



TM Forum Specification

Resource Catalog Management API REST Specification

TMF634
Release 17.0.1
December 2017

Latest Update: TM Forum Release 17.0	TM Forum Approved
Version 2.0.2	IPR Mode: RAND

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INTRODUCTION

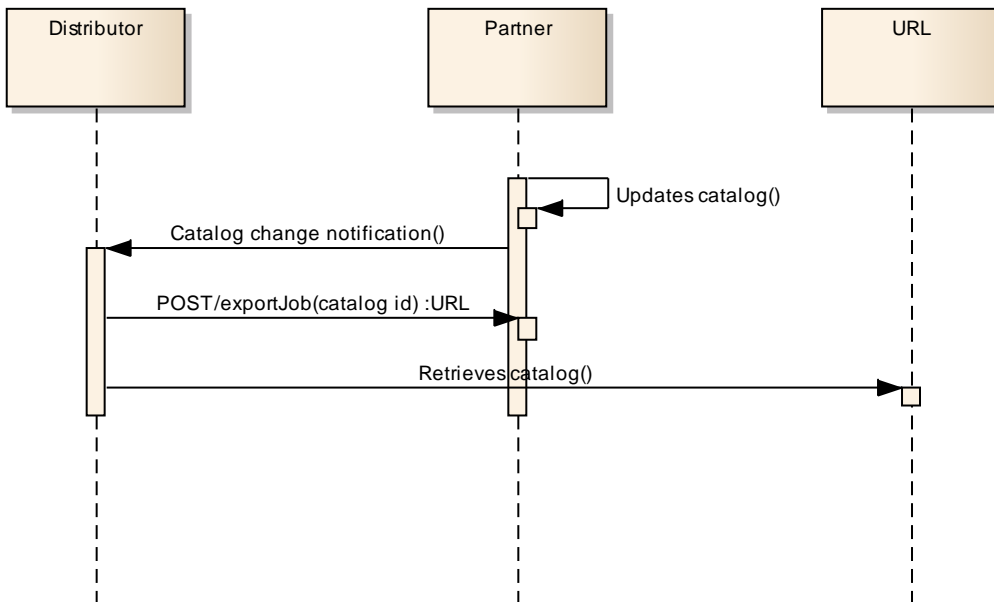
The Resource Catalog Management API REST specification allows the management of the entire lifecycle of the Resource Catalog elements and the consultation of resource catalog elements during several processes such as ordering process.

SAMPLE USE CASES

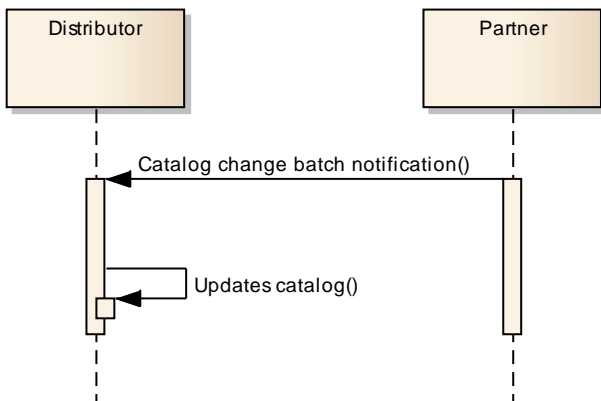
Lifecycle Management Use Case

The Resource Catalog Management API REST Specification allows the management of the entire lifecycle of the resource catalog elements. The followings are use case examples of a resource catalog management. Please refer to Frameworkx guidebook GB978 for more information.

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 resource candidate based on resource candidate identifier or other search criteria (GET /resourceCandidate/{ID}).

UC4: A catalog administrator wants to retrieve all resource candidates in resource catalog (GET /resourceCandidate).

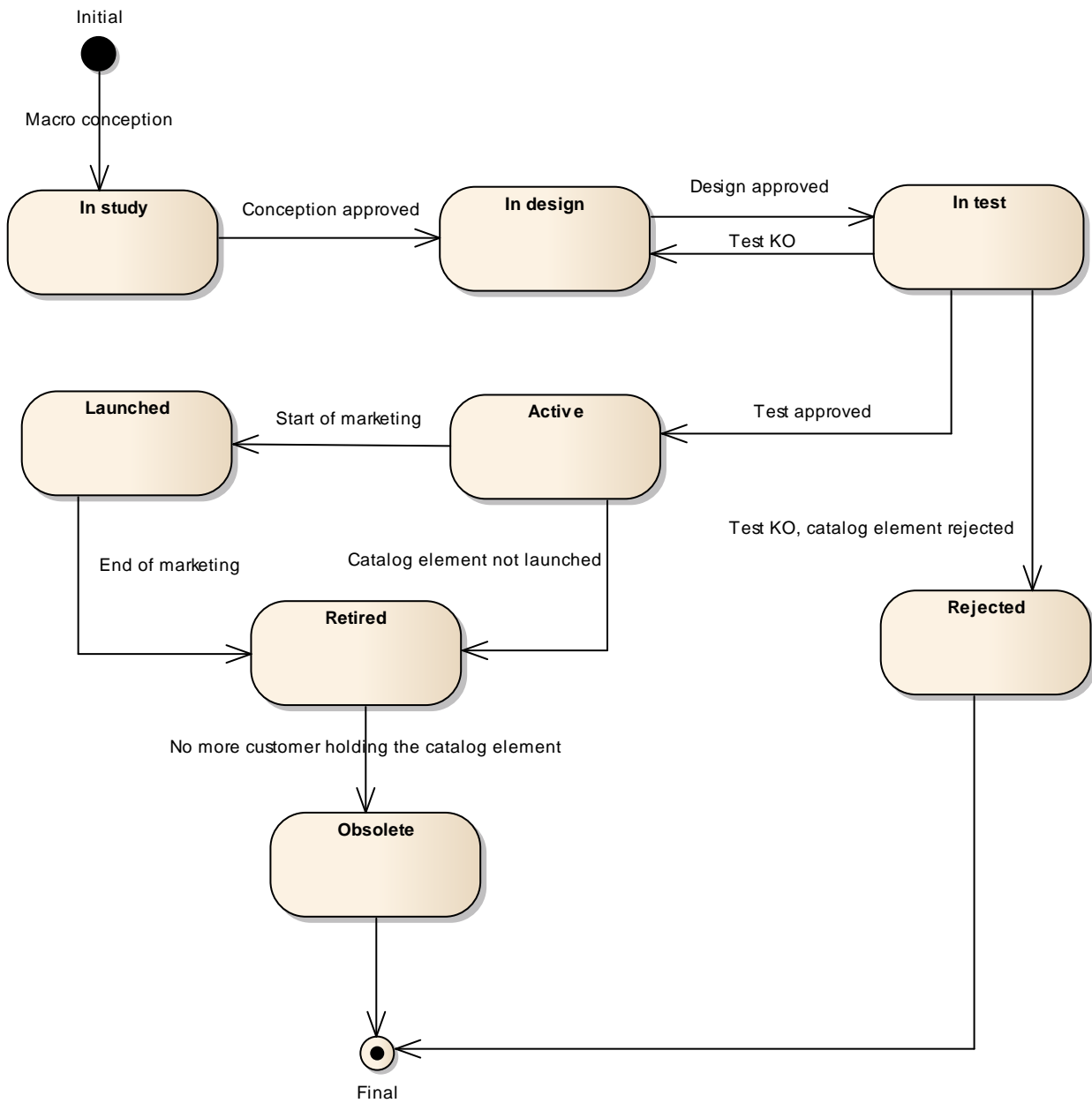
UC5: A catalog administrator wants to update the lifecycle status (from Launched to retired for example) of a resource candidate (PATCH /resourceCandidate/{ID}).

RESOURCE MODEL

Managed Entity and Task Resource Models

Resource Lifecycle Management:

Resource Lifecycle Management is responsible for managing the entire lifecycle of the resource catalog element and its underlying components. This include all 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 cannot be sold to any new customers, but previous customers can still have it.

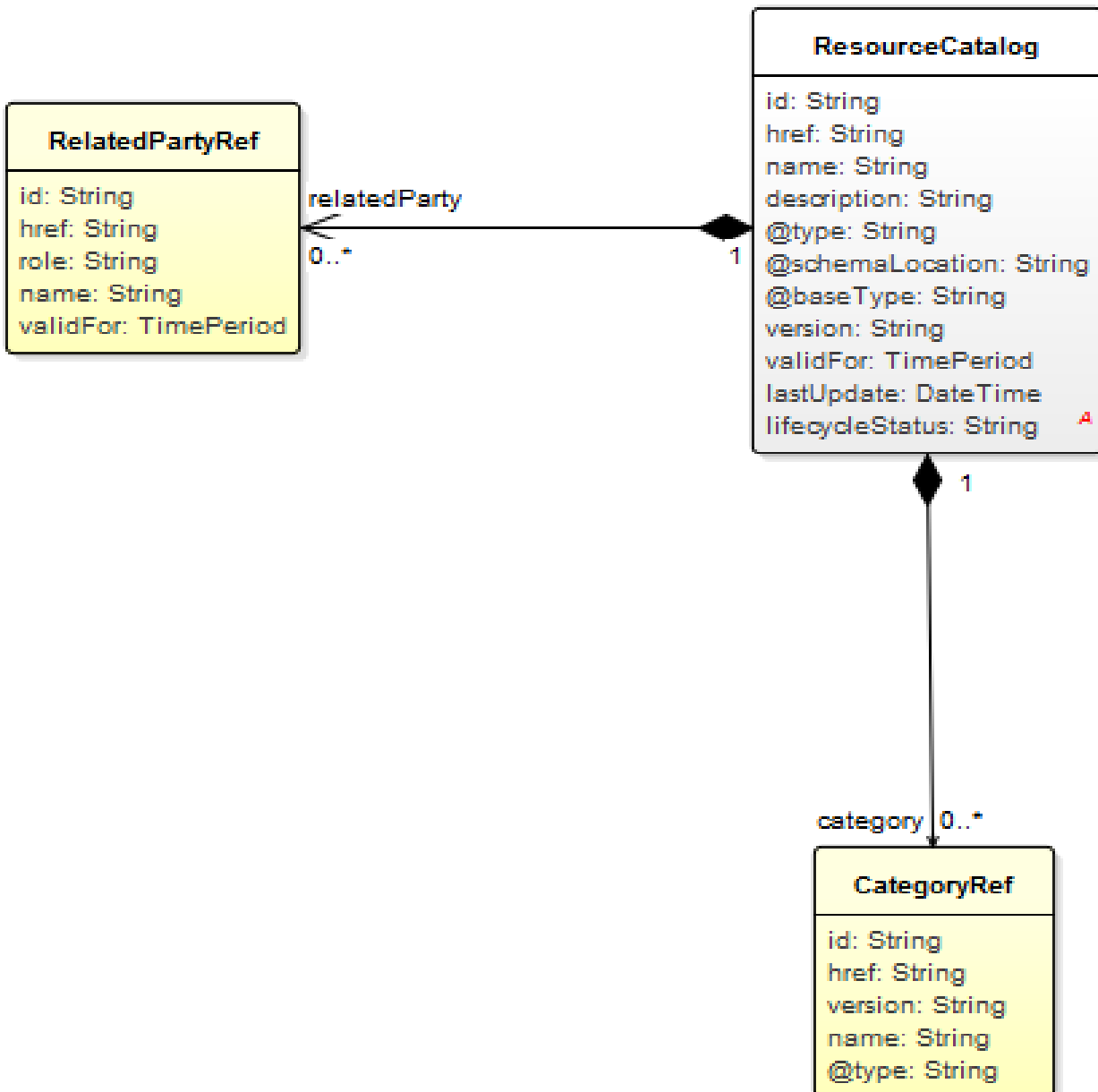
When no more customer holds the catalog element, its status is changed to “Obsolete” meaning it can be removed from the catalog.

RESOURCE CATALOG RESOURCE

The root entity for resource catalog management.

A resource catalog is a group of resource specifications made available through resource candidates that an organization provides to the consumers (internal consumers like its employees or B2B customers or B2C customers).

Resource model



Field descriptions

ResourceCatalog fields

id	A string. Unique identifier of the Catalog.
href	A string. Unique reference of the catalog.
name	A string. Name of the catalog.
description	A string. Description of this catalog.
@type	A string. Indicates the (class) type of catalog. For resource catalogs, this will be 'ResourceCatalog'.
@schemaLocation	A string. This field provides a link to the schema describing this REST resource.
@baseType	A string. Indicates the base (class) type of this REST resource.
version	A string. Catalog version.
validFor	A time period. The period for which the catalog is valid.
lastUpdate	A date time (DateTime). Date and time of the last update.
lifecycleStatus	A string. Used to indicate the current lifecycle status.
relatedParty	A list of related party references (RelatedPartyRef [*]). A related party defines party or party role linked to a specific entity.
category	A list of category references (CategoryRef [*]). 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.

CategoryRef relationship

Category reference. 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.

id	A string. Unique reference of the category.
href	A string. Unique reference of the category.
version	A string. Category version.
name	A string. Name of the category.

RelatedPartyRef relationship

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

id	A string. Unique identifier of a related party.
----	---

href	A string. Reference of the related party, could be a party reference or a party role reference.
role	A string. Role of the related party.
name	A string. Name of the related party.
validFor	A time period. Validity period of the related party.

Json representation sample

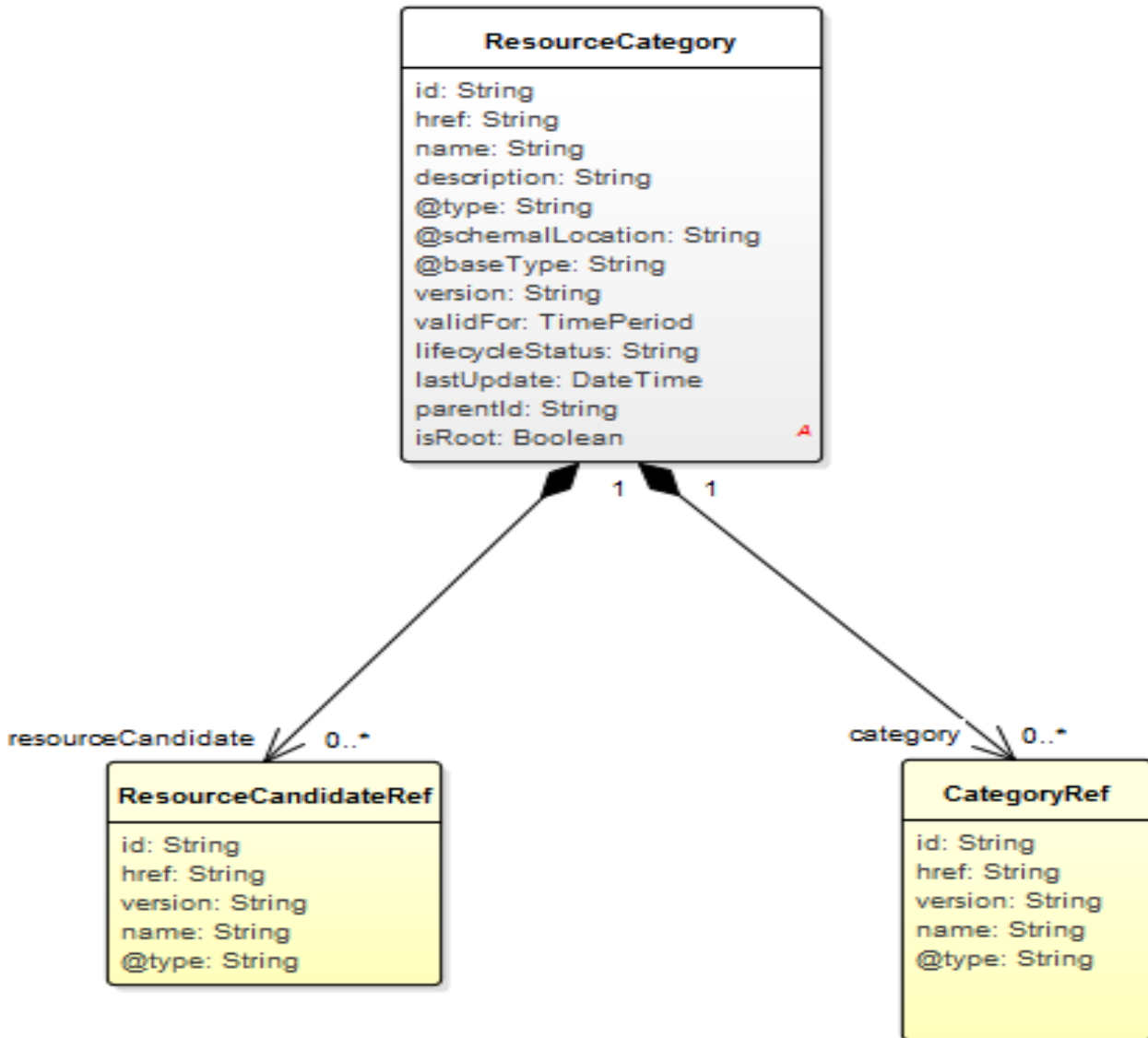
We provide below the json representation of an example of a 'ResourceCatalog' resource object

```
{
  "id": "5574",
  "href": "https://host:port/catalogManagement/resourceCatalog/5574",
  "name": "Cloud Resource Catalog",
  "description": "This resource catalog ...",
  "@type": "ResourceCatalog",
  "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCatalog.yml",
  "@baseType": "Catalog",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2017-08-10T00:00",
    "endDateTime": "2018-03-07T00:00"
  },
  "lastUpdate": "2017-08-09T00:00",
  "lifecycleStatus": "Active",
  "relatedParty": [
    {
      "id": "5858",
      "href": "https://host:port/partyManagement/organization/5858",
      "role": "Supplier",
      "name": "Gustave Flaubert",
      "validFor": {
        "startDateTime": "2017-08-08T00:00",
        "endDateTime": "2018-03-07T00:00"
      }
    }
  ],
  "category": [
    {
      "id": "4569",
      "href": "https://host:port/catalogManagement/category/4569",
      "version": "1.0",
      "name": "Secure Home"
    }
  ]
}
```


RESOURCE CATEGORY RESOURCE

The (resource) category resource is used to group resource candidates in logical containers. Categories can contain other categories.

Resource model



Field descriptions

ResourceCategory fields

- id** A string. Unique identifier of the category.
- href** A string. Hyperlink reference to the category.
- name** A string. Name of the category.

description	A string. Description of the category.
@type	A string. The (class) type of this category.
@schemaLocation	A string. This field provides a link to the schema describing this REST resource.
@baseType	A string. Immediate base class type of this category.
version	A string. Category version.
validFor	A time period. The period for which the category is valid.
lifecycleStatus	A string. Used to indicate the current lifecycle status.
lastUpdate	A date time (DateTime). Date and time of the last update.
parentId	A string. Unique identifier of the parent category.
isRoot	A boolean. If true, this Boolean indicates that the category is a root of categories.
category	A list of category references (CategoryRef [*]). 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.
resourceCandidate	A list of resource candidate references (ResourceCandidateRef [*]). A resource candidate is an entity that makes a ResourceSpecification available to a catalog.
relatedParty	A list of related party references (RelatedPartyRef [*]). A related party defines party or party role linked to a specific entity.

CategoryRef relationship

Category reference. 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.

id	A string. Unique reference of the category.
href	A string. Unique reference of the category.
version	A string. Category version.
name	A string. Name of the category.

RelatedPartyRef relationship

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

id	A string. Unique identifier of a related party.
href	A string. Reference of the related party, could be a party reference or a party role reference.
role	A string. Role of the related party.
name	A string. Name of the related party.
validFor	A time period. Validity period of the related party.

ResourceCandidateRef relationship

ResourceCandidate reference: A resource candidate is an entity that makes a ResourceSpecification available to a catalog.

id	A string. Unique identifier of the resource candidate.
href	A string. Reference of the resource candidate.
version	A string. Version of the resource candidate.
name	A string. Name of the resource candidate.

Json representation sample

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

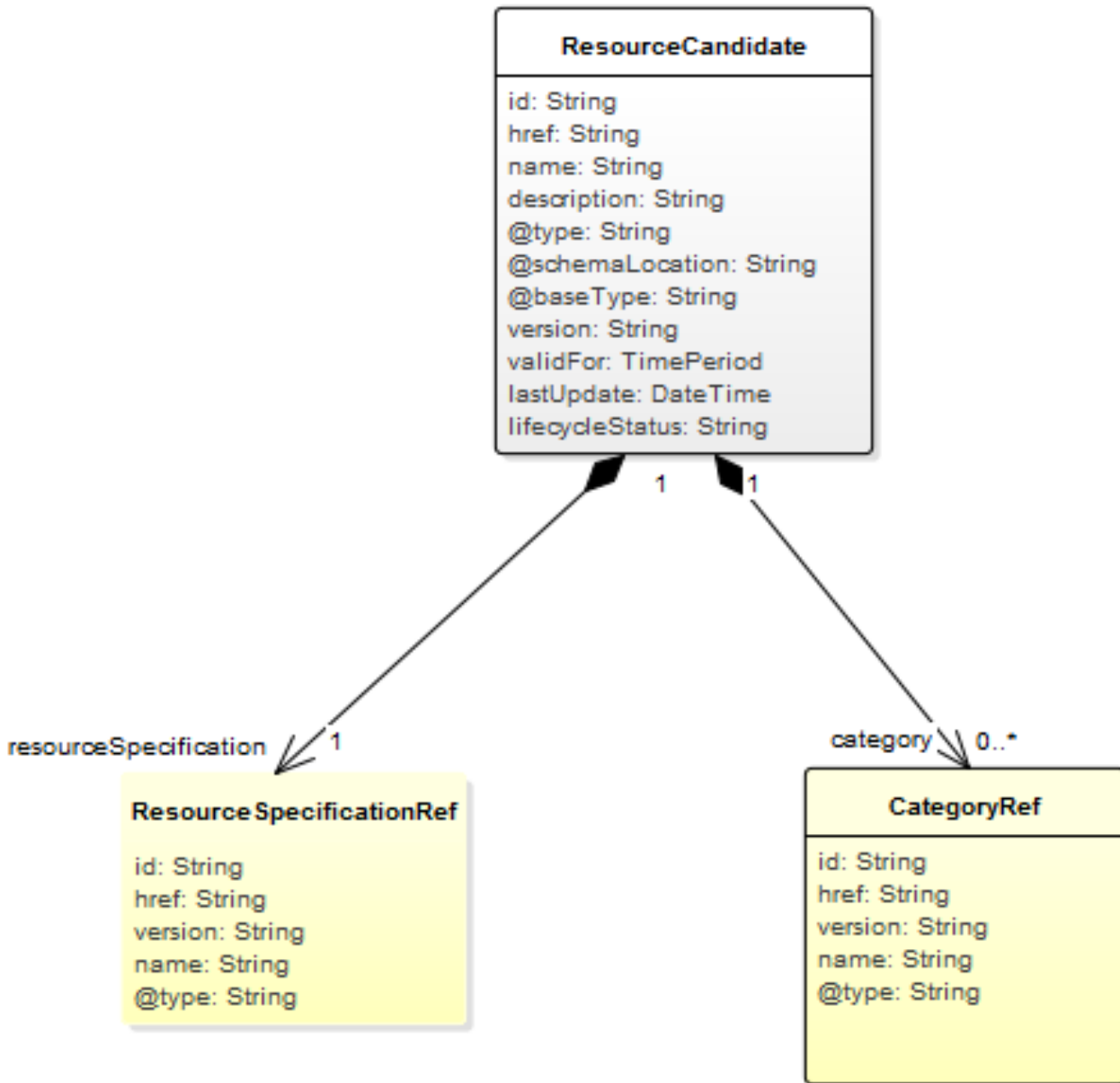
```
{
  "id": "8121",
  "href": "https://host:port/catalogManagement/resourceCategory/8121",
  "name": "Network Logical resources",
  "description": "This resource category ...",
  "@type": "ResourceCategory",
  "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCategory.yml",
  "@baseType": "Category",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2017-08-11T00:00",
    "endDateTime": "2018-03-07T00:00"
  },
  "lifecycleStatus": "Active",
  "lastUpdate": "2017-08-09T00:00",
  "parentId": "636",
  "isRoot": false,
  "category": [
    {
      "id": "5982",
      "href": "https://host:port/catalogManagement/category/5982",
      "version": "3.2",
      "name": "IoT"
    }
  ],
  "resourceCandidate": [
```

```
{
  "id": "5298",
  "href": "https://host:port/catalogManagement/resourceCandidate/5298",
  "version": "1.0",
  "name": "Elastic Storage"
},
"relatedParty": [
  {
    "id": "4434",
    "href": "https://host:port/partyManagement/organization/4434",
    "role": "employee",
    "name": "Jimmy Doe",
    "validFor": {
      "startDateTime": "2017-08-10T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  }
]
}
```

RESOURCE CANDIDATE RESOURCE

ResourceCandidate is an entity that makes a resource specification available to a catalog. A ResourceCandidate and its associated resource specification may be published - made visible - in any number of resource catalogs, or in none.

Resource model



Field descriptions

ResourceCandidate fields

id A string. Unique identifier of this REST resource.

href	A string. Hyperlink reference to this REST resource.
name	A string. Name given to this REST resource.
description	A string. Description of this REST resource.
@type	A string. Class type of this REST resource.
@schemaLocation	A string. This field provides a link to the schema describing this REST resource.
@baseType	A string. The (immediate) base class type of this REST resource.
version	A string. the version of resource candidate.
validFor	A time period. The period for which this REST resource is valid.
lastUpdate	A date time (DateTime). Date and time of the last update of this REST resource.
lifecycleStatus	A string. Used to indicate the current lifecycle status of the resource candidate.
category	A list of category references (CategoryRef [*]). 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.
resourceSpecification	A resource specification reference (ResourceSpecificationRef).

CategoryRef relationship

Category reference. 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.

id	A string. Unique reference of the category.
href	A string. Unique reference of the category.
version	A string. Category version.
name	A string. Name of the category.

ResourceSpecificationRef relationship

Resource Specification reference:

id	A string. Unique identifier of the resource specification.
href	A string. Reference of the resource specification.
name	A string. Name of the requiredResourceSpecification.

version A string. Resource specification version.

Json representation sample

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

```
{
  "id": "7479",
  "href": "https://host:port/catalogManagement/resourceCandidate/7479",
  "name": "Virtual Storage Medium",
  "description": "This resource candidate ...",
  "@type": "ResourceCandidate",
  "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCandidate.yml",
  "@baseType": "",
  "version": "3.2",
  "validFor": {
    "startDateTime": "2017-08-12T00:00",
    "endDateTime": "2018-03-07T00:00"
  },
  "lastUpdate": "2017-08-09T00:00",
  "lifecycleStatus": "Active",
  "category": [
    {
      "id": "5355",
      "href": "https://host:port/catalogManagement/category/5355",
      "version": "1.1",
      "name": "Cloud Resources"
    }
  ],
  "resourceSpecification": {
    "id": "42",
    "href": "http://hostname:port/catalogManagement/resourceSpecification/43",
    "name": "VirtualStorageMedium"
  }
}
```

RESOURCE SPECIFICATION RESOURCE

Resources are physical or non-physical components (or some combination of these) within an enterprise's infrastructure or inventory. They are typically consumed or used by services (for example a physical port assigned to a service) or contribute to the realization of a Product (for example, a SIM card). They can be drawn from the Application, Computing and Network domains, and include, for example, Network Elements, software, IT systems, content and information, and technology components.

A ResourceSpecification is a base class for representing a generic means for implementing a particular type of Resource. In essence, a ResourceSpecification defines the common attributes and relationships of a set of related Resources, while Resource defines a specific instance that is based on a particular ResourceSpecification.

Resource model

href	A string. Hyperlink reference to this REST resource.
name	A string. Name given to this REST resource.
description	A string. Description of this REST resource.
@type	A string. Class type of this REST resource.
@schemaLocation	A string. This field provides a link to the schema describing this REST resource.
@baseType	A string. The (immediate) base class type of this REST resource.
version	A string. Resource Specification version.
validFor	A time period. The period for which this REST resource is valid.
lastUpdate	A date time (DateTime). Date and time of the last update of this REST resource.
lifecycleStatus	A string. Used to indicate the current lifecycle status of the resource specification.
isBundle	A boolean. A flag indicates that if this resource specification is a bundled specification (true) or single (false).
category	A string. Category of the target resource like NetworkConnectivity, PhysicalLinks, Generic, L2Network and so on.
targetResourceSchema	A target resource schema reference (TargetResourceSchemaRef). The reference object to the schema and type of target resource which is described by resource specification.
feature	A list of features (Feature [*]). applicable feature(s) for this resource specification.
attachment	A list of attachments (Attachment [*]). Complements the description of an element (for instance a product) through video, pictures...
relatedParty	A list of related party references (RelatedPartyRef [*]). A related party defines party or party role linked to a specific entity.
resourceSpecCharacteristic	A list of resource spec characteristics (ResourceSpecCharacteristic [*]). This class defines the characteristic features of a resource specification. Every ResourceSpecification has a variety of important attributes, methods, constraints, and relationships, which distinguish a resource specification from other resource specifications.

resourceSpecRelationship A list of resource spec relationships (ResourceSpecRelationship [*]). A migration, substitution, dependency or exclusivity relationship between/among resource specifications.

Attachment sub-resource

Complements the description of an element (for instance a product) through video, pictures...

description A string. A narrative text describing the content of the attachment.

href A string. Reference of the attachment.

id A string. Unique identifier of the attachment.

type A string. Attachment type such as video, picture.

url A string. Uniform Resource Locator, is a web page address (a subset of URI).

Feature sub-resource

Distinctive aspect(s) of this resource specification.

id A string. reference id to the feature. It is optional if the feature is not defined as a stand-alone object.

href A string. Hyperlink reference to the target feature. It is optional if the feature is not defined as a separate REST resource.

version A string. feature version.

name A string. Unique name given to the feature. it is Required if the feature is not introduced as a separate REST resource.

@type A string. The optional (class) type of the feature.

isBundle A boolean. A flag indicating if the feature is bundle (true) or not (false).

validFor A time period. The period for which this relationship is valid.

isEnabled A boolean. A flag indicating if the feature is enabled (true) or not (false).

ResourceSpecCharRelationship sub-resource

An aggregation, migration, substitution, dependency or exclusivity relationship between/among Specification Characteristics.

type A string. Type of relationship such as aggregation, migration, substitution, dependency, exclusivity.

name A string. Name of the target characteristic.

id A string. Unique identifier of the target specification.

href	A string. Hyperlink reference to the target specification.
@type	A string. class type of target specification.
validFor	A time period. The period for which the object is valid.

ResourceSpecCharacteristic sub-resource

This class defines the characteristic features of a resource specification. Every ResourceSpecification has a variety of important attributes, methods, constraints, and relationships, which distinguish a resource specification from other resource specifications.

name	A string. A word, term, or phrase by which this characteristic specification is known and distinguished from other characteristic specifications.
description	A string. A narrative that explains the CharacteristicSpecification.
valueType	A string. A kind of value that the characteristic can take on, such as numeric, text and so forth.
configurable	A boolean. If true, the Boolean indicates that the ResourceSpecCharacteristic is configurable.
validFor	A time period. The period of time for which a characteristic is applicable.
@type	A string. (Class) type of the ResourceSpecCharacteristic.
@schemaLocation	A string. A link to the schema describing this characteristic specification.
@valueSchemaLocation	A string. This (optional) field provides a link to the schema describing the value type.
minCardinality	An integer. The minimum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where zero is the value for the minCardinality.
maxCardinality	An integer. The maximum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where five is the value for the maxCardinality.
isUnique	A boolean. An indicator that specifies if a value is unique for the specification. Possible values are; "unique while value is in effect" and "unique whether value is in effect or not".

regex	A string. A rule or principle represented in regular expression used to derive the value of a characteristic value.
extensible	A boolean. An indicator that specifies that the values for the characteristic can be extended by adding new values when instantiating a characteristic for a resource.
resourceSpecCharRelationship	A list of resource spec char relationships (ResourceSpecCharRelationship [*]). An aggregation, migration, substitution, dependency or exclusivity relationship between/among Specification Characteristics.
resourceSpecCharacteristicValue	A list of resource spec characteristic values (ResourceSpecCharacteristicValue [*]). A number or text that can be assigned to a ResourceSpecCharacteristic.

ResourceSpecCharacteristicValue sub-resource

A number or text that can be assigned to a ResourceSpecCharacteristic.

valueType	A string. A kind of value that the characteristic value can take on, such as numeric, text and so forth.
isDefault	A boolean. If true, the Boolean Indicates if the value is the default value for a characteristic.
value	An object (Object). The value that the characteristic can take on. If the value is a complex type, the definition of the type should be found by the link as defined in @schemaLocation.
unitOfMeasure	A string. A length, surface, volume, dry measure, liquid measure, money, weight, time, and the like. In general, a determinate quantity or magnitude of the kind designated, taken as a standard of comparison for others of the same kind, in assigning to them numerical values, as 1 foot, 1 yard, 1 mile, 1 square foot.
validFor	A time period. The period of time for which a value is applicable.
valueFrom	An integer. The low range value that a characteristic can take on.
valueTo	An integer. The upper range value that a characteristic can take on.
rangeInterval	A string. An indicator that specifies the inclusion or exclusion of the valueFrom and valueTo attributes. If applicable, possible values are "open", "closed", "closedBottom" and "closedTop".
regex	A string. A regular expression constraint for given value.
@type	A string. The class type of a complex value type.

@schemaLocation A string. This (optional) field provides a link to the schema describing the value type.

ResourceSpecRelationship sub-resource

A migration, substitution, dependency or exclusivity relationship between/among resource specifications.

type A string. Type of relationship such as migration, substitution, dependency, exclusivity.

role A string. The association role for this resource specification.

id A string. Unique identifier of target ResourceSpecification.

href A string. Reference of the target ResourceSpecification.

name A string. The name given to the target resource specification instance.

validFor A time period. The period for which the ResourceSpecRelationship is valid.

RelatedPartyRef relationship

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

id A string. Unique identifier of a related party.

href A string. Reference of the related party, could be a party reference or a party role reference.

role A string. Role of the related party.

name A string. Name of the related party.

validFor A time period. Validity period of the related party.

TargetResourceSchemaRef relationship

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

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

@schemaLocation A string. This field provides a link to the schema describing the target resource.

Json representation sample

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

```
{
  "id": "43",
  "href": "http://hostname:port/catalogManagement/ResourceFunctionSpec/43",
  "name": "Firewall",
  "description": "This resource specification ...",
}
```

```

"@type": "ResourceFunctionSpec",
"@schemaLocation": "https://host:port/catalogManagement/schema/ResourceFunctionSpec.yml",
"@baseType": "LogicalResourceSpec",
"version": "3.2",
"validFor": {
  "startDateTime": "2017-08-06T00:00",
  "endDateTime": "2018-03-07T00:00"
},
"lastUpdate": "2017-08-09T00:00",
"lifecycleStatus": "Active",
"isBundle": false,
"category": "Security",
"targetResourceSchema": {
  "@type": "ResourceFunction",
  "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceFunction.yml "
},
"attachment": [
  {
    "description": "This attachment ...",
    "href": "http://hostname:port/documentManagement/attachment/22",
    "id": "22",
    "type": "Document",
    "url": "http://xxxxx"
  }
],
"relatedParty": [
  {
    "id": "8406",
    "href": "https://host:port/partyManagement/organization/8406",
    "role": "Supplier",
    "name": "Firewall Express",
    "validFor": {
      "startDateTime": "2017-08-05T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
  {
    "name": "OperatingSystem",
    "description": "This resource spec characteristic ...",
    "valueType": "String",
    "@valueSchemaLocation": "",
    "configurable": true,
    "validFor": {
      "startDateTime": "2017-08-12T00:00",
      "endDateTime": "2018-03-07T00:00"
    },
    "@type": "ResourceSpecCharacteristic",
    "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceSpecCharacteristic.yml",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": ""
  }
]

```

```

"extensible": false,
"resourceSpecCharRelationship": [
  {
    "type": "string",
    "name": "OperatingSystem",
    "id": "4690",
    "href": "https://host:port/catalogManagement/resourceSpecification/4690",
    "@type": "ResourceFunctionSpec",
    "validFor": {
      "startDateTime": "2017-08-11T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  }
],
"resourceSpecCharacteristicValue": [
  {
    "isDefault": true,
    "value": "Android KitKat",
    "validFor": {
      "startDateTime": "2017-08-06T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  }
]
},
{
  "name": "ScalabilityChar",
  "description": "Scalability parameters for this resource function",
  "valueType": "CapabilityScalable",
  "@valueSchemaLocation": "https://host:port/catalogManagement/schema/ CapabilityScalable.yml",
  "configurable": true,
  "validFor": {
    "startDateTime": "2017-08-17T00:00",
    "endDateTime": "2018-03-12T00:00"
  },
  "@type": "ResourceSpecCharacteristic",
  "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceSpecCharacteristic.yml",
  "minCardinality": 0,
  "maxCardinality": 1,
  "isUnique": true,
  "extensible": true,
  "resourceSpecCharRelationship": [
  ],
  "resourceSpecCharacteristicValue": [
    {
      "valueType": "Object",
      "value": {
        "minInstances": 1,
        "maxInstances": 1000,
      },
      "isDefault": true,
      "validFor": {
        "startDateTime": "2017-08-17T00:00",
        "endDateTime": "2018-03-12T00:00"
      }
    }
  ]
}

```

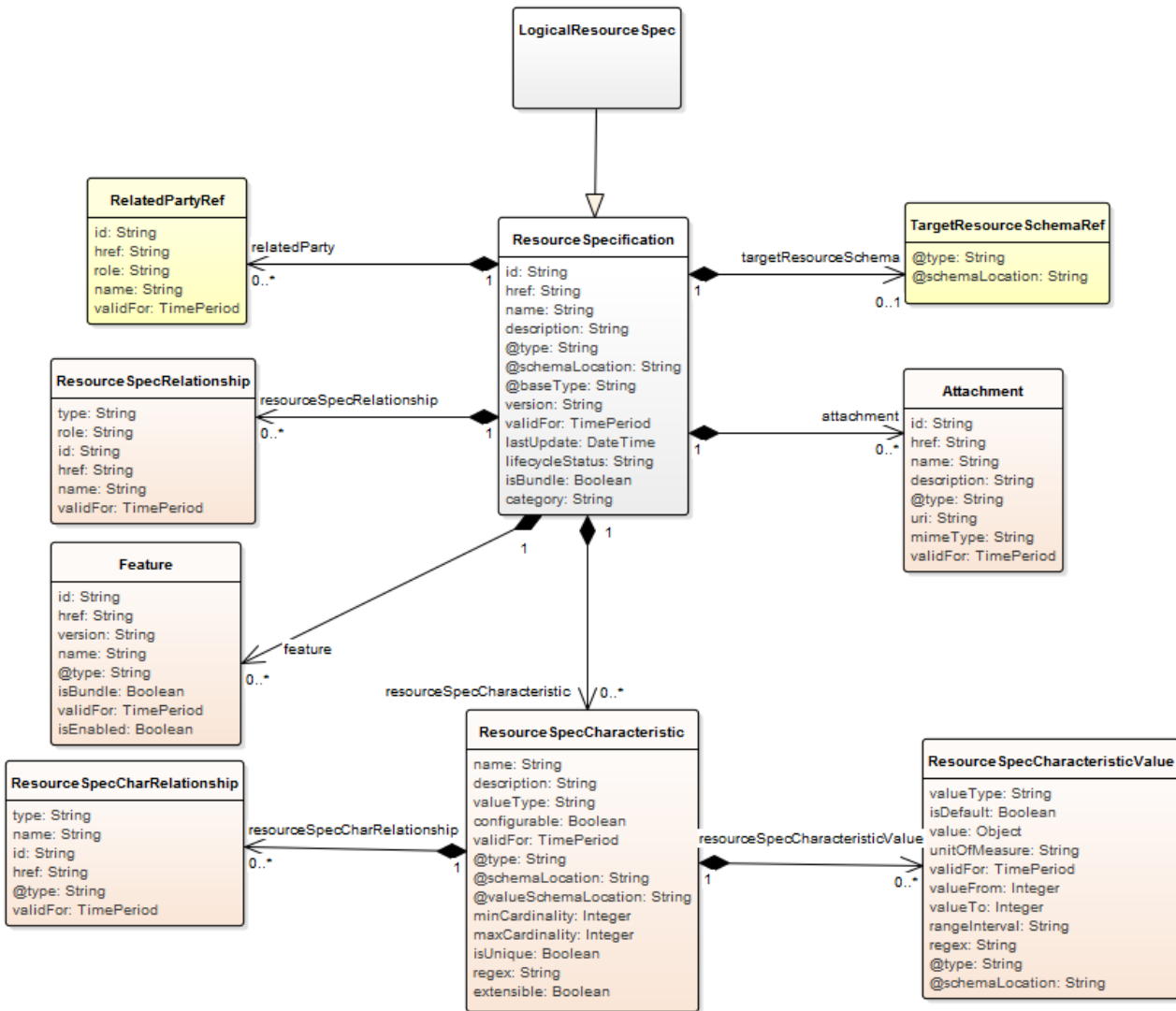


```
    },
    "@Type": "CapabilityScalable",
    "@schemaLocation": "https://host:port/catalogManagement/schema/ CapabilityScalable.yml",
  }
]
},
"resourceSpecRelationship": [
  {
    "type": "AdjacencyPair",
    "id": "2053",
    "href": "https://host:port/catalogManagement/physicalBlackBoxSpec/2053",
    "name": "SW1.1",
    "validFor": {
      "startDateTime": "2017-08-08T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  }
],
"feature": [
  {
    "id": "8782",
    "name": "IPv4Addressing",
    "isBundle": false,
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "isEnabled": true
  },
  {
    "id": "8783",
    "name": "IPv6Addressing",
    "isBundle": false,
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "isEnabled": false
  }
]
}
```

LOGICAL RESOURCE SPEC RESOURCE

This is a base class that is used to define the invariant characteristics and behavior (attributes, methods, constraints, and relationships) of a LogicalResource.

Resource model



Field descriptions

LogicalResourceSpec fields

- id A string. Unique identifier of this REST resource.
- href A string. Hyperlink reference to this REST resource.
- name A string. Name given to this REST resource.
- description A string. Description of this REST resource.

@type	A string. Class type of this REST resource.
@schemaLocation	A string. This field provides a link to the schema describing this REST resource.
@baseType	A string. The (immediate) base class type of this REST resource.
version	A string. Resource Specification version.
validFor	A time period. The period for which this REST resource is valid.
lastUpdate	A date time (DateTime). Date and time of the last update of this REST resource.
lifecycleStatus	A string. Used to indicate the current lifecycle status of the resource specification.
isBundle	A boolean. A flag indicates that if this resource specification is a bundled specification (true) or single (false).
category	A string. Category of the target resource like NetworkConnectivity, PhysicalLinks, Generic, L2Network and so on.
targetResourceSchema	A target resource schema reference (TargetResourceSchemaRef). The reference object to the schema and type of target resource which is described by resource specification.
feature	A list of features (Feature [*]). applicable feature(s) for this resource specification.
attachment	A list of attachments (Attachment [*]). Complements the description of an element (for instance a product) through video, pictures...
relatedParty	A list of related party references (RelatedPartyRef [*]). A related party defines party or party role linked to a specific entity.
resourceSpecCharacteristic	A list of resource spec characteristics (ResourceSpecCharacteristic [*]). This class defines the characteristic features of a resource specification. Every ResourceSpecification has a variety of important attributes, methods, constraints, and relationships, which distinguish a resource specification from other resource specifications.
resourceSpecRelationship	A list of resource spec relationships (ResourceSpecRelationship [*]). A migration, substitution, dependency or exclusivity relationship between/among resource specifications.

Attachment sub-resource

Complements the description of an element (for instance a product) through video, pictures...

description	A string. A narrative text describing the content of the attachment.
href	A string. Reference of the attachment.
id	A string. Unique identifier of the attachment.
type	A string. Attachment type such as video, picture.
url	A string. Uniform Resource Locator, is a web page address (a subset of URI).

Feature sub-resource

applicable feature(s) for this resource specification.

id	A string. reference id to the feature. It is optional if the feature is not defined as a stand-alone object.
href	A string. Hyperlink reference to the target feature. It is optional if the feature is not defined as a separate REST resource.
version	A string. feature version.
name	A string. Unique name given to the feature. it is Required if the feature is not introduced as a separate REST resource.
@type	A string. The optional (class) type of the feature.
isBundle	A boolean. A flag indicating if the feature is bundle (true) or not (false).
validFor	A time period. The period for which this relationship is valid.
isEnabled	A boolean. A flag indicating if the feature is enabled (true) or not (false).

ResourceSpecCharRelationship sub-resource

An aggregation, migration, substitution, dependency or exclusivity relationship between/among Specification Characteristics.

type	A string. Type of relationship such as aggregation, migration, substitution, dependency, exclusivity.
name	A string. Name of the target characteristic.
id	A string. Unique identifier of the target specification.
href	A string. Hyperlink reference to the target specification.
@type	A string. class type of target specification.
validFor	A time period. The period for which the object is valid.

ResourceSpecCharacteristic sub-resource

This class defines the characteristic features of a resource specification. Every ResourceSpecification has a variety of important attributes, methods, constraints, and relationships, which distinguish a resource specification from other resource specifications.

name	A string. A word, term, or phrase by which this characteristic specification is known and distinguished from other characteristic specifications.
description	A string. A narrative that explains the Characteristic.
valueType	A string. A kind of value that the characteristic can take on, such as numeric, text and so forth.
configurable	A boolean. If true, the Boolean indicates that the ResourceSpecCharacteristic is configurable.
validFor	A time period. The period of time for which a characteristic is applicable.
@type	A string. (Class) type of the ResourceSpecCharacteristic.
@schemaLocation	A string. A link to the schema describing this characteristic specification.
@valueSchemaLocation	A string. This (optional) field provides a link to the schema describing the value type.
minCardinality	An integer. The minimum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where zero is the value for the minCardinality.
maxCardinality	An integer. The maximum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where five is the value for the maxCardinality.
isUnique	A boolean. An indicator that specifies if a value is unique for the specification. Possible values are; "unique while value is in effect" and "unique whether value is in effect or not".
regex	A string. A rule or principle represented in regular expression used to derive the value of a characteristic value.
extensible	A boolean. An indicator that specifies that the values for the characteristic can be extended by adding new values when instantiating a characteristic for a resource.
resourceSpecCharRelationship	A list of resource spec char relationships (ResourceSpecCharRelationship [*]). An aggregation, migration,

substitution, dependency or exclusivity relationship between/among Specification Characteristics.

resourceSpecCharacteristicValue A list of resource spec characteristic values (ResourceSpecCharacteristicValue [*]). A number or text that can be assigned to a ResourceSpecCharacteristic.

ResourceSpecCharacteristicValue sub-resource

A number or text that can be assigned to a ResourceSpecCharacteristic.

valueType	A string. A kind of value that the characteristic value can take on, such as numeric, text and so forth.
isDefault	A boolean. If true, the Boolean Indicates if the value is the default value for a characteristic.
value	An object (Object). The value that the characteristic can take on. If the value is a complex type, the definition of the type should be found by the link as defined in @schemaLocation.
unitOfMeasure	A string. A length, surface, volume, dry measure, liquid measure, money, weight, time, and the like. In general, a determinate quantity or magnitude of the kind designated, taken as a standard of comparison for others of the same kind, in assigning to them numerical values, as 1 foot, 1 yard, 1 mile, 1 square foot.
validFor	A time period. The period of time for which a value is applicable.
valueFrom	An integer. The low range value that a characteristic can take on.
valueTo	An integer. The upper range value that a characteristic can take on.
rangeInterval	A string. An indicator that specifies the inclusion or exclusion of the valueFrom and valueTo attributes. If applicable, possible values are "open", "closed", "closedBottom" and "closedTop".
regex	A string. A regular expression constraint for given value.
@type	A string. The class type of a complex value type.
@schemaLocation	A string. This (optional) field provides a link to the schema describing the value type.

ResourceSpecRelationship sub-resource

A migration, substitution, dependency or exclusivity relationship between/among resource specifications.

type A string. Type of relationship such as migration, substitution, dependency, exclusivity.

role	A string. The association role for this resource specification.
id	A string. Unique identifier of target ResourceSpecification.
href	A string. Reference of the target ResourceSpecification.
name	A string. The name given to the target resource specification instance.
validFor	A time period. The period for which the ResourceSpecRelationship is valid.

RelatedPartyRef relationship

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

id	A string. Unique identifier of a related party.
href	A string. Reference of the related party, could be a party reference or a party role reference.
role	A string. Role of the related party.
name	A string. Name of the related party.
validFor	A time period. Validity period of the related party.

TargetResourceSchemaRef relationship

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

@type	A string. Class type of the target resource.
@schemaLocation	A string. This field provides a link to the schema describing the target resource.

Json representation sample

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

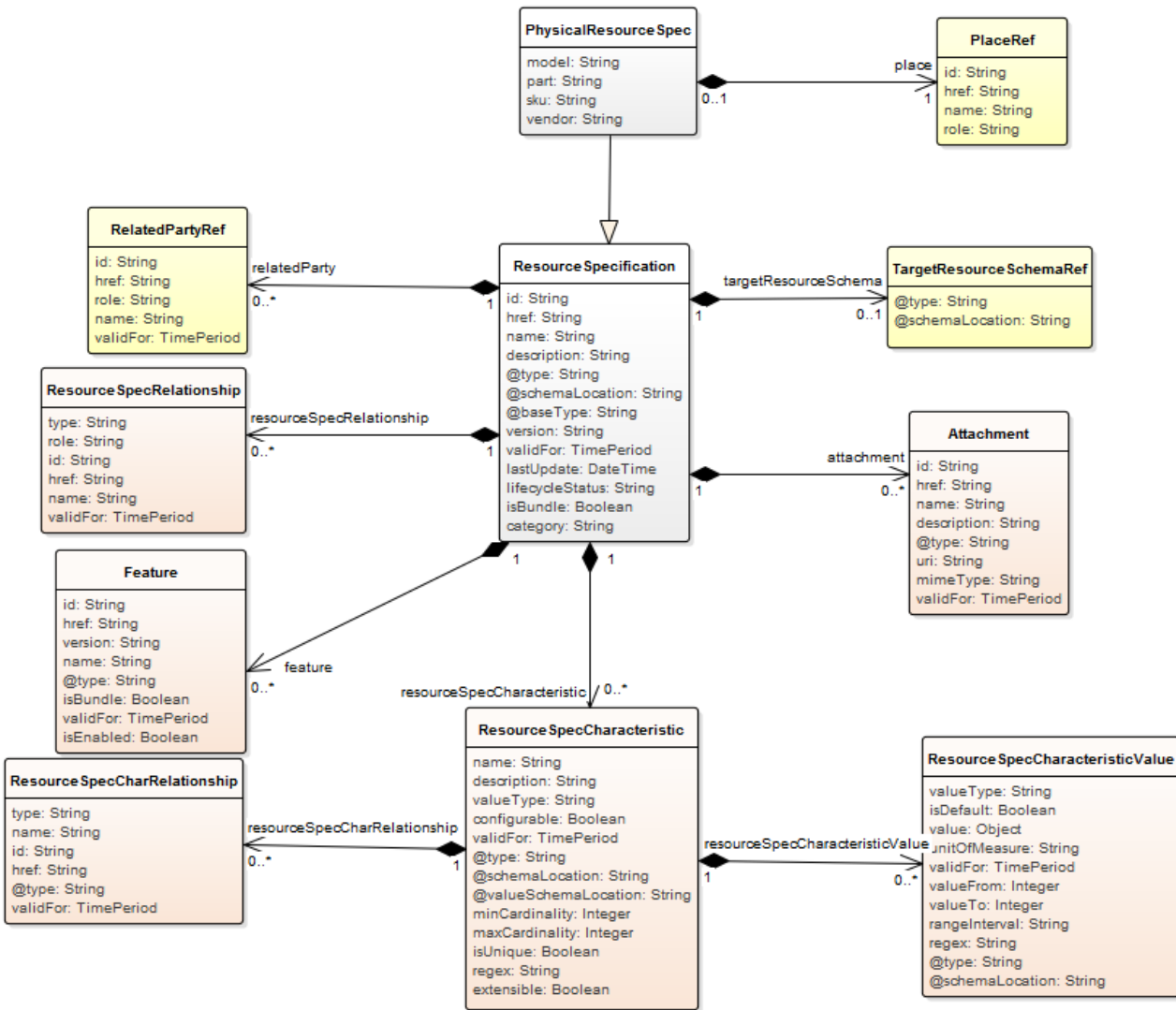
```
{
  "id": "43",
  "href": "http://hostname:port/catalogManagement/logicalResourceSpec/43",
  "name": "Firewall Connection",
  "description": "This resource specification ...",
  "@type": "ConnectionPointSpec",
  "@schemaLocation": "https://host:port/catalogManagement/schema/ConnectionPointSpec.yml",
  "@baseType": "LogicalResourceSpec",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2017-08-06T00:00",
    "endDateTime": "2018-03-07T00:00"
  },
  "lastUpdate": "2017-08-09T00:00",
  "lifecycleStatus": "Active",
  "isBundle": false,
}
```

```
"category": "Network Connectivity",
"targetResourceSchema": {
  "@type": "LogicalResource",
  "@schemaLocation": "https://host:port/catalogManagement/schema/LogicalResource.yml "
},
"attachment": [
],
"relatedParty": [
  {
    "id": "8406",
    "href": "https://host:port/partyManagement/organization/8406",
    "role": "Supplier",
    "name": "Firewall Express",
    "validFor": {
      "startDateTime": "2017-08-05T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
],
"resourceSpecRelationship": [
  {
    "type": "Requires",
    "role": "CPSpecsInputFor",
    "id": "2051",
    "href": "https://host:port/catalogManagement/ResourceFunctionSpec/2051",
    "name": "CgNat",
    "validFor": {
      "startDateTime": "2017-08-08T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  },
  {
    "type": "Requires",
    "role": "CPSpecsOutputFor",
    "id": "2053",
    "href": "https://host:port/catalogManagement/ResourceFunctionSpec/2053",
    "name": "Firewall",
    "validFor": {
      "startDateTime": "2017-08-08T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  }
],
"feature": []
}
```


PHYSICAL RESOURCE SPEC RESOURCE

This is a concrete class that is used to define the invariant characteristics and behavior (attributes, methods, constraints, and relationships) of a PhysicalResource.

Resource model



Field descriptions

PhysicalResourceSpec fields

- id A string. Unique identifier of this REST resource.
- href A string. Hyperlink reference to this REST resource.
- name A string. Name given to this REST resource.
- description A string. Description of this REST resource.

@type	A string. Class type of this REST resource.
@schemaLocation	A string. This field provides a link to the schema describing this REST resource.
@baseType	A string. The (immediate) base class type of this REST resource.
version	A string. Resource Specification version.
validFor	A time period. The period for which this REST resource is valid.
lastUpdate	A date time (DateTime). Date and time of the last update of this REST resource.
lifecycleStatus	A string. Used to indicate the current lifecycle status of the resource specification.
isBundle	A boolean. A flag indicates that if this resource specification is a bundled specification (true) or single (false).
category	A string. Category of the target resource like NetworkConnectivity, PhysicalLinks, Generic, L2Network and so on.
model	A string. This is a string that represents a manufacturer-allocated number used to identify the general type and/or category of the hardware item. This, in combination with the Part and the Vendor, identify different types of hardware items. The SerialNumber can then be used to differentiate between different instances of the same type of hardware item. This is an optional attribute.
part	A string. This is a string that defines a manufacturer-allocated part number assigned by the organization that manufactures the hardware item. This, in combination with the Model and the Vendor, identify different types of hardware items. The SerialNumber can then be used to differentiate between different instances of the same type of hardware item. This is a REQUIRED attribute.
sku	A string. This is a string that defines the manufacturer-allocated Stock Keeping Unit (SKU) number of the hardware item. This is an optional attribute.
vendor	A string. This is a string that defines the name of the manufacturer. This, in combination with the Model and the Part, identify different types of hardware items. The SerialNumber can then be used to differentiate between different instances of the same type of hardware item. This is a REQUIRED attribute for a physical resource.
place	A place reference (PlaceRef). Place defines the places where the products are sold or delivered.

targetResourceSchema	A target resource schema reference (TargetResourceSchemaRef). The reference object to the schema and type of target resource which is described by resource specification.
feature	A list of features (Feature [*]). applicable feature(s) for this resource specification.
attachment	A list of attachments (Attachment [*]). Complements the description of an element (for instance a product) through video, pictures...
relatedParty	A list of related party references (RelatedPartyRef [*]). A related party defines party or party role linked to a specific entity.
resourceSpecCharacteristic	A list of resource spec characteristics (ResourceSpecCharacteristic [*]). This class defines the characteristic features of a resource specification. Every ResourceSpecification has a variety of important attributes, methods, constraints, and relationships, which distinguish a resource specification from other resource specifications.
resourceSpecRelationship	A list of resource spec relationships (ResourceSpecRelationship [*]). A migration, substitution, dependency or exclusivity relationship between/among resource specifications.

Attachment sub-resource

Complements the description of an element (for instance a product) through video, pictures...

description	A string. A narrative text describing the content of the attachment.
href	A string. Reference of the attachment.
id	A string. Unique identifier of the attachment.
type	A string. Attachment type such as video, picture.
url	A string. Uniform Resource Locator, is a web page address (a subset of URI).

Feature sub-resource

applicable feature(s) for this resource specification.

id	A string. reference id to the feature. It is optional if the feature is not defined as a stand-alone object.
href	A string. Hyperlink reference to the target feature. It is optional if the feature is not defined as a separate REST resource.
version	A string. feature version.

name	A string. Unique name given to the feature. it is Required if the feature is not introduced as a separate REST resource.
@type	A string. The optional (class) type of the feature.
isBundle	A boolean. A flag indicating if the feature is bundle (true) or not (false).
validFor	A time period. The period for which this relationship is valid.
isEnabled	A boolean. A flag indicating if the feature is enabled (true) or not (false).

ResourceSpecCharRelationship sub-resource

An aggregation, migration, substitution, dependency or exclusivity relationship between/among Specification Characteristics.

type	A string. Type of relationship such as aggregation, migration, substitution, dependency, exclusivity.
name	A string. Name of the target characteristic.
id	A string. Unique identifier of the target specification.
href	A string. Hyperlink reference to the target specification.
@type	A string. class type of target specification.
validFor	A time period. The period for which the object is valid.

ResourceSpecCharacteristic sub-resource

This class defines the characteristic features of a resource specification. Every ResourceSpecification has a variety of important attributes, methods, constraints, and relationships, which distinguish a resource specification from other resource specifications.

name	A string. A word, term, or phrase by which this characteristic specification is known and distinguished from other characteristic specifications.
description	A string. A narrative that explains the CharacteristicSpecification.
valueType	A string. A kind of value that the characteristic can take on, such as numeric, text and so forth.
configurable	A boolean. If true, the Boolean indicates that the ResourceSpecCharacteristic is configurable.
validFor	A time period. The period of time for which a characteristic is applicable.
@type	A string. (Class) type of the ResourceSpecCharacteristic.

@schemaLocation	A string. A link to the schema describing this characteristic specification.
@valueSchemaLocation	A string. This (optional) field provides a link to the schema describing the value type.
minCardinality	An integer. The minimum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where zero is the value for the minCardinality.
maxCardinality	An integer. The maximum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where five is the value for the maxCardinality.
isUnique	A boolean. An indicator that specifies if a value is unique for the specification. Possible values are; "unique while value is in effect" and "unique whether value is in effect or not".
regex	A string. A rule or principle represented in regular expression used to derive the value of a characteristic value.
extensible	A boolean. An indicator that specifies that the values for the characteristic can be extended by adding new values when instantiating a characteristic for a resource.
resourceSpecCharRelationship	A list of resource spec char relationships (ResourceSpecCharRelationship [*]). An aggregation, migration, substitution, dependency or exclusivity relationship between/among Specification Characteristics.
resourceSpecCharacteristicValue	A list of resource spec characteristic values (ResourceSpecCharacteristicValue [*]). A number or text that can be assigned to a ResourceSpecCharacteristic.

ResourceSpecCharacteristicValue sub-resource

A number or text that can be assigned to a ResourceSpecCharacteristic.

valueType	A string. A kind of value that the characteristic value can take on, such as numeric, text and so forth.
isDefault	A boolean. If true, the Boolean Indicates if the value is the default value for a characteristic.
value	An object (Object). The value that the characteristic can take on. If the value is a complex type, the definition of the type should be found by the link as defined in @schemaLocation.

unitOfMeasure	A string. A length, surface, volume, dry measure, liquid measure, money, weight, time, and the like. In general, a determinate quantity or magnitude of the kind designated, taken as a standard of comparison for others of the same kind, in assigning to them numerical values, as 1 foot, 1 yard, 1 mile, 1 square foot.
validFor	A time period. The period of time for which a value is applicable.
valueFrom	An integer. The low range value that a characteristic can take on.
valueTo	An integer. The upper range value that a characteristic can take on.
rangeInterval	A string. An indicator that specifies the inclusion or exclusion of the valueFrom and valueTo attributes. If applicable, possible values are "open", "closed", "closedBottom" and "closedTop".
regex	A string. A regular expression constraint for given value.
@type	A string. The class type of a complex value type.
@schemaLocation	A string. This (optional) field provides a link to the schema describing the value type.

ResourceSpecRelationship sub-resource

A migration, substitution, dependency or exclusivity relationship between/among resource specifications.

type	A string. Type of relationship such as migration, substitution, dependency, exclusivity.
role	A string. The association role for this resource specification.
id	A string. Unique identifier of target ResourceSpecification.
href	A string. Reference of the target ResourceSpecification.
name	A string. The name given to the target resource specification instance.
validFor	A time period. The period for which the ResourceSpecRelationship is valid.

PlaceRef relationship

Place reference. Place defines the places where the products are sold or delivered.

id	A string. Unique identifier of the place.
href	A string. Unique reference of the place.
name	A string. A user-friendly name for the place, such as "Paris Store", "London Store", "Main Home".

role A string. Role of the place (for instance: 'home delivery', 'shop retrieval').

RelatedPartyRef relationship

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

id A string. Unique identifier of a related party.

href A string. Reference of the related party, could be a party reference or a party role reference.

role A string. Role of the related party.

name A string. Name of the related party.

validFor A time period. Validity period of the related party.

TargetResourceSchemaRef relationship

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

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

@schemaLocation A string. This field provides a link to the schema describing the target resource.

Json representation sample

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

```
{
  "id": "7115",
  "href": "https://host:port/catalogManagement/physicalResourceSpec/7115",
  "name": "Router",
  "description": "This physical resource spec ...",
  "@type": "PhysicalDeviceSpec",
  "@schemaLocation": "https://host:port/catalogManagement/schema/PhysicalDeviceSpec.json",
  "@baseType": "PhysicalResourceSpec",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2017-08-16T00:00",
    "endDateTime": "2018-03-12T00:00"
  },
  "lastUpdate": "2017-08-14T00:00",
  "lifecycleStatus": "Active",
  "isBundle": false,
  "category": "Network L2",
  "model": "Model1",
  "part": "Part1",
  "sku": "a string ...",
  "vendor": "XYZ.",
  "place": {
    "id": "1979",
    "href": "https://host:port/genericCommon/place/1979",
```

```
"name": "Main Home",
"role": "default delivery"
},
"targetResourceSchema": {
"@type": "PhysicalDevice",
"@schemaLocation": "https://host:port/catalogManagement/schema/PhysicalDevice.json",
},
"feature": [
],
"attachment": [
{
"description": "This attachment ...",
"href": "http://hostname:port/documentManagement/attachment/44",
"id": "44",
"type": "Document",
"mimeType": "pdf",
"url": "http://yyyyy"
}
],
"relatedParty": [
{
"id": "3362",
"href": "https://host:port/partyManagement/organization/3362",
"role": "Disrbuter",
"name": "ABC",
"validFor": {
"startDateTime": "2017-08-13T00:00",
"endDateTime": "2018-03-12T00:00"
}
}
],
"resourceSpecCharacteristic": [
{
"name": "memory",
"description": "This resource spec characteristic ...",
"valueType": "Integer",
"configurable": false,
"validFor": {
"startDateTime": "2017-08-10T00:00",
"endDateTime": "2018-03-12T00:00"
},
"minCardinality": 1,
"maxCardinality": 1,
"isUnique": true,
"resourceSpecCharRelationship": [
],
"resourceSpecCharacteristicValue": [
{
"valueType": "Integer",
"isDefault": true,
"value": 16,
"unitOfMeasure": "GB",
"validFor": {
"startDateTime": "2017-08-16T00:00",
```



```
        "endTime": "2018-03-12T00:00"
      }
    ]
  },
  "resourceSpecRelationship": [
    {
      "type": "Requires",
      "id": "4751",
      "href": "https://host:port/catalog/physicalResourceSpec/4751",
      "name": "PowerSupply.",
      "validFor": {
        "startTime": "2017-08-16T00:00",
        "endTime": "2018-03-12T00:00"
      }
    }
  ]
}
```

IMPORT JOB RESOURCE

Represents a task used to import resources from a file.

Field descriptions

ImportJob fields

id	A string. Identifier of the import job.
href	A string. Reference of the import job.
contentType	A string. Indicates the format of the imported data.
path	A string. URL of the root resource where the content of the file specified by the import job must be applied.
status	A string. Status of the import job (not started, running, succeeded, failed).
url	A string. URL of the file containing the data to be imported.
completionDate	A date time (DateTime). Date at which the job was completed.
creationDate	A date time (DateTime). Date at which the job was created.
errorLog	A string. Reason for failure if status is failed.

Json representation sample

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

```
{
  "id": "3186",
  "href": "https://host:port/catalogManagement/importJob/3186",
  "contentType": "application/json",
  "path": "/Unexpected/fatal/error",
  "status": "completed",
  "url": "http://my/monthly/job/YHGFRDE",
  "completionDate": "2017-08-14T00:00",
  "creationDate": "2017-08-14T00:00",
  "errorLog": "http://my-platform/logging/errors.log"
}
```

EXPORT JOB RESOURCE

Represents a task used to export resources to a file.

Field descriptions

ExportJob fields

id	A string. Identifier of the export job.
href	A string. Reference of the export job.
query	A string. Used to scope the exported data.
path	A string. URL of the root resource acting as the source for streaming content to the file specified by the export job.
contentType	A string. The format of the exported data.
status	A string. Status of the export job (not started, running, succeeded, failed).
url	A string. URL of the file containing the data to be exported.
completionDate	A date time (DateTime). Data at which the job was completed.
creationDate	A date time (DateTime). Date at which the job was created.
errorLog	A string. Reason for failure.

Json representation sample

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

```
{
  "id": "9788",
  "href": "https://host:port/catalogManagement/exportJob/9788",
  "query": "advancedCatalog",
  "path": "/warning/system",
  "contentType": "application/json",
  "status": "started",
  "url": "http://my/monthly/job/YHGFRDE",
  "completionDate": "2017-08-14T00:00",
  "creationDate": "2017-08-14T00:00",
  "errorLog": "http://my-platform/logging/errors.log"
}
```

Notification Resource Models

13 notifications are defined for this API

Notifications related to ResourceCatalog:

- ResourceCatalogCreationNotification
- ResourceCatalogRemoveNotification
- ResourceCatalogBatchNotification

Notifications related to ResourceCategory:

- ResourceCategoryCreationNotification
- ResourceCategoryRemoveNotification

Notifications related to ResourceCandidate:

- ResourceCandidateCreationNotification
- ResourceCandidateRemoveNotification

Notifications related to ResourceSpecification:

- ResourceSpecificationCreationNotification
- ResourceSpecificationRemoveNotification

Notifications related to LogicalResourceSpec:

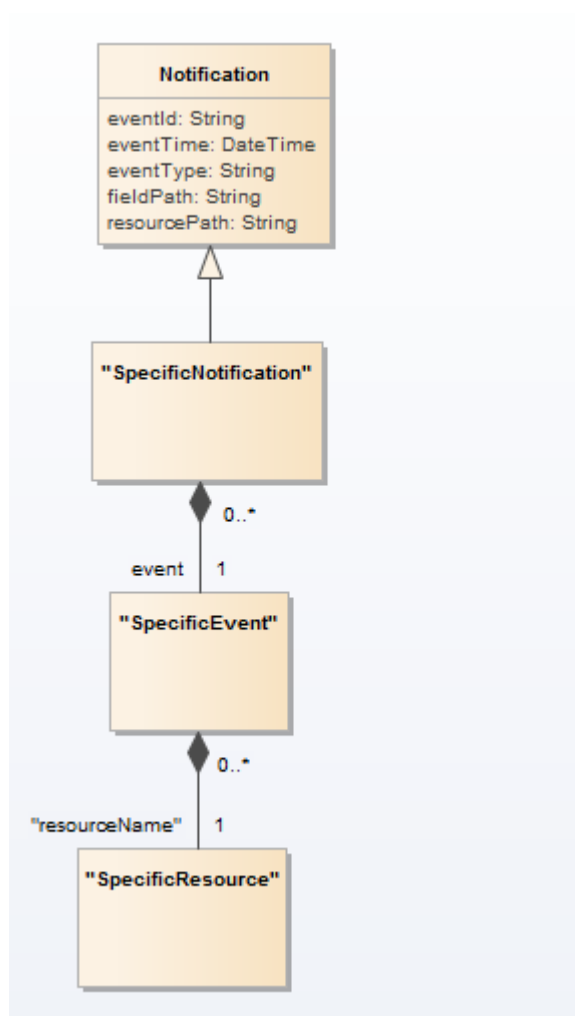
- LogicalResourceSpecCreationNotification
- LogicalResourceSpecRemoveNotification

Notifications related to PhysicalResourceSpec:

- PhysicalResourceSpecCreationNotification
- PhysicalResourceSpecRemoveNotification

The notification structure for all notifications in this API follow the pattern depicted by the figure below. A notification resource (depicted by "SpecificNotification" placeholder) is a sub class of a generic Notification structure containing an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the notification resource (eventType).

This notification structure owns an event structure ("SpecificEvent" placeholder) linked to the resource concerned by the notification using the resource name as access field ("resourceName" placeholder).



RESOURCE CATALOG CREATION NOTIFICATION

Notification sent when a new ResourceCatalog resource is created.

Json representation sample

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

```

{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceCatalogCreationNotification",
  "event": {
    "resourceCatalog" :
      {-- SEE ResourceCatalog RESOURCE SAMPLE --}
  }
}

```

RESOURCE CATALOG REMOVE NOTIFICATION

Notification sent when removing a ResourceCatalog resource.

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceCatalogRemoveNotification",
  "event": {
    "resourceCatalog" :
      {-- SEE ResourceCatalog RESOURCE SAMPLE --}
  }
}
```

RESOURCE CATALOG BATCH NOTIFICATION

Notification sent when a batch job on resource ResourceCatalog changes

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceCatalogBatchNotification",
  "event": {
    "resourceCatalog" :
      {-- SEE ResourceCatalog RESOURCE SAMPLE --}
  }
}
```

RESOURCE CATEGORY CREATION NOTIFICATION

Notification sent when a new ResourceCategory resource is created.

Json representation sample

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

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

```
"eventType": "ResourceCategoryCreationNotification",
"event": {
  "resourceCategory" :
    {-- SEE ResourceCategory RESOURCE SAMPLE --}
}
}
```

RESOURCE CATEGORY REMOVE NOTIFICATION

Notification sent when removing a ResourceCategory resource.

Json representation sample

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

```
{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "ResourceCategoryRemoveNotification",
  "event": {
    "resourceCategory" :
      {-- SEE ResourceCategory RESOURCE SAMPLE --}
  }
}
```

RESOURCE CANDIDATE CREATION NOTIFICATION

Notification sent when a new ResourceCandidate resource is created.

Json representation sample

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

```
{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "ResourceCandidateCreationNotification",
  "event": {
    "resourceCandidate" :
      {-- SEE ResourceCandidate RESOURCE SAMPLE --}
  }
}
```

RESOURCE CANDIDATE REMOVE NOTIFICATION

Notification sent when removing a ResourceCandidate resource.

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceCandidateRemoveNotification",
  "event": {
    "resourceCandidate" :
      {-- SEE ResourceCandidate RESOURCE SAMPLE --}
  }
}
```

RESOURCE SPECIFICATION CREATION NOTIFICATION

Notification sent when a new ResourceSpecification resource is created.

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceSpecificationCreationNotification",
  "event": {
    "resourceSpecification" :
      {-- SEE ResourceSpecification RESOURCE SAMPLE --}
  }
}
```

RESOURCE SPECIFICATION REMOVE NOTIFICATION

Notification sent when removing a ResourceSpecification resource.

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceSpecificationRemoveNotification",
  "event": {
    "resourceSpecification" :
      {-- SEE ResourceSpecification RESOURCE SAMPLE --}
  }
}
```



```
}  
}
```

LOGICAL RESOURCE SPEC CREATION NOTIFICATION

Notification sent when a new LogicalResourceSpec resource is created.

Json representation sample

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

```
{  
  "eventId":"00001",  
  "eventTime":"2015-11-16T16:42:25-04:00",  
  "eventType":"LogicalResourceSpecCreationNotification",  
  "event": {  
    "logicalResourceSpec" :  
      {-- SEE LogicalResourceSpec RESOURCE SAMPLE --}  
  }  
}
```

LOGICAL RESOURCE SPEC REMOVE NOTIFICATION

Notification sent when removing a LogicalResourceSpec resource.

Json representation sample

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

```
{  
  "eventId":"00001",  
  "eventTime":"2015-11-16T16:42:25-04:00",  
  "eventType":"LogicalResourceSpecRemoveNotification",  
  "event": {  
    "logicalResourceSpec" :  
      {-- SEE LogicalResourceSpec RESOURCE SAMPLE --}  
  }  
}
```

PHYSICAL RESOURCE SPEC CREATION NOTIFICATION

Notification sent when a new PhysicalResourceSpec resource is created.

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"PhysicalResourceSpecCreationNotification",
  "event": {
    "physicalResourceSpec" :
      {-- SEE PhysicalResourceSpec RESOURCE SAMPLE --}
  }
}
```

PHYSICAL RESOURCE SPEC REMOVE NOTIFICATION

Notification sent when removing a PhysicalResourceSpec resource.

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"PhysicalResourceSpecRemoveNotification",
  "event": {
    "physicalResourceSpec" :
      {-- SEE PhysicalResourceSpec RESOURCE SAMPLE --}
  }
}
```

API OPERATIONS

Remember the following Uniform Contract:

Operation on Entities	Uniform API Operation	Description
Query Entities	GET Resource	GET must be used to retrieve a representation of a resource.
Create Entity	POST Resource	POST must be used to create a new resource
Partial Update of an Entity	PATCH Resource	PATCH must be used to partially update a resource
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.

OPERATIONS ON RESOURCE CATALOG

LIST RESOURCE CATALOGS

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

Description

This operation list resource catalog entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving ResourceCatalog resources.

Request
GET /catalogManagement/resourceCatalog Accept: application/json
Response
200 <pre>[{ "id": "2355", "href": "https://host:port/catalogManagement/resourceCatalog/2355", "name": "IOT Resource Catalog.", "description": "This resource catalog ...", "@type": "ResourceCatalog", "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCatalog.yml", "@baseType": "Catalog", "version": "1.0", "validFor": { "startDateTime": "2017-08-17T00:00", "endDateTime": "2018-03-12T00:00" }, "lastUpdate": "2017-08-14T00:00", "lifecycleStatus": "Active", "relatedParty": [{ "id": "3426", "href": "https://host:port/partyManagement/organization/3426", "role": "vendor", "name": "Company ABC", "validFor": { "startDateTime": "2017-08-14T00:00", "endDateTime": "2018-03-12T00:00" } }] }, { "category": [{</pre>

```

    "id": "7752",
    "href": "https://host:port/catalogManagement/category/7752",
    "version": "1.0",
    "name": "IoT"
  }
]
}
]

```

RETRIEVE RESOURCE CATALOG

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

Description

This operation retrieves a resource catalog entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a ResourceCatalog resource.

Request
GET /catalogManagement/resourceCatalog/2355 Accept: application/json
Response
200 <pre> { "id": "2355", "href": "https://host:port/catalogManagement/resourceCatalog/2355", "name": "IOT Resource Catalog.", "description": "This resource catalog ...", "@type": "ResourceCatalog", "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCatalog.yml", "@baseType": "Catalog", "version": "1.0", "validFor": { "startDateTime": "2017-08-17T00:00", "endDateTime": "2018-03-12T00:00" }, "lastUpdate": "2017-08-14T00:00", "lifecycleStatus": "Active", "relatedParty": [</pre>

```

{
  "id": "3426",
  "href": "https://host:port/partyManagement/organization/3426",
  "role": "vendor",
  "name": "Company ABC",
  "validFor": {
    "startDateTime": "2017-08-14T00:00",
    "endDateTime": "2018-03-12T00:00"
  }
},
"category": [
  {
    "id": "7752",
    "href": "https://host:port/catalogManagement/category/7752",
    "version": "1.0",
    "name": "IoT"
  }
]
}

```

CREATE RESOURCE CATALOG

POST /resourceCatalog

Note: this operation is available only to ADMIN API users

Description

This operation creates a resource catalog entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	

Non Mandatory Attributes	Default Value	Rule
description		
@type	ResourceCatalog	
@schemaLocation		
@baseType	Catalog	
version		
validFor		
lastUpdate		
lifecycleStatus		
relatedParty		
category		

Usage Samples

Here's an example of a request for creating a ResourceCatalog resource. In this example the request only passes mandatory attributes.

Request
POST /catalogManagement/resourceCatalog Content-Type: application/json <pre>{ "name": "Cloud Resource Catalog" }</pre>
Response
201 <pre>{ "id": "5574", "href": "https://host:port/catalogManagement/resourceCatalog/5574", "name": "Cloud Resource Catalog", "description": "", "@type": "ResourceCatalog", "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCatalog.yml", "@baseType": "Catalog", "version": "1.0", "validFor": { "startDateTime": "2017-08-10T00:00", "endDateTime": "2018-03-07T00:00" }, "lastUpdate": "2017-08-09T00:00", "lifecycleStatus": "In Design", "relatedParty": [], "category": [] }</pre>

PATCH RESOURCE CATALOG

PATCH /resourceCatalog/{id}

Note: this operation is available only to ADMIN API users

Description

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

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

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
name	
description	
@schemaLocation	
@baseType	
version	
validFor	
lifecycleStatus	
relatedParty	
category	

Non Patchable Attributes	Rule
id	
href	
@type	
lastUpdate	

Usage Samples

Here's an example of a request for patching a ResourceCatalog resource.

Request
PATCH /catalogManagement/resourceCatalog/2355 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response


```

200

{
  "id": "2355",
  "href": "https://host:port/catalogManagement/resourceCatalog/2355",
  "name": "new name",
  "description": "This resource catalog ...",
  "@type": "a string ...",
  "@schemaLocation": "a string ...",
  "@baseType": "a string ...",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2017-08-17T00:00",
    "endDateTime": "2018-03-12T00:00"
  },
  "lastUpdate": "2017-08-14T00:00",
  "lifecycleStatus": "a string ...",
  "relatedParty": [
    {
      "id": "3426",
      "href": "https://host:port/partyManagement/organization/3426",
      "role": "vendor",
      "name": "Jimmy Doe",
      "validFor": {
        "startDateTime": "2017-08-14T00:00",
        "endDateTime": "2018-03-12T00:00"
      }
    }
  ],
  "category": [
    {
      "id": "7752",
      "href": "https://host:port/catalogManagement/category/7752",
      "version": "1.0",
      "name": "IoT"
    }
  ]
}

```

DELETE RESOURCE CATALOG

DELETE /resourceCatalog/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a resource catalog entity.

Usage Samples

Here's an example of a request for deleting a ResourceCatalog resource.

Request
DELETE /catalogManagement/resourceCatalog/42
Response
204

OPERATIONS ON RESOURCE CATEGORY

LIST RESOURCE CATEGORIES

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

Description

This operation list resource category entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving ResourceCategory resources.

Request
GET /catalogManagement/resourceCategory Accept: application/json
Response
200 [{ "id": "3418", "href": "https://host:port/catalogManagement/resourceCategory/3418", "name": "a string ...", "description": "This resource category ...",

```
"@type": "a string ...",
"@schemaLocation": "a string ...",
"@baseType": "a string ...",
"version": "1.1",
"validFor": {
  "startDateTime": "2017-08-11T00:00",
  "endDateTime": "2018-03-12T00:00"
},
"lifecycleStatus": "a string ...",
"lastUpdate": "2017-08-14T00:00",
"parentId": "326",
"isRoot": false,
"category": [
  {
    "id": "7294",
    "href": "https://host:port/catalogManagement/category/7294",
    "version": "1.1",
    "name": "Secure Home"
  }
],
"resourceCandidate": [
  {
    "id": "1616",
    "href": "https://host:port/catalogManagement/resourceCandidate/1616",
    "version": "3.2",
    "name": "Mega Band"
  }
],
"relatedParty": [
  {
    "id": "3890",
    "href": "https://host:port/partyManagement/organization/3890",
    "role": "employee",
    "name": "Richard Cole",
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}
]
```

RETRIEVE RESOURCE CATEGORY

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

Description

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

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

Usage Samples

Here's an example of a request for retrieving a ResourceCategory resource.

Request
GET /catalogManagement/resourceCategory/3418 Accept: application/json
Response
200 <pre>{ "id": "3418", "href": "https://host:port/catalogManagement/resourceCategory/3418", "name": "a string ...", "description": "This resource category ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.1", "validFor": { "startDateTime": "2017-08-11T00:00", "endDateTime": "2018-03-12T00:00" }, "lifecycleStatus": "a string ...", "lastUpdate": "2017-08-14T00:00", "parentId": "326", "isRoot": false, "category": [{ "id": "7294", "href": "https://host:port/catalogManagement/category/7294", "version": "1.1", "name": "Secure Home" }], "resourceCandidate": [{ "id": "1616", "href": "https://host:port/catalogManagement/resourceCandidate/1616", "version": "3.2", "name": "Mega Band" }] }</pre>

```

"relatedParty": [
  {
    "id": "3890",
    "href": "https://host:port/partyManagement/organization/3890",
    "role": "employee",
    "name": "Richard Cole",
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}

```

CREATE RESOURCE CATEGORY

POST /resourceCategory

Note: this operation is available only to ADMIN API users

Description

This operation creates a resource category entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	

Non Mandatory Attributes	Default Value	Rule
description		
@type	ResourceCategory	
@schemaLocation		
@baseType	Category	
version		
validFor		
lifecycleStatus		
lastUpdate		
parentId		
isRoot		
category		
resourceCandidate		
relatedParty		

Usage Samples

Here's an example of a request for creating a ResourceCategory resource. In this example, the request only passes mandatory attributes.

Request
POST /catalogManagement/resourceCategory Content-Type: application/json <pre>{ "name": "a string ..." }</pre>
Response
201 <pre>{ "id": "3418", "href": "https://host:port/catalogManagement/resourceCategory/3418", "name": "a string ...", }</pre>

PATCH RESOURCE CATEGORY

PATCH /resourceCategory/{id}

Note: this operation is available only to ADMIN API users

Description

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

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

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
name	
description	
@schemaLocation	
@baseType	
version	
validFor	
lifecycleStatus	
parentId	
isRoot	
category	
resourceCandidate	
relatedParty	

Non Patchable Attributes	Rule
id	
href	
@type	
lastUpdate	

Usage Samples

Here's an example of a request for patching a ResourceCategory resource.

Request
PATCH /catalogManagement/resourceCategory/3418 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response
200 <pre>{ "id": "3418", "href": "https://host:port/catalogManagement/resourceCategory/3418", "name": "new name", "description": "This resource category ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.1", "validFor": {</pre>

```
"startDateTime": "2017-08-11T00:00",
"endDateTime": "2018-03-12T00:00"
},
"lifecycleStatus": "a string ...",
"lastUpdate": "2017-08-14T00:00",
"parentId": "326",
"isRoot": false,
"category": [
  {
    "id": "7294",
    "href": "https://host:port/catalogManagement/category/7294",
    "version": "1.1",
    "name": "Secure Home"
  }
],
"resourceCandidate": [
  {
    "id": "1616",
    "href": "https://host:port/catalogManagement/resourceCandidate/1616",
    "version": "3.2",
    "name": "Mega Band"
  }
],
"relatedParty": [
  {
    "id": "3890",
    "href": "https://host:port/partyManagement/organization/3890",
    "role": "employee",
    "name": "Richard Cole",
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}
```

DELETE RESOURCE CATEGORY

DELETE `/resourceCategory/{id}`

Note: this operation is available only to ADMIN API users

Description

This operation deletes a resource category entity.

Usage Samples

Here's an example of a request for deleting a ResourceCategory resource.

Request
DELETE /catalogManagement/resourceCategory/42
Response
204

OPERATIONS ON RESOURCE CANDIDATE

LIST RESOURCE CANDIDATES

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

Description

This operation list resource candidate entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving ResourceCandidate resources.

Request
GET /catalogManagement/resourceCandidate Accept: application/json
Response
200 [{ "id": "1428", "href": "https://host:port/catalogManagement/resourceCandidate/1428", "name": "a string ...", "description": "This resource candidate ...", "@type": "a string ...", "@schemaLocation": "a string ...",

```

"@baseType": "a string ...",
"version": "1.5",
"validFor": {
  "startDateTime": "2017-08-10T00:00",
  "endDateTime": "2018-03-12T00:00"
},
"lastUpdate": "2017-08-14T00:00",
"lifecycleStatus": "a string ...",
"category": [
  {
    "id": "7962",
    "href": "https://host:port/catalogManagement/category/7962",
    "version": "1.5",
    "name": "TV"
  }
],
"resourceSpecification": {
  "id": "42",
  "href": "http://hostname:port/catalogManagement/resourceSpecification/42",
  "name": "Robust600",
  "version": "1.5"
}
}
]

```

GET/...depth

The depth parameter allows to list resources at different levels of depth. The resource properties are provided and the related resources are returned according to the depth value. This feature can exist with enabled filtering and attribute selection.

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.

Usage Samples:

```

GET /catalogManagement/resourceCandidate?depth=3&category.name=Wireless sensors
Range:items=23-24
Accept: application/json

```

RESPONSE

```

200
Content-Range:items 23-24/50
[
  {

```

```

    "id": "23",
    "href": "http://serverlocation:port/catalogManagement/resourceCandidate/23",
    "version": "2.0",
    "@type": "ResourceCandidate",
    "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCandidate.Json",
    "@baseType": "",
    "lastUpdate": "2017-04-19T16:42:23-04:00",
    "name": "Wireless Router",
    "description": "A wireless router ...",
    "lifecycleStatus": "Active",
    "validFor": {
      "startDateTime": "2016-04-19T16:42:23-04:00",
      "endDateTime": "2016-06-19T00:00:00-04:00"
    },
    "category": [
      {
        "id": "8121",
        "href": "https://host:port/catalogManagement/resourceCategory/8121",
        "name": "Network Logical resources",
        "description": "This resource category ...",
        "@type": "ResourceCategory",
        "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCategory.yml",
        "@baseType": "Category",
        "version": "1.0",
        "validFor": {
          "startDateTime": "2017-08-11T00:00",
          "endDateTime": "2018-03-07T00:00"
        },
        "lifecycleStatus": "Active",
        "lastUpdate": "2017-08-09T00:00",
        "parentId": "636",
        "isRoot": false,
        "category": [
          {
            "id": "5982",
            "href": "https://host:port/catalogManagement/category/5982",
            "version": "3.2",
            "name": "IoT"
          }
        ]
      },
      {
        "id": "5298",
        "href": "https://host:port/catalogManagement/resourceCandidate/5298",
        "version": "1.0",
        "name": "Elastic Storage"
      },
      {
        "id": "23",
        "href": "https://host:port/catalogManagement/resourceCandidate/23",
        "version": "1.0",
        "name": "Wireless Router"
      }
    ]
  },

```

```
"relatedParty": [
  {
    "id": "4434",
    "href": "https://host:port/partyManagement/organization/4434",
    "role": "employee",
    "name": "Jimmy Doe",
    "validFor": {
      "startDateTime": "2017-08-10T00:00",
      "endDateTime": "2018-03-07T00:00"
    }
  }
]
},
"resourceSpecification": [
  {
    "id": "7115",
    "href": "https://host:port/catalogManagement/physicalResourceSpec/7115",
    "name": "Wireless Router",
    "description": "This physical resource spec ...",
    "@type": "PhysicalDeviceSpec",
    "@schemaLocation": "https://host:port/catalogManagement/schema/PhysicalDeviceSpec.json",
    "@baseType": "PhysicalResourceSpec",
    "version": "1.0",
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "lastUpdate": "2017-08-14T00:00",
    "lifecycleStatus": "Active",
    "isBundle": false,
    "category": "Network L2",
    "model": "Model1",
    "part": "Part1",
    "sku": "a string ...",
    "vendor": "XYZ.",
    "place": {
      "id": "1979",
      "href": "https://host:port/genericCommon/place/1979",
      "name": "Main Home",
      "role": "default delivery"
    },
    "targetResourceSchema": {
      "@type": "PhysicalDevice",
      "@schemaLocation": "https://host:port/catalogManagement/schema/PhysicalDevice.json",
    },
    "feature": [
    ],
    "attachment": [
```

```

    {
      "description": "This attachment ...",
      "href": "http://hostname:port/documentManagement/attachment/44",
      "id": "44",
      "type": "Document",

      "mimeType": "pdf",
      "url": "http://yyyyy"
    }
  ],
  "relatedParty": [
    {
      "id": "3362",
      "href": "https://host:port/partyManagement/organization/3362",
      "role": "Distributor",
      "name": "ABC",
      "validFor": {
        "startDateTime": "2017-08-13T00:00",
        "endDateTime": "2018-03-12T00:00"
      }
    }
  ],
  "resourceSpecCharacteristic": [
    {
      "name": "memory",
      "description": "This resource spec characteristic ...",
      "valueType": "Integer",
      "configurable": false,
      "validFor": {
        "startDateTime": "2017-08-10T00:00",
        "endDateTime": "2018-03-12T00:00"
      },
      "minCardinality": 1,
      "maxCardinality": 1,
      "isUnique": true,
      "resourceSpecCharRelationship": [
      ],
      "resourceSpecCharacteristicValue": [
        {
          "valueType": "Integer",
          "isDefault": true,
          "value": 16,
          "unitOfMeasure": "GB",
          "validFor": {
            "startDateTime": "2017-08-16T00:00",
            "endDateTime": "2018-03-12T00:00"
          }
        }
      ]
    }
  ],
  "resourceSpecRelationship": [
    {
      "type": "Requires",

```

```

        "id": "4751",
        "href": "https://host:port/catalog/physicalResourceSpec/4751",
        "name": "PowerSupply.",
        "validFor": {
            "startDateTime": "2017-08-16T00:00",
            "endDateTime": "2018-03-12T00:00"
        }
    }
}
]
},
{
    "id": "24",
    "href": "http://serverlocation:port/catalogManagement/resourceCandidate/24",
    "@type": "ResourceCandidate",
    "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCandidate.Json",
    "@baseType": "",
    "version": "1.0",
    "lastUpdate": "2016-04-19T16:42:23-04:00",
    "name": "Sensor maxi",
    "description": "A wireless sensor for big garden",
    "lifecycleStatus": "Active",
    "validFor": {
        "startDateTime": "2016-04-19T16:42:23-04:00",
        "endDateTime": "2016-06-19T00:00:00-04:00"
    },
    "category": [
        {
            "id": "14",
            "href": "http://serverlocation:port/catalogManagement/category/14",
            "version": "2.0",
            "name": "Wireless sensors",
            "@type": "ResourceCategory",
            "@schemaLocation":
"https://host:port/catalogManagement/schema/ResourceCategory.yml",
            "@baseType": "Category",
            "validFor": {
                "startDateTime": "2017-08-11T00:00",
                "endDateTime": "2018-03-07T00:00"
            },
            "lifecycleStatus": "Active",
            "lastUpdate": "2017-08-09T00:00",
            "parentId": "635",
            "isRoot": false,
            "category": [
                {
                    "id": "5984",
                    "href": "https://host:port/catalogManagement/category/5984",
                    "version": "1.0",
                    "name": "IoT"
                }
            ]
        }
    ],

```

```

    "resourceCandidate": [
      {
        "id": "24",
        "href": "https://host:port/catalogManagement/resourceCandidate/24",
        "version": "1.0",
        "name": " Sensor maxi "
      }
    ],
    "relatedParty": []
  }
],
"resourceSpecification": [
  {
    "id": "45",
    "href": "http://serverlocation:port/catalogManagement/PhysicalResourceSpec/45",
    "version": "2.0",
    "name": "wireless sensor maxi",
    "@type": "PhysicalResourceSpec",
    "@schemaLocation":
    "https://host:port/catalogManagement/schema/PhysicalResourceSpec.yml",
    "@baseType": "LogicalResourceSpec",
    "isBundle": false,
    "category": "Sensor",
    "model": "Model1",
    "part": "Part1",
    "sku": "a string ...",
    "vendor": "XYZ.",
    "place": {
      "id": "1979",
      "href": "https://host:port/genericCommon/place/1979",
      "name": "Main Office",
      "role": "default delivery"
    },
    "resourceSpecCharacteristic": [
      {
        "id": "34",
        "name": "Colour",
        "description": "Colour",
        "valueType": "string",
        "configurable": true,
        "minCardinality": 0,
        "maxCardinality": 2,
        "extensible": true,
        "@type": "ResourceSpecCharacteristic",
        "@schemaLocation":
        "https://host:port/catalogManagement/schema/ResourceSpecCharacteristic.yml",
        "validFor": {
          "startDateTime": "2017-04-19T16:42:23-04:00",
          "endDateTime": ""
        },
        "resourceSpecCharacteristicValue": [
          {
            "valueType": "string",
            "isDefault": "false",

```

```

    "value": "Black",
    "unitOfMeasure": "",
    "valueFrom": "",
    "valueTo": "",
    "validFor": {
      "startDateTime": "2017-04-19T16:42:23-04:00",
      "endDateTime": ""
    }
  },
  {
    "valueType": "string",
    "isDefault": "false",
    "value": "White",
    "unitOfMeasure": "",
    "valueFrom": "",
    "valueTo": "",
    "validFor": {
      "startDateTime": "2016-04-19T16:42:23-04:00",
      "endDateTime": ""
    }
  }
]
}
]

```

RETRIEVE RESOURCE CANDIDATE

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

Description

This operation retrieves a resource candidate entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a ResourceCandidate resource.

Request
GET /catalogManagement/resourceCandidate/1428 Accept: application/json
Response
200 <pre> { "id": "1428", "href": "https://host:port/catalogManagement/resourceCandidate/1428", "name": "a string ...", "description": "This resource candidate ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.5", "validFor": { "startDateTime": "2017-08-10T00:00", "endDateTime": "2018-03-12T00:00" }, "lastUpdate": "2017-08-14T00:00", "lifecycleStatus": "a string ...", "category": [{ "id": "7962", "href": "https://host:port/catalogManagement/category/7962", "version": "1.5", "name": "TV" }], "resourceSpecification": { "id": "42", "href": "http://hostname:port/catalogManagement/resourceSpecification/42", "name": "Robust600", "version": "1.5" } } </pre>

GET/...depth

The depth parameter allows to retrieve the REST resource at different levels of depth. The resource properties are provided and the related resources are returned according to the depth value. This feature can exist with enabled filtering and attribute selection.

Usage Samples:

GET /catalogManagement/resourceCandidate/23&depth=3&category.name=Wireless sensors
 Accept: application/json

RESPONSE

```
200
{
  "id": "23",
  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/23",
  "version": "2.0",
  "@type": "ResourceCandidate",
  "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCandidate.Json",
  "@baseType": "",
  "lastUpdate": "2017-04-19T16:42:23-04:00",
  "name": "WirelessRouter",
  "description": "A wireless router ...",
  "lifecycleStatus": "Active",
  "validFor": {
    "startDateTime": "2016-04-19T16:42:23-04:00",
    "endDateTime": "2016-06-19T00:00:00-04:00"
  },
  "category": [
    {
      "id": "8121",
      "href": "https://host:port/catalogManagement/resourceCategory/8121",
      "name": "Network Logical resources",
      "description": "This resource category ...",
      "@type": "ResourceCategory",
      "@schemaLocation": "https://host:port/catalogManagement/schema/ResourceCategory.yml",
      "@baseType": "Category",
      "version": "1.0",
      "validFor": {
        "startDateTime": "2017-08-11T00:00",
        "endDateTime": "2018-03-07T00:00"
      },
      "lifecycleStatus": "Active",
      "lastUpdate": "2017-08-09T00:00",
      "parentId": "636",
      "isRoot": false,
      "category": [
        {
          "id": "5982",
          "href": "https://host:port/catalogManagement/category/5982",
          "version": "3.2",
          "name": "IoT"
        }
      ]
    }
  ],
  "resourceCandidate": [
```

```

    {
      "id": "5298",
      "href": "https://host:port/catalogManagement/resourceCandidate/5298",
      "version": "1.0",
      "name": "Elastic Storage"
    },
    {
      "id": "23",
      "href": "https://host:port/catalogManagement/resourceCandidate/23",
      "version": "1.0",
      "name": "Wireless Router"
    }
  ],
  "relatedParty": [
    {
      "id": "4434",
      "href": "https://host:port/partyManagement/organization/4434",
      "role": "employee",
      "name": "Jimmy Doe",
      "validFor": {
        "startDateTime": "2017-08-10T00:00",
        "endDateTime": "2018-03-07T00:00"
      }
    }
  ]
},
"resourceSpecification": [
  {
    "id": "7115",
    "href": "https://host:port/catalogManagement/physicalResourceSpec/7115",
    "name": "Wireless Router",
    "description": "This physical resource spec ...",
    "@type": "PhysicalDeviceSpec",
    "@schemaLocation": "https://host:port/catalogManagement/schema/PhysicalDeviceSpec.json",
    "@baseType": "PhysicalResourceSpec",
    "version": "1.0",
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "lastUpdate": "2017-08-14T00:00",
    "lifecycleStatus": "Active",
    "isBundle": false,
    "category": "Network L2",
    "model": "Model1",
    "part": "Part1",
    "sku": "a string ...",
    "vendor": "XYZ.",
    "place": {

```

```

    "id": "1979",
    "href": "https://host:port/genericCommon/place/1979",
    "name": "Main Home",
    "role": "default delivery"
  },
  "targetResourceSchema": {
    "@type": "PhysicalDevice",
    "@schemaLocation": "https://host:port/catalogManagement/schema/PhysicalDevice.json",
  },
  "feature": [
  ],
  "attachment": [
    {
      "description": "This attachment ...",
      "href": "http://hostname:port/documentManagement/attachment/44",
      "id": "44",
      "type": "Document",

      "mimeType": "pdf",
      "url": "http://yyyyy"
    }
  ],
  "relatedParty": [
    {
      "id": "3362",
      "href": "https://host:port/partyManagement/organization/3362",
      "role": "Distributor",
      "name": "ABC",
      "validFor": {
        "startDateTime": "2017-08-13T00:00",
        "endDateTime": "2018-03-12T00:00"
      }
    }
  ],
  "resourceSpecCharacteristic": [
    {
      "name": "memory",
      "description": "This resource spec characteristic ...",
      "valueType": "Integer",
      "configurable": false,
      "validFor": {
        "startDateTime": "2017-08-10T00:00",
        "endDateTime": "2018-03-12T00:00"
      },
      "minCardinality": 1,
      "maxCardinality": 1,
      "isUnique": true,
      "resourceSpecCharRelationship": [
      ],
      "resourceSpecCharacteristicValue": [
        {
          "valueType": "Integer",

```

```

        "isDefault": true,
        "value": 16,
        "unitOfMeasure": "GB",
        "validFor": {
            "startDateTime": "2017-08-16T00:00",
            "endDateTime": "2018-03-12T00:00"
        }
    }
]
},
"resourceSpecRelationship": [
    {
        "type": "Requires",
        "id": "4751",
        "href": "https://host:port/catalog/physicalResourceSpec/4751",
        "name": "PowerSupply.",
        "validFor": {
            "startDateTime": "2017-08-16T00:00",
            "endDateTime": "2018-03-12T00:00"
        }
    }
]
}
]
}
}

```

CREATE RESOURCE CANDIDATE

POST /resourceCandidate

Note: this operation is available only to ADMIN API users

Description

This operation creates a resource candidate entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	

Non Mandatory Attributes	Default Value	Rule
--------------------------	---------------	------

description		
@type	ResourceCategory	
@schemaLocation		
@baseType	Category	
version		
validFor		
lastUpdate		
lifecycleStatus		
category		
resourceSpecification		

Usage Samples

Here's an example of a request for creating a ResourceCandidate resource. In this example the request only passes mandatory attributes.

<p>Request</p>
<pre>POST /catalogManagement/resourceCandidate Content-Type: application/json { "name": "a string ..." }</pre>
<p>Response</p>
<pre>201 { "id": "1428", "href": "https://host:port/catalogManagement/resourceCandidate/1428", "name": "a string ..." ... }</pre>

PATCH RESOURCE CANDIDATE

PATCH /resourceCandidate/{id}

Note: this operation is available only to ADMIN API users

Description

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

optional.

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

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
name	
description	
@schemaLocation	
@baseType	
version	
validFor	
lifecycleStatus	
category	
resourceSpecification	

Non Patchable Attributes	Rule
id	
href	
@type	
lastUpdate	

Usage Samples

Here's an example of a request for patching a ResourceCandidate resource.

Request
PATCH /catalogManagement/resourceCandidate/1428 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response
200 <pre>{</pre>

```
"id": "1428",
"href": "https://host:port/catalogManagement/resourceCandidate/1428",
"name": "new name",
"description": "This resource candidate ...",
"@type": "a string ...",
"@schemaLocation": "a string ...",
"@baseType": "a string ...",
"version": "1.5",
"validFor": {
  "startDateTime": "2017-08-10T00:00",
  "endDateTime": "2018-03-12T00:00"
},
"lastUpdate": "2017-08-14T00:00",
"lifecycleStatus": "a string ...",
"category": [
  {
    "id": "7962",
    "href": "https://host:port/catalogManagement/category/7962",
    "version": "1.5",
    "name": "TV"
  }
],
"resourceSpecification": {
  "id": "42",
  "href": "http://hostname:port/catalogManagement/resourceSpecification/42",
  "name": "Robust600",
  "version": "1.5"
}
}
```

DELETE RESOURCE CANDIDATE

DELETE /resourceCandidate/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a resource candidate entity.

Usage Samples

Here's an example of a request for deleting a ResourceCandidate resource.

Request
DELETE /catalogManagement/resourceCandidate/42

Response
204

OPERATIONS ON RESOURCE SPECIFICATION

LIST RESOURCE SPECIFICATIONS

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

Description

This operation list resource specification entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving ResourceSpecification resources.

Request
GET /catalogManagement/resourceSpecification Accept: application/json
Response
200 [{ "id": "42", "href": "http://hostname:port/catalogManagement/resourceSpecification/42", "name": "Amanda132", "description": "This resource specification ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.0", "validFor": { "startDateTime": "2017-08-10T00:00", "endDateTime": "2018-03-12T00:00" }, },]

```
"lastUpdate": "2017-08-14T00:00",
"lifecycleStatus": "a string ...",
"isBundle": true,
"category": "a string ...",
"targetResourceSchema": {
  "@type": "a string ...",
  "@schemaLocation": "a string ..."
},
"feature": [
  {
    "id": "8782",
    "href": "https://host:port/catalogManagement/feature/8782",
    "version": "1.1",
    "name": "a string ...",
    "@type": "a string ...",
    "isBundle": false,
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "isEnabled": true
  }
],
"attachment": [
  {
    "description": "This attachment ...",
    "href": "http://hostname:port/documentManagement/attachment/44",
    "id": "44",
    "type": "Photo",
    "url": "http://yyyyy"
  }
],
"relatedParty": [
  {
    "id": "7762",
    "href": "https://host:port/partyManagement/organization/7762",
    "role": "customer",
    "name": "John Doe",
    "validFor": {
      "startDateTime": "2017-08-15T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
  {
    "name": "a string ...",
    "description": "This resource spec characteristic ...",
    "valueType": "a string ...",
    "configurable": true,
    "validFor": {
      "startDateTime": "2017-08-17T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
```

```

"@type": "a string ...",
"@schemaLocation": "a string ...",
"@valueSchemaLocation": "a string ...",
"minCardinality": 50,
"maxCardinality": 48,
"isUnique": false,
"regex": "a string ...",
"extensible": true,
"resourceSpecCharRelationship": [
  {
    "type": "a string ...",
    "name": "a string ...",
    "id": "9540",
    "href": "https://host:port/catalogManagement/resourceSpecification/9540",
    "@type": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-15T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristicValue": [
  {
    "valueType": "a string ...",
    "isDefault": false,
    "value": "a Object ...",
    "unitOfMeasure": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-17T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "valueFrom": 68,
    "valueTo": 74,
    "rangeInterval": "a string ...",
    "regex": "a string ...",
    "@type": "a string ...",
    "@schemaLocation": "a string ..."
  }
],
"resourceSpecRelationship": [
  {
    "type": "a string ...",
    "role": "a string ...",
    "id": "5565",
    "href": "https://host:port/catalogManagement/resourceSpecification/5565",
    "name": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-13T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]

```

```
}
]
```

RETRIEVE RESOURCE SPECIFICATION

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

Description

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

Usage Samples

Here's an example of a request for retrieving a ResourceSpecification resource.

Request
GET /catalogManagement/resourceSpecification/42 Accept: application/json
Response
200 <pre>{ "id": "42", "href": "http://hostname:port/catalogManagement/resourceSpecification/42", "name": "Amanda132", "description": "This resource specification ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.0", "validFor": { "startDateTime": "2017-08-10T00:00", "endDateTime": "2018-03-12T00:00" }, "lastUpdate": "2017-08-14T00:00", "lifecycleStatus": "a string ...", "isBundle": true, "category": "a string ...", "targetResourceSchema": { "@type": "a string ..." } }</pre>

```
"@schemaLocation": "a string ..."
},
"feature": [
  {
    "id": "8782",
    "href": "https://host:port/catalogManagement/feature/8782",
    "version": "1.1",
    "name": "a string ...",
    "@type": "a string ...",
    "isBundle": false,
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "isEnabled": true
  }
],
"attachment": [
  {
    "description": "This attachment ...",
    "href": "http://hostname:port/documentManagement/attachment/44",
    "id": "44",
    "type": "Photo",
    "url": "http://yyyyy"
  }
],
"relatedParty": [
  {
    "id": "7762",
    "href": "https://host:port/partyManagement/organization/7762",
    "role": "customer",
    "name": "John Doe",
    "validFor": {
      "startDateTime": "2017-08-15T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
  {
    "name": "a string ...",
    "description": "This resource spec characteristic ...",
    "valueType": "a string ...",
    "configurable": true,
    "validFor": {
      "startDateTime": "2017-08-17T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "@type": "a string ...",
    "@schemaLocation": "a string ...",
    "@valueSchemaLocation": "a string ...",
    "minCardinality": 50,
    "maxCardinality": 48,
    "isUnique": false,
```

```
"regex": "a string ...",
"extensible": true,
"resourceSpecCharRelationship": [
  {
    "type": "a string ...",
    "name": "a string ...",
    "id": "9540",
    "href": "https://host:port/catalogManagement/resourceSpecification/9540",
    "@type": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-15T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristicValue": [
  {
    "valueType": "a string ...",
    "isDefault": false,
    "value": "a Object ...",
    "unitOfMeasure": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-17T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "valueFrom": 68,
    "valueTo": 74,
    "rangeInterval": "a string ...",
    "regex": "a string ...",
    "@type": "a string ...",
    "@schemaLocation": "a string ..."
  }
]
},
"resourceSpecRelationship": [
  {
    "type": "a string ...",
    "role": "a string ...",
    "id": "5565",
    "href": "https://host:port/catalogManagement/resourceSpecification/5565",
    "name": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-13T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}
```

CREATE RESOURCE SPECIFICATION

POST /resourceSpecification

Note: this operation is available only to ADMIN API users

Description

This operation creates a resource specification entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	
@type	

Non Mandatory Attributes	Default Value	Rule
description		
@schemaLocation		
@baseType		
version		
validFor		
lastUpdate		
lifecycleStatus		
isBundle		
category		
targetResourceSchema		
feature		
attachment		
relatedParty		
resourceSpecCharacteristic		
resourceSpecRelationship		

Additional Rules

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

Context	Mandatory Sub-Attributes
attachment	name
relatedParty	id or href
resourceSpecRelationship	type, id or href
feature	name or id

Usage Samples

Here's an example of a request for creating a ResourceSpecification resource. In this example the request only passes mandatory attributes.

Request
POST /catalogManagement/resourceSpecification Content-Type: application/json <pre>{ "name": "Iphone", "@type": "a string ..." }</pre>
Response
201 <pre>{ "id": "42", "href": "http://hostname:port/catalogManagement/resourceSpecification/42", "name": "Iphone", "@type": "a string ..." }</pre>

PATCH RESOURCE SPECIFICATION

PATCH /resourceSpecification/{id}

Note: this operation is available only to ADMIN API users

Description

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

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

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
name	
description	
@schemaLocation	
@baseType	
version	
validFor	
lifecycleStatus	
isBundle	
category	
targetResourceSchema	
feature	
attachment	
relatedParty	
resourceSpecCharacteristic	
resourceSpecRelationship	

Non Patchable Attributes	Rule
id	
href	
lastUpdate	
@type	

Usage Samples

Here's an example of a request for patching a ResourceSpecification resource.

Request
PATCH /catalogManagement/resourceSpecification/42 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response
200 <pre>{ "id": "42", "href": "http://hostname:port/catalogManagement/resourceSpecification/42", "name": "new name", "description": "This resource specification ...", "@type": "a string ...", "@schemaLocation": "a string ...", }</pre>

```
"@baseType": "a string ...",
"version": "1.0",
"validFor": {
  "startDateTime": "2017-08-10T00:00",
  "endDateTime": "2018-03-12T00:00"
},
"lastUpdate": "2017-08-14T00:00",
"lifecycleStatus": "a string ...",
"isBundle": true,
"category": "a string ...",
"targetResourceSchema": {
  "@type": "a string ...",
  "@schemaLocation": "a string ..."
},
"feature": [
  {
    "id": "8782",
    "href": "https://host:port/catalogManagement/feature/8782",
    "version": "1.1",
    "name": "a string ...",
    "@type": "a string ...",
    "isBundle": false,
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "isEnabled": true
  }
],
"attachment": [
  {
    "description": "This attachment ...",
    "href": "http://hostname:port/documentManagement/attachment/44",
    "id": "44",
    "type": "Photo",
    "url": "http://yyyyy"
  }
],
"relatedParty": [
  {
    "id": "7762",
    "href": "https://host:port/partyManagement/organization/7762",
    "role": "customer",
    "name": "John Doe",
    "validFor": {
      "startDateTime": "2017-08-15T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
  {
    "name": "a string ...",
    "description": "This resource spec characteristic ...",
  }
]
```

```

"valueType": "a string ...",
"configurable": true,
"validFor": {
  "startDateTime": "2017-08-17T00:00",
  "endDateTime": "2018-03-12T00:00"
},
"@type": "a string ...",
"@schemaLocation": "a string ...",
"@valueSchemaLocation": "a string ...",
"minCardinality": 50,
"maxCardinality": 48,
"isUnique": false,
"regex": "a string ...",
"extensible": true,
"resourceSpecCharRelationship": [
  {
    "type": "a string ...",
    "name": "a string ...",
    "id": "9540",
    "href": "https://host:port/catalogManagement/resourceSpecification/9540",
    "@type": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-15T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristicValue": [
  {
    "valueType": "a string ...",
    "isDefault": false,
    "value": "a Object ...",
    "unitOfMeasure": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-17T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "valueFrom": 68,
    "valueTo": 74,
    "rangeInterval": "a string ...",
    "regex": "a string ...",
    "@type": "a string ...",
    "@schemaLocation": "a string ..."
  }
]
},
"resourceSpecRelationship": [
  {
    "type": "a string ...",
    "role": "a string ...",
    "id": "5565",
    "href": "https://host:port/catalogManagement/resourceSpecification/5565",
    "name": "a string ..."
  }
]

```

```

    "validFor": {
      "startDateTime": "2017-08-13T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}

```

DELETE RESOURCE SPECIFICATION

DELETE /resourceSpecification/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a resource specification entity.

Usage Samples

Here's an example of a request for deleting a ResourceSpecification resource.

Request
DELETE /catalogManagement/resourceSpecification/42
Response
204

OPERATIONS ON LOGICAL RESOURCE SPEC

LIST LOGICAL RESOURCE SPECS

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

Description

This operation list logical resource spec entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving LogicalResourceSpec resources.

Request
GET /catalogManagement/logicalResourceSpec Accept: application/json
Response
<pre> 200 [{ "id": "1030", "href": "https://host:port/catalogManagement/logicalResourceSpec/1030", "name": "a string ...", "description": "This logical resource spec ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.1", "validFor": { "startDateTime": "2017-08-13T00:00", "endDateTime": "2018-03-12T00:00" }, "lastUpdate": "2017-08-14T00:00", "lifecycleStatus": "a string ...", "isBundle": true, "category": "a string ...", "targetResourceSchema": { "@type": "a string ...", "@schemaLocation": "a string ..." }, "feature": [{ "id": "3335", "href": "https://host:port/catalogManagement/feature/3335", "version": "2.1", "name": "a string ...", "@type": "a string ...", "isBundle": true, "validFor": { "startDateTime": "2017-08-10T00:00", "endDateTime": "2018-03-12T00:00" }, "isEnabled": true }] } </pre>

```
],
"attachment": [
  {
    "description": "This attachment ...",
    "href": "http://hostname:port/documentManagement/attachment/44",
    "id": "44",
    "type": "Photo",
    "url": "http://yyyyy"
  }
],
"relatedParty": [
  {
    "id": "5894",
    "href": "https://host:port/partyManagement/organization/5894",
    "role": "owner",
    "name": "Gustave Flaubert",
    "validFor": {
      "startDateTime": "2017-08-11T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
  {
    "name": "a string ...",
    "description": "This resource spec characteristic ...",
    "valueType": "a string ...",
    "configurable": false,
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "@type": "a string ...",
    "@schemaLocation": "a string ...",
    "@valueSchemaLocation": "a string ...",
    "minCardinality": 61,
    "maxCardinality": 18,
    "isUnique": false,
    "regex": "a string ...",
    "extensible": true,
    "resourceSpecCharRelationship": [
      {
        "type": "a string ...",
        "name": "a string ...",
        "id": "9474",
        "href": "https://host:port/catalogManagement/resourceSpecification/9474",
        "@type": "a string ...",
        "validFor": {
          "startDateTime": "2017-08-17T00:00",
          "endDateTime": "2018-03-12T00:00"
        }
      }
    ]
  }
],
"resourceSpecCharacteristicValue": [
```

```

    {
      "valueType": "a string ...",
      "isDefault": false,
      "value": "a Object ...",
      "unitOfMeasure": "a string ...",
      "validFor": {
        "startDateTime": "2017-08-13T00:00",
        "endDateTime": "2018-03-12T00:00"
      },
      "valueFrom": 20,
      "valueTo": 44,
      "rangeInterval": "a string ...",
      "regex": "a string ...",
      "@type": "a string ...",
      "@schemaLocation": "a string ..."
    }
  ]
},
"resourceSpecRelationship": [
  {
    "type": "a string ...",
    "role": "a string ...",
    "id": "5637",
    "href": "https://host:port/catalogManagement/resourceSpecification/5637",
    "name": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}
]

```

RETRIEVE LOGICAL RESOURCE SPEC

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

Description

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

Usage Samples

Here's an example of a request for retrieving a LogicalResourceSpec resource.

Request
GET /catalogManagement/logicalResourceSpec/1030 Accept: application/json
Response
200 <pre> { "id": "1030", "href": "https://host:port/catalogManagement/logicalResourceSpec/1030", "name": "a string ...", "description": "This logical resource spec ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.1", "validFor": { "startDateTime": "2017-08-13T00:00", "endDateTime": "2018-03-12T00:00" }, "lastUpdate": "2017-08-14T00:00", "lifecycleStatus": "a string ...", "isBundle": true, "category": "a string ...", "targetResourceSchema": { "@type": "a string ...", "@schemaLocation": "a string ..." }, "feature": [{ "id": "3335", "href": "https://host:port/catalogManagement/feature/3335", "version": "2.1", "name": "a string ...", "@type": "a string ...", "isBundle": true, "validFor": { "startDateTime": "2017-08-10T00:00", "endDateTime": "2018-03-12T00:00" }, "isEnabled": true }], "attachment": [{ "description": "This attachment ...", "href": "http://hostname:port/documentManagement/attachment/44", "id": "44", "type": "Photo", </pre>


```
    "url": "http://yyyyy"
  }
],
"relatedParty": [
  {
    "id": "5894",
    "href": "https://host:port/partyManagement/organization/5894",
    "role": "owner",
    "name": "Gustave Flaubert",
    "validFor": {
      "startDateTime": "2017-08-11T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
  {
    "name": "a string ...",
    "description": "This resource spec characteristic ...",
    "valueType": "a string ...",
    "configurable": false,
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "@type": "a string ...",
    "@schemaLocation": "a string ...",
    "@valueSchemaLocation": "a string ...",
    "minCardinality": 61,
    "maxCardinality": 18,
    "isUnique": false,
    "regex": "a string ...",
    "extensible": true,
    "resourceSpecCharRelationship": [
      {
        "type": "a string ...",
        "name": "a string ...",
        "id": "9474",
        "href": "https://host:port/catalogManagement/resourceSpecification/9474",
        "@type": "a string ...",
        "validFor": {
          "startDateTime": "2017-08-17T00:00",
          "endDateTime": "2018-03-12T00:00"
        }
      }
    ]
  }
],
"resourceSpecCharacteristicValue": [
  {
    "valueType": "a string ...",
    "isDefault": false,
    "value": "a Object ...",
    "unitOfMeasure": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-13T00:00",
```

```

        "endTime": "2018-03-12T00:00"
      },
      "valueFrom": 20,
      "valueTo": 44,
      "rangeInterval": "a string ...",
      "regex": "a string ...",
      "@type": "a string ...",
      "@schemaLocation": "a string ..."
    }
  ]
},
"resourceSpecRelationship": [
  {
    "type": "a string ...",
    "role": "a string ...",
    "id": "5637",
    "href": "https://host:port/catalogManagement/resourceSpecification/5637",
    "name": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}

```

CREATE LOGICAL RESOURCE SPEC

POST /logicalResourceSpec

Note: this operation is available only to ADMIN API users

Description

This operation creates a logical resource spec entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	
@type	

Non Mandatory Attributes	Default Value	Rule
description		
@schemaLocation		

@baseType	ResourceSpecification	
version		
validFor		
lastUpdate		
lifecycleStatus		
isBundle		
category		
targetResourceSchema		
feature		
attachment		
relatedParty		
resourceSpecCharacteristic		
resourceSpecRelationship		

Additional Rules

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

Context	Mandatory Sub-Attributes
attachment	name
relatedParty	id or href
resourceSpecRelationship	type, id or href
feature	name or id

Usage Samples

Here's an example of a request for creating a LogicalResourceSpec resource. In this example the request only passes mandatory attributes.

Request
POST /catalogManagement/logicalResourceSpec Content-Type: application/json <pre>{ "name": "a string ...", "@type": "a string ..." }</pre>
Response
201 <pre>{ "id": "1030", "href": "https://host:port/catalogManagement/logicalResourceSpec/1030", }</pre>

```

"name": "a string ...",
"@type": "a string ..."
...
}

```

PATCH LOGICAL RESOURCE SPEC

PATCH /logicalResourceSpec/{id}

Note: this operation is available only to ADMIN API users

Description

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

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

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
name	
description	
@schemaLocation	
@baseType	
version	
validFor	
lifecycleStatus	
isBundle	
category	
targetResourceSchema	
feature	
attachment	
relatedParty	
resourceSpecCharacteristic	
resourceSpecRelationship	

Non Patchable Attributes	Rule
id	
href	
lastUpdate	

@type	
-------	--

Usage Samples

Here's an example of a request for patching a LogicalResourceSpec resource.

Request
PATCH /catalogManagement/logicalResourceSpec/1030 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response
200 <pre>{ "id": "1030", "href": "https://host:port/catalogManagement/logicalResourceSpec/1030", "name": "new name", "description": "This logical resource spec ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.1", "validFor": { "startDateTime": "2017-08-13T00:00", "endDateTime": "2018-03-12T00:00" }, "lastUpdate": "2017-08-14T00:00", "lifecycleStatus": "a string ...", "isBundle": true, "category": "a string ...", "targetResourceSchema": { "@type": "a string ...", "@schemaLocation": "a string ..." }, "feature": [{ "id": "3335", "href": "https://host:port/catalogManagement/feature/3335", "version": "2.1", "name": "a string ...", "@type": "a string ...", "isBundle": true, "validFor": { "startDateTime": "2017-08-10T00:00", </pre>

```

      "endDateTime": "2018-03-12T00:00"
    },
    "isEnabled": true
  }
],
"attachment": [
  {
    "description": "This attachment ...",
    "href": "http://hostname:port/documentManagement/attachment/44",
    "id": "44",
    "type": "Photo",
    "url": "http://yyyyy"
  }
],
"relatedParty": [
  {
    "id": "5894",
    "href": "https://host:port/partyManagement/organization/5894",
    "role": "owner",
    "name": "Gustave Flaubert",
    "validFor": {
      "startDateTime": "2017-08-11T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
  {
    "name": "a string ...",
    "description": "This resource spec characteristic ...",
    "valueType": "a string ...",
    "configurable": false,
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "@type": "a string ...",
    "@schemaLocation": "a string ...",
    "@valueSchemaLocation": "a string ...",
    "minCardinality": 61,
    "maxCardinality": 18,
    "isUnique": false,
    "regex": "a string ...",
    "extensible": true,
    "resourceSpecCharRelationship": [
      {
        "type": "a string ...",
        "name": "a string ...",
        "id": "9474",
        "href": "https://host:port/catalogManagement/resourceSpecification/9474",
        "@type": "a string ...",
        "validFor": {
          "startDateTime": "2017-08-17T00:00",
          "endDateTime": "2018-03-12T00:00"
        }
      }
    ]
  }
]

```

```

    }
  }
],
"resourceSpecCharacteristicValue": [
  {
    "valueType": "a string ...",
    "isDefault": false,
    "value": "a Object ...",
    "unitOfMeasure": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-13T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "valueFrom": 20,
    "valueTo": 44,
    "rangeInterval": "a string ...",
    "regex": "a string ...",
    "@type": "a string ...",
    "@schemaLocation": "a string ..."
  }
]
}
],
"resourceSpecRelationship": [
  {
    "type": "a string ...",
    "role": "a string ...",
    "id": "5637",
    "href": "https://host:port/catalogManagement/resourceSpecification/5637",
    "name": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-14T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}

```

DELETE LOGICAL RESOURCE SPEC

DELETE /logicalResourceSpec/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a logical resource spec entity.

Usage Samples

Here's an example of a request for deleting a LogicalResourceSpec resource.

Request
DELETE /catalogManagement/logicalResourceSpec/42
Response
204

OPERATIONS ON PHYSICAL RESOURCE SPEC

LIST PHYSICAL RESOURCE SPECS

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

Description

This operation list physical resource spec entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving PhysicalResourceSpec resources.

Request
GET /catalogManagement/physicalResourceSpec Accept: application/json
Response
200 [{ "id": "7115", "href": "https://host:port/catalogManagement/physicalResourceSpec/7115", "name": "a string ...", "description": "This physical resource spec ...",


```
"@type": "a string ...",
"@schemaLocation": "a string ...",
"@baseType": "a string ...",
"version": "1.0",
"validFor": {
  "startDateTime": "2017-08-16T00:00",
  "endDateTime": "2018-03-12T00:00"
},
"lastUpdate": "2017-08-14T00:00",
"lifecycleStatus": "a string ...",
"isBundle": true,
"category": "a string ...",
"model": "a string ...",
"part": "a string ...",
"sku": "a string ...",
"vendor": "a string ...",
"place": {
  "id": "1979",
  "href": "https://host:port/genericCommon/place/1979",
  "name": "Main Home",
  "role": "default delivery"
},
"targetResourceSchema": {
  "@type": "a string ...",
  "@schemaLocation": "a string ..."
},
"feature": [
  {
    "id": "9293",
    "href": "https://host:port/catalogManagement/feature/9293",
    "version": "1.1",
    "name": "a string ...",
    "@type": "a string ...",
    "isBundle": false,
    "validFor": {
      "startDateTime": "2017-08-13T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "isEnabled": true
  }
],
"attachment": [
  {
    "description": "This attachment ...",
    "href": "http://hostname:port/documentManagement/attachment/44",
    "id": "44",
    "type": "Video",
    "url": "http://yyyyy"
  }
],
"relatedParty": [
  {
    "id": "3362",
    "href": "https://host:port/partyManagement/organization/3362",
```

```

"role": "customer",
"name": "Richard Cole",
"validFor": {
  "startDateTime": "2017-08-13T00:00",
  "endDateTime": "2018-03-12T00:00"
}
},
],
"resourceSpecCharacteristic": [
{
  "name": "a string ...",
  "description": "This resource spec characteristic ...",
  "valueType": "a string ...",
  "configurable": true,
  "validFor": {
    "startDateTime": "2017-08-10T00:00",
    "endDateTime": "2018-03-12T00:00"
  },
  "@type": "a string ...",
  "@schemaLocation": "a string ...",
  "@valueSchemaLocation": "a string ...",
  "minCardinality": 10,
  "maxCardinality": 62,
  "isUnique": false,
  "regex": "a string ...",
  "extensible": false,
  "resourceSpecCharRelationship": [
    {
      "type": "a string ...",
      "name": "a string ...",
      "id": "2634",
      "href": "https://host:port/catalogManagement/resourceSpecification/2634",
      "@type": "a string ...",
      "validFor": {
        "startDateTime": "2017-08-12T00:00",
        "endDateTime": "2018-03-12T00:00"
      }
    }
  ]
},
],
"resourceSpecCharacteristicValue": [
{
  "valueType": "a string ...",
  "isDefault": true,
  "value": "a Object ...",
  "unitOfMeasure": "a string ...",
  "validFor": {
    "startDateTime": "2017-08-16T00:00",
    "endDateTime": "2018-03-12T00:00"
  },
  "valueFrom": 22,
  "valueTo": 1,
  "rangeInterval": "a string ...",
  "regex": "a string ...",
  "@type": "a string ..."
}
]

```

```

        "@schemaLocation": "a string ..."
      }
    ]
  },
  "resourceSpecRelationship": [
    {
      "type": "a string ...",
      "role": "a string ...",
      "id": "4751",
      "href": "https://host:port/catalogManagement/resourceSpecification/4751",
      "name": "a string ...",
      "validFor": {
        "startDateTime": "2017-08-16T00:00",
        "endDateTime": "2018-03-12T00:00"
      }
    }
  ]
}
]

```

RETRIEVE PHYSICAL RESOURCE SPEC

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

Description

This operation retrieves a physical resource spec entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a PhysicalResourceSpec resource.

Request
GET /catalogManagement/physicalResourceSpec/7115 Accept: application/json
Response
200 {

```
"id": "7115",
"href": "https://host:port/catalogManagement/physicalResourceSpec/7115",
"name": "a string ...",
"description": "This physical resource spec ...",
"@type": "a string ...",
"@schemaLocation": "a string ...",
"@baseType": "a string ...",
"version": "1.0",
"validFor": {
  "startDateTime": "2017-08-16T00:00",
  "endDateTime": "2018-03-12T00:00"
},
"lastUpdate": "2017-08-14T00:00",
"lifecycleStatus": "a string ...",
"isBundle": true,
"category": "a string ...",
"model": "a string ...",
"part": "a string ...",
"sku": "a string ...",
"vendor": "a string ...",
"place": {
  "id": "1979",
  "href": "https://host:port/genericCommon/place/1979",
  "name": "Main Home",
  "role": "default delivery"
},
"targetResourceSchema": {
  "@type": "a string ...",
  "@schemaLocation": "a string ..."
},
"feature": [
  {
    "id": "9293",
    "href": "https://host:port/catalogManagement/feature/9293",
    "version": "1.1",
    "name": "a string ...",
    "@type": "a string ...",
    "isBundle": false,
    "validFor": {
      "startDateTime": "2017-08-13T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "isEnabled": true
  }
],
"attachment": [
  {
    "description": "This attachment ...",
    "href": "http://hostname:port/documentManagement/attachment/44",
    "id": "44",
    "type": "Video",
    "url": "http://yyyyy"
  }
],
```

```

"relatedParty": [
  {
    "id": "3362",
    "href": "https://host:port/partyManagement/organization/3362",
    "role": "customer",
    "name": "Richard Cole",
    "validFor": {
      "startDateTime": "2017-08-13T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristic": [
  {
    "name": "a string ...",
    "description": "This resource spec characteristic ...",
    "valueType": "a string ...",
    "configurable": true,
    "validFor": {
      "startDateTime": "2017-08-10T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "@type": "a string ...",
    "@schemaLocation": "a string ...",
    "@valueSchemaLocation": "a string ...",
    "minCardinality": 10,
    "maxCardinality": 62,
    "isUnique": false,
    "regex": "a string ...",
    "extensible": false,
    "resourceSpecCharRelationship": [
      {
        "type": "a string ...",
        "name": "a string ...",
        "id": "2634",
        "href": "https://host:port/catalogManagement/resourceSpecification/2634",
        "@type": "a string ...",
        "validFor": {
          "startDateTime": "2017-08-12T00:00",
          "endDateTime": "2018-03-12T00:00"
        }
      }
    ]
  }
],
"resourceSpecCharacteristicValue": [
  {
    "valueType": "a string ...",
    "isDefault": true,
    "value": "a Object ...",
    "unitOfMeasure": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "valueFrom": 22,

```

```

    "valueTo": 1,
    "rangeInterval": "a string ...",
    "regex": "a string ...",
    "@type": "a string ...",
    "@schemaLocation": "a string ..."
  }
]
},
"resourceSpecRelationship": [
  {
    "type": "a string ...",
    "role": "a string ...",
    "id": "4751",
    "href": "https://host:port/catalogManagement/resourceSpecification/4751",
    "name": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
}

```

CREATE PHYSICAL RESOURCE SPEC

POST /physicalResourceSpec

Note: this operation is available only to ADMIN API users

Description

This operation creates a physical resource spec entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	
@type	

Non Mandatory Attributes	Default Value	Rule
description		
@schemaLocation		
@baseType	ResourceSpecification	
version		
validFor		

lastUpdate		
lifecycleStatus		
isBundle		
category		
model		
part		
sku		
vendor		
place		
targetResourceSchema		
feature		
attachment		
relatedParty		
resourceSpecCharacteristic		
resourceSpecRelationship		

Additional Rules

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

Context	Mandatory Sub-Attributes
attachment	name
relatedParty	id or href
resourceSpecRelationship	type, id or href
feature	name or id

Usage Samples

Here's an example of a request for creating a PhysicalResourceSpec resource. In this example the request only passes mandatory attributes.

<p>Request</p> <pre>POST /catalogManagement/physicalResourceSpec Content-Type: application/json { "name": "a string ...", "@type": "a string ..." }</pre>
<p>Response</p> <pre>201 {</pre>

```

"id": "7115",
"href": "https://host:port/catalogManagement/physicalResourceSpec/7115",
"name": "a string ...",
"@type": "a string ..."
...
}

```

PATCH PHYSICAL RESOURCE SPEC

PATCH /physicalResourceSpec/{id}

Note: this operation is available only to ADMIN API users

Description

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

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

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
name	
description	
@schemaLocation	
@baseType	
version	
validFor	
lifecycleStatus	
isBundle	
category	
model	
part	
sku	
vendor	
place	
targetResourceSchema	
feature	
attachment	
relatedParty	
resourceSpecCharacteristic	

resourceSpecRelationship	
--------------------------	--

Non Patchable Attributes	Rule
id	
href	
lastUpdate	
@type	

Usage Samples

Here's an example of a request for patching a PhysicalResourceSpec resource.

Request
PATCH /catalogManagement/physicalResourceSpec/7115 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response
200 <pre>{ "id": "7115", "href": "https://host:port/catalogManagement/physicalResourceSpec/7115", "name": "new name", "description": "This physical resource spec ...", "@type": "a string ...", "@schemaLocation": "a string ...", "@baseType": "a string ...", "version": "1.0", "validFor": { "startDateTime": "2017-08-16T00:00", "endDateTime": "2018-03-12T00:00" }, "lastUpdate": "2017-08-14T00:00", "lifecycleStatus": "a string ...", "isBundle": true, "category": "a string ...", "model": "a string ...", "part": "a string ...", "sku": "a string ...", "vendor": "a string ...", "place": { "id": "1979",</pre>

```
"href": "https://host:port/genericCommon/place/1979",
"name": "Main Home",
"role": "default delivery"
},
"targetResourceSchema": {
"@type": "a string ...",
"@schemaLocation": "a string ..."
},
"feature": [
{
"id": "9293",
"href": "https://host:port/catalogManagement/feature/9293",
"version": "1.1",
"name": "a string ...",
"@type": "a string ...",
"isBundle": false,
"validFor": {
"startDateTime": "2017-08-13T00:00",
"endDateTime": "2018-03-12T00:00"
},
"isEnabled": true
}
],
"attachment": [
{
"description": "This attachment ...",
"href": "http://hostname:port/documentManagement/attachment/44",
"id": "44",
"type": "Video",
"url": "http://yyyyy"
}
],
"relatedParty": [
{
"id": "3362",
"href": "https://host:port/partyManagement/organization/3362",
"role": "customer",
"name": "Richard Cole",
"validFor": {
"startDateTime": "2017-08-13T00:00",
"endDateTime": "2018-03-12T00:00"
}
}
],
"resourceSpecCharacteristic": [
{
"name": "a string ...",
"description": "This resource spec characteristic ...",
"valueType": "a string ...",
"configurable": true,
"validFor": {
"startDateTime": "2017-08-10T00:00",
"endDateTime": "2018-03-12T00:00"
}
},

```

```

"@type": "a string ...",
"@schemaLocation": "a string ...",
"@valueSchemaLocation": "a string ...",
"minCardinality": 10,
"maxCardinality": 62,
"isUnique": false,
"regex": "a string ...",
"extensible": false,
"resourceSpecCharRelationship": [
  {
    "type": "a string ...",
    "name": "a string ...",
    "id": "2634",
    "href": "https://host:port/catalogManagement/resourceSpecification/2634",
    "@type": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-12T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
],
"resourceSpecCharacteristicValue": [
  {
    "valueType": "a string ...",
    "isDefault": true,
    "value": "a Object ...",
    "unitOfMeasure": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    },
    "valueFrom": 22,
    "valueTo": 1,
    "rangeInterval": "a string ...",
    "regex": "a string ...",
    "@type": "a string ...",
    "@schemaLocation": "a string ..."
  }
]
},
"resourceSpecRelationship": [
  {
    "type": "a string ...",
    "role": "a string ...",
    "id": "4751",
    "href": "https://host:port/catalogManagement/resourceSpecification/4751",
    "name": "a string ...",
    "validFor": {
      "startDateTime": "2017-08-16T00:00",
      "endDateTime": "2018-03-12T00:00"
    }
  }
]
]

```

```
}

```

DELETE PHYSICAL RESOURCE SPEC

DELETE /physicalResourceSpec/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a physical resource spec entity.

Usage Samples

Here's an example of a request for deleting a PhysicalResourceSpec resource.

Request
DELETE /catalogManagement/physicalResourceSpec/42
Response
204

OPERATIONS ON IMPORT JOB

LIST IMPORT JOBS

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

Description

This operation list import job entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving ImportJob resources.

List all started active jobs. The result items are shrunk to show only the id (fields=id)

Request
GET /catalogManagement/importJob?fields=id&status="started" Accept: application/json
Response
200 [{ "id": "42" }, { "id": "43" }]

RETRIEVE IMPORT JOB

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

Description

This operation retrieves an import job entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a ImportJob resource.

Request
GET /catalogManagement/importJob/3186 Accept: application/json
Response

```

200

{
  "id": "3186",
  "href": "https://host:port/catalogManagement/importJob/3186",
  "contentType": "application/json",
  "path": "/Unexpected/fatal/error",
  "status": "completed",
  "url": "http://my/monthly/job/YHGFRDE",
  "completionDate": "2017-08-14T00:00",
  "creationDate": "2017-08-14T00:00",
  "errorLog": "http://my-platform/logging/errors.log"
}

```

CREATE IMPORT JOB

POST /importJob

Description

This operation creates an import job entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
url	

Non Mandatory Attributes	Default Value	Rule
contentType		
path		
status		
completionDate		
creationDate		
errorLog		

Usage Samples

Here's an example of a request for creating a ImportJob resource. In this example the request only passes mandatory attributes.

Request

```

POST /catalogManagement/importJob
Content-Type: application/json

```

<pre>{ "url": "http://my/monthly/job/YHGFRDE" }</pre>
<p>Response</p>
<pre>201 { "id": "3186", "href": "https://host:port/catalogManagement/importJob/3186", "url": "http://my/monthly/job/YHGFRDE" }</pre>

DELETE IMPORT JOB

DELETE /importJob/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes an import job entity.

Usage Samples

Here's an example of a request for deleting a ImportJob resource.

<p>Request</p>
<pre>DELETE /catalogManagement/importJob/42</pre>
<p>Response</p>
<pre>204</pre>

OPERATIONS ON EXPORT JOB

LIST EXPORT JOBS

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

Description

This operation list export job entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving ExportJob resources.

Request
GET /catalogManagement/exportJob Accept: application/json
Response
200 [{ "id": "9788", "href": "https://host:port/catalogManagement/exportJob/9788", "query": "advancedCatalog", "path": "/warning/system", "contentType": "application/json", "status": "started", "url": "http://my/monthly/job/YHGFRDE", "completionDate": "2017-08-14T00:00", "creationDate": "2017-08-14T00:00", "errorLog": "http://my-platform/logging/errors.log" }]

RETRIEVE EXPORT JOB

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

Description

This operation retrieves an export job entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a ExportJob resource.

Request
GET /catalogManagement/exportJob/9788 Accept: application/json
Response
200 <pre>{ "id": "9788", "href": "https://host:port/catalogManagement/exportJob/9788", "query": "advancedCatalog", "path": "/warning/system", "contentType": "application/json", "status": "started", "url": "http://my/monthly/job/YHGFRDE", "completionDate": "2017-08-14T00:00", "creationDate": "2017-08-14T00:00", "errorLog": "http://my-platform/logging/errors.log" }</pre>

CREATE EXPORT JOB

POST /exportJob

Description

This operation creates an export job entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
url	

Non Mandatory Attributes	Default Value	Rule
query		

path		
contentType		
status		
completionDate		
creationDate		
errorLog		

Usage Samples

Here's an example of a request for creating a ExportJob resource. In this example the request only passes mandatory attributes.

Request
<pre>POST /catalogManagement/exportJob Content-Type: application/json { "url": "http://my/monthly/job/YHGFRDE" }</pre>
Response
<pre>201 { "id": "9788", "href": "https://host:port/catalogManagement/exportJob/9788", "url": "http://my/monthly/job/YHGFRDE" }</pre>

DELETE EXPORT JOB

DELETE /exportJob/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes an export job entity.

Usage Samples

Here's an example of a request for deleting a ExportJob resource.

Request
DELETE /catalogManagement/exportJob/42
Response
204

API NOTIFICATIONS

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

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

REGISTER LISTENER

POST /hub

Description

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

Behavior

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

Returns HTTP/1.1 status code 409 if the hub is shared and already exist and it doesn't support multiple listeners.

Usage Samples

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

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

UNREGISTER LISTENER

DELETE /hub/{id}

Description

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

Behavior

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

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

Usage Samples

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

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

PUBLISH EVENT TO LISTENER

POST /client/listener

Description

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

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

Behavior

Returns HTTP/1.1 status code 201 if the service can set the configuration.

Usage Samples

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

Request
POST /client/listener Accept: application/json { "event": { EVENT BODY }, "eventType": "EVENT_TYPE" }
Response
201

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

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 Resource Candidate 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 through 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/resourceCandidate/42",
  "version": "1.0",
  "lastUpdate": "2017-04-19T16:42:23-04:00",
  "name": "Virtual Storage Medium",
  "description": "Virtual Storage Medium",
  "lifecycleStatus": "Active",
  .....
}
```

Note that the catalog 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 Resource Candidate exist in the Resource 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/resourceCandidate/?id=VirtualStorageMedium Accept: application/json
RESPONSE
200 Content-Type: application/json [{ "id": "VirtualStorageMedium", "href": "http://serverlocation:port/catalogManagement/resourceCandidate/VirtualStorageMedium", "version": "1.0", "lastUpdate": "2016-04-19T16:42:23-04:00", "name": "Virtual Storage Medium", "description": "Virtual Storage Medium", "lifecycleStatus": "Active", }, { "id": "VirtualStorageMedium", "href": "http://serverlocation:port/catalogManagement/resourceCandidate/VirtualStorageMedium", "version": "2.0", "lastUpdate": "2016-04-19T16:42:23-04:00", "name": "Virtual Storage Medium", "description": "Virtual Storage Medium", "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/resourceCandidate/?id=VirtualStorageMedium&version=1.0
Accept: application/json

```

RESPONSE

```

200
Content-Type: application/json
[
  {
    "id": "VirtualStorageMedium",
    "href": "http://serverlocation:port/catalogManagement/resourceCandidate/VirtualStorage
Medium",
    "version": "1.0",
    "lastUpdate": "2016-04-19T16:42:23-04:00",
    "name": "Virtual Storage Medium",
    "description": "Virtual Storage Medium",
    "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/resourceCandidate/VirtualStorageMedium Accept: application/json
RESPONSE
200 Content-Type: application/json { "id": "VirtualStorageMedium", "href": "http://serverlocation:port/catalogManagement/resourceCandidate/VirtualStorage Medium", "version": "2.0", "lastUpdate": "2016-04-19T16:42:23-04:00", "name": "Virtual Storage Medium", "description": "Virtual Storage Medium", "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/resourceCandidate Content-type: application/json

```
{
  "id": "VirtualStorage",
  "version": "3.0",
  "name": "Virtual Storage Medium",
  "description": "Virtual Storage Medium",
  "lifecycleStatus": "Active",
  "validFor": {
    "startDateTime": "2016-04-19T16:42:23-04:00",
    "endDateTime": "2016-06-19T00:00:00-04:00"
  },
  ...
}
```

RESPONSE

201

Content-Type: application/json

```
{
  "id": "VirtualStorage",
  "href": "http://serverlocation:port/catalogManagement/resourceCandidate/42",
  "version": "3.0",
  "lastUpdate": "2016-04-19T16:42:23-04:00",
  "name": "Virtual Storage Medium",
  "description": "Virtual Storage Medium",
  "lifecycleStatus": "Active",
  "validFor": {
    "startDateTime": "2016-04-19T16:42:23-04:00",
    "endDateTime": "2016-06-19T00:00:00-04:00"
  },
  ...
}
```

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 `./resourceCandidate/VirtualStorageMedium` will only update the VirtualStorageMedium ResourceCandidate 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 VirtualStorageMedium versioned at 1.0 we could use:
/resourceCandidate/VirtualStorageMedium(Version=1.0)

REQUEST

PATCH /catalogManagement/resourceCandidate/VirtualStorageMedium(Version=1.0)

Content-type: application/json-patch+json

```
{  
  "lifecycleStatus": "Active"  
}
```

RESPONSE

200

Content-Type: application/json

```
{  
  "id": "VirtualStorageMedium",  
  "href":  
  "http://serverlocation:port/catalogManagement/resourceCanddidate/VirtualStorageMedium",  
  "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 established between authorized parties with regards to the content of the Catalog (i.e. GET but also enable of update operations on specific entities).

ACKNOWLEDGEMENTS

RELEASE HISTORY

Release Number	Date	Release led by:	Description
Release 1.0	04/15/2013	Pierre Gauthier TM Forum pgauthier@tmforum.org	First Release of Draft Version of the Document.
Release 1.7	16/08/2016	Kamal Maghsoudlou Ericsson kamal.maghsoudlou@ericsson.com	Updated following resource catalog API discussion in the Vancouver Action Week
Release 16.5.0	30/08/2016	Kamal Maghsoudlou Ericsson kamal.maghsoudlou@ericsson.com	Incorporated comments from the review meeting
Release 17.0.0	06/08/2017	Kamal Maghsoudlou Ericsson kamal.maghsoudlou@ericsson.com	<ul style="list-style-type: none"> • added polymorphism support for REST resources, • incorporated comments from review meeting
Release 17.0.1 Version 2.0.2	04-Dec-2017	Adrienne Walcott TM Forum awalcott@tmforum.org	Updated to reflect TM Forum Approved Status



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