id": "23",
                            "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
                            "name": "TMFPhone",
                            "version": "x-9",
                            "@type": "ProductSpecification"
```

```json
        },
          "@type": "AlternateProduct"
        },
        "alternateQuantity": {
          "amount": 1,
          "units": "box"
        },
        "alternateStock": {
          "id": "42",
          "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
          "@type": "ProductStockRef"
        },
        "@type": "AlternateProductStock"
      }
    ],
    "checkedProductStock": {
      "stockedProduct": {
        "productCharacteristic": [
          {
            "id": "1",
            "valueType": "string",
            "name": "Color",
            "value": "Orange"
          },
          {
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "128 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
          "name": "TMFPhone",
          "version": "x-9",
          "@type": "ProductSpecification"
        },
        "@type": "Product"
      },
      "@type": "CheckedProductStock"
    },
    "requestedQuantity": {
      "amount": 1,
      "units": "box"
    },
    "state": "done",
    "@type": "CheckProductStockItem"
  }
],
"place": {
  "id": "89",
  "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
```

```
      "role": "Lyon Shop",
      "@type": "PlaceRef",
      "@referredType": "GeographicSite"
   },
   "relatedParty": [
      {
         "id": "45",
         "href": "http://serverlocation:port/partyManagement/v4/individual/45",
         "role": "requester",
         "@type": "PartyRef",
         "@referredType": "Individual"
      }
   ],
   "state": "done",
   "@type": "CheckProductStock"
}
```

Create check product stock

POST /checkProductStock

Description

This operation creates a check product stock entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a CheckProductStock, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.

Mandatory Attributes	Rule
checkProductStockItem	

Non Mandatory Attributes	Rule
@baseType	
@schemaLocation	
@type	
completedCheckProductStockDate	
creationDate	
instantSyncCheck	
place	
provideAlternative	
relatedParty	
requestedAvailabilityDate	
requestedCheckProductStockDate	
state	

Additional Rules

The following table provides additional rules indicating mandatory fields in sub-resources or relationships when creating a CheckProductStock resource.

Context	Mandatory Sub-Attributes
stockLevel	id
relatedParty	id, @referredType
checkProductStockItem	requestedQuantity, id, checkedProductStock
requestedQuantity	amount
productSpecification	id
productOffering	id
productRelationship	relationshipType
realizingService	id
billingAccount	id
realizingResource	id
marketSegment	name
channel	name

Usage Samples

Here's an example of a CheckProductStock creation - the resulting CheckProductStock request is 23.

Request

```
POST /tmf-api/stock/v4/checkProductStock
Content-Type: application/json

{
    "instantSyncCheck": true,
    "provideAlternative": true,
    "requestedAvailabilityDate": "2020-09-24T09:54:41.127Z",
    "checkProductStockItem": [
        {
            "id": "1",
            "provideAlternative": true,
            "checkedProductStock": {
                "stockedProduct": {
                    "productCharacteristic": [
                        {
                            "id": "1",
                            "valueType": "string",
                            "name": "Color",
                            "value": "Orange"
                        },
                        {
                            "id": "2",
                            "valueType": "string",
                            "name": "Memory Size",
```

```
                    "value": "128 GB"
                  }
                ],
                "productSpecification": {
                  "id": "23",
                  "name": "TMFPhone",
                  "version": "x-9",
                  "@type": "ProductSpecification"
                },
                "@type": "Product"
              },
              "@type": "CheckedProductStock"
            },
            "requestedQuantity": {
              "amount": 1,
              "units": "box"
            },
            "@type": "CheckProductStockItem"
          }
        ],
        "place": {
          "id": "89",
          "role": "Lyon Shop",
          "@type": "PlaceRef",
          "@referredType": "GeographicSite"
        },
        "relatedParty": [
          {
            "id": "45",
            "role": "requester",
            "@type": "PartyRef",
            "@referredType": "Individual"
          }
        ],
        "@type": "CheckProductStock"
}
```

Response

```
201

{
  "id": "32",
  "href": "http://serverlocation:port/stockManagement/v4/checkProductStock/32",
  "completedCheckProductStockDate": "2020-09-24T09:54:41.127Z",
  "creationDate": "2020-09-24T09:54:41.127Z",
  "instantSyncCheck": true,
  "provideAlternative": true,
  "requestedAvailabilityDate": "2020-09-24T09:54:41.127Z",
  "requestedCheckProductStockDate": "2020-09-24T09:54:41.127Z",
  "checkProductStockItem": [
```

```json
{
  "id": "1",
  "availabilityResult": "alternate",
  "provideAlternative": true,
  "alternate": [
    {
      "id": "1",
      "alternateAvailabilityDate": "2020-09-24T09:54:41.127Z",
      "alternateProduct": {
        "place": [
          {
            "id": "89",
            "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
            "role": "Lyon Shop",
            "@type": "PlaceRef",
            "@referredType": "GeographicSite"
          }
        ],
        "productCharacteristic": [
          {
            "id": "1",
            "valueType": "string",
            "name": "Color",
            "value": "Orange"
          },
          {
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "256 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
          "name": "TMFPhone",
          "version": "x-9",
          "@type": "ProductSpecification"
        },
        "@type": "AlternateProduct"
      },
      "alternateQuantity": {
        "amount": 1,
        "units": "box"
      },
      "alternateStock": {
        "id": "42",
        "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
        "@type": "ProductStockRef"
      },
      "@type": "AlternateProductStock"
    }
  ],
```

```json
          "checkedProductStock": {
            "stockedProduct": {
              "productCharacteristic": [
                {
                  "id": "1",
                  "valueType": "string",
                  "name": "Color",
                  "value": "Orange"
                },
                {
                  "id": "2",
                  "valueType": "string",
                  "name": "Memory Size",
                  "value": "128 GB"
                }
              ],
              "productSpecification": {
                "id": "23",
                "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
                "name": "TMFPhone",
                "version": "x-9",
                "@type": "ProductSpecification"
              },
              "@type": "Product"
            },
            "@type": "CheckedProductStock"
          },
          "requestedQuantity": {
            "amount": 1,
            "units": "box"
          },
          "state": "done",
          "@type": "CheckProductStockItem"
        }
      ],
      "place": {
        "id": "89",
        "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
        "role": "Lyon Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
      },
      "relatedParty": [
        {
          "id": "45",
          "href": "http://serverlocation:port/partyManagement/v4/individual/45",
          "role": "requester",
          "@type": "PartyRef",
          "@referredType": "Individual"
        }
      ],
      "state": "done",
      "@type": "CheckProductStock"
```

```
}
```

Operations on Reserve Product Stock

List reserve product stocks

GET /reserveProductStock?fields=...&{filtering}

Description

This operation list reserve product stock entities.
Attribute selection is enabled for all first level attributes.
Filtering may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a request for retrieving a list of Reserve Product Stock request(s). The given criteria is the state (accepted).

Request
GET /tmf-api/stock/v4/reserveProductStock?fields=id,href, creationDate,reserveProductStockItem.id,reserveProductStockItem.quantityReserved.amount,reserveProductStockItem. quantityRequested.amount&state=done Accept: application/json

Response

200
 	
``[
  {
    "id": "87",
    "href": "http://serverlocation:port/stockManagement/v4/reserveProductStock/87",
    "creationDate": "2020-09-24T08:53:33.954Z",
    "reserveProductStockItem": [
      {
        "id": "1",
        "quantityRequested": {
          "amount": 1
        },
        "quantityReserved": {
          "amount": 1
        }
      }```

```
      ]
    },
    {
      "id": "63",
      "href": "http://serverlocation:port/stockManagement/v4/reserveProductStock/63",
      "creationDate": "2020-09-28T08:53:33.954Z",
      "reserveProductStockItem": [
        {
          "id": "1",
          "quantityRequested": {
            "amount": 3
          },
          "quantityReserved": {
            "amount": 2
          }
        }
      ]
    },
    {
      "id": "48",
      "href": "http://serverlocation:port/stockManagement/v4/reserveProductStock/48",
      "creationDate": "2020-09-28T09:53:33.954Z",
      "reserveProductStockItem": [
        {
          "id": "1",
          "quantityRequested": {
            "amount": 2
          },
          "quantityReserved": {
            "amount": 2
          }
        },
        {
          "id": "2",
          "quantityRequested": {
            "amount": 1
          },
          "quantityReserved": {
            "amount": 0
          }
        }
      ]
    }
]
```

Retrieve reserve product stock

```
GET /reserveProductStock/{id}?fields=...&{filtering}
```

Description

This operation retrieves a reserve product stock entity.

Attribute selection is enabled for all first level attributes.

Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a reserve product stock retrieval. The given criteria is the reservce product stock id.

Request

```
GET /tmf-api/stock/v4/reserveProductStock/87
Accept: application/json
```

Response

```
200

{
   "id": "87",
   "href": "http://serverlocation:port/stockManagement/v4/reserveProductStock/87",
   "creationDate": "2020-09-24T10:12:23.664Z",
   "requiredAvailabilityDate": "2020-09-25T10:12:23.664Z",
   "channel": [
      {
         "id": "11",
         "name": "retail"
      }
   ],
   "place": {
      "id": "89",
      "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
      "role": "Lyon Shop",
      "@type": "PlaceRef",
      "@referredType": "GeographicSite"
   },
   "relatedEntity": [
      {
         "id": "56",
         "href": "http://serverlocation:port/productOrderManagement/v4/productOrder/56",
         "role": "order triggering the reservation",
         "@type": "EntityRef",
         "@referredType": "ProductOrder"
      }
   ],
   "relatedParty": [
      {
         "id": "45",
```

```json
        "href": "http://serverlocation:port/partyManagement/v4/individual/45",
        "role": "requester",
        "@type": "PartyRef",
        "@referredType": "Individual"
      }
    ],
    "reserveProductStockItem": [
      {
        "id": "1",
        "productStockReserved": {
          "id": "43",
          "href": "http://serverlocation:port/stockManagement/v4/productStock/43",
          "@type": "ProductStockRef"
        },
        "quantityRequested": {
          "amount": 1,
          "units": "box"
        },
        "quantityReserved": {
          "amount": 1,
          "units": "box"
        },
        "requestedProduct": {
          "productCharacteristic": [
            {
              "id": "1",
              "valueType": "string",
              "name": "Color",
              "value": "Orange"
            },
            {
              "id": "2",
              "valueType": "string",
              "name": "Memory Size",
              "value": "256 GB"
            }
          ],
          "productSpecification": {
            "id": "23",
            "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
            "name": "TMFPhone",
            "version": "x-9",
            "@type": "ProductSpecification"
          },
          "@type": "Product"
        },
        "reserveProductStockState": "accepted",
        "@type": "ReserveProductStockItem"
      }
    ],
    "reserveProductStockState": "accepted",
    "validFor": {
      "endDateTime": "2020-09-24T23:20:50.52Z",
```

```
      "startDateTime": "2020-09-26T23:20:50.52Z",
      "@type": "TimePeriod"
    },
    "@type": "ReserveProductStock"
}
```

Create reserve product stock

POST /reserveProductStock

Description

This operation creates a reserve product stock entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a ReserveProductStock, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.

Mandatory Attributes	Rule
reserveProductStockItem	

Non Mandatory Attributes	Rule
@baseType	
@schemaLocation	
@type	
channel	
creationDate	
marketSegment	
place	
relatedEntity	
relatedParty	
requiredAvailabilityDate	
reserveProductStockState	
validFor	

Additional Rules

The following table provides additional rules indicating mandatory fields in sub-resources or relationships when creating a ReserveProductStock resource.

Context	Mandatory Sub-Attributes
reserveProductStockItem	id, quantityRequested
quantityRequested	amount
place	role, @referredType

relatedEntity	id, @referredType
channel	name
marketSegment	name
relatedParty	id
productSpecification	id
productOffering	id
productRelationship	relationshipType
realizingService	id
billingAccount	id
realizingResource	id
productStockRequested	id

Usage Samples

Here's an example of a ReserveProductStock creation - the resulting ReserveProductStock request is 87.

Request

```
POST /tmf-api/stock/v4/reserveProductStock
Content-Type: application/json

{
    "requiredAvailabilityDate": "2020-09-25T10:12:23.664Z",
    "channel": [
        {
            "id": "11",
            "name": "retail"
        }
    ],
    "place": {
        "id": "89",
        "role": "Lyon Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
    },
    "relatedEntity": [
        {
            "id": "56",
            "role": "order triggering the reservation",
            "@type": "EntityRef",
            "@referredType": "ProductOrder"
        }
    ],
    "relatedParty": [
        {
            "id": "45",
            "role": "requester",
            "@type": "PartyRef",
            "@referredType": "Individual"
```

```
      }
    ],
    "reserveProductStockItem": [
      {
        "id": "1",
        "quantityRequested": {
          "amount": 1,
          "units": "box"
        },
        "requestedProduct": {
          "productCharacteristic": [
            {
              "id": "1",
              "valueType": "string",
              "name": "Color",
              "value": "Orange"
            },
            {
              "id": "2",
              "valueType": "string",
              "name": "Memory Size",
              "value": "256 GB"
            }
          ],
          "productSpecification": {
            "id": "23",
            "name": "TMFPhone",
            "version": "x-9",
            "@type": "ProductSpecification"
          },
          "@type": "Product"
        },
        "@type": "ReserveProductStockItem"
      }
    ],
    "@type": "ReserveProductStock"
}
```

Response

```
201

{
  "id": "87",
  "href": "http://serverlocation:port/stockManagement/v4/reserveProductStock/87",
  "creationDate": "2020-09-24T10:12:23.664Z",
  "requiredAvailabilityDate": "2020-09-25T10:12:23.664Z",
  "channel": [
    {
      "id": "11",
      "name": "retail"
```

```
          }
      ],
      "place": {
          "id": "89",
          "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
          "role": "Lyon Shop",
          "@type": "PlaceRef",
          "@referredType": "GeographicSite"
      },
      "relatedEntity": [
          {
              "id": "56",
              "href": "http://serverlocation:port/productOrderManagement/v4/productOrder/56",
              "role": "order triggering the reservation",
              "@type": "EntityRef",
              "@referredType": "ProductOrder"
          }
      ],
      "relatedParty": [
          {
              "id": "45",
              "href": "http://serverlocation:port/partyManagement/v4/individual/45",
              "role": "requester",
              "@type": "PartyRef",
              "@referredType": "Individual"
          }
      ],
      "reserveProductStockItem": [
          {
              "id": "1",
              "productStockReserved": {
                  "id": "43",
                  "href": "http://serverlocation:port/stockManagement/v4/productStock/43",
                  "@type": "ProductStockRef"
              },
              "quantityRequested": {
                  "amount": 1,
                  "units": "box"
              },
              "quantityReserved": {
                  "amount": 1,
                  "units": "box"
              },
              "requestedProduct": {
                  "productCharacteristic": [
                      {
                          "id": "1",
                          "valueType": "string",
                          "name": "Color",
                          "value": "Orange"
                      },
                      {
                          "id": "2",
```

```
                "valueType": "string",
                "name": "Memory Size",
                "value": "256 GB"
              }
          ],
          "productSpecification": {
            "id": "23",
            "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
            "name": "TMFPhone",
            "version": "x-9",
            "@type": "ProductSpecification"
          },
          "@type": "Product"
        },
        "reserveProductStockState": "accepted",
        "@type": "ReserveProductStockItem"
      }
  ],
  "reserveProductStockState": "accepted",
  "validFor": {
      "endDateTime": "2020-09-24T23:20:50.52Z",
      "startDateTime": "2020-09-26T23:20:50.52Z",
      "@type": "TimePeriod"
  },
  "@type": "ReserveProductStock"
}
```

Operations on Query Product Stock

List query product stocks

GET /queryProductStock?fields=...&{filtering}

Description

This operation list query product stock entities.

Attribute selection is enabled for all first level attributes.

Filtering may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a request for retrieving a list of Query Product Stock request(s). The given criteria is the date.

Request
GET /tmf-api/stock/v4/queryProductStock?fields=id,href&creationDate.lt=2020-09-24T24:59:59.999Z&creationDate.gt=2020-09-24T00:00:00.001Z

```
Accept: application/json
```

Response

```
200

[
  {
    "id": "57",
    "href": "http://serverlocation:port/stockManagement/v4/productStock/74"
  },
  {
    "id": "112",
    "href": "http://serverlocation:port/stockManagement/v4/productStock/89"
  },
  {
    "id": "214",
    "href": "http://serverlocation:port/stockManagement/v4/productStock/99"
  }
]
```

Retrieve query product stock

GET /queryProductStock/{id}?fields=...&{filtering}

Description

This operation retrieves a query product stock entity.
Attribute selection is enabled for all first level attributes.
Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a query product stock retrieval. The given criteria is the reservce product stock id.

Request

```
GET /tmf-api/stock/v4/queryProductStock/74
Accept: application/json
```

Response

```
200

{
  "id": "74",
  "href": "http://serverlocation:port/stockManagement/v4/QueryProductStock/74",
  "completedQueryProductStockDate": "2020-09-24T10:24:04.602Z",
  "creationDate": "2020-09-24T10:24:04.602Z",
  "instantSyncCheck": true,
  "requestedAvailabilityDate": "2020-09-24T10:24:04.602Z",
  "requestedQueryProductStockDate": "2020-09-24T10:24:04.602Z",
  "queryProductStockItem": [
    {
      "id": "42",
      "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
      "place": {
        "id": "89",
        "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
        "role": "Lyon Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
      },
      "productStockLevel": {
        "amount": 24,
        "units": "string"
      },
      "productStockStatusType": "available",
      "stockedProduct": {
        "productCharacteristic": [
          {
            "id": "1",
            "valueType": "string",
            "name": "Color",
            "value": "Orange"
          },
          {
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "256 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
          "name": "TMFPhone",
          "version": "x-9",
          "@type": "ProductSpecification"
        },
        "@type": "Product"
      },
      "@type": "ProductStock"
    },
    {
```

```
      "id": "52",
      "href": "http://serverlocation:port/stockManagement/v4/productStock/52",
      "place": {
        "id": "123",
        "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/123",
        "role": "Ecully Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
      },
      "productStockLevel": {
        "amount": 15,
        "units": "string"
      },
      "productStockStatusType": "available",
      "stockedProduct": {
        "productCharacteristic": [
          {
            "id": "1",
            "valueType": "string",
            "name": "Color",
            "value": "Orange"
          },
          {
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "256 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
          "name": "TMFPhone",
          "version": "x-9",
          "@type": "ProductSpecification"
        },
        "@type": "Product"
      },
      "@type": "ProductStock"
    }
  ],
  "searchCriteria": {
    "place": {
      "id": "98",
      "href": "http://serverlocation:port/geographicLocationManagement/v4/geographicLocation/98",
      "role": "Search zone",
      "@type": "PlaceRef",
      "@referredType": "GeographicLocation"
    },
    "productStockLevel": {
      "amount": 5,
      "units": "string"
    },
```

```
        "productStockStatusType": "available",
        "stockedProduct": {
            "productCharacteristic": [
                {
                    "id": "1",
                    "valueType": "string",
                    "name": "Color",
                    "value": "Orange"
                },
                {
                    "id": "2",
                    "valueType": "string",
                    "name": "Memory Size",
                    "value": "256 GB"
                }
            ],
            "productSpecification": {
                "id": "23",
                "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
                "name": "TMFPhone",
                "version": "x-9",
                "@type": "ProductSpecification"
            },
            "@type": "Product"
        },
        "@type": "ProductStock"
    },
    "state": "done",
    "@type": "QueryProductStock"
}
```

Create query product stock

POST /queryProductStock

Description

This operation creates a query product stock entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a QueryProductStock, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.

Mandatory Attributes	Rule
searchCriteria	

Non Mandatory Attributes	Rule

@baseType	
@schemaLocation	
@type	
completedQueryProductStockDate	
creationDate	
instantSyncCheck	
queryProductStockItem	
relatedParty	
requestedAvailabilityDate	
requestedQueryProductStockDate	
state	

Additional Rules

The following table provides additional rules indicating mandatory fields in sub-resources or relationships when creating a QueryProductStock resource.

Context	Mandatory Sub-Attributes
stockLevel	id
relatedParty	id, @referredType
productSpecification	id
productOffering	id
productRelationship	relationshipType
realizingService	id
billingAccount	id
realizingResource	id

Usage Samples

Here's an example of a QueryProductStock creation - the resulting QueryProductStock request is 74.

Request

```
POST /tmf-api/stock/v4/queryProductStock
Content-Type: application/json

{
    "creationDate": "2020-09-24T10:24:04.602Z",
    "instantSyncCheck": true,
    "requestedAvailabilityDate": "2020-09-24T10:24:04.602Z",
    "searchCriteria": {
        "place": {
            "id": "98",
            "role": "Search zone",
            "@type": "PlaceRef",
            "@referredType": "GeographicLocation"
```

```json
      },
      "productStockLevel": {
        "amount": 5,
        "units": "string"
      },
      "productStockStatusType": "available",
      "stockedProduct": {
        "productCharacteristic": [
          {
            "id": "1",
            "valueType": "string",
            "name": "Color",
            "value": "Orange"
          },
          {
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "256 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "name": "TMFPhone",
          "version": "x-9",
          "@type": "ProductSpecification"
        },
        "@type": "Product"
      },
      "@type": "ProductStock"
    },
    "@type": "QueryProductStock"
}
```

Response

201

```json
{
  "id": "74",
  "href": "http://serverlocation:port/stockManagement/v4/QueryProductStock/74",
  "completedQueryProductStockDate": "2020-09-24T10:24:04.602Z",
  "creationDate": "2020-09-24T10:24:04.602Z",
  "instantSyncCheck": true,
  "requestedAvailabilityDate": "2020-09-24T10:24:04.602Z",
  "requestedQueryProductStockDate": "2020-09-24T10:24:04.602Z",
  "queryProductStockItem": [
    {
      "id": "42",
      "href": "http://serverlocation:port/stockManagement/v4/productStock/42",
      "place": {
```

```
        "id": "89",
        "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/89",
        "role": "Lyon Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
      },
      "productStockLevel": {
        "amount": 24,
        "units": "string"
      },
      "productStockStatusType": "available",
      "stockedProduct": {
        "productCharacteristic": [
          {
            "id": "1",
            "valueType": "string",
            "name": "Color",
            "value": "Orange"
          },
          {
            "id": "2",
            "valueType": "string",
            "name": "Memory Size",
            "value": "256 GB"
          }
        ],
        "productSpecification": {
          "id": "23",
          "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
          "name": "TMFPhone",
          "version": "x-9",
          "@type": "ProductSpecification"
        },
        "@type": "Product"
      },
      "@type": "ProductStock"
    },
    {
      "id": "52",
      "href": "http://serverlocation:port/stockManagement/v4/productStock/52",
      "place": {
        "id": "123",
        "href": "http://serverlocation:port/geographicSiteManagement/v4/geographicSite/123",
        "role": "Ecully Shop",
        "@type": "PlaceRef",
        "@referredType": "GeographicSite"
      },
      "productStockLevel": {
        "amount": 15,
        "units": "string"
      },
      "productStockStatusType": "available",
      "stockedProduct": {
```

```json
      "productCharacteristic": [
        {
          "id": "1",
          "valueType": "string",
          "name": "Color",
          "value": "Orange"
        },
        {
          "id": "2",
          "valueType": "string",
          "name": "Memory Size",
          "value": "256 GB"
        }
      ],
      "productSpecification": {
        "id": "23",
        "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
        "name": "TMFPhone",
        "version": "x-9",
        "@type": "ProductSpecification"
      },
      "@type": "Product"
    },
    "@type": "ProductStock"
  }
],
"searchCriteria": {
  "place": {
    "id": "98",
    "href": "http://serverlocation:port/geographicLocationManagement/v4/geographicLocation/98",
    "role": "Search zone",
    "@type": "PlaceRef",
    "@referredType": "GeographicLocation"
  },
  "productStockLevel": {
    "amount": 5,
    "units": "string"
  },
  "productStockStatusType": "available",
  "stockedProduct": {
    "productCharacteristic": [
      {
        "id": "1",
        "valueType": "string",
        "name": "Color",
        "value": "Orange"
      },
      {
        "id": "2",
        "valueType": "string",
        "name": "Memory Size",
        "value": "256 GB"
      }
```

```
      ],
      "productSpecification": {
        "id": "23",
        "href": "http://serverlocation:port/productCatalogManagement/v4/productSpecification/23",
        "name": "TMFPhone",
        "version": "x-9",
        "@type": "ProductSpecification"
      },
      "@type": "Product"
    },
    "@type": "ProductStock"
  },
  "state": "done",
  "@type": "QueryProductStock"
}
```

API NOTIFICATIONS

For every single of operation on the entities use the following templates and provide sample REST notification POST calls.

It is assumed that the Pub/Sub uses the Register and UnRegister mechanisms described in the REST Guidelines reproduced below.
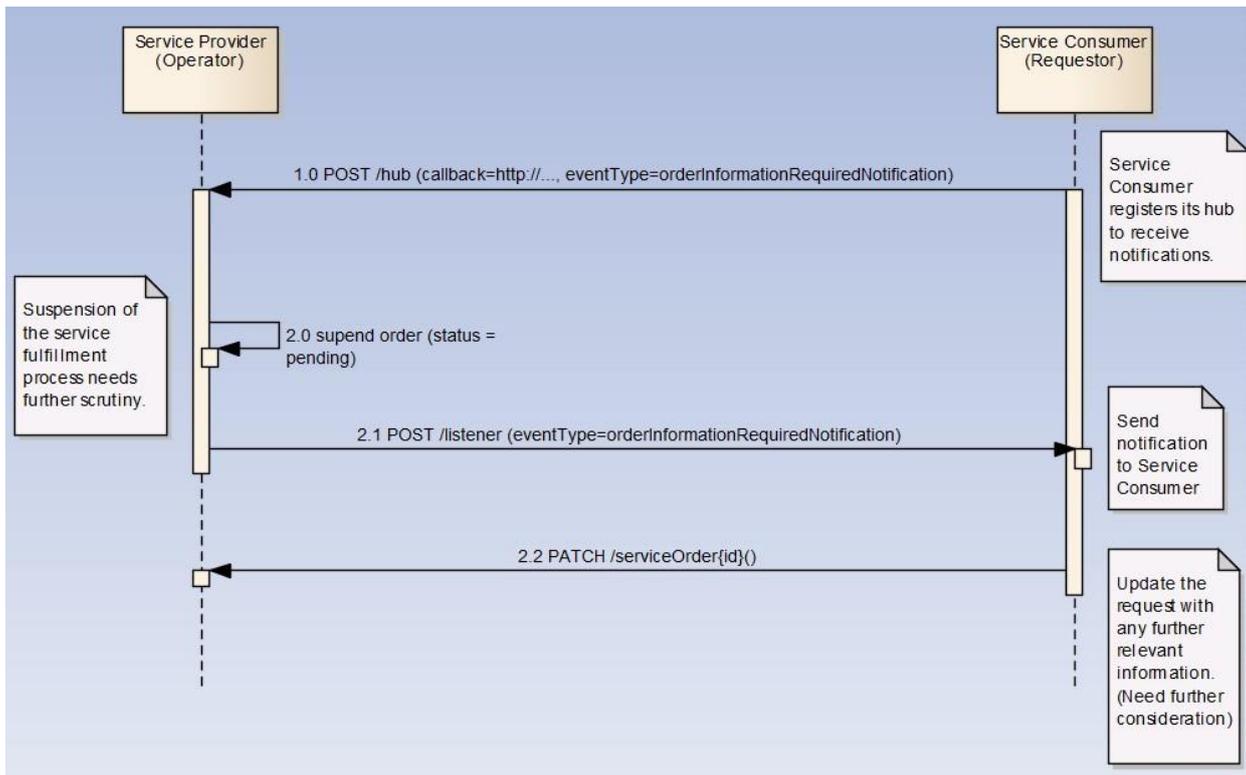
Register listener

POST /hub

Description

Sets the communication endpoint address the service instance must use to deliver information about its health state, execution state, failures and metrics. Subsequent POST calls will be rejected by the service if it does not support multiple listeners. In this case DELETE /api/hub/{id} must be called before an endpoint can be created again.

Behavior

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 409 if request is not successful.

Usage Samples

Here's an example of a request for registering a listener.

Request
POST /api/hub Accept: application/json {"callback": "http://in.listener.com"}
Response
201 Content-Type: application/json Location: /api/hub/42 {"id":"42","callback":"http://in.listener.com","query":null}

Unregister listener

DELETE /hub/{id}

Description

Clears the communication endpoint address that was set by creating the Hub..

Behavior

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 404 if the resource is not found.

Usage Samples

Here's an example of a request for un-registering a listener.

Request
DELETE /api/hub/42 Accept: application/json
Response
204

Publish Event to listener

POST /client/listener

Description

Clears the communication endpoint address that was set by creating the Hub.

Provides to a registered listener the description of the event that was raised. The /client/listener url is the callback url passed when registering the listener.

Behavior

Returns HTTP/1.1 status code 201 if the service is able to set the configuration.

Usage Samples

Here's an example of a notification received by the listener. In this example "EVENT TYPE" should be replaced by one of the notification types supported by this API (see Notification resources Models section) and EVENT BODY refers to the data structure of the given notification type.

Request

POST /client/listener
Accept: application/json
 	
{
   "event": {
       EVENT BODY
     },
   "eventType": "EVENT_TYPE"
}

Response
201

For detailed examples on the general TM Forum notification mechanism, see the TMF REST Design Guidelines.

Acknowledgements

Release History

Version Number	Date	Release led by:	Description
V4.0	17-Nov-2020	Pierre Gauthier TM Forum pgauthier@tmforum.org Ludovic Robert Orange ludovic.robert@orange.com	First Release of the Document.

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