

# TM Forum Specification

## Product Catalog Management API Conformance Profile

**TMF620B**

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## INTRODUCTION - API DESCRIPTION

This document is the REST API Conformance for Release 20.5 of the Product Catalog API TMF620. The Product Catalog API allows defining product catalog entities such as offerings and specifications, creating pricing for offerings, and transferring information between catalogs.

This document includes only conformance on mandatory resources, operations, attributes and notifications of the API.

## RESOURCE MODEL CONFORMANCE

### API MANDATORY RESOURCES

The following table indicates the mandatory resources for this API.

Resource Name	Comment
ProductOffering	
ProductOfferingPrice	
ProductSpecification	

### General Notes on Resource Attribute Conformance

There are three situations that could occur for an attribute:

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

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

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

**ProductOffering Resource Mandatory Attributes**

Mandatory attribute when parent is present	Rule
bundledProductOffering	<p>M (if isBundle is true)</p> <p>Array of BundledProductOffering</p> <p>Array of product offerings bundled within this product offering</p>
href	<p>M (in response messages) O (otherwise)</p> <p>Value in response must be the same as the one set in Location header provided upon entity creation</p>
id	<p>M (in response messages) O (otherwise)</p> <p>Generated by the server when the first version of the Product Offering is created and provided in the response upon resource creation. Accepted in an entity-creation request for a new version of the Product Offering</p>
lastUpdate	<p>M (in response messages) O (otherwise)</p> <p>This is a change from release 17.5. In release 19, lastUpdate is mandatory in response messages.</p>
lifecycleStatus	<p>M (in response messages) O (otherwise)</p>
name	<p>M (in response messages) O (otherwise)</p>
productSpecification	<p>M (if isBundle is false) O (if isBundle is true must be empty)</p> <p>A single Product Specification ref structure (not an array)</p>
id	M

Mandatory attribute when parent is present		Rule
productSpecification.targetProductSchema (if present)		
	@schemaLocation	M
	@type	M
agreement (if present)		Array of AgreementRef Array of agreement ref structures
	id	M
category (if present)		Array of CategoryRef Array of category ref structures
	id	M
channel (if present)		Array of ChannelRef Array of channel ref structures
	id	M
marketSegment (if present)		Array of MarketSegmentRef
	id	M
resourceCandidate (if present)		A single Resource Candidate ref (not an array)
	id	M
serviceCandidate (if present)		A single Service Candidate ref (not an array)
	id	M
serviceLevelAgreement (if present)		Array of SLA ref structures
	id	M
place (if present)		Array of PlaceRef
	@referredType	M
	id	M



Mandatory attribute when parent is present		Rule
prodSpecCharValueUse.productSpecification (if present)		See conditions for ProductSpecificationRef at productSpecification
prodSpecCharValueUse.productSpecification.targetProductSchema (if present)		See conditions for TargetProductSchema at productSpecification.targetProductSchema
productOfferingPrice (if present)		Array of ProductOfferingPriceRefOrValue
	id	M
productOfferingPrice.constraint (if present)		Array of ConstraintRef
	id	M
productOfferingPrice.price (if present)		
	dutyFreeAmount	M
productOfferingPrice.priceAlteration (if present)		Array of POPAlteration
	id	M
	price	M See conditions for ProductPriceValue at productOfferingPrice.price
	priceType	M

### ProductOfferingPrice Resource Mandatory Attributes

Mandatory attribute when parent is present	Rule
bundledPopRelationship	M (if isBundle is true) O (if isBundle is false must be empty)  Array of BundledProductOfferingPriceRelationship

Mandatory attribute when parent is present	Rule
	Array of bundled product offering price relationships
href	M (in response messages) O (otherwise)  Value in response must be the same as the one set in Location header provided upon entity creation
id	M (in response messages) O (otherwise)  Generated by the server when the first version of the Product Offering is created and provided in the response upon resource creation. Accepted in an entity-creation request for a new version of the Product Offering
lastUpdate	M (in response messages) O (otherwise)  This is a change from release 17.5. In release 19, lastUpdate is mandatory in response messages.
lifecycleStatus	M (in response messages) O (otherwise)
name	M (in response messages) O (otherwise)
priceType	M (if isBundle is false) O (otherwise)  A bundled price might contain other prices of different types (e.g., an allowance has a usage price and a one-time price), and thus cannot itself be assigned a type
constraint (if present)	Array of ConstraintRef  Array of constraint ref structures

Mandatory attribute when parent is present		Rule
	id	M
place (if present)		Array of PlaceRef Array of place ref structures
	@referredType	M
	id	M
prodSpecCharValueUse.productSpecification (if present)		
	id	M
prodSpecCharValueUse.productSpecification.targetProduct Schema (if present)		
	@schemaLocation	M
	@type	M

### ProductSpecification Resource Mandatory Attributes

Mandatory attribute when parent is present	Rule
bundledProductSpecification	M (if isBundle is true) O (if isBundle is false must be empty) Array of BundledProductSpecification Array of product specifications referred to within this product specification
href	M (in response messages) O (otherwise)  Value in response must be the same as the one set in Location header provided upon entity creation
id	M (in response messages) O (otherwise)  Generated by the server when the first version of the Product Specification is created and provided in the response upon resource

Mandatory attribute when parent is present	Rule
	creation.Accepted in an entity-creation request for a new version of the Product Specification
lastUpdate	M (in response messages) O (otherwise)  This is a change from release 17.5. In release 19, lastUpdate is mandatory in response messages.
lifecycleStatus	M (in response messages) O (otherwise)
name	M
resourceSpecification (if present)	Array of ResourceSpecificationRef  Array of resource specification ref structures
id	M
serviceSpecification (if present)	Array of ServiceSpecificationRef  Array of service specification ref structures
id	M
relatedParty (if present)	Array of RelatedParty  Array of related party structures
@referredType	M
id	M
targetProductSchema (if present)	
@schemaLocation	M
@type	M

## API OPERATIONS CONFORMANCE

For every single resource the following tables includes mandatory operations.

### ProductOffering Mandatory Operations

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

Uniform API Operation
GET
POST
PATCH
DELETE

### ProductOfferingPrice Mandatory Operations

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

Uniform API Operation
GET
POST
PATCH
DELETE

### ProductSpecification Mandatory Operations

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

Uniform API Operation
GET
POST
PATCH
DELETE

## API GET OPERATION CONFORMANCE

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

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

### Definitions for Filter

The following definitions apply to all the GET operations:

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

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

This operation list or find ProductOffering entities

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

Filtering on sub-resources is optional for all compliance levels

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

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

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

Filtering on sub-resources is optional for all compliance levels

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

This operation list or find ProductOfferingPrice entities

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

Filtering on sub-resources is optional for all compliance levels

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

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

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

Filtering on sub-resources is optional for all compliance levels

### **GET /productSpecification?fields=...&{filtering}**

This operation list or find ProductSpecification entities

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

Filtering on sub-resources is optional for all compliance levels

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

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

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

Filtering on sub-resources is optional for all compliance levels

## API POST OPERATION CONFORMANCE

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

POST	Mandatory/Optional
Status Code 201 if resource created	M

### POST /productOffering

This operation creates a ProductOffering entity.

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

Mandatory Attributes	Rule
name	

### POST /productOfferingPrice

This operation creates a ProductOfferingPrice entity.

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

Mandatory Attributes	Rule
name	

### POST /productSpecification

This operation creates a ProductSpecification entity.

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

Mandatory Attributes	Rule
name	



## API PATCH OPERATION CONFORMANCE

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

The mandatory application context is JSON Merge.

PATCH	Mandatory/Optional
Status Code 200 if resource modified	M

### PATCH /productOffering/{id}

This operation updates partially a ProductOffering entity.

Patchable Attributes	Rule
name	

### PATCH /productOfferingPrice/{id}

This operation updates partially a ProductOfferingPrice entity.

Patchable Attributes	Rule
name	

### PATCH /productSpecification/{id}

This operation updates partially a ProductSpecification entity.

Patchable Attributes	Rule
name	

## API DELETE OPERATION CONFORMANCE

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

DELETE	Mandatory/Optional
Status Code 204 if resource deleted	M

### **DELETE /productOffering/{id}**

This operation deletes a ProductOffering entity.

### **DELETE /productOfferingPrice/{id}**

This operation deletes a ProductOfferingPrice entity.

### **DELETE /productSpecification/{id}**

This operation deletes a ProductSpecification entity.

## ACKNOWLEDGEMENTS

### Version History

Version Number	Date	Release led by:	Description
1.0.0	2015		First Release of Draft Version of the Document
1.1.0	02-Jun-2017	Kamal Maghsoudlou, Ericsson <a href="mailto:kamal.maghsoudlou@ericsson.com">kamal.maghsoudlou@ericsson.com</a>	Updated in correlation of the Product Catalog API Release 17.0
2.2.0	Dec-2017	Kamal Maghsoudlou, Ericsson	Updated in correlation of the Product Catalog API Release 17.5.
2.2.1	16-Jan-2018	Adrienne Walcott , TM Forum	Formatting/style edits prior to publishing
3.0.0	25-Jun-2018	Jonathan Goldberg, Amdocs <a href="mailto:jonathan.goldberg@amdocs.com">jonathan.goldberg@amdocs.com</a>	Updated for Release 19.0
3.0.1	04-Nov-2019	Adrienne Walcott	Updated to reflect TM Forum Approved Status
4.1.0	05-Apr-2021	Kamal Maghsoudlou, Ericsson	Auto-generated based on Conformance YAML file

### Release History

Release Status	Date	Modified by	Description
17.5.0	Jan-2018	Kamal Maghsoudlou, Ericsson	Updated in correlation of the Product Catalog API Release 17.0
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