PRODUCT CATALOG MANAGEMENT REST API V2

Document Number: <###>

Document Version: : <V1.6>

Date: May, 2014

Document Status: Draft

# NOTICE

Copyright © TeleManagement Forum 2013. All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published, and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this section are included on all such copies and derivative works. However, this document itself may not be modified in any way, including by removing the copyright notice or references to TM FORUM, except as needed for the purpose of developing any document or deliverable produced by a TM FORUM Collaboration Project Team (in which case the rules applicable to copyrights, as set forth in the [TM FORUM IPR Policy](http://www.tmforum.org/IPRPolicy/11525/home.html), must be followed) or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by TM FORUM or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and TM FORUM DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Direct inquiries to the TM Forum office:

240 Headquarters Plaza,

East Tower – 10th Floor,

Morristown, NJ  07960 USA

Tel No.  +1 973 944 5100

Fax No.  +1 973 944 5110

TM Forum Web Page: [www.tmforum.org](http://www.tmforum.org/)

TM Forum Web Page: [www.tmforum.org](http://www.tmforum.org/)

# Table of Contents

[NOTICE 2](#_Toc396927974)

[Table of Contents 3](#_Toc396927975)

[Introduction 5](#_Toc396927976)

[SAMPLE USE CASES 6](#_Toc396927977)

[Lifecycle management Use Case 6](#_Toc396927978)

[Order management Use Case 7](#_Toc396927979)

[RESOURCE MODEL 8](#_Toc396927980)

[Product Lifecycle Management STATE MODEL 8](#_Toc396927981)

[Catalog RESOURCE 9](#_Toc396927982)

[Category RESOURCE 10](#_Toc396927983)

[Product Offering RESOURCE 12](#_Toc396927984)

[Product Offering Price RESOURCE 15](#_Toc396927985)

[Product Specification RESOURCE 17](#_Toc396927986)

[UML model 23](#_Toc396927987)

[Notification Resource Models 28](#_Toc396927988)

[API OPERATION TEMPLATES 36](#_Toc396927989)

[GET /catalogManagement/category 37](#_Toc396927990)

[GET /catalogManagement/productOffering/{ID} 38](#_Toc396927991)

[GET /catalogManagement/productOfferingPrice/{ID} 43](#_Toc396927992)

[GET /catalogManagement/productSpecification/{ID} 45](#_Toc396927993)

[GET /catalogManagement/exportJob/{ID} 49](#_Toc396927994)

[GET /catalogManagement/importJob/{ID} 49](#_Toc396927995)

[GET/…depth 50](#_Toc396927996)

[PUT /catalogManagement/category/{ID} 57](#_Toc396927997)

[PUT /catalogManagement/productOffering/{ID} 59](#_Toc396927998)

[PUT /catalogManagement/productOfferingPrice/{ID} 65](#_Toc396927999)

[PUT /catalogManagement/productSpecification/{ID} 68](#_Toc396928000)

[PATCH /catalogManagement/category/{ID} 74](#_Toc396928001)

[PATCH /catalogManagement/productOffering/{ID} 76](#_Toc396928002)

[PATCH /catalogManagement/productOfferingPrice/{ID} 82](#_Toc396928003)

[PATCH /catalogManagement/productSpecification/{ID} 84](#_Toc396928004)

[POST /catalogManagement/category/{ID} 90](#_Toc396928005)

[POST /catalogManagement/productOffering/{ID} 92](#_Toc396928006)

[POST /catalogManagement/productOfferingPrice/{ID} 99](#_Toc396928007)

[POST /catalogManagement/productSpecification/{ID} 101](#_Toc396928008)

[POST /catalogManagement/catalog/{10}/importJob 108](#_Toc396928009)

[POST /catalogManagement/catalog/{10}/exportJob 110](#_Toc396928010)

[DELETE API/{RESOURCE}/{ID} 111](#_Toc396928011)

[API NOTIFICATIOn TEMPLATES 113](#_Toc396928012)

[REGISTER LISTENER POST /hub 113](#_Toc396928013)

[UNREGISTER LISTENER DELETE hub/{id} 113](#_Toc396928014)

[publish {EventTYPE} POST /listener 114](#_Toc396928015)

[lifecycle management Extensions to Catalog 115](#_Toc396928016)

[Query all versioned catalog resources 116](#_Toc396928017)

[Query a specific versioned CATALOG resource 117](#_Toc396928018)

[Query current version of a catalog resource 117](#_Toc396928019)

[Create new version of a CATALOG resource 118](#_Toc396928020)

[Modify an existing version of a CATalog resource 119](#_Toc396928021)

[Role based Access Control 119](#_Toc396928022)

[Release History 121](#_Toc396928023)

# Introduction

The catalog management API allows the management of the entire lifecycle of the catalog elements, the consultation of catalog elements during several processes such as ordering process, campaign management, sales management…

Catalog Management API provides a standardized solution for adding rapidly partners’ products to an existing Catalog.

It brings the capability for Service Providers to directly feed partners systems with the technical description of the products they propose to them.

This reduces Catalog definition time and errors for offerings based on partners’ products.

The Product Catalog API:

* Is used to communicate, expose, and mash-up product and service specifications into new product offers in an efficient and easily understood manner
* Provides a straightforward and standardized mechanism for extracting data from catalogs, independently of platform, network or other implementation-specific technologies.
* Consists of a simple set of operations that interact with catalog management systems in a consistent way
* Provides a standardized way to do queries on Product Offering and Product Specifications

A Product Catalog is a collection of Product Offerings, intended for a specific Distribution Channel, enhanced with additional information such as SLA parameters, invoicing and shipping details. Each Product Offering in a Product Catalog combines pricing and availability information with Product Specifications that describe the relationships between Products, the Services used to realize the Products and the Resources they require.

The catalog management API allows:

* The management of the entire lifecycle of the catalog elements
* The lookup of the catalog elements during order capture

Catalog management API performs the following operations on catalogue elements

* Retrieval of a catalog element or of a collection of catalog elements depending on filter criteria,
* Full update of catalog elements
* Partial update of catalog elements
* Creation of catalog elements
* Export of a catalog
* Import of a catalog
* Notification of changes on catalog elements

# SAMPLE USE CASES

## Lifecycle management Use Case

The catalog management API allows the management of the entire lifecycle of the catalog elements.

UC1: A partner updates his catalog. He notifies his distributor the catalog change. The distributor requests a catalog export. Then, he retrieves the catalog at the provided URL.



UC2: A partner updates his catalog. He notifies all catalog changes in detail to his distributor. This one updates his catalog copy.



UC3: A catalog administrator wants to retrieve effective duration of a product offering based on product offering identifier or other search criteria (GET/productOffering).

UC4: A catalog administrator wants to retrieve all the bundled product offerings included in a product offering bundle (GET/productOffering).

UC5: A catalog administrator wants to update the lifecycle status (from Launched to retired for example) of a product offering (PUT or PATCH/productOffering).

## Order management Use Case

The catalog management API allows the lookup of the catalog elements during order capture.

UC1: A distributor wants to browse product offerings during order capture and to retrieve product offerings belonging to a given category, for a given channel and a given place. He gets all details on product offerings, product offering prices, product specifications and its characteristics (GET/depth).

UC2: A distributor wants to retrieve the characteristics including prices of a given product offering (GET/productOffering).

UC3: A distributor wants to know if a product offering is available at customer’s location (GET/productOffering).

UC4: A distributor wants to know which SLA applies on a given product offering (GET/productOffering).

UC5: A distributor wants to retrieve all product offerings belonging to a partner (GET/productOffering).

In addition, reader will find additional examples of use cases using Product Order API in “Open Digital Business Scenarios and Use Cases” document

# RESOURCE MODEL

## Product Lifecycle Management STATE MODEL

Product Lifecycle Management (PLM) is responsible for managing the entire lifecycle of the catalog element and its underlying components. This include all of the processes required to design, build, deploy, maintain and ultimately retire the catalog element.



When the macro conception of a catalog element is started the first status of the later is “In Study”.

When the conception of the catalog element is accepted its status is changed to “In Design”.

If the design is approved its status is changed to “In Test”.

Then either the test is OK and then its status is changed to “Active” or the test is KO and its status is changed to “Rejected”. The Rejected status is a final status.

When a catalog element is in a “Active” status it means it has been validated and tested, but it is still not available for customers.

When the beginning of marketing is reached, its status is changed to “Launched”. At this moment customers can buy it.

If the catalog element is not launched, its status is changed to “Retired”.

The same status is achieved when a catalog element reaches the end of marketing.

The “Retired” status means it can not be sold to any new customers, but previous customers can still have it.

When no more customer holds the catalog element, its status is changed to “Obsolete” meaning it can be removed from the catalog.

## Catalog RESOURCE

The root entity for catalog management.

A Product Catalog is a collection of Product Offerings, intended for a specific DistributionChannel, enhanced with additional information such as SLA parameters, invoicing and shipping details. Each Product Offering in a Product Catalog combines pricing and availability information with Product Specifications that describe the relationships between Products, the Services used to realize the Products, and the Resources they require.

Below is a representation of the Catalog resource in JSON format.

|  |
| --- |
| {  "id": "10",  "href": "http://serverlocation:port/catalogManagement/catalog/10",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "type": "Product Catalog",  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "name": "Catalog Wholesale Business",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "relatedParty": [  {  "role": "Owner",  "id": "1234",  "href": "http ://serverLocation:port/partyManagement/partyRole/1234"  }, {  "role": "Reviser",  "name": "Roger Collins"  }  ] } |
|  |

|  |  |
| --- | --- |
| Field | Description |
| category | Reference to the category |
| href | Reference of the catalog |
| id | Unique identifier of the catalog |
| lastUpdate | Date and time of the last update |
| lifecycleStatus | Used to indicate the current lifecycle status |
| name | Name of the catalog |
| type | Indicates if the catalog is a product, service or resource catalog |
| validFor | The period for which the catalog is valid |
| version | Catalog version |

**relatedParty**: Defines party or partyRole linked to a specific entity.

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the relatedParty, could be a party reference or a partyRole reference |
| name | Name of the related party |
| role | Role of the related party |
| validFor | The period for which the related party is linked to the entity |

## Category RESOURCE

The category resource is used to group product offerings, service and resource candidates in logical containers. Categories can contain other categories and/or product offerings, resource or service candidates.

Resource IDs for categories are strings and are defined by the catalog application.

Below is a representation of the Category resource in JSON format.

|  |
| --- |
| {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/category/42",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "version": "2.0",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": "41",  "isRoot": "false",  "name": "Cloud Services",  "description": "A category to hold all available cloud service offers" }  Or for a root category (e.g. no parent)  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/category/42",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "version": "2.0",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": "",  "isRoot": "true",  "name": "Cloud Services",  "description": "A category to hold all available cloud services" } |
|  |

|  |  |
| --- | --- |
| Field | Description |
| description | Description of the category |
| href | Reference of the catalog |
| id | Unique identifier of the category |
| isRoot | If true, this Boolean indicates that the category is a root of categories |
| lastUpdate | Date and time of the last update |
| lifecycleStatus | Used to indicate the current lifecycle status |
| name | Name of the category |
| parentId | Unique identifier of the parent category |
| validFor | The period for which the category is valid |
| version | Category version |

## Product Offering RESOURCE

The Product Offering resource represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

Note: isBundle determines whether a productOffering represents a single productOffering (false), or a bundle of productOfferings (true).

If false, then a productSpecification will be returned, but the bundledProductOfferings will be absent or empty and vice-versa if isBundle is true.

Below is a representation of the ProductOffering resource in JSON format.

|  |
| --- |
| {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |

|  |  |
| --- | --- |
| Field | Description |
| description | Description of the productOffering |
| href | Reference of the ProductOffering |
| id | Unique identifier of the productOffering |
| isBundle | isBundle determines whether a productOffering represents a single productOffering (false), or a bundle of productOfferings (true). |
| lastUpdate | Date and time of the last update |
| lifecycleStatus | Used to indicate the current lifecycle status |
| name | Name of the productOffering |
| validFor | The period for which the productOffering is valid |
| version | ProductOffering version |

**channel**: Defines the channel for selling product offerings.

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the channel |
| id | Unique identifier of the channel |
| name | Name of the channel |

**place**: Defines the places where the product offerings are sold.

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the place |
| id | Unique identifier of the place |
| name | Name of the place |

**productOfferingTerm**: A condition under which a ProductOffering is made available to Customers. For instance, a productOffering can be offered with multiple commitment periods.

|  |  |
| --- | --- |
| Field | Description |
| description | Description of the productOfferingTerm |
| duration | Duration of the productOfferingTerm |
| name | Name of the productOfferingTerm |
| validFor | The period for which the productOfferingterm is valid |

## Product Offering Price RESOURCE

The ProductOfferingPrice Resource based on both the basic cost to develop and produce products and the enterprise’s policy on revenue targets. This price may be further revised through discounting (prodOfferPriceAlteration).

The price, applied for a productOffering may also be influenced by the productOfferingTerm, the customer selected – e.g. a productOffering can be offered with multiple terms, like commitment periods for the contract. The price may be influenced by this productOfferingTerm. A productOffering may be cheaper with a 24 month commitment than with a 12 month commitment.

Below is a representation of the ProductOfferingPrice resource in JSON format.

|  |
| --- |
| {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "MonthlyPrice",  "description": "Monthly Price",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "month",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  } } |

|  |  |
| --- | --- |
| Field | Description |
| description | Description of the productOfferingPrice |
| href | Reference of the ProductOfferingPrice |
| id | Unique identifier of the productOfferingPrice |
| name | Name of the productOfferingPrice |
| priceType | Indicates the price type: recurring, one time, usage |
| recurringChargePeriod | Could be month, week… |
| unitOfMeasure | Could be minutes, GB… |
| validFor | The period for which the productOfferingPrice is valid |
| version | ProductOffering version |

**price**: Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for ProdOfferPriceAlteration.

|  |  |
| --- | --- |
| Field | Description |
| currencyCode | A string used as a code for specifying the currency associated to the given amounts. The ISO4217 norm uses 3 letters to define the currency (for example USD for US dollar or EUR for Euro) |
| dutyFreeAmount | All taxes excluded amount (expressed in the given currency) |
| percentage | Percentage to apply for ProdOfferPriceAlteration |
| taxIncludedAmount | All taxes included amount (expressed in the given currency) |
| priceType | Indicates the price type: recurring, one time, usage |

**productOfferPriceAlteration**: An amount, usually of money, that modifies a price charged for a productOffering.

|  |  |
| --- | --- |
| Field | Description |
| applicationDuration | Duration during which the prodOfferPriceAletration applies on the productOffering |
| description | Description of the prodOfferPriceAlteration |
| href | Reference of the prodOfferPriceAlteration |
| id | Unique identifier of the prodOfferPriceAlteration e |
| name | Name of the prodOfferPriceAlteration |
| priceCondition | Condition that triggers the price application |
| priceType | Indicates the price type: recurring, one time, usage |
| recurringChargePeriod | Could be month, week… |
| unitOfMeasure | Could be minutes, GB… |
| validFor | The period for which the prodOfferPriceAlteration is valid |

## Product Specification RESOURCE

The ProductSpecification Resource 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.

Below is a representation of the ProductSpecification resource in JSON format.

|  |
| --- |
| {  "id": "22",  "href": "http://serverlocation:port/catalogManagement/productSpecification/22",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "iPhone 42",  "description": "Siri works on this iPhone",  "isBundle": "true",  "brand": "Apple",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "relatedParty": [  {  "role": "Owner",  "id": "1234",  "href": "http ://serverLocation:port/partyManagement/partyRole/1234"  }  ],  "attachment": [  {  "id": "22",  "href": "http://serverlocation:port/documentManagement/attachment/22",  "type": "Picture",  "url": "http://xxxxx"  }  ],  "bundledProductSpecification": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productSpecification/15",  "lifecycleStatus": "Active",  "name": "Product specification 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productSpecification/64",  "lifecycleStatus": "Active",  "name": "Product specification 64"  }  ],  "productSpecificationRelationship": [  {  "type": "dependency",  "id": "23",  "href": " http://serverlocation:port/catalogManagement/productSpecification/23", "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "serviceSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "resourceSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "productSpecCharacteristic": [  {  "id": "42",  "name": "Screen Size",  "description": "Screen size",  "valueType": "number",  "configurable": "false",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "productSpecCharRelationship": [  {  "type": "dependency",  "id": "43",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "productSpecCharacteristicValue": [  {  "valueType": "number",  "default": "true",  "value": "4.2",  "unitOfMeasure": "inches",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }, {  "id": "34",  "name": "Colour",  "description": "Colour",  "valueType": "string",  "configurable": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "productSpecCharacteristicValue": [  {  "valueType": "string",  "default": "true",  "value": "Black",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }, {  "valueType": "string",  "default": "false",  "value": "White",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }  ] } |

|  |  |
| --- | --- |
| Field | Description |
| brand | The manufacturer or trademark of the specification |
| description | A narrative that explains in detail what the product specification is |
| href | Reference of the product specification |
| id | Unique identifier of the product specification |
| isBundle | isBundle determines whether a productSpecification represents a single productSpecification (false), or a bundle of productSpecification (true). |
| lastUpdate | Date and time of the last update |
| lifecycleStatus | Used to indicate the current lifecycle status |
| name | Name of the product specification |
| productNumber | An identification number assigned to uniquely identify the specification |
| validFor | The period for which the product specification is valid |
| version | Product specification version |

**attachment**: describes a product through video, pictures...

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the attachment |
| id | Unique identifier of the attachment |
| type | Attachment type such as video, picture |
| url | Uniform Resource Locator, is a web page address (a subset of URI) |

**relatedParty**: Defines party or partyRole linked to a specific entity.

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the relatedParty, could be a party reference or a partyRole reference |
| name | Name of the related party |
| role | Role of the related party |
| validFor | The period for which the related party is linked to the entity |

**productSpecCharacteristic**: A characteristic quality or distinctive feature of a ProductSpecification. The characteristic can be take on a discrete value, such as color, can take on a range of values, (for example, sensitivity of 100-240 mV), or can be derived from a formula (for example, usage time (hrs) = 30 – talk time \*3). Certain characteristics, such as color, may be configured during the ordering or some other process.

|  |  |
| --- | --- |
| Field | Description |
| configurable | If true, the Boolean indicates that the productSpecCharacteristic is configurable |
| description | A narrative that explains in detail what the productSpecCharacteristic is |
| href | Reference of the productSpecCharacteristic |
| id | Unique identifier of the productSpecCharacteristic |
| name | Name of the productSpecCharacteristic |
| valueType | A kind of value that the characteristic can take on, such as numeric, text and so forth |
| validFor | The period for which the productSpecCharacteristic is valid |

**productSpecCharRelationship**: An aggregation, migration, substitution, dependency or exclusivity relationship between/among productSpecCharacteristics.

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the productSpecification |
| validFor | The period for which the productSpecCharRelationship is valid |
| Type | Type of relationship such as aggregation, migration, substitution, dependency, exclusivity |

**productSpecCharacteristicValue**: A number or text that can be assigned to a ProductSpecCharacteristic.

|  |  |
| --- | --- |
| Field | Description |
| default | Indicates if the value is the default value for a characteristic |
| unitOfMeasure | Could be minutes, GB… |
| validFor | The period of time for which a value is applicable |
| value | A discrete value that the characteristic can take on |
| valueFrom | The low range value that a characteristic can take on |
| valueTo | The upper range value that a characteristic can take on |
| valueType | A kind of value that the characteristic can take on, such as numeric, text, and so forth |

**productSpecificationRelationship**: A migration, substitution, dependency or exclusivity relationship between/among product specifications.

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the productSpecification |
| validFor | The period for which the productSpecificationRelationship is valid |
| Type | Type of relationship such as migration, substitution, dependency, exclusivity |

**resourceSpecification**: ResourceSpecification(s) required to realize a ProductSpecification.

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the resourceSpecification |
| name | Name of the requiredResourceSpecification |
| validFor | The period for which the RequiredResourceSpecification is valid |

**serviceSpecification**: ServiceSpecification(s) required to realize a ProductSpecification.

|  |  |
| --- | --- |
| Field | Description |
| href | Reference of the serviceSpecification |
| name | Name of the requiredServiceSpecification |
| validFor | The period for which the RequiredServiceSpecification is valid |

## UML model



Figure 1 – Catalog resource model



Figure 2 – Category resource model



Figure 3 – ProductOffering resource model



Figure 4 – ProductOfferingPrice resource model



Figure 5 – ProductSpecification resource model

## Notification Resource Models

Catalog change notification: notifies that a catalog has been updated.

|  |
| --- |
| {  "event": {  "id": "01",  "dateTime": "2013-04-19T16:42:25-30:00",  "eventType": "Catalog change notification",  "catalog": [  {  "id": "10",  "href": "http://serverlocation:port/catalogManagement/catalog/10",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "type": "Product Catalog",  "name": "Catalog Wholesale Business"  }  ]  } } |

Catalog change batch notification: notifies in detail all catalog updates.

|  |
| --- |
| {  "event": {  "id": "01",  "dateTime": "2013-04-19T16:42:25-30:00",  "eventType": "Catalog change batch notification",  "catalog": [  {  "id": "10",  "href": "http://serverlocation:port/catalogManagement/catalog/10",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "type": "Product Catalog",  "name": "Catalog Wholesale Business",  "update": [  {  "op": "add",  "path": "/category",  "value": {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/category/42",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "version": "2.0",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": "",  "isRoot": "true",  "name": "Home, Audio/Entertainement",  "description": "A category to hold all inside offers"  }  }, {  "op": "add",  "path": "/category",  "value": {  "id": "421",  "href": "http://serverlocation:port/catalogManagement/catalog/421",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "version": "2.0",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": "42",  "isRoot": "false",  "name": "Wireless sensors",  "description": "A category to hold all wireless sensor offers"  }  }, {  "op": "add",  "path": "/productSpecification",  "value": {  "id": "14",  "href": "http://serverlocation:port/catalogManagement/productSpecification/14",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Sensor",  "description": "A wireless sensor",  "isBundle": "false",  "brand": "Oregon",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "relatedParty": [  {  "role": "Owner",  "id": "1234",  "href": "http ://serverLocation:port/partyManagement/partyRole/1234"  }  ],  "productSpecCharacteristic": [  {  "id": "34",  "name": "Colour",  "description": "Colour",  "valueType": "string",  "configurable": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "ProductSpecCharacteristicValue": [  {  "valueType": "string",  "default": "true",  "value": "Black",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }, {  "valueType": "string",  "default": "false",  "value": "White",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }  ]  }  }, {  "op": "add",  "path": "/productOfferingPrice",  "value": {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "MonthlyPrice",  "description": "Monthly Price",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "month"  }  }, {  "op": "add",  "path": "/productOffering",  "value": {  "id": "4211",  "href": "http://serverlocation:port/catalogManagement/productOffering/4211",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Sensor",  "description": "A wireless sensor",  "isBundle": "false",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "421",  "href": "http://serverlocation:port/catalogManagement/category/421",  "version": "2.0",  "name": "Wireless sensors"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "bundledProductOffering": "",  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "14",  "href": "http://serverlocation:port/catalogManagement/productSpecification/14",  "version": "2.0",  "name": "Sensor"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }  ]  }  }  ]  }  ]  } } |

# API OPERATION TEMPLATES

For every single of operation on the entities use the following templates and provide sample REST requests and responses.

Remember that the following Uniform Contract rules must be used :

|  |  |  |
| --- | --- | --- |
| 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 |
| Complete Update of an Entity | PUT Resource | PUT must be used to completely update a resource identified by its resource URI |
| 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.

## GET /catalogManagement/category

This Uniform Contract operation is used to retrieve the representation of a managed entity or a task.

Note that collections can be retrieved via GET /api/<RESOURCE> with no {ID}

Description :

* This operation retrieves productCategory from a catalog. The category resource is used to group product offerings, service and resource candidates in logical containers. Categories can contain other categories and/or product offerings, resource or service candidates.
* The resource represents a managed entity or a collection depending on the query pattern.
* The identifier is a string that can consist of numbers, not necessarily alphanumeric.

Behavior :

* Standard behavior and response codes for GET operations
* Filtering is enabled on all attributes, particularly due to the hierarchical nature of productCategory, children of a productCategory are obtained by filtering on the parentId attribute of the resource.
* Attribute selection is not enabled for this simple resource

|  |
| --- |
| **REQUEST** |
| GET /catalogManagement/category/{42}  Accept: application/json |
| **RESPONSE** |
| 200  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/category/42",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "version": "2.0",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": " 41",  "isRoot": "false",  "name": "Cloud Services",  "description": "A category to hold all available cloud service offers" } |

## GET /catalogManagement/productOffering/{ID}

This Uniform Contract operation is used to retrieve the representation of a managed entity or a task.

Note that collections can be retrieved via GET /api/<RESOURCE> with no {ID}

Description :

* This operation returns all productOfferings from the catalog, unless an ID is specified in which case a specific productOffering resource would be returned. The ProductOffering resource represents entities that are orderable from the provider of the catalog. This resource includes pricing information.
* The resource instance being returned is a productOffering or an array of product offering if the query returns multiple resources
* The resource is either a managed entity or a collection depending on the query pattern.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
  + 200 if no productOffering found for supplied categoryId (200) (filter expression)
  + 404 Not found when the supplied ID doesn’t match a known productOffering.
* Filtering is enabled on all productOffering attributes.
* Attribute selection is enabled.

|  |
| --- |
| **REQUEST** |
| GET /catalogManagement/productOffering/{42}  Accept: application/json |
| **RESPONSE** |
| 200  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |

Another example of a query on the category.href attribute would be executed, however only a limited set of attributes is initially returned (id, name, description, productSpecification and validFor).

|  |  |
| --- | --- |
| **REQUEST** | |
| GET /catalogManagement/productOffering/**name,id,description,validFor,productSpecification,isBundle,bundledProductOffering**?category.id=12  Accept: application/json | |
| **RESPONSE for bundled ProductOffering** | |
| 200  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ] } | |
| **RESPONSE for simple ProductOffering** | |
| 200  Content-Type: application/json    {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "false",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }, "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ] } | |

## GET /catalogManagement/productOfferingPrice/{ID}

This Uniform Contract operation is used to retrieve the representation of a managed entity or collection.

Note that collections can be retrieved via GET /api/<RESOURCE> with no {ID}

Description :

* This operation returns productOfferingPrices from a catalog. ProductOfferingPrice is an amount, usually of money, that is asked for when a ProductOffering is bought, rented, or leased.
* The resource instance being returned is a productOfferingPrice or an array of productOfferingPrices if the query returns multiple specifications.
* The resource represents a managed entity or a collection.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
  + 200 if no productOfferingPrice found
  + 404 Not found when the supplied ID doesn’t match a known productOfferingPrice.
* Filtering is enabled on all productOfferingPrice attributes.
* Attribute selection is enabled.

|  |  |
| --- | --- |
| **REQUEST** | |
| GET /catalogManagement/productOfferingPrice/{15}  Accept: application/json | |
| **RESPONSE** | |
| {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "MonthlyPrice",  "description": "Monthly Price",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "month",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  } } | |

## GET /catalogManagement/productSpecification/{ID}

This Uniform Contract operation is used to retrieve the representation of a managed entity or collection.

Note that collections can be retrieved via GET /api/<RESOURCE> with no {ID}

Description :

* This operation returns productSpecifications from a catalog. 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 PartyRole.
* The resource instance being returned is a productSpecification or an array of productSpecifications if the query returns multiple specifications.
* The resource represents a managed entity or a collection.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
  + 200 if no productSpecification found
  + 404 Not found when the supplied ID doesn’t match a known productSpecification.
* Filtering is enabled on all productSpecification attributes.
* Attribute selection is enabled.

|  |  |
| --- | --- |
| **REQUEST** | |
| GET /catalogManagement/productSpecification/{22}  Accept: application/json | |
| **RESPONSE** | |
| {  "id": "22",  "href": "http://serverlocation:port/catalogManagement/productSpecification/22",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "iPhone 42",  "description": "Siri works on this iPhone",  "isBundle": "true",  "brand": "Apple",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "relatedParty": [  {  "id": "1234",  "role": "Owner",  "href": "http ://serverLocation:port/partyManagement/partyRole/1234"  }  ],  "attachment": [  {  "id": "22",  "href": "http://serverlocation:port/documentManagement/attachment/22",  "type": "Picture",  "url": "http://xxxxx"  }  ],  "bundledProductSpecification": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productSpecification/15",  "lifecycleStatus": "Active",  "name": "Product specification 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productSpecification/64",  "lifecycleStatus": "Active",  "name": "Product specification 64"  }  ],  "productSpecificationRelationship": [  {  "type": "dependency",  "id": " 23",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "serviceSpecification": [  {  "id": " 13",  "href": "http://serverlocation:port/catalogManagement/serviceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "resourceSpecification": [  {  "id": " 13",  "href": "http://serverlocation:port/catalogManagement/resourceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "productSpecCharacteristic": [  {  "id": "42",  "name": "Screen Size",  "description": "Screen size",  "valueType": "number",  "configurable": "false",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "productSpecCharRelationship": [  {  "type": "dependency",  "id": "43",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "ProductSpecCharacteristicValue": [  {  "valueType": "number",  "default": "true",  "value": "4.2",  "unitOfMeasure": "inches",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }, {  "id": "34",  "name": "Colour",  "description": "Colour",  "valueType": "string",  "configurable": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "ProductSpecCharacteristicValue": [  {  "valueType": "string",  "default": "true",  "value": "Black",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }, {  "valueType": "string",  "default": "false",  "value": "White",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }  ] } | |

## GET /catalogManagement/exportJob/{ID}

This Uniform Contract operation is used to retrieve the representation of a managed entity or collection.

Note that collections can be retrieved via GET /api/<RESOURCE> with no {ID}

Description :

* This operation returns the status of an exportJob.
* The resource represents a managed entity or a collection.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
  + 200 if no ExportJob found
  + 404 Not found when the supplied ID doesn’t match a known ExportJob.
* Filtering is enabled on all ExportJob attributes.
* Attribute selection is enabled.

|  |  |
| --- | --- |
| GET /catalogManagement/exportJob/{10}  Accept: application/json | |
| **RESPONSE** | |
| {  "id": "10",  "status": "Succeeded"  } | |

## GET /catalogManagement/importJob/{ID}

This Uniform Contract operation is used to retrieve the representation of a managed entity or collection.

Note that collections can be retrieved via GET /api/<RESOURCE> with no {ID}

Description :

* This operation returns the status of an importJob.
* The resource represents a managed entity or a collection.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
  + 200 if no ImportJob found
  + 404 Not found when the supplied ID doesn’t match a known ImportJob.
* Filtering is enabled on all ImportJob attributes.
* Attribute selection is enabled.

|  |  |
| --- | --- |
| GET /catalogManagement/importJob/{25}  Accept: application/json | |
| **RESPONSE** | |
| {  "id": "25",  "status": "Succeeded"  } | |

## GET/…depth

This Uniform Contract operation is used to retrieve the representation of a managed entity or collection.

Note that collections can be retrieved via GET /api/<RESOURCE> with no {ID}

Description :

* The depth parameter allows to retrieve the resource at different levels of depth. The resource properties are provided and the related resources are returned according to the depth value.
* The resource represents a managed entity or a collection.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
  + 200 if no ProductOffering are found
  + 404 Not found when the supplied ID doesn’t match a known ImportJob.
* Filtering is enabled on all ProductOffering attributes.
* Attribute selection is enabled.
* This operation can return a very large amount of data. The Content-Range header must be used to control the amount of data returned. The header is present in the request and control the minimum and maximum values returned. In the response, the content-Range header is used to indicate the presence of more elements in the collection and the current position of the elements in the overall collection.

|  |  |
| --- | --- |
| GET /catalogManagement/productOffering ?depth=3&channel.name=IOTCorner&place.name=France&category.name=Wireless sensors  Range:items=23-24  Accept: application/json | |
| **RESPONSE** | |
| Content-Range:items 23-24/50  [  {  "id": "23",  "href": "http://serverlocation:port/catalogManagement/productOffering/23",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Sensor mini",  "description": "A wireless sensor for small garden",  "isBundle": "false",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "14",  "href": "http://serverlocation:port/catalogManagement/category/14",  "version": "2.0",  "name": "Wireless sensors"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "IOT Corner"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "wireless sensor mini",  "productSpecCharacteristic": [  {  "id": "34",  "name": "Colour",  "description": "Colour",  "valueType": "string",  "configurable": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "ProductSpecCharacteristicValue": [  {  "valueType": "string",  "default": "false",  "value": "Black",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }, {  "valueType": "string",  "default": "false",  "value": "White",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }  ]  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Sale Price",  "description": "Sale price",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "one time",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  }  }  ]  }, {  "id": "24",  "href": "http://serverlocation:port/catalogManagement/productOffering/24",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Sensor maxi",  "description": "A wireless sensor for big garden",  "isBundle": "false",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "14",  "href": "http://serverlocation:port/catalogManagement/category/14",  "version": "2.0",  "name": "Wireless sensors"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "IOT Corner"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "45",  "href": "http://serverlocation:port/catalogManagement/productSpecification/45",  "version": "2.0",  "name": "wireless sensor maxi",  "productSpecCharacteristic": [  {  "id": "34",  "name": "Colour",  "description": "Colour",  "valueType": "string",  "configurable": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "ProductSpecCharacteristicValue": [  {  "valueType": "string",  "default": "false",  "value": "Black",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }, {  "valueType": "string",  "default": "false",  "value": "White",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }  ]  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Sale Price",  "description": "Sale price",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "one time",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "24.00",  "dutyFreeAmount": "20.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  }  }  ]  } ] | |

## PUT /catalogManagement/category/{ID}

This Uniform Contract operation is used to completely update the representation of a managed entity or a task.

Description :

* This operation completely updates a category.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

|  |
| --- |
| **REQUEST** |
| PUT /catalogManagement/category{42}  Content-type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/category/42",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "version": "2.0",  "lifecycleStatus": "Launched",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": " 41",  "isRoot": "false",  "name": "Cloud Services",  "description": "A category to hold all available cloud service offers" } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/category/42",  "lastUpdate": "2013-04-25T09:28:10-04:00",  "version": "2.0",  "lifecycleStatus": "Launched",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": "41",  "isRoot": "false",  "name": "Cloud Services",  "description": "A category to hold all available cloud service offers" } |

## PUT /catalogManagement/productOffering/{ID}

This Uniform Contract operation is used to completely update the representation of a managed entity or a task.

Description :

* This operation completely updates a productOffering.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

|  |
| --- |
| **REQUEST** |
| PUT /catalogManagement/productOffering{42}  Content-type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  },  {  "id": "14",  "href": "http://serverlocation:port/marketSales/channel/14",  "name": "Shop"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  },  {  "id": "14",  "href": "http://serverlocation:port/marketSales/place/14",  "name": "Belgium"  }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "3.0",  "lastUpdate": "2013-06-05T08:30:45-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  },  {  "id": "14",  "href": "http://serverlocation:port/marketSales/channel/14",  "name": "Shop"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  },  {  "id": "14",  "href": "http://serverlocation:port/marketSales/place/14",  "name": "Belgium"  }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |

## PUT /catalogManagement/productOfferingPrice/{ID}

This Uniform Contract operation is used to completely update the representation of a managed entity or a task.

Description :

* This operation completely updates a productOfferingPrice.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

|  |
| --- |
| **REQUEST** |
| PUT /catalogManagement/productOfferingPrice{15}  Content-type: application/json  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "MonthlyPrice",  "description": "Monthly Price",  "validFor": {  "startDateTime": "2013-06-20T00:00:01-04:00",  "endDateTime": ""  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "14.40",  "dutyFreeAmount": "12.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "month",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  } } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "MonthlyPrice",  "description": "Monthly Price",  "validFor": {  "startDateTime": "2013-06-20T00:00:01-04:00",  "endDateTime": ""  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "14.40",  "dutyFreeAmount": "12.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "month",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  } } |

## PUT /catalogManagement/productSpecification/{ID}

This Uniform Contract operation is used to completely update the representation of a managed entity or a task.

Description :

* This operation completely updates a productSpecification.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

|  |
| --- |
| **REQUEST** |
| PUT /catalogManagement/productSpecification{22}  Content-type: application/json  {  "id": "22",  "href": "http://serverlocation:port/catalogManagement/productSpecification/22",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "iPhone 42",  "description": "Siri works on this iPhone",  "isBundle": "true",  "brand": "Apple",  "lifecycleStatus": "Launched",  "validFor": {  "startDateTime": "2013-06-20T16:42:23-04:00",  "endDateTime": ""  },  "relatedParty": [  {  "id": "1234",  "role": "Owner",  "href": "http ://serverLocation:port/partyManagement/partyRole/1234"  }  ],  "attachment": [  {  "id": "22",  "href": "http://serverlocation:port/documentManagement/attachment/22",  "type": "Picture",  "url": "http://xxxxx"  }  ],  "bundledProductSpecification": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productSpecification/15",  "lifecycleStatus": "Launched",  "name": "Product specification 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productSpecification/64",  "lifecycleStatus": "Launched",  "name": "Product specification 64"  }  ],  "productSpecificationRelationship": [  {  "type": "dependency",  "id": "23",  "href": " http://serverlocation:port/catalogManagement/productSpecification/23", "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "serviceSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "resourceSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "productSpecCharacteristic": [  {  "id": "42",  "name": "Screen Size",  "description": "Screen size",  "valueType": "number",  "configurable": "false",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "productSpecCharRelationship": [  {  "type": "dependency",  "id": "43",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "ProductSpecCharacteristicValue": [  {  "valueType": "number",  "default": "true",  "value": "4.2",  "unitOfMeasure": "inches",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }, {  "id": "34",  "name": "Colour",  "description": "Colour",  "valueType": "string",  "configurable": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "ProductSpecCharacteristicValue": [  {  "valueType": "string",  "default": "true",  "value": "Black",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }, {  "valueType": "string",  "default": "false",  "value": "White",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }  ] } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "22",  "href": "http://serverlocation:port/catalogManagement/productSpecification/22",  "version": "2.0",  "lastUpdate": "2013-06-20T16:42:23-04:00",  "name": "iPhone 42",  "description": "Siri works on this iPhone",  "isBundle": "true",  "brand": "Apple",  "lifecycleStatus": "Launched",  "validFor": {  "startDateTime": "2013-06-20T16:42:23-04:00",  "endDateTime": ""  },  "relatedParty": [  {  "role": "Owner",  "id": "1234",  "href": "http ://serverLocation:port/partyManagement/partyRole/1234"  }  ],  "attachment": [  {  "id": "22",  "href": "http://serverlocation:port/documentManagement/attachment/22",  "type": "Picture",  "url": "http://xxxxx"  }  ],  "bundledProductSpecification": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productSpecification/15",  "lifecycleStatus": "Launched",  "name": "Product specification 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productSpecification/64",  "lifecycleStatus": "Launched",  "name": "Product specification 64"  }  ],  "productSpecificationRelationship": [  {  "type": "dependency",  "id": "23",  "href": " http://serverlocation:port/catalogManagement/productSpecification/23", "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "serviceSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "resourceSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "productSpecCharacteristic": [  {  "id": "42",  "name": "Screen Size",  "description": "Screen size",  "valueType": "number",  "configurable": "false",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "productSpecCharRelationship": [  {  "type": "dependency",  "id": "43",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "ProductSpecCharacteristicValue": [  {  "valueType": "number",  "default": "true",  "value": "4.2",  "unitOfMeasure": "inches",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }, {  "id": "34",  "name": "Colour",  "description": "Colour",  "valueType": "string",  "configurable": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "ProductSpecCharacteristicValue": [  {  "valueType": "string",  "default": "true",  "value": "Black",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }, {  "valueType": "string",  "default": "false",  "value": "White",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }  ] } |

## PATCH /catalogManagement/category/{ID}

This Uniform Contract operation is used to partially update the representation of a managed entity or a task.

Description :

* This operation partially updates a category.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

Specify which attributes are patchable using the following table (to capture RO attributes)

|  |  |  |
| --- | --- | --- |
| Attribute name | Patchable | Rule |
| Id | No |  |
| lastUpdate | No |  |
| version | Y | Should be greater than the current one |
| lifecycleStatus | Y | Status should be valid |
| startDateTime | Y |  |
| endDateTime | Y | Should be greater than startDateTime |
| parentId | Y | The parent category should exist |
| isRoot | Y | To be updated in compliance with the parentId |
| name | Y |  |
| description | Y |  |

Further document any rules that must be implemented when patching attributes.

|  |  |
| --- | --- |
| Rule name | Rule/Pre Condition/Side Effects/Post Conditons |
| Root | When isRoot is patched to false, parentId should indicate the parent category.  When isRoot is patched to true, parentId should be empty. |

|  |
| --- |
| **REQUEST** |
| PATCH /catalogManagement/category/{42}  Content-type: application/json  {  "parentId": "",  "isRoot": "true" } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/category/42",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "version": "2.0",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": "",  "isRoot": "true",  "name": "Cloud Services",  "description": "A category to hold all available cloud service offers" } |

## PATCH /catalogManagement/productOffering/{ID}

This Uniform Contract operation is used to partially update the representation of a managed entity or a task.

Description :

* This operation partially updates a productOffering.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

Specify which attributes are patchable using the following table (to capture RO attributes)

|  |  |  |
| --- | --- | --- |
| Attribute name | Patchable | Rule |
| Id | No |  |
| lastUpdate | No |  |
| version | Y | Should be greater than the current one |
| lifecycleStatus | Y | Status should be valid |
| startDateTime | Y |  |
| endDateTime | Y | Should be greater than startDateTime |
| isBundle | Y | To be updated in compliance with the bundledProductOffering |
| name | Y |  |
| description | Y |  |
| category | Y |  |
| bundledProductOffering | Y | To be updated in compliance with isBundle |
| productSpecification | Y | It should exist |
| serviceCandidate | Y | It should exist |
| resourceCandidate | Y | It should exist |
| channel | Y | It should exist |
| place | Y | It should exist |
| productOfferingTerm | Y |  |
| productOfferingPrice | Y | It should exist |

Further document any rules that must be implemented when patching attributes.

|  |  |
| --- | --- |
| Rule name | Rule/Pre Condition/Side Effects/Post Conditons |
| isBundle | isBundle determines whether a productOffering represents a single productOffering (false), or a bundle of productOfferings (true).  If false, then a productOffering will be returned, but the bundledProductOffering will be absent or empty and vice-versa if isBundle is true. |

|  |
| --- |
| **REQUEST** |
| PATCH /catalogManagement/productOffering/{42}  Content-type: application/json-patch+json  {  "op": "add",  "path": "/place",  "value": {  "id": "44",  "href": "http://serverlocation:port/marketSales/place/44",  "name": "Spain"  } } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "2.0",  "lastUpdate": "2013-06-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  },  {  "id": "44",  "href": "http://serverlocation:port/marketSales/place/44",  "name": "Spain" }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |

## PATCH /catalogManagement/productOfferingPrice/{ID}

This Uniform Contract operation is used to partially update the representation of a managed entity or a task.

Description :

* This operation partially updates a productOfferingPrice.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

Specify which attributes are patchable using the following table (to capture RO attributes)

|  |  |  |
| --- | --- | --- |
| Attribute name | Patchable | Rule |
| Id | No |  |
| startDateTime | Y |  |
| endDateTime | Y | Should be greater than startDateTime |
| priceType | N |  |
| unitOfMeasure | Y |  |
| price | Y |  |
| recurringChargePeriod | Y | To be updated in compliance with priceType |
| productOfferPriceAlteration | Y | It should exist |

Further document any rules that must be implemented when patching attributes.

|  |  |
| --- | --- |
| Rule name | Rule/Pre Condition/Side Effects/Post Conditons |
|  |  |

|  |
| --- |
| **REQUEST** |
| PATCH /catalogManagement/productOfferingPrice/{15}  Content-type: application/json  {  "validFor": {  "startDateTime": "2013-06-20T00:00:01-04:00",  "endDateTime": ""  },  "price": {  "taxIncludedAmount": "14.40",  "dutyFreeAmount": "12.00",  "taxRate": "20.00",  "currencyCode": "EUR"  } } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "MonthlyPrice",  "description": "Monthly Price",  "validFor": {  "startDateTime": "2013-06-20T00:00:01-04:00",  "endDateTime": ""  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "14.40",  "dutyFreeAmount": "12.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "month",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  } } |

## PATCH /catalogManagement/productSpecification/{ID}

This Uniform Contract operation is used to partially update the representation of a managed entity or a task.

Description :

* This operation partially updates a productSpecification.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

Specify which attributes are patchable using the following table (to capture RO attributes)

|  |  |  |
| --- | --- | --- |
| Attribute name | Patchable | Rule |
| Id | No |  |
| lastUpdate | No |  |
| version | Y | Should be greater than the current one |
| lifecycleStatus | Y | Status should be valid |
| startDateTime | Y |  |
| endDateTime | Y | Should be greater than startDateTime |
| isBundle | Y | To be updated in compliance with the bundledProductSpecification |
| name | Y |  |
| description | Y |  |
| brand | Y |  |
| relatedParty | Y | It should exist |
| attachment | Y | It should exist |
| bundledProductSpecification | Y | To be updated in compliance with isBundle |
| productSpecificationRelationship | Y | It should exist |
| serviceSpecification | Y | It should exist |
| resourceSpecification | Y | It should exist |
| productSpecCharacteristic | Y | It should exist |
| productSpecCharRelationship | Y | It should exist |
| productSpecCharacteristicValue | Y |  |

Further document any rules that must be implemented when patching attributes.

|  |  |
| --- | --- |
| Rule name | Rule/Pre Condition/Side Effects/Post Conditons |
| isBundle | isBundle determines whether a productSpecification represents a single productSpecification (false), or a bundle of productSpecification (true).  If false, then a productSpecification will be returned, but the bundledProductSpeciciation will be absent or empty and vice-versa if isBundle is true. |

|  |
| --- |
| **REQUEST** |
| PATCH /catalogManagement/productSpecification/{22}  Content-type: application/json-patch+json  {  "op": "add",  "path": "/attachment",  "value": {  "id": "44",  "href": "http://serverlocation:port/documentManagement/attachment/44",  "type": "Video",  "url": "http://yyyyy"  } } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "22",  "href": "http://serverlocation:port/catalogManagement/productSpecification/22",  "version": "2.0",  "lastUpdate": "2013-06-19T16:42:23-04:00",  "name": "iPhone 42",  "description": "Siri works on this iPhone",  "isBundle": "true",  "brand": "Apple",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "relatedParty": [  {  "id": "1234",  "role": "Owner",  "href": "http ://serverLocation:port/partyManagement/partyRole/1234"  }  ],  "attachment": [  {  "id": "22",  "href": "http://serverlocation:port/documentManagement/attachment/22",  "type": "Picture",  "url": "http://xxxxx"  },  {  "id": "44",  "href": "http://serverlocation:port/documentManagement/attachment/44",  "type": "Video",  "url": "http://yyyyy"  }  ],  "bundledProductSpecification": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productSpecification/15",  "lifecycleStatus": "Active",  "name": "Product specification 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productSpecification/64",  "lifecycleStatus": "Active",  "name": "Product specification 64"  }  ],  "productSpecificationRelationship": [  {  "type": "dependency",  "id": "23",  "href": " http://serverlocation:port/catalogManagement/productSpecification/23", "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "serviceSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "resourceSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceSpecification/13",  "name": "specification 1",  "version": "1.1"  }  ],  "productSpecCharacteristic": [  {  "id": "42",  "name": "Screen Size",  "description": "Screen size",  "valueType": "number",  "configurable": "false",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "productSpecCharRelationship": [  {  "type": "dependency",  "id": "43",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ],  "ProductSpecCharacteristicValue": [  {  "valueType": "number",  "default": "true",  "value": "4.2",  "unitOfMeasure": "inches",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }, {  "id": "34",  "name": "Colour",  "description": "Colour",  "valueType": "string",  "configurable": "true",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "ProductSpecCharacteristicValue": [  {  "valueType": "string",  "default": "true",  "value": "Black",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }, {  "valueType": "string",  "default": "false",  "value": "White",  "unitOfMeasure": "",  "valueFrom": "",  "valueTo": "",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  }  }  ]  }  ] } |

## POST /catalogManagement/category/{ID}

This Uniform Contract operation is used to create a managed entity or a task.

Description :

* This operation creates a category
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* Standard POST behavior.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

ID Management :

The response provide the category id.

Specify the attributes required when an entity is created (and their default values if not):

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute name | Mandatory | Default | Rule |
| isRoot | N | true |  |
| name | Y |  |  |
| parentId | Y |  | If isRoot is set to “false”, parentId is mandatory |

Further specify any rules on the creation of the entity

|  |  |
| --- | --- |
| Rule name | Rule |
|  |  |

|  |
| --- |
| **REQUEST** |
| POST catalogManagement/category  Content-type: application/json  {  "version": "1.0",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": " 41",  "isRoot": "false",  "name": "Cloud Services",  "description": "A category to hold all available cloud service offers" } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/category/42",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "version": "1.0",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "parentId": " 41",  "isRoot": "false",  "name": "Cloud Services",  "description": "A category to hold all available cloud service offers" } |

## POST /catalogManagement/productOffering/{ID}

This Uniform Contract operation is used to create a managed entity or a task.

Description :

* This operation creates a productOffering
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* Standard POST behavior.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

ID Management :

The response provides the productOffering id.

Specify the attributes required when an entity is created (and their default values if not):

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute name | Mandatory | Default | Rule |
| name | Y |  |  |
| isBundle | N | false |  |
| bundledProductOffering | Y |  | If isBundle is set to “true”, bundledProductOffering is mandatory |
| productSpecification | Y |  |  |
| productOfferingPrice | Y |  |  |

Further specify any rules on the creation of the entity

|  |  |
| --- | --- |
| Rule name | Rule |
|  |  |

|  |
| --- |
| **REQUEST** |
| POST catalogManagement/productOffering  Content-type: application/json  {  "version": "1.0",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "1.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |

## POST /catalogManagement/productOfferingPrice/{ID}

This Uniform Contract operation is used to create a managed entity or a task.

Description :

* This operation creates a productOfferingPrice.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* Standard POST behavior.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

ID Management :

The response provides the productOfferingPrice id.

Specify the attributes required when an entity is created (and their default values if not):

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute name | Mandatory | Default | Rule |
| name | Y |  |  |
| priceType | Y |  |  |
| price | Y |  |  |
| recurringChargePeriod | Y |  | Mandatory if priceType is recurring |

* Further specify any rules on the creation of the entity

|  |  |
| --- | --- |
| Rule name | Rule |
|  |  |

|  |
| --- |
| **REQUEST** |
| POST catalogManagement/productOfferingPrice  Content-type: application/json  {  "name": "MonthlyPrice",  "description": "Monthly Price",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "month",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  } } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "MonthlyPrice",  "description": "Monthly Price",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "month",  "productOfferPriceAlteration": {  "id": "15",  "href": " http://serverlocation:port/catalogManagement/productOfferPriceAlteration/15",  "name": "Shipping Discount",  "description": "One time shipping discount",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": ""  },  "priceType": "One Time discount",  "unitOfMeasure": "",  "price": {  "percentage": "100%"  },  "recurringChargePeriod": "",  "applicationDuration": "",  "priceCondition": "apply if total amount of the order is greater than 300.00"  } } |

## POST /catalogManagement/productSpecification/{ID}

This Uniform Contract operation is used to create a managed entity or a task.

Description :

* This operation creates a productSpecification.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* Standard POST behavior.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

ID Management :

The response provides the productSpecification id.

Specify the attributes required when an entity is created (and their default values if not):

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute name | Mandatory | Default | Rule |
| name | Y |  |  |
| isBundle | N | false |  |
| bundledProductSpecification | Y |  | If isBundle is set to “true”, bundledProductSpecification is mandatory |
| productSpecCharacteristic | Y |  |  |
| productSpecCharacteristicValue | Y |  |  |

* Further specify any rules on the creation of the entity

|  |  |
| --- | --- |
| Rule name | Rule |
|  |  |

|  |
| --- |
| **REQUEST** |
| POST catalogManagement/productSpecification  Content-type: application/json  {  "version": "1.0",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productSpecification/42",  "version": "1.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "category": [  {  "id": "12",  "href": "http://serverlocation:port/catalogManagement/category/12",  "version": "2.0",  "name": "Cloud offerings"  }  ],  "channel": [  {  "id": "13",  "href": "http://serverlocation:port/marketSales/channel/13",  "name": "Online Channel"  }  ],  "place": [  {  "id": "12",  "href": "http://serverlocation:port/marketSales/place/12",  "name": "France"  }  ],  "bundledProductOffering": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOffering/15",  "lifecycleStatus": "Active",  "name": "Offering 15"  }, {  "id": "64",  "href": "http://serverlocation:port/catalogManagement/productOffering/64",  "lifecycleStatus": "Active",  "name": "Offering 64"  }  ],  "serviceLevelAgreement": {  "id": "28",  "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",  "name": "Standard SLA"  },  "productSpecification": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/productSpecification/13",  "version": "2.0",  "name": "specification product 1"  }  ],  "serviceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/13",  "version": "2.0",  "name": "specification service 1"  }  ],  "resourceCandidate": [  {  "id": "13",  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/13",  "version": "2.0",  "name": "specification resource 1"  }  ],  "productOfferingTerm": [  {  "name": "12 Month",  "description": "12 month contract",  "duration": "12",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  }  }  ],  "productOfferingPrice": [  {  "id": "15",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/15",  "name": "Monthly Price",  "description": "monthlyprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "recurring",  "unitOfMeasure": "",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": "monthly"  }, {  "id": "17",  "href": "http://serverlocation:port/catalogManagement/productOfferingPrice/17",  "name": "Usage Price",  "description": "usageprice",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  "priceType": "usage",  "unitOfMeasure": "second",  "price": {  "taxIncludedAmount": "12.00",  "dutyFreeAmount": "10.00",  "taxRate": "20.00",  "currencyCode": "EUR"  },  "recurringChargePeriod": ""  }  ] } |

## POST /catalogManagement/catalog/{10}/importJob

This Uniform Contract operation is used to create a managed entity or a task.

Description :

* This operation manages a task to import a catalog.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* Standard POST behavior.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

ID Management :

The response provides the job id.

Specify the attributes required for the task (and their default values if not):

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute name | Mandatory | Default | Rule |
| url | Y |  |  |
|  |  |  |  |
|  |  |  |  |

* Further specify any rules for the task

|  |  |
| --- | --- |
| Rule name | Rule |
|  |  |

|  |
| --- |
| **REQUEST** |
| POST catalogManagement/catalog/{10}/importJob  Content-type: application/json  {  "url": "ftp://ftp.myCatalog.com/productCatalog"  } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "54",  "status": "Succeeded",  "errorLog": "" } |

## POST /catalogManagement/catalog/{10}/exportJob

This Uniform Contract operation is used to create a managed entity or a task.

Description :

* This operation manages a task to export a catalog.
* The resource represents a managed entity.
* The ID may be a string (or a string containing numbers).

Behavior :

* Standard POST behavior.
* Returns HTTP/1.1 status code 201 if the request was successful.
* Any other special return and/or exception codes.

ID Management :

The response provides the job id.

Specify the attributes required for the task (and their default values if not):

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute name | Mandatory | Default | Rule |
| Catalog id | Y |  |  |
|  |  |  |  |
|  |  |  |  |

Further specify any rules for the task

|  |  |
| --- | --- |
| Rule name | Rule |
|  |  |

|  |
| --- |
| **REQUEST** |
| POST catalogManagement/catalog/{10}/exportJob  Content-type: application/json  {  } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "54",  "status": "Succeeded",  "errorLog": "",  "url": "ftp://ftp.myCatalog.com/productCatalog"  } |

Example see TMF REST Design Guidelines.

## DELETE API/{RESOURCE}/{ID}

No delete operations

This Uniform Contract operation is used to delete a managed entity or a task.

Description :

* Provide an overall description of the Operation
* Describe if the resource represents a managed entity or a task.
* Describe the structure of the identifier.

Behavior :

* What status and exception codes are returned.
* Returns HTTP/1.1 status code 200 if the request was successful.
* Any other special return and/or exception codes.

|  |
| --- |
| **REQUEST** |
| DELETE API/{RESOURCE}/{ID} |
| **RESPONSE** |
| 200 |

Example see TMF REST Design Guidelines.

# API NOTIFICATIOn TEMPLATES

## 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.

|  |
| --- |
| **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.

|  |
| --- |
| **REQUEST** |
| DELETE /api/hub/{id}  Accept: application/json |
| **RESPONSE** |
| 204 |

## publish {EventTYPE} POST /listener

Description :

Provide the Event description

Behavior :

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

|  |
| --- |
| **REQUEST** |
| POST /client/listener  Accept: application/json  {    "event": {  EVENT BODY   },  "eventType": "eventType" } |
| **RESPONSE** |
| 201  Content-Type: application/json |

# lifecycle management Extensions to Catalog

In Lifecycle Management there is a requirement to distinguish between entities existing with different life cycle version numbers and accessible via different ACL mechanisms.

For example the same Product Offerings may exist in a Catalog but with different version numbers.

It may be possible for an administrator to see all the existing versions or for a partner to see only a subset of all the existing versions.

The entity version number is not dependent on the version number of the API. For example in PLM the same API (running at a specific version number) may be used to retrieve entities with different PLM version numbers.

In order to distinguish resources representing entities running with different version numbers and accessible though the same API version the following directive can be used /id:(version=x) and the version attribute is added to each entity.

|  |
| --- |
|  |
| {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "1.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  …..  } |

Note that the catlog resources in this case may have the same ID but may be distinguished by the inclusion of the version number in their ID i.e /42:(version=1.0), /42:(version=2.0).

In the following examples we will assume that two versions of the VirtualStorage Product Offer exist in the Product Catalog. The Inactive and Active versions respectively version 1.0 and version 2.0.

## Query all versioned catalog resources

Users with different roles may have access to different versions of the entities in the catalog. For example user A may have access to only the version 1.0 of the entities while user B may have access to version 1.0 and version 2.0.

Admin user of Catalog have access to all the versions of the resources while non admin users have by default access to only the latest version of the entities in the Catalog.

For example the following request on the admin endpoint will return all the versioned resources matching a specific ID.

|  |
| --- |
| **REQUEST** |
| GET api/admin/catalogManagement/productOffering/?id=VirtualStorage  Accept: application/json |
| **RESPONSE** |
| 200  Content-Type: application/json  [{  "id": " VirtualStorage ",  "href": "http://serverlocation:port/catalogManagement/productOffering/VirtualStorage",  "version": "1.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "InActive",  …..  },  {  "id": " VirtualStorage ",  "href": "http://serverlocation:port/catalogManagement/productOffering/ VirtualStorage ",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  …..  }  ] |

## Query a specific versioned CATALOG resource

In general a non admin API user only has visibility to the latest version number or visibility to a subset of versioned catalog resources.

It may be possible for an admin API user to retrieve a resource with a specific version number by using an ID and versioning filtering criteria.

|  |
| --- |
| **REQUEST** |
| GET api/admin/catalogManagement/productOffering/?id=VirtualStorage&version=1.0  Accept: application/json |
| **RESPONSE** |
| 200  Content-Type: application/json  [{  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "1.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  …..  ] |

## Query current version of a catalog resource

By default only the most current version is returned (for admin and non admin).

|  |
| --- |
| **REQUEST** |
| GET api/admin/catalogManagement/productOffering/VirtualStorage  Accept: application/json |
| **RESPONSE** |
| 200  Content-Type: application/json  {  "id": "42",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "2.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  …..  } |

## Create new version of a CATALOG resource

POST is used to create a new version of a catalog resource.

The constraint is that the version numbers for the resource having the same ID must differ.

|  |
| --- |
| **REQUEST** |
| POST catalogManagement/productOffering  Content-type: application/json  {  “id”: “VirtualStorage”,  "version": "3.0",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  …  } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "VirtualStorage",  "href": "http://serverlocation:port/catalogManagement/productOffering/42",  "version": "3.0",  "lastUpdate": "2013-04-19T16:42:23-04:00",  "name": "Virtual Storage Medium",  "description": "Virtual Storage Medium",  "isBundle": "true",  "lifecycleStatus": "Active",  "validFor": {  "startDateTime": "2013-04-19T16:42:23-04:00",  "endDateTime": "2013-06-19T00:00:00-04:00"  },  …  } |

## Modify an existing version of a CATalog resource

By default PATCH or PUT will be acting only on the latest version of a Catalog Resource. For example PATCH /…/productOffering/VirtualStorage will only update the VirtualStoage ProductOffering at Version 2.0 (which is the most current).

To update a specific version of an entity the (Version=X) directive is added to the ID (i.e /id:(version=x) .

Note that this capability is only available to API users having the proper authorizations to change the catalog entities with specific version numbers.

For example to change the VirtualStorage versioned at 1.0 we could use /productOffering/VirtualStorage(Version=1.0)

|  |
| --- |
| **REQUEST** |
| PATCH /catalogManagement/productOffering/VirtualStorage(Version=1.0)  Content-type: application/json-patch+json  {  "lifecycleStatus": "Active"   } |
| **RESPONSE** |
| 201  Content-Type: application/json  {  "id": "VirtualStorage",  "href": "http://serverlocation:port/catalogManagement/productOffering/VirtualStorage",  "version": "1.0",  "lifecycleStatus": "Active",  …..  } |

## Role based Access Control

The user presents their credentials for authentication

If the credentials are valid

1. The user is given access to the catalog

2. As defined by their role(s)

3. As defined by their access rights

4. As defined by the access type: CRUD, discover

5. As defined by the pre-defined filter

For example if they issue a get on a catalog that a party has no access they get an error response

Or if they try to modify an area of the catalog but do not have Write Access they get an error response

Normally we anticipate that the OAUTH2 or Open ID Connect are used as the authorization APIs and that ACL are establisher between authorized parties with regards to the content of the Catalog (i.e GET but also enable of update operations on specific entities).

## Release History

|  |  |  |  |
| --- | --- | --- | --- |
| **Release Number** | **Date** | **Release led by:** | **Description** |
| Release 1.0 | 04/15/2013 | Pierre Gauthier  TM Forum  [pgauthier@tmforum.org](mailto:pgauthier@tmforum.org) | First Release of Draft Version of the Document. |
| Release 1.1 |  |  | Updated for use in the Paris Spec Jam – and rebranded,. |