

# Product Inventory API (Services Specification)



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## Document overview

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## Version history

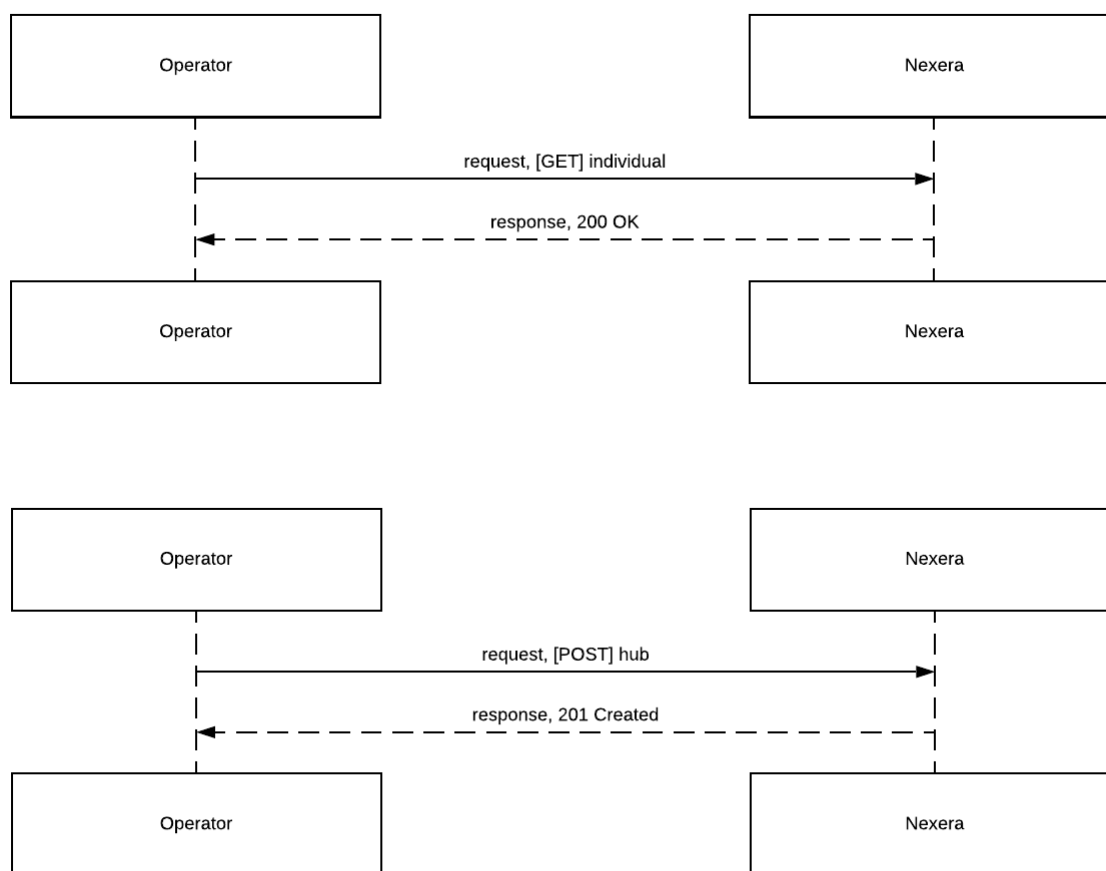
version	date	author	description	status
0.0.1	2020-08-04	piotr.wisniewski@enxoo.com	document created	draft
0.0.2	2020-08-05	piotr.wisniewski@enxoo.com	data model structure update	draft
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1.0.0	2020-11-03	grzegorz.swinarski@enxoo.com	- Service BVC component definition extension: slaLevel attribute added. - New field: plannedEndDate added	released
1.1.0	2020-12-16	grzegorz.swinarski@enxoo.com	"@" markups update	released
1.1.1	2021-02-23	patryk.wozniak@enxoo.com	Document format change	draft
1.2.0	2020-12-26	grzegorz.swinarski@enxoo.com	Document release	released
1.3.0	2021-06-16	patryk.wozniak@enxoo.com	Added pricingTerm & pricingType attributes. Generated new postman examples.	
1.4.0	2022-09-19	patryk.wozniak@enxoo.com	Added Error Code description table	released
1.5.0	2023-07-28	michal.krawczyk@enxoo.com	New field 'offerChangeDate' added	released

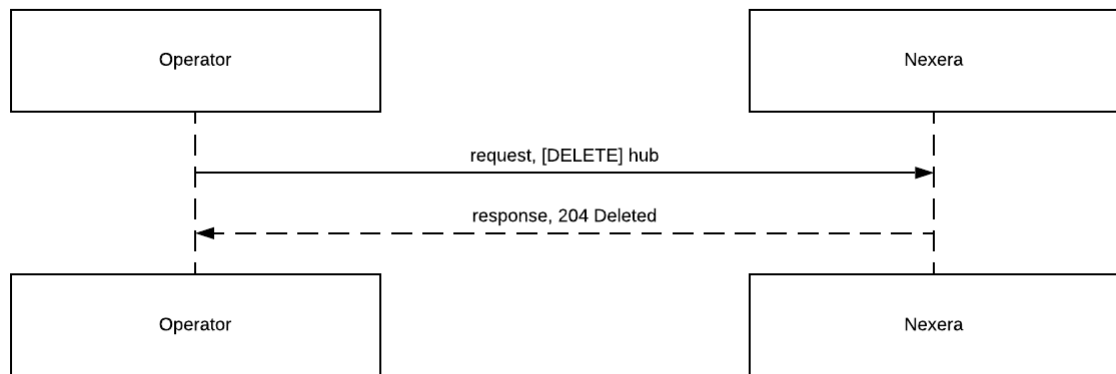
## Overview

The scope of this API is to provide the ability for a Service Provider's (Buyer) operational support system to retrieve from a Partner's (Seller) Inventory management system a set of product instances based upon a filter of product inventory attributes, or a specific product instance based upon a product identifier.

The Product Inventory API has been designed based on MEF Product Inventory API and TM Forum (TMF 637).

Following flows are available in the API:







## General Information

Table below describes the general specification of exposed services.

service type	REST
body format	JSON
encoding	UTF-8
communication type	Synchronous + asynchronous events
security	HTTPS, basic http authentication
base endpoint (TEST)	TBD



## Product Inventory API

This section describes API services used in a process of Product Inventory management

- Retrieval of a product instance or a collection of product instances depending on filter criteria

### Available Services

A list of available services is presented below.

Operation	URI	Description
GET	/productInventory	This operation is used to retrieve a list of Product instances
GET	/productInventory/{id}	This operation is used to retrieve a single Product instance based upon a specified service id.
POST	/hub	Sets the communication endpoint
DELETE	/hub	Resets the communication endpoint address

### Supported events

A list of available events is presented below.

- ProductCreateEvent
- ProductAttributeValueChangeEvent
- ProductStateChangeEvent

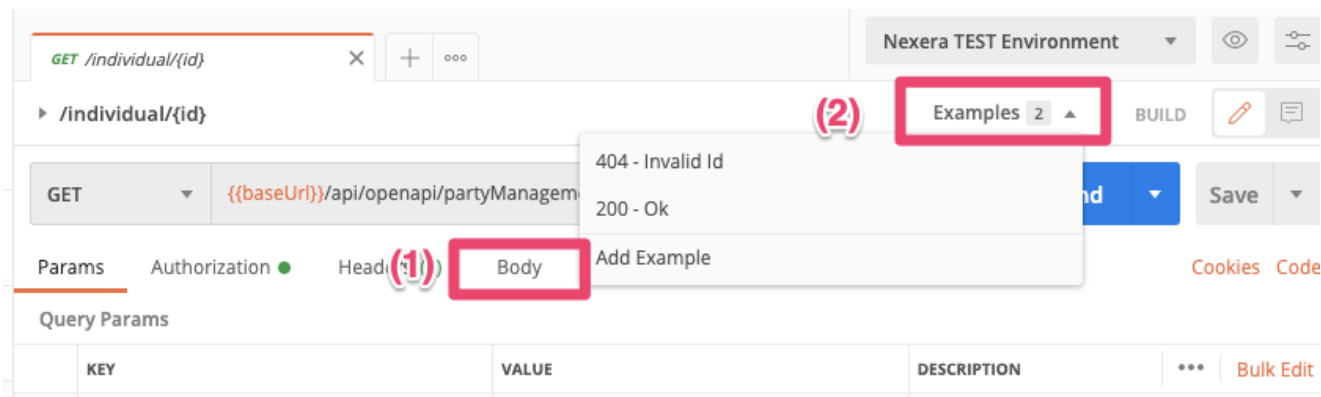




## Services Details

All request templates including example requests and responses are stored in the Postman Collection attached to this document. Postman Collection name is generated using a pattern: "Product Inventory API - X.Y.Z", where X.Y.Z should match to the version of this document.

Base request body can be found in the Body tab: (1), example requests with responses (including headers) can be found at (2).



Testing environment configuration file is named: "Nexera TEST Environment.postman\_environment.json".

Authorization method for retrieving access token can be found in the "Nexera Authorization.postman\_collection.json" file. Every API method requires an access token.

## GET Operation (with filtering feature)

Postman -> Product Inventory - X.Y.Z -> individual -> [GET] /productInventory

### Supported filtering fields

- id
- status
- externalId
- serviceDate
- startDate
- plannedEndDate
- terminationDate
- productType

Detailed information about GET result filtering feature describes document: **OpenAPI - Data Filtering**.

## GET Operation (using Id)

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Postman -> Product Inventory - X.Y.Z -> individual -> [GET] /productInventory /{id}

## ProductStateChangeEvent

Postman -> Product Inventory - X.Y.Z -> listener -> [POST] ProductStateChangeEvent

## Register a listener

## POST Operation

Postman -> Product Inventory - X.Y.Z -> hub -> [POST] /hub

## DELETE Operation

Postman -> Product Inventory - X.Y.Z -> hub -> [DELETE] /hub/{id}



## Error Codes

HTTP Code	Code	Reason	Message	Status
400	400	Invalid body field	One of orders with provided ids not found!	404-60
500	500	{errorType}	An unexpected error occurred. Incident was registered (Id: {incidentId})] Error message: {message}	500-1
500	500	Invalid body field	{message}	400-24



## Fields Description

Legend
Standard types (Defined by TM Forum or MEF)
Standard unused fields
Standard fields
Custom types
Custom fields

Field Name	Type	Description
<b>Service</b>		
id	String	Unique identifier of the service
href	String	Hyperlink to access the service
externalId	String	A number that uniquely identifies service within the buyer's enterprise
status	ProductStatus	The state of the product in accordance with the product lifecycle
serviceDate	DateTime	Date when the service was created (whatever its status). Format is IETC-RFC-3339 (Example: 2020-04-22T14:01:13.000Z)
startDate	DateTime	Date when the service starts. Format is IETC-RFC-3339 (Example: 2020-04-22T14:01:13.000Z)
plannedEndDate	DateTime	Date when the service is expected to be terminated/ ended/dismantled calculated as startDate + contract length (pricingTerm) or set to year 2999 in case of indefinite term period. Format is IETC-RFC-3339 (Example: 2020-04-22T14:01:13.000Z)
terminationDate	DateTime	Date when the service was terminated/ended/dismantled. Format is IETC-RFC-3339 (Example: 2020-04-22T14:01:13.000Z)
lastUpdateDate	DateTime	Latest date when the service has been updated.Format is IETC-RFC-3339 (Example: 2020-04-22T14:01:13.000Z)



buyerProductId	String	This identifier is optionally provided during the Product ordering and stored for informative purpose in the Seller inventory ( <b>this is externalId</b> )
productType	String	Type of the product, for example id
site	GeographicSite[]	A geographic site related to the product
productOffering	ProductOfferingRef	
productSpecification	ProductSpecificationRef	A structured set of well-defined technical attributes and/or behaviors that are used to construct a Product Offering for sale to a market
productRelationship	ProductRelationship[]	
billingAccount	BillingAccountRef	
relatedParty	RelatedParty []	An entity or organization that is related to the product, such as the buyer, the seller, etc
productOrder	ProductOrderRef []	A reference to a productOrder and optionally to an order item
productPrice	ProductPrice[]	
agreement	Agreement[]	
productTerm	ProductTerm[]	
pricingTerm	Integer	The length of the contract in months.
pricingType	PricingType	The type of contract. An indefinite term should be set as "permanent", otherwise "fixed".
statusChange	statusChange[]	
offerChangeDate	Date	New framework offer start date for service
@type	String	Technical attribute to extend the API
@schemaLocation	String	Technical attribute to extend the API
@baseType	String	Technical attribute to extend the API
<b>ProductStatus</b>		
enum	active	Service.Active



	suspended	
	activePendingTerminate	
	terminated	Service.Inactive
	pendingActive	Service.New
	suspendedPendingTerminate	
	cancelled	Service.Cancelled
<b>PricingType</b>		
enum	fixed	Used for fixed pricingTypes, like '12' or '24'.
	permanent	Used for permanent pricing type.
<b>ProductSpecificationRef</b>		
id	String	A unique identifier for the service spec, within the product spec domain. It is assigned by the seller and communicated to the buyer at on-boarding time.
href		Hyperlink to access the product instance
describing	Describing	<b>Product Ordering Management API - Products Specification</b>
@baseType	String	When sub-classing, this defines the super-class
@type	String	When sub-classing, this defines the sub-class entity name
<b>RelatedParty</b>		
id	String	Unique identifier of a related party
role	String	Role of the related party
name	String	Name of the related party
href	String	Reference of the related party
@type	String	Technical attribute to extend the API
@referredType	String	Technical attribute to extend the API



@baseType	String	
@schemaLocation	String	
<b>GeographicSite</b>		
id	String	Unique identifier of the place
href	String	Unique reference of the place
siteName	String	Name of the site
role	String	The role the site plays
@baseType	String	When sub-classing, this defines the super-class
@schemaLocation	String	A URI to a JSON-Schema file that defines additional attributes and relationships
@type	String	When sub-classing, this defines the sub-class entity name
<b>ProductOrderRef</b>		
id	String	Unique identifier of the Order
orderItemId	String	Identifier of the line item
externalId	String	A number that uniquely identifies Order within the buyer's enterprise
action	ProductActionType	
href	String	Reference of the Product Order
@baseType	String	When sub-classing, this defines the super-class
@schemaLocation	String	A URI to a JSON-Schema file that defines additional attributes and relationships
@type	String	When sub-classing, this defines the sub-class entity name
<b>ProductActionType</b>		



enum	add	New service activation process
	renewal	
	change	Active service modification process
	remove	
	noChange	
	move	
	transfer	Active service transfer process
	serviceIdChange	Active service external Id change process