

TM Forum Specification

Service Catalog Management API REST Specification

TMF633

Team Approved Date: 12-Oct-2020

Release Status: Pre-production	Approval Status: Team Approved
Version 4.0.0	IPR Mode: RAND

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TABLE OF CONTENTS

NOTICE	2
Table of Contents.....	3
List of Tables	6
Introduction	7
SAMPLE USE CASES.....	8
Lifecycle Management Use Case.....	8
Entity Lifecycle States	9
Support of polymorphism and extension patterns	12
RESOURCE MODEL.....	13
Managed Entity and Task Resource Models.....	13
Service Catalog resource	13
Service Category resource	16
Service Candidate resource.....	19
Service Specification resource.....	22
Import Job resource	36
Export Job resource.....	38
Notification Resource Models	39
Service Catalog Create Event.....	41
Service Catalog Change Event	42
Service Catalog Batch Event	42
Service Catalog Delete Event.....	42
Service Category Create Event	43
Service Category Change Event.....	43
Service Category Delete Event	43
Service Candidate Create Event	44
Service Candidate Change Event.....	44
Service Candidate Delete Event	44
Service Specification Create Event	45

- Service Specification Change Event..... 45
- Service Specification Delete Event 46
- API OPERATIONS..... 47
 - Operations on Service Catalog..... 47
 - List service catalogs 48
 - Retrieve service catalog..... 49
 - Create service catalog 51
 - Patch service catalog 53
 - Delete service catalog 55
 - Operations on Service Category 55
 - List service categories..... 55
 - Retrieve service category 57
 - Create service category 58
 - Patch service category..... 60
 - Delete service category 62
 - Operations on Service Candidate 62
 - List service candidates..... 62
 - Retrieve service candidate 64
 - Create service candidate 65
 - Patch service candidate..... 68
 - Delete service candidate 69
 - Operations on Service Specification 70
 - List service specifications 70
 - Retrieve service specification 77
 - Create service specification..... 83
 - Patch service specification 93
 - Delete service specification 100
 - Operations on Import Job..... 100

List import jobs	100
Retrieve import job	101
Create import job	102
Delete import job	103
Operations on Export Job	104
List export jobs	104
Retrieve export job	105
Create export job	105
Delete export job	107
API NOTIFICATIONS.....	108
Register listener	108
Unregister listener	109
Publish Event to listener	109
Lifecycle Management Extensions to Catalog	111
Query all versioned catalog resources	111
Query a specific versioned catalog resource.....	113
Query current version of a catalog resource.....	113
Create new version of a catalog resource.....	114
Modify an existing version of a catalog resource	115
Role based Access Control.....	117
Acknowledgements	118
Document History.....	118
Release History	118
Version History	119
Contributors to Document.....	119

LIST OF TABLES

N/A

INTRODUCTION

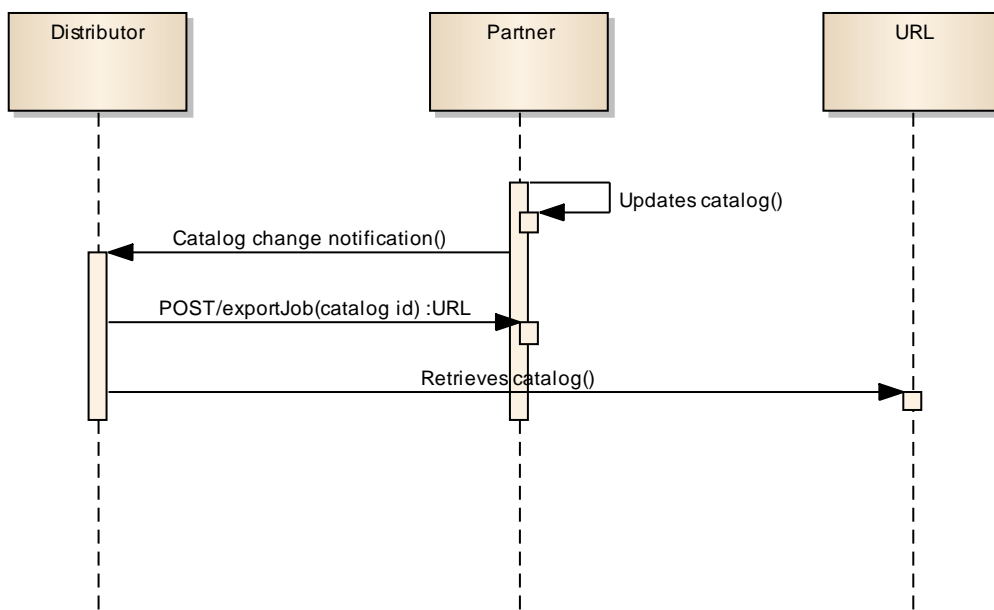
The Service Catalog Management API REST specification allows the management of the entire lifecycle of the Service Catalog elements and the consultation of service catalog elements during several processes such as ordering process.

SAMPLE USE CASES

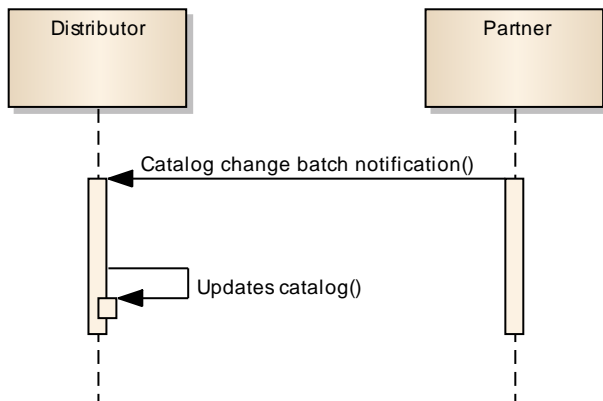
Lifecycle Management Use Case

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

Use Case1 - Catalog synchronization using notification and export Job: 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.



Use Case2 - Batch notification: A partner updates his catalog. He notifies all catalog changes in detail to his distributor. This one updates his catalog copy.



Use Case3 - Retrieve information of a catalog entity by its identifier or filtering: A catalog administrator wants to retrieve effective duration of a service candidate based on service candidate identifier or other search criteria (GET /serviceCandidate/{ID}).

Use Case4 - Get a list of all entities in a collection: A catalog administrator wants to retrieve all service candidates in service catalog (GET /serviceCandidate).

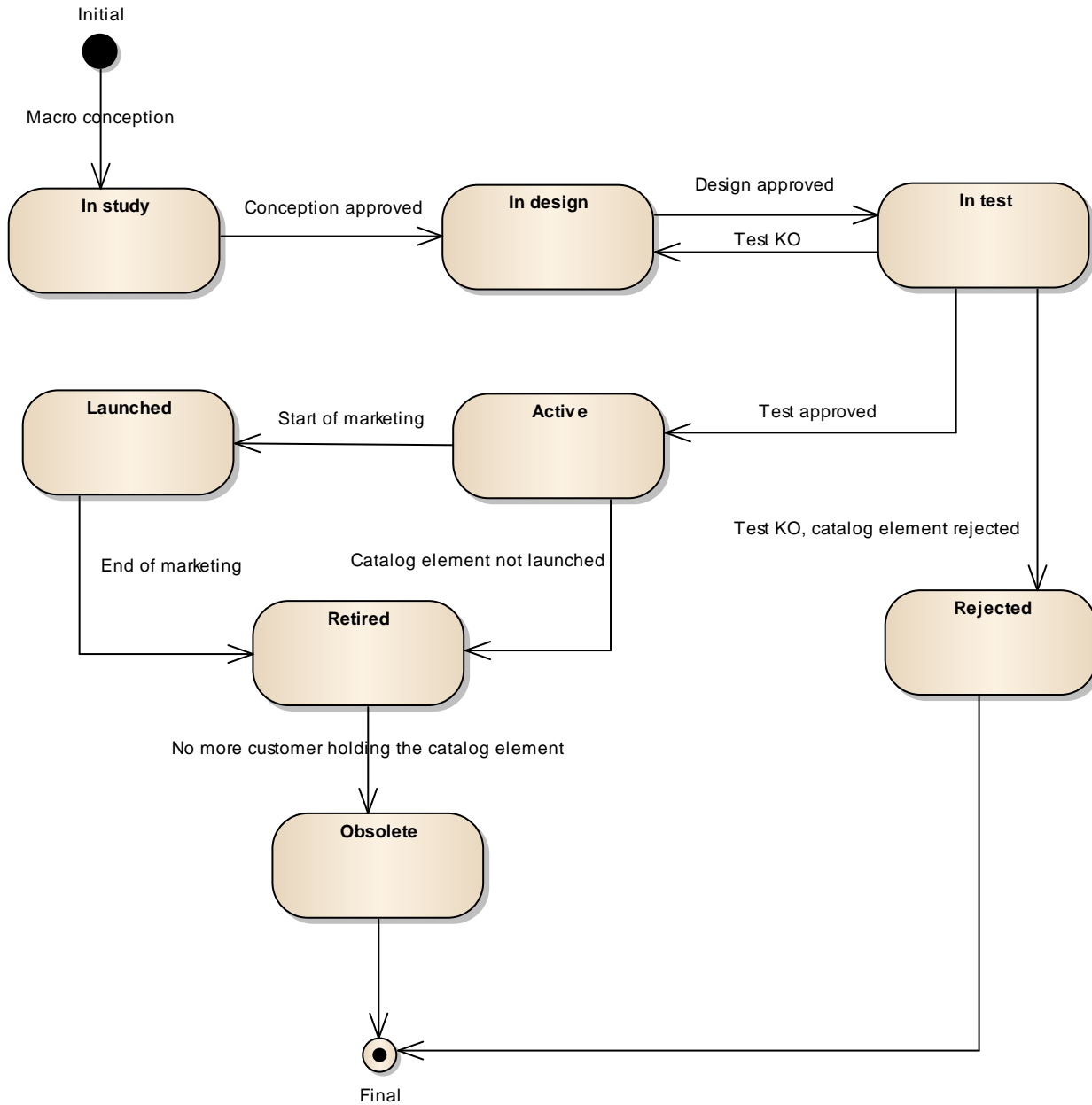
Use Case5 - Update a catalog entity: A catalog administrator wants to update the lifecycle status (from Launched to retired for example) of a service candidate (PATCH /serviceCandidate/{ID}).

Use Case6 - Create a catalog entity: A catalog administrator wants to create a new service specification (POST /serviceSpecification/{ID}).

Use Case7 - Create a catalog entity: A catalog administrator wants to create a new service specification (POST /serviceSpecification/{ID}).

Entity Lifecycle States

Resource Lifecycle Management is responsible for managing the entire lifecycle of the service 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 (failed) 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.

SUPPORT OF POLYMORPHISM AND EXTENSION PATTERNS

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

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines (TMF630) document.

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

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

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

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

RESOURCE MODEL

Managed Entity and Task Resource Models

Service Catalog resource

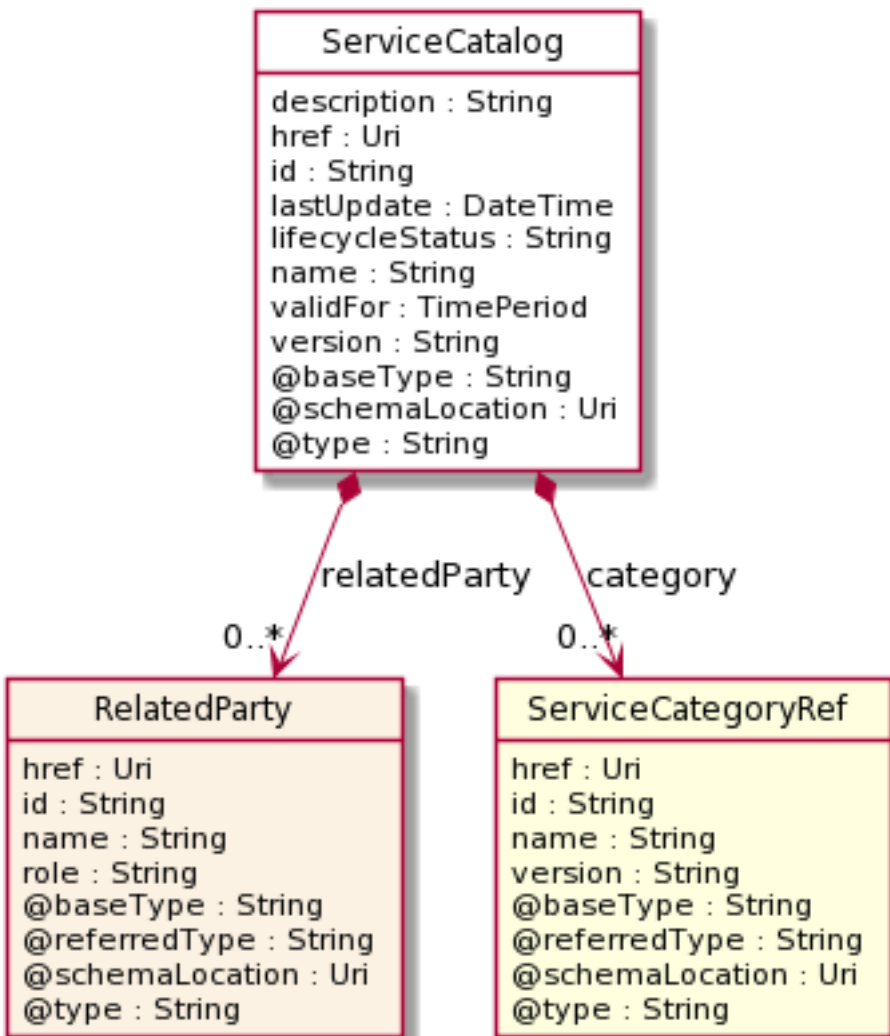
The root entity for service catalog management.

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

A service catalog typically includes name, description and time period that is valid for. It will have a list of ServiceCandidate catalog items. A ServiceCandidate is an entity that makes a ServiceSpecification available to a catalog.

A ServiceCandidate and its associated ServiceSpecification may be "published" - made visible -in any number of ServiceCatalogs, or in none.

Resource model



Field descriptions

ServiceCatalog fields

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
category	A list of service category references (ServiceCategoryRef [*]). List of service categories associated with this catalog.
description	A string. Description of this catalog.
lastUpdate	A date time (DateTime). Date and time of the last update.
lifecycleStatus	A string. Used to indicate the current lifecycle status.
name	A string. Name of the service catalog.
relatedParty	A list of related parties (RelatedParty [*]). List of parties or party roles related to this category.
validFor	A time period. The period for which the service catalog is valid.
version	A string. ServiceCatalog version.

RelatedParty sub-resource

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

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

ServiceCategoryRef relationship

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

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

Json representation sample

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

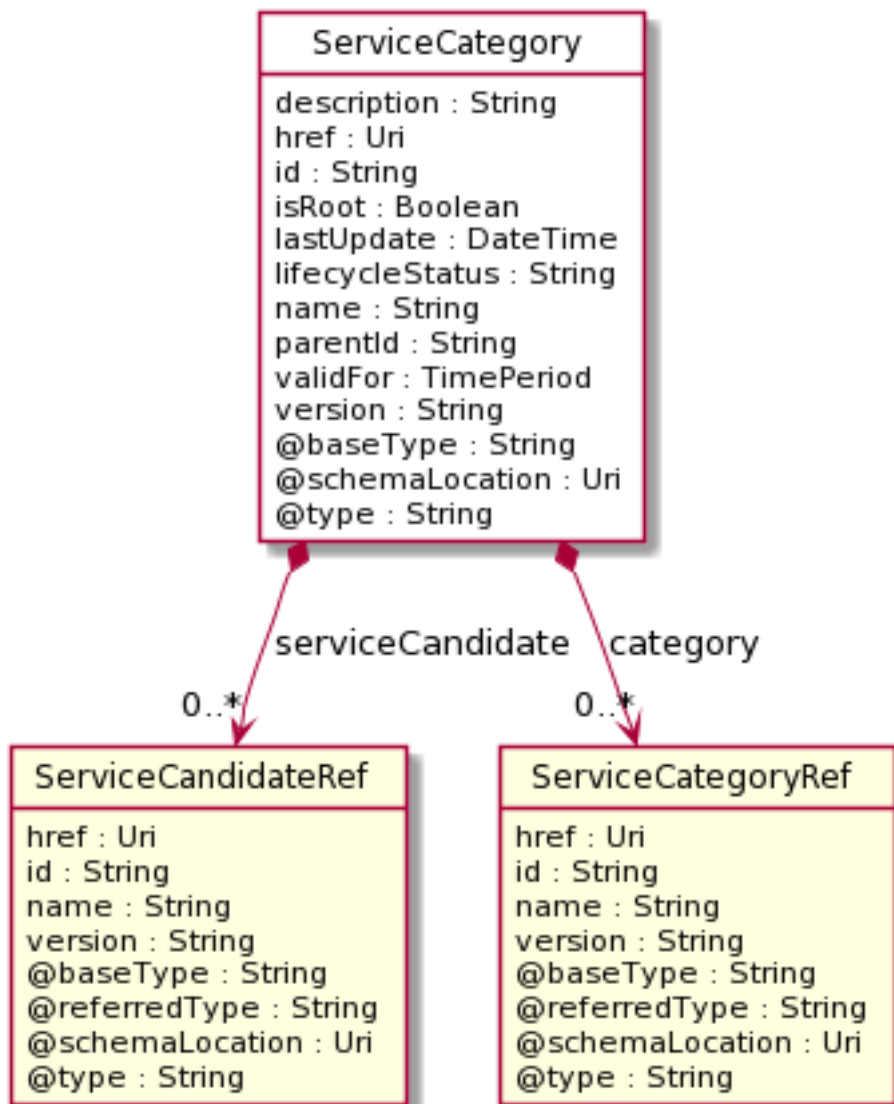
```
{
  "id": "3830",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCatalog/3830",
  "name": "IOT Catalog",
  "description": "This service catalog describes IOT services that address the wholesale business segment.",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2017-08-29T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lastUpdate": "2020-08-25T00:00",
  "lifecycleStatus": "Active",
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyRoleManagement/v4/partyRole/4079",
      "id": "4079",
      "name": "Broadly Broad Ltd",
      "role": "vendor",
      "@referredType": "PartyRole",
      "@type": "RelatedParty",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json ",
      "@baseType": ""
    }
  ],
  "category": [
    {
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/category/7752",
      "id": "7752",
      "name": "IoT",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ],
  "@type": "ServiceCatalog",
}
```

```
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCatalog.schema.json ",
"@baseType": "Catalog"
}
```

Service Category resource

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

Resource model



Field descriptions

ServiceCategory fields

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

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
category	A list of service category references (ServiceCategoryRef [*]). List of child categories in the tree for in this category.
description	A string. Description of the category.
isRoot	A boolean. If true, this Boolean indicates that the category is a root of categories.
lastUpdate	A date time (DateTime). Date and time of the last update.
lifecycleStatus	A string. Used to indicate the current lifecycle status.
name	A string. Name of the category.
parentId	A string. Unique identifier of the parent category.
serviceCandidate	A list of service candidate references (ServiceCandidateRef [*]). List of service candidates associated with this category.
validFor	A time period. The period for which the category is valid.
version	A string. ServiceCategory version.

ServiceCandidateRef relationship

ServiceCandidate reference. ServiceCandidate is an entity that makes a ServiceSpecification available to a catalog.

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

ServiceCategoryRef relationship

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

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

Json representation sample

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

```
{
  "id": "1708",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/1708",
  "name": "Cloud Services",
  "description": "A category to hold all available cloud service offers",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2017-08-24T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lifecycleStatus": "Active",
  "lastUpdate": "2020-08-25T00:00",
  "isRoot": true,
  "serviceCandidate": [
    {
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/5850",
      "id": "5850",
      "name": "Azure Kubernetes Service",
      "version": "1.0",
      "@referredType": "ServiceCandidate",
      "@type": "ServiceCandidateRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidateRef.schema.json ",
      "@baseType": ""
    }
  ],
  "category": [
    {
      "id": "5980",
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980",
      "version": "1.0",
      "name": "AzureCloudApp",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ]
}
```

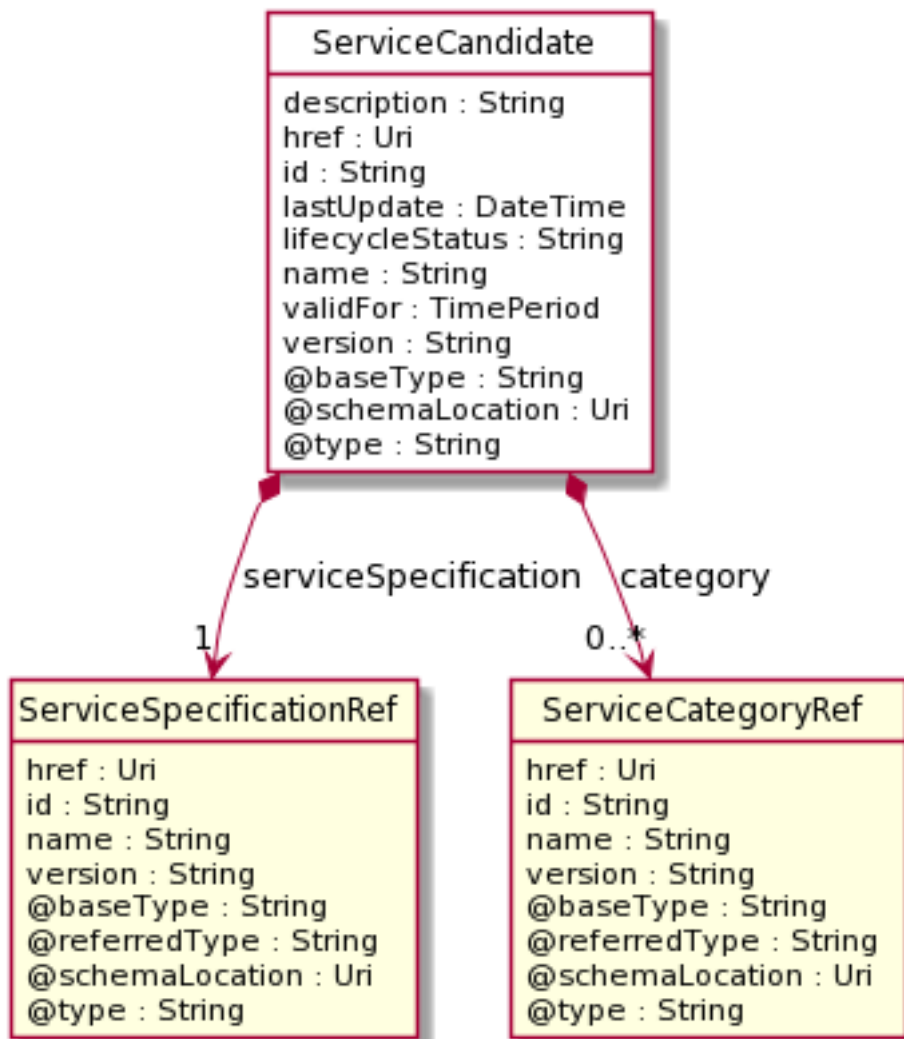
```

},
"@type": "ServiceCategory",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategory.schema.json",
"@baseType": "Category"
}
    
```

Service Candidate resource

ServiceCandidate is an entity that makes a service specification available to a catalog. A ServiceCandidate and its associated service specification may be published - made visible - in any number of service catalogs, or in none. One service specification can be composed of other service specifications.

Resource model



Field descriptions

ServiceCandidate fields

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

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
category	A list of service category references (ServiceCategoryRef [*]). List of categories for this candidate.
description	A string. Description of this REST resource.
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 service candidate.
name	A string. Name given to this REST resource.
serviceSpecification	A service specification reference (ServiceSpecificationRef). The service specification implied by this candidate.
validFor	A time period. The period for which this REST resource is valid.
version	A string. the version of service candidate.

ServiceCategoryRef relationship

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

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

ServiceSpecificationRef relationship

Service specification reference: ServiceSpecification(s) required to realize a ProductSpecification.

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

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

Json representation sample

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

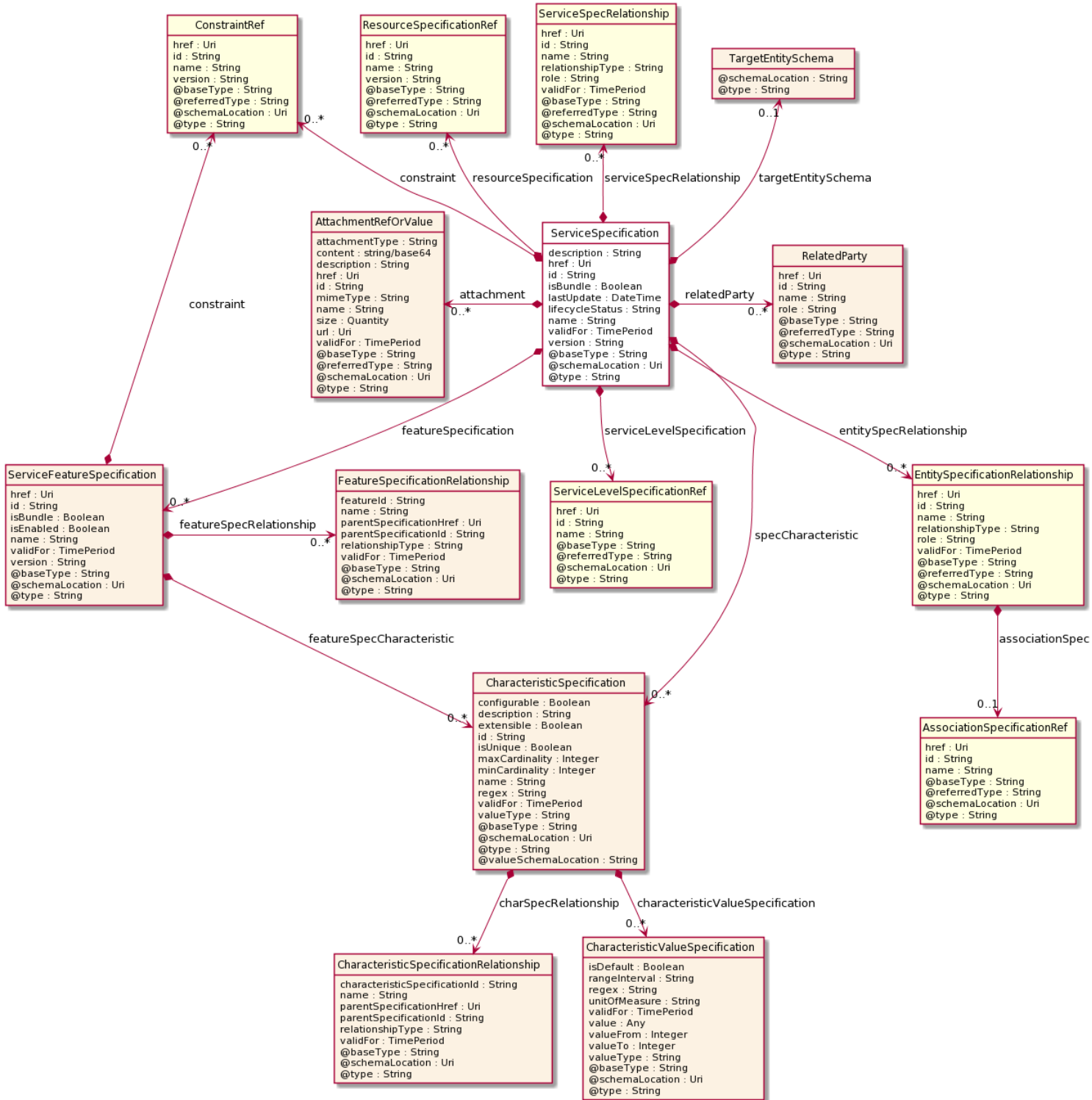
```
{
  "id": "4994",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/4994",
  "name": "TVServiceCandidate",
  "description": "This service candidate allows provision of TV service",
  "version": "2.1",
  "validFor": {
    "startDateTime": "2017-08-23T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lastUpdate": "2020-08-16T00:00",
  "lifecycleStatus": "Active",
  "category": [
    {
      "id": "5980",
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980",
      "version": "3.2",
      "name": "TV",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ],
  "serviceSpecification": {
    "id": "9600",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/9600",
    "version": "2.1",
    "name": "CFSS_TV",
    "@referredType": "CustomerFacingServiceSpecification",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecificationRef.schema.json ",
    "@baseType": "",
    "@type": "ServiceSpecificationRef"
  },
  "@type": "ServiceCandidate",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidate.schema.json ",
  "@baseType": ""
}
```

Service Specification resource

ServiceSpecification is a class that offers characteristics to describe a type of service.

Functionally, it acts as a template by which Services may be instantiated. By sharing the same specification, these services would therefore share the same set of characteristics.

Resource model



Field descriptions

ServiceSpecification fields

description	A string. Description of the specification.
isBundle	A boolean. isBundle determines whether specification represents a single specification (false), or a bundle of specifications (true).
lastUpdate	A date time (DateTime). Date and time of the last update of the specification.
lifecycleStatus	A string. Used to indicate the current lifecycle status of this catalog item.
name	A string. Name given to the specification.
version	A string. specification version.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
featureSpecification	A list of service feature specifications (ServiceFeatureSpecification [*]). A list of Features for this specification.
resourceSpecification	A list of resource specification references (ResourceSpecificationRef [*]). A list of resource specification references (ResourceSpecificationRef [*]). The ResourceSpecification is required for a service specification with type ResourceFacingServiceSpecification (RFSS).
serviceLevelSpecification	A list of service level specification references (ServiceLevelSpecificationRef [*]). A list of service level specifications related to this service specification, and which will need to be satisfiable for corresponding service instances; e.g. Gold, Platinum.
serviceSpecRelationship	A list of service spec relationships (ServiceSpecRelationship [*]). A list of service specifications related to this specification, e.g. migration, substitution, dependency or exclusivity relationship.
attachment	A list of attachment ref or values (AttachmentRefOrValue [*]). Attachments that may be of relevance to this specification, such as picture, document, media.
constraint	A list of constraint references (ConstraintRef [*]). This is a list of constraint references applied to this specification.
entitySpecRelationship	A list of entity specification relationships (EntitySpecificationRelationship [*]). Relationship to another specification.

relatedParty	A list of related parties (RelatedParty [*]). Parties who manage or otherwise have an interest in this specification.
specCharacteristic	A list of characteristic specifications (CharacteristicSpecification [*]). List of characteristics that the entity can take.
targetEntitySchema	A target entity schema (TargetEntitySchema). Pointer to a schema that defines the target entity.
validFor	A time period. The period for which this REST resource is valid.

AttachmentRefOrValue sub-resource

An attachment by value or by reference. An attachment complements the description of an element, for example through a document, a video, a picture.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
description	A string. A narrative text describing the content of the attachment.
href	An uri (Uri). URI for this Attachment.
id	A string. Unique identifier for this particular attachment.
url	An uri (Uri). Uniform Resource Locator, is a web page address (a subset of URI).
name	A string. The name of the attachment.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
attachmentType	A string. Attachment type such as video, picture.
content	A base 6 4 (Base64). The actual contents of the attachment object, if embedded, encoded as base64.
contentType	A string. Attachment mime type such as extension file for video, picture and document.
size	A quantity (Quantity). The size of the attachment.
validFor	A time period. The period of time for which the attachment is valid.

CharacteristicSpecification sub-resource

This class defines a characteristic specification.

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

configurable	A boolean. If true, the Boolean indicates that the target Characteristic is configurable.
description	A string. A narrative that explains the CharacteristicSpecification.
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.
id	A string. Unique ID for the characteristic.
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".
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.
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.
name	A string. A word, term, or phrase by which this characteristic specification is known and distinguished from other characteristic specifications.
regex	A string. A rule or principle represented in regular expression used to derive the value of a characteristic value.
valueType	A string. A kind of value that the characteristic can take on, such as numeric, text and so forth.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
charSpecRelationship	A list of characteristic specification relationships (CharacteristicSpecificationRelationship [*]). An aggregation, migration, substitution, dependency or exclusivity relationship between/among Specification Characteristics.
characteristicValueSpecification	A list of characteristic value specifications (CharacteristicValueSpecification [*]). A CharacteristicValueSpecification object is used to define a set of attributes, each of which can be assigned to a corresponding set of attributes in a CharacteristicSpecification object. The values of the attributes in the CharacteristicValueSpecification object describe the values of the attributes that a corresponding Characteristic object can take on.

validFor A time period. The period of time for which a characteristic is applicable.

CharacteristicSpecificationRelationship sub-resource

An aggregation, migration, substitution, dependency or exclusivity relationship between/among Characteristic specifications. The specification characteristic is embedded within the specification whose ID and href are in this entity, and identified by its ID.

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

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

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

characteristicSpecificationId A string. Unique identifier of the characteristic within the specification.

name A string. Name of the target characteristic within the specification.

parentSpecificationHref An uri (Uri). Hyperlink reference to the parent specification containing the target characteristic.

parentSpecificationId A string. Unique identifier of the parent specification containing the target characteristic.

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

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

CharacteristicValueSpecification sub-resource

specification of a value (number or text or an object) that can be assigned to a Characteristic.

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

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

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

isDefault A boolean. If true, the Boolean Indicates if the value is the default value for a characteristic.

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.

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.
value	An any (Any). A discrete value that the characteristic can take on, or the actual value of the characteristic.
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.
valueType	A string. A kind of value that the characteristic value can take on, such as numeric, text and so forth.

EntitySpecificationRelationship sub-resource

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

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
associationSpec	An association specification reference (AssociationSpecificationRef). A specification for an association used by this relationship.
relationshipType	A string. Type of relationship such as migration, substitution, dependency, exclusivity.
role	A string. The association role for this entity specification.
validFor	A time period. The period for which the entitySpecRelationship is valid.

FeatureSpecificationRelationship sub-resource

Relationship between feature specifications.

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

featureId	A string. Unique identifier of the target feature specification.
name	A string. This is the name of the target feature specification.
parentSpecificationHref	An uri (Uri). Hyperlink reference to the parent specification containing the target feature.
parentSpecificationId	A string. Unique identifier of the parent specification containing the target feature.
relationshipType	A string. This is the type of the feature specification relationship.
validFor	A time period. The period for which this feature specification relationship is valid.

Quantity sub-resource

An amount in a given unit.

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

RelatedParty sub-resource

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

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

ServiceFeatureSpecification sub-resource

Specification for service features.

href	An uri (Uri). Hyperlink reference.
id	A string. Identifier of the feature specification. Must be locally unique within the containing specification, thus allowing direct access to the feature spec.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
constraint	A list of constraint references (ConstraintRef [*]). A list of feature constraints/rules.
featureSpecCharacteristic	A list of characteristic specifications (CharacteristicSpecification [*]). This is a list of characteristics for a particular feature.
featureSpecRelationship	A list of feature specification relationships (FeatureSpecificationRelationship [*]). A dependency, exclusivity or aggratation relationship between/among feature specifications.
isBundle	A boolean. A flag indicating if this is a feature group (true) or not (false).
isEnabled	A boolean. A flag indicating if the feature is enabled (true) or not (false).
name	A string. Unique name given to the feature specification.
validFor	A time period. The period for which this feature specification is valid.
version	A string. Version of the feature specification.

ServiceSpecRelationship sub-resource

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

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
relationshipType	A string. Type of relationship such as dependency, substitution or exclusivity.
role	A string. The association role for this service specification.
validFor	A time period. The period for which the serviceSpecRelationship is valid.

TargetEntitySchema sub-resource

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

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

AssociationSpecificationRef relationship

reference to an AssociationSpecification object.

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

ConstraintRef relationship

Constraint reference. The Constraint resource represents a policy/rule applied to an entity or entity spec.

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

ResourceSpecificationRef relationship

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 an abstract 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.

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

ServiceLevelSpecificationRef relationship

A Service Level Specification represents a pre-defined or negotiated set of Service Level Objectives. In addition, certain consequences are associated with not meeting the Service Level Objectives. Service Level Agreements are expressed in terms of Service Level Specifications.

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

Json representation sample

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

```
{
  "id": "7655",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/7655",
  "name": "Firewall Service",
  "description": "This service specification describes a firewall service that can be deployed in customer-premises equipment.",
  "version": "2.1",
  "validFor": {
    "startDateTime": "2017-08-23T00:00",
    "endDateTime": "2021-03-25T00:00"
  }
}
```

```

},
"lastUpdate": "2020-08-15T00:00",
"lifecycleStatus": "Active",
"isBundle": false,
"resourceSpecification": [
  {
    "href": "https://mycsp.com:8080/tmf-api/resourceCatalogManagement/v4/resourceSpecification/42",
    "id": "42",
    "name": "Firewall",
    "version": "1.0",
    "@referredType": "ResourceFunctionSpec",
    "@type": "ResourceSpecificationRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Resource/ResourceSpecificationRef.schema.json"
  }
],
"attachment": [
  {
    "description": "This attachment gives a description of the firewall service with diagrams.",
    "href": "https://mycsp.com:8080/tmf-api/documentManagement/v4/attachment/22",
    "id": "22",
    "url": "https://mycsp.com:7070/docloader?docnum=3534536",
    "@attachmentType": "Document",
    "content": "",
    "mimeType": ".docx",
    "validFor": {
      "startDateTime": "2017-08-23T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "size": {
      "amount": 1532,
      "units": "KB"
    },
    "name": "Firewall Service",
    "@type": "Attachment",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Attachment.schema.json"
  }
],
"specCharacteristic": [
  {
    "name": "operatingSystem",
    "id": "5843",
    "description": "This characteristic describes the operating system run by the service",
    "valueType": "string",
    "configurable": true,
    "validFor": {
      "startDateTime": "2017-08-12T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/StringCharacteristic.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": false,

```



```

"characteristicValueSpecification": [
  {
    "valueType": "string",
    "isDefault": true,
    "value": "Android KitKat",
    "validFor": {
      "startDateTime": "2017-08-06T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "regex": "",
    "valueFrom": "",
    "valueTo": "",
    "unitOfMeasure": "",
    "rangeInterval": "open",
    "@type": "CharacteristicValueSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
  }
],
"charSpecRelationship": [
  {
    "relationshipType": "dependency",
    "parentSpecificationId": "1741",
    "parentSpecificationHref": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecification/1741",
    "characteristicSpecificationId": "4690",
    "href": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecificationCharacteristic/4690",
    "name": "operatingSystem",
    "validFor": {
      "startDateTime": "2017-08-11T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "@type": "CharacteristicSpecificationRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicSpecificationRelationship.schema.json"
  }
],
"@type": "SpecCharacteristic",
"@baseType": "",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
},
{
  "name": "scalability",
  "description": "Scalability parameters for this resource facing service spec ",
  "valueType": "CapabilityScalable",
  "configurable": true,
  "validFor": {
    "startDateTime": "2017-08-17T00:00",
    "endDateTime": "2021-03-12T00:00"
  },
  "@valueSchemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/CapabilityScalable.schema.json",
  "minCardinality": 0,
  "maxCardinality": 1,
  "isUnique": true,
  "regex": ""
}

```

```

"extensible": true,
"characteristicValueSpecification": [
  {
    "valueType": "object",
    "isDefault": true,
    "value": {
      "minInstances": 1,
      "maxInstances": 1000
    },
    "validFor": {
      "startDateTime": "2017-08-17T00:00",
      "endDateTime": "2021-03-12T00:00"
    },
    "regex": "",
    "valueFrom": "",
    "valueTo": "",
    "unitOfMeasure": "",
    "rangeInterval": "open",
    "@type": "CharacteristicValueSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
  }
],
"charSpecRelationship": [],
"@type": "SpecCharacteristic",
"@baseType": "",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
},
"relatedParty": [
  {
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/3643",
    "id": "3643",
    "name": "Firewall Express",
    "role": "Supplier",
    "@referredType": "PartyRole",
    "@type": "RelatedParty",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json"
  }
],
"serviceSpecRelationship": [
  {
    "relationshipType": "dependency",
    "role": "dependent",
    "id": "5563",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/5563",
    "name": "Points to the Deep Packet Inspection service on which this Firewall service depends",
    "validFor": {
      "startDateTime": "2017-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ResourceFacingServiceSpecification",
    "@type": "ServiceSpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecRelationship.schema.json"
  }
]

```

```

    ],
    "serviceLevelSpecification": [
      {
        "href": "https://mycsp.com:8080/tmf-api/serviceQualityManagement/v4/serviceLevelSpecification/8899",
        "id": "8899",
        "name": "Platinum",
        "@type": "ServiceLevelSpecificationRef",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ServiceLevelSpecificationRef.schema.json"
      }
    ],
    "targetServiceSchema": {
      "@type": "RFS",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/RFS.schema.json"
    },
    "constraint": [
      {
        "href": "https://mycsp.com:8080/tmf-api/policyManagement/v4/policy/1994",
        "id": "1994",
        "name": "firewallEligibilityRule",
        "version": "1.0",
        "@referredType": "Constraint",
        "@type": "ConstraintRef",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ConstraintRef.schema.json"
      }
    ],
    "entitySpecRelationship": [
      {
        "relationshipType": "ServiceSpecTestedVia",
        "role": "serviceUnderTest",
        "id": "3331",
        "href": "https://mycsp.com:8080/tmf-api/serviceTestManagement/v4/serviceTestSpec/3331",
        "name": "FirewallFunctionalTestSpec",
        "validFor": {
          "startDateTime": "2017-08-25T00:00",
          "endDateTime": "2021-03-25T00:00"
        },
        "@referredType": "FunctionalServiceTestSpec",
        "@type": "EntitySpecRelationship",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
      },
      {
        "relationshipType": "ServiceSpecMeasuredBy",
        "role": "serviceUnderTest",
        "id": "7316",
        "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/servicePerformanceSpec/7316",
        "name": "FirewallPerformanceSpec",
        "validFor": {
          "startDateTime": "2017-08-25T00:00",
          "endDateTime": "2021-03-25T00:00"
        },
        "@referredType": "ServicePerformanceSpec",
        "@type": "EntitySpecRelationship",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
      }
    ]
  }

```

```

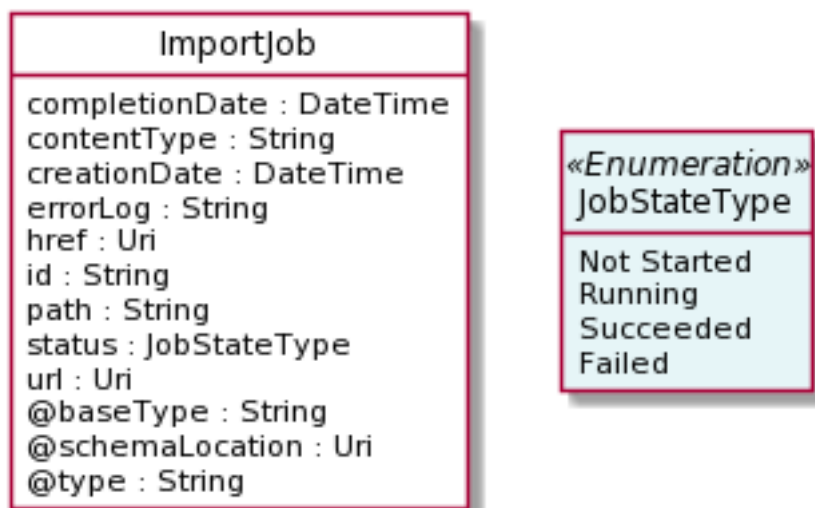
    }
  ],
  "featureSpecification": [
    {
      "isEnabled": false,
      "isBundle": false,
      "id": "DPI-2221",
      "href": "",
      "name": "deep packet inspection",
      "validFor": {
        "startDateTime": "2017-08-25T00:00",
        "endDateTime": "2021-03-25T00:00"
      },
      "featureSpecRelationship": [],
      "featureSpecCharacteristic": [],
      "version": "1.0",
      "@type": "FeatureSpecification",
      "@baseType": "",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
    },
    {
      "isEnabled": true,
      "isBundle": false,
      "id": "IPS-2222",
      "href": "",
      "name": "Intrusion Prevention Systems ",
      "validFor": {
        "startDateTime": "2017-08-25T00:00",
        "endDateTime": "2021-03-25T00:00"
      },
      "featureSpecRelationship": [],
      "featureSpecCharacteristic": [],
      "version": "1.0",
      "@type": "FeatureSpecification",
      "@baseType": "",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
    }
  ],
  "@type": "ResourceFacingServiceSpecification",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ResourceFacingServiceSpecification.schema.json",
  "@baseType": "ServiceSpecification"
}

```

Import Job resource

Represents a task used to import resources from a file.

Resource model



Field descriptions

ImportJob fields

href	An uri (Uri). Reference of the import job.
id	A string. Identifier of the import job.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
completionDate	A date time (DateTime). Date at which the job was completed.
contentType	A string. Indicates the format of the imported data.
creationDate	A date time (DateTime). Date at which the job was created.
errorLog	A string. Reason for failure if status is failed.
href	An uri (Uri). Reference of the import job.
id	A string. Identifier of the import job.
path	A string. URL of the root resource where the content of the file specified by the import job must be applied.
status	A job state type (JobStateType). Status of the import job (not started, running, succeeded, failed).
url	An uri (Uri). URL of the file containing the data to be imported.

Json representation sample

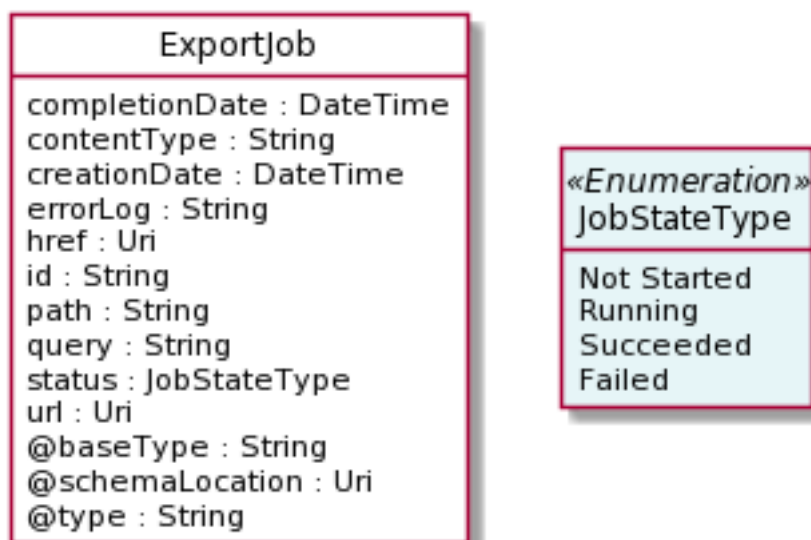
We provide below the json representation of an example of a 'ImportJob' resource object

```
{
  "completionDate": "2020-08-25T00:02",
  "contentType": "application/json",
  "creationDate": "2020-08-25T00:00",
  "errorLog": "http://my-platform/daily/logging/errors.log",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/importJob/7497",
  "id": "7497",
  "path": "serviceCatalogManagement/",
  "status": "completed",
  "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/1866.json"
}
```

Export Job resource

Represents a task used to export resources to a file.

Resource model



Field descriptions

ExportJob fields

href	An uri (Uri). Reference of the export job.
id	A string. Identifier of the export job.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
completionDate	A date time (DateTime). Data at which the job was completed.
contentType	A string. The format of the exported data.

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

Json representation sample

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

```
{
  "completionDate": "2020-08-16T00:02",
  "contentType": "application/json",
  "creationDate": "2020-08-16T00:00",
  "errorLog": "http://my-platform/daily/logging/errors.log",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/exportJob/1866",
  "id": "1866",
  "path": "serviceCatalogManagement/",
  "query": "@type=ServiceSpecification",
  "status": "completed",
  "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/1866.json"
}
```

Notification Resource Models

13 notifications are defined for this API

Notifications related to ServiceCatalog:

- ServiceCatalogCreateEvent
- ServiceCatalogChangeEvent
- ServiceCatalogBatchEvent
- ServiceCatalogDeleteEvent

Notifications related to ServiceCategory:

- ServiceCategoryCreateEvent
- ServiceCategoryChangeEvent
- ServiceCategoryDeleteEvent

Notifications related to ServiceCandidate:

- ServiceCandidateCreateEvent
- ServiceCandidateChangeEvent
- ServiceCandidateDeleteEvent

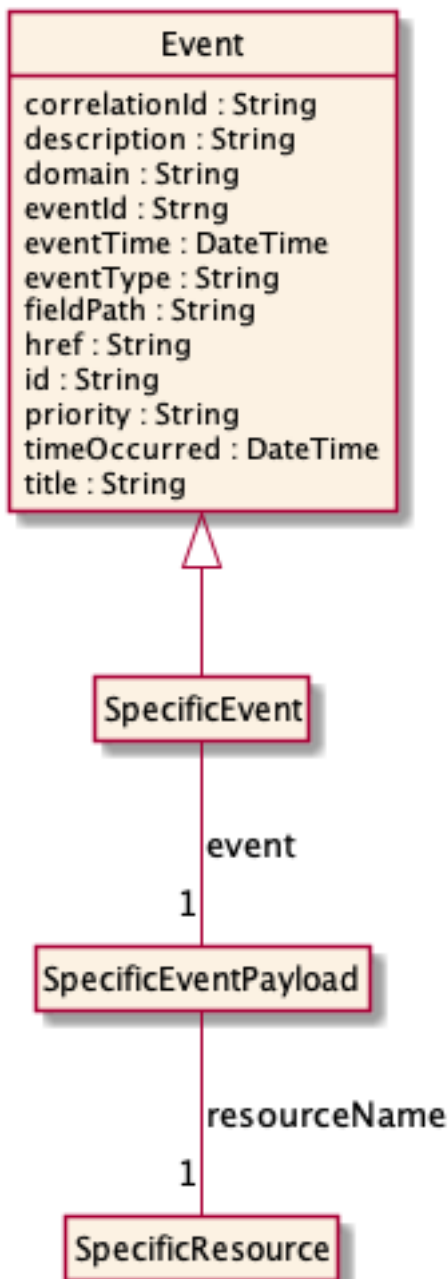
Notifications related to ServiceSpecification:

- ServiceSpecificationCreateEvent
- ServiceSpecificationChangeEvent
- ServiceSpecificationDeleteEvent

The notification structure for all notifications in this API follow the pattern depicted by the figure below.

A notification event resource (depicted by "SpecificEvent" placeholder) is a sub class of a generic Event structure containing at least an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the resource (eventType).

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



Service Catalog Create Event

Notification ServiceCatalogCreateEvent case for resource ServiceCatalog

Json representation sample

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

```

{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "ServiceCatalogCreateEvent",
  "event": {
    "serviceCatalog": {
      "-- SEE ServiceCatalog RESOURCE SAMPLE --"
    }
  }
}

```

```
}
```

Service Catalog Change Event

Notification ServiceCatalogChangeEvent case for resource ServiceCatalog

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ServiceCatalogChangeEvent",
  "event": {
    "serviceCatalog" :
      {-- SEE ServiceCatalog RESOURCE SAMPLE --}
  }
}
```

Service Catalog Batch Event

Notification ServiceCatalogBatchEvent case for resource ServiceCatalog

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ServiceCatalogBatchEvent",
  "event": {
    "serviceCatalog" :
      {-- SEE ServiceCatalog RESOURCE SAMPLE --}
  }
}
```

Service Catalog Delete Event

Notification ServiceCatalogDeleteEvent case for resource ServiceCatalog

Json representation sample

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

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

```
    {-- SEE ServiceCatalog RESOURCE SAMPLE --}  
  }  
}
```

Service Category Create Event

Notification ServiceCategoryCreateEvent case for resource ServiceCategory

Json representation sample

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

```
{  
  "eventId":"00001",  
  "eventTime":"2015-11-16T16:42:25-04:00",  
  "eventType":"ServiceCategoryCreateEvent",  
  "event": {  
    "serviceCategory" :  
      {-- SEE ServiceCategory RESOURCE SAMPLE --}  
  }  
}
```

Service Category Change Event

Notification ServiceCategoryChangeEvent case for resource ServiceCategory

Json representation sample

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

```
{  
  "eventId":"00001",  
  "eventTime":"2015-11-16T16:42:25-04:00",  
  "eventType":"ServiceCategoryChangeEvent",  
  "event": {  
    "serviceCategory" :  
      {-- SEE ServiceCategory RESOURCE SAMPLE --}  
  }  
}
```

Service Category Delete Event

Notification ServiceCategoryDeleteEvent case for resource ServiceCategory

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ServiceCategoryDeleteEvent",
  "event": {
    "serviceCategory" :
      {-- SEE ServiceCategory RESOURCE SAMPLE --}
  }
}
```

Service Candidate Create Event

Notification ServiceCandidateCreateEvent case for resource ServiceCandidate

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ServiceCandidateCreateEvent",
  "event": {
    "serviceCandidate" :
      {-- SEE ServiceCandidate RESOURCE SAMPLE --}
  }
}
```

Service Candidate Change Event

Notification ServiceCandidateChangeEvent case for resource ServiceCandidate

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ServiceCandidateChangeEvent",
  "event": {
    "serviceCandidate" :
      {-- SEE ServiceCandidate RESOURCE SAMPLE --}
  }
}
```

Service Candidate Delete Event

Notification ServiceCandidateDeleteEvent case for resource ServiceCandidate

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ServiceCandidateDeleteEvent",
  "event": {
    "serviceCandidate" :
      {-- SEE ServiceCandidate RESOURCE SAMPLE --}
  }
}
```

Service Specification Create Event

Notification ServiceSpecificationCreateEvent case for resource ServiceSpecification

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ServiceSpecificationCreateEvent",
  "event": {
    "serviceSpecification" :
      {-- SEE ServiceSpecification RESOURCE SAMPLE --}
  }
}
```

Service Specification Change Event

Notification ServiceSpecificationChangeEvent case for resource ServiceSpecification

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ServiceSpecificationChangeEvent",
  "event": {
    "serviceSpecification" :
      {-- SEE ServiceSpecification RESOURCE SAMPLE --}
  }
}
```

Service Specification Delete Event

Notification ServiceSpecificationDeleteEvent case for resource ServiceSpecification

Json representation sample

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

```
{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "ServiceSpecificationDeleteEvent",
  "event": {
    "serviceSpecification":
      {-- SEE ServiceSpecification 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 document (TMF630).

OPERATIONS ON SERVICE CATALOG

List service catalogs**GET /serviceCatalog?fields=...&{filtering}****Description**

This operation list service 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 multiple service catalogs.

Request
GET /tmf-api/serviceCatalogManagement/v4/serviceCatalog?lifecycleStatus=Active Accept: application/json
Response
200 [{ "id": "1801", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCatalog/1801", "name": "Access Catalog", "description": "This service catalog describes Access services", "version": "1.0", "validFor": { "startDateTime": "2020-08-18T00:00", "endDateTime": "2021-03-25T00:00" }, "lastUpdate": "2020-08-18T00:00", "lifecycleStatus": "Active", "relatedParty": [{ "href": "https://host:port/tmf-api/partyRoleManagement/v4/partyRole/3003", "id": "3003", "name": "AcceesPro Co", "role": "Owner", "@referredType": "PartyRole", "@type": "RelatedParty", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json", "@baseType": "" }], "category": [{


```

    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/category/6001",
    "id": "6001",
    "name": "Access Services",
    "@referredType": "ServiceCategory",
    "@type": "ServiceCategoryRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
    "@baseType": ""
  }
],
"@type": "ServiceCatalog",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCatalog.schema.json ",
"@baseType": "Catalog"
},
{
  "id": "3830",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCatalog/3830",
  "name": "IOT Catalog",
  "description": "This service catalog describes IOT services that address the wholesale business segment.",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2020-08-25T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lastUpdate": "2020-08-25T00:00",
  "lifecycleStatus": "Active",
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyRoleManagement/v4/partyRole/4079",
      "id": "4079",
      "name": "Broadly Broad Ltd",
      "role": "vendor",
      "@referredType": "PartyRole",
      "@type": "RelatedParty",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json ",
      "@baseType": ""
    }
  ],
  "category": [
    {
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/category/7752",
      "id": "7752",
      "name": "IoT",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ],
  "@type": "ServiceCatalog",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCatalog.schema.json ",
  "@baseType": "Catalog"
}
]

```

Retrieve service catalog

GET /serviceCatalog/{id}?fields=...&{filtering}**Description**

This operation retrieves a service 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 specific catalog.

Request
GET /tmf-api/serviceCatalogManagement/v4/serviceCatalog/3830 Accept: application/json
Response
200 <pre>{ "id": "3830", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCatalog/3830", "name": "IOT Catalog", "description": "This service catalog describes IOT services that address the wholesale business segment.", "version": "1.0", "validFor": { "startDateTime": "2020-08-25T00:00", "endDateTime": "2021-03-25T00:00" }, "lastUpdate": "2020-08-25T00:00", "lifecycleStatus": "Active", "relatedParty": [{ "href": "https://host:port/tmf-api/partyRoleManagement/v4/partyRole/4079", "id": "4079", "name": "Broadly Broad Ltd", "role": "vendor", "@referredType": "PartyRole", "@type": "RelatedParty", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json ", "@baseType": "" }], "category": [{ "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/category/7752", "id": "7752", "name": "IoT",</pre>

```

    "@referredType": "ServiceCategory",
    "@type": "ServiceCategoryRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
    "@baseType": ""
  }
],
"@type": "ServiceCatalog",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCatalog.schema.json ",
"@baseType": "Catalog"
}

```

Create service catalog

POST /serviceCatalog

Description

This operation creates a service catalog entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a ServiceCatalog, 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	Rule
@baseType	
@schemaLocation	
@type	
category	
description	
lastUpdate	
lifecycleStatus	
relatedParty	
validFor	
version	

Usage Samples

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

Request
POST /tmf-api/serviceCatalogManagement/v4/serviceCatalog Content-Type: application/json

```

{
  "name": "IOT Catalog",
  "description": "This service catalog describes IOT services that address the wholesale business segment.",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2020-08-25T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lifecycleStatus": "Provisional",
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyRoleManagement/v4/partyRole/4079",
      "id": "4079",
      "name": "Broadly Broad Ltd",
      "role": "vendor",
      "@referredType": "PartyRole",
      "@type": "RelatedParty",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json "
    }
  ],
  "@type": "ServiceCatalog",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCatalog.schema.json ",
  "@baseType": "Catalog"
}

```

Response

201

```

{
  "id": "3830",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCatalog/3830",
  "name": "IOT Catalog",
  "description": "This service catalog describes IOT services that address the wholesale business segment.",
  "version": "1.0",
  "validFor": {
    "startDateTime": "2020-08-25T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lastUpdate": "2020-08-25T00:00",
  "lifecycleStatus": "Provisional",
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyRoleManagement/v4/partyRole/4079",
      "id": "4079",
      "name": "Broadly Broad Ltd",
      "role": "vendor",
      "@referredType": "PartyRole",
      "@type": "RelatedParty",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json ",
      "@baseType": ""
    }
  ],
  "category": [],
}

```

```

"@type": "ServiceCatalog",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCatalog.schema.json ",
"@baseType": "Catalog"
}

```

Patch service catalog

PATCH /serviceCatalog/{id}

Description

This operation allows partial updates of a service 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.

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

Non Patchable Attributes	Rule
id	
href	
lastUpdate	

Usage Samples

Here's an example of a request for patching a catalog. In this example, a new version is set, together with validity period.

Request

PATCH /tmf-api/serviceCatalogManagement/v4/serviceCatalog/3830
 Content-Type: application/merge-patch+json

```
{
  "version": "2.0",
  "validFor": {
    "startDateTime": "2017-08-29T00:00",
    "endDateTime": "2025-03-25T00:00"
  }
}
```

Response

200

```
{
  "id": "3830",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCatalog/3830",
  "name": "IOT Catalog",
  "description": "This service catalog describes IOT services that address the wholesale business segment.",
  "version": "2.0",
  "validFor": {
    "startDateTime": "2017-08-29T00:00",
    "endDateTime": "2025-03-25T00:00"
  },
  "lastUpdate": "2020-09-23T00:00",
  "lifecycleStatus": "Active",
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyRoleManagement/v4/partyRole/4079",
      "id": "4079",
      "name": "Broadly Broad Ltd",
      "role": "vendor",
      "@referredType": "PartyRole",
      "@type": "RelatedParty",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json ",
      "@baseType": ""
    }
  ],
  "category": [
    {
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/category/7752",
      "id": "7752",
      "name": "IoT",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ],
  "@type": "ServiceCatalog",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCatalog.schema.json ",
  "@baseType": "Catalog"
}
```

Delete service catalog**DELETE** /serviceCatalog/{id}**Description**

This operation deletes a service catalog entity.

Usage Samples

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

Request
DELETE /tmf-api/serviceCatalogManagement/v4/serviceCatalog/3830
Response
204

OPERATIONS ON SERVICE CATEGORY**List service categories****GET** /serviceCategory?fields=...&{filtering}**Description**

This operation list service 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 multiple service categories.

Request
GET /tmf-api/serviceCatalogManagement/v4/serviceCategory Accept: application/json

Response

200

```
[
  {
    "id": "1708",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/1708",
    "name": "Cloud Services",
    "description": "A category to hold all available cloud service offers",
    "version": "1.0",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2023-11-24T00:00"
    },
    "lifecycleStatus": "Active",
    "lastUpdate": "2020-08-25T00:00",
    "isRoot": true,
    "serviceCandidate": [
      {
        "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/5850",
        "id": "5850",
        "name": "Azure Kubernetes Service",
        "version": "1.0",
        "@referredType": "ServiceCandidate",
        "@type": "ServiceCandidateRef",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidateRef.schema.json ",
        "@baseType": ""
      }
    ],
    "category": [
      {
        "id": "5980",
        "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980",
        "version": "1.0",
        "name": "AzureCloudApp",
        "@referredType": "ServiceCategory",
        "@type": "ServiceCategoryRef",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
        "@baseType": ""
      }
    ],
    "@type": "ServiceCategory",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategory.schema.json",
    "@baseType": "Category"
  },
  {
    "id": "1741",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/1741",
    "name": "AzureCloudApp",
    "description": "A category to hold all available Azure Cloud Applications",
    "version": "1.0",
    "validFor": {
      "startDateTime": "2020-10-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    }
  }
]
```



```

    "lifecycleStatus": "Active",
    "lastUpdate": "2020-10-25T00:10",
    "isRoot": false,
    "serviceCandidate": [],
    "category": [],
    "@type": "ServiceCategory",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategory.schema.json",
    "@baseType": "Category"
  }
]

```

Retrieve service category

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

Description

This operation retrieves a service 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 specific category.

Request
GET /tmf-api/serviceCatalogManagement/v4/serviceCategory/1708 Accept: application/json
Response
200 <pre> { "id": "1708", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/1708", "name": "Cloud Services", "description": "A category to hold all available cloud service offers", "version": "1.0", "validFor": { "startDateTime": "2020-08-25T00:00", "endDateTime": "2023-11-24T00:00" }, "lifecycleStatus": "Active", "lastUpdate": "2020-08-25T00:00", "isRoot": true, "serviceCandidate": [{ </pre>

```

    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/5850",
    "id": "5850",
    "name": "Azure Kubernetes Service",
    "version": "1.0",
    "@referredType": "ServiceCandidate",
    "@type": "ServiceCandidateRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidateRef.schema.json ",
    "@baseType": ""
  }
],
"category": [
  {
    "id": "5980",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980",
    "version": "1.0",
    "name": "AzureCloudApp",
    "@referredType": "ServiceCategory",
    "@type": "ServiceCategoryRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
    "@baseType": ""
  }
],
"@type": "ServiceCategory",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategory.schema.json",
"@baseType": "Category"
}

```

Create service category

POST /serviceCategory

Description

This operation creates a service category entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a ServiceCategory, 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	Rule
@baseType	
@schemaLocation	
@type	
category	
description	
isRoot	
lastUpdate	

lifecycleStatus	
parentId	
serviceCandidate	
validFor	
version	

Usage Samples

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

<p>Request</p>
<pre>POST /tmf-api/serviceCatalogManagement/v4/serviceCategory Content-Type: application/json { "name": "Cloud Services", "description": "A category to hold all available cloud service offers", "version": "1.0", "validFor": { "startDateTime": "2020-08-25T00:00", "endDateTime": "2023-11-24T00:00" }, "lifecycleStatus": "Active", "isRoot": true, "@type": "ServiceCategory", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategory.schema.json", "@baseType": "Category" }</pre>
<p>Response</p>
<pre>201 { "id": "1708", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/1708", "name": "Cloud Services", "description": "A category to hold all available cloud service offers", "version": "1.0", "validFor": { "startDateTime": "2020-08-25T00:00", "endDateTime": "2023-11-24T00:00" }, "lifecycleStatus": "Active", "lastUpdate": "2020-08-25T00:00", "isRoot": true, "serviceCandidate": [], "category": [], "@type": "ServiceCategory",</pre>

```

"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategory.schema.json",
"@baseType": "Category"
}

```

Patch service category

PATCH /serviceCategory/{id}

Description

This operation allows partial updates of a service 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.

Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
category	
description	
isRoot	
lifecycleStatus	
name	
parentId	
serviceCandidate	
validFor	
version	

Non Patchable Attributes	Rule
id	
href	
lastUpdate	

Usage Samples

Here's an example of a request for patching a category. In this example, a new version is set, together with validity period.

Request

PATCH /tmf-api/serviceCatalogManagement/v4/serviceCategory/1708
 Content-Type: application/merge-patch+json

```
{
  "version": "2.0",
  "validFor": {
    "startDateTime": "2020-11-06T00:00",
    "endDateTime": "2025-09-23T00:00"
  },
  "lifecycleStatus": "Active"
}
```

Response

200

```
{
  "id": "1708",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/1708",
  "name": "Cloud Services",
  "description": "A category to hold all available cloud service offers",
  "version": "2.0",
  "validFor": {
    "startDateTime": "2020-11-06T00:00",
    "endDateTime": "2025-09-23T00:00"
  },
  "lifecycleStatus": "Active",
  "lastUpdate": "2020-10-25T00:00",
  "isRoot": true,
  "serviceCandidate": [
    {
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/5850",
      "id": "5850",
      "name": "Azure Kubernetes Service",
      "version": "1.0",
      "@referredType": "ServiceCandidate",
      "@type": "ServiceCandidateRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidateRef.schema.json ",
      "@baseType": ""
    }
  ],
  "category": [
    {
      "id": "5980",
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980",
      "version": "1.0",
      "name": "AzureCloudApp",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ]
}
```

```
},
"@type": "ServiceCategory",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategory.schema.json",
"@baseType": "Category"
}
```

Delete service category

DELETE /serviceCategory/{id}

Description

This operation deletes a service category entity.

Usage Samples

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

Request
DELETE /tmf-api/serviceCatalogManagement/v4/serviceCategory/1708
Response
204

OPERATIONS ON SERVICE CANDIDATE

List service candidates

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

Description

This operation list service 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 multiple service categories.

Request
GET /tmf-api/serviceCatalogManagement/v4/serviceCandidate?version=2.1 Accept: application/json
Response
200 [{ "id": "4994", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/4994", "name": "TVServiceCandidate", "description": "This service candidate allows provision of TV service", "version": "2.1", "validFor": { "startDateTime": "2017-08-23T00:00", "endDateTime": "2021-03-25T00:00" }, "lastUpdate": "2020-08-16T00:00", "lifecycleStatus": "Active", "category": [{ "id": "5980", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980", "version": "3.2", "name": "TV", "@referredType": "ServiceCategory", "@type": "ServiceCategoryRef", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json", "@baseType": "" }], "serviceSpecification": { "id": "1973", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/1973", "version": "1.0", "name": "CFSS_TV", "@referredType": "CustomerFacingServiceSpecification", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecificationRef.schema.json", "@baseType": "", "@type": "ServiceSpecificationRef" }, "@type": "ServiceCandidate", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidate.schema.json", "@baseType": "" }, { "id": "1979", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/1979", "name": "AccessServiceCandidate", "description": "This service candidate allows provision of TV service", "version": "2.1",

```

"validFor": {
  "startDateTime": "2020-11-06T00:00",
  "endDateTime": "2021-11-24T00:00"
},
"lastUpdate": "2020-11-06T00:00",
"lifecycleStatus": "Active",
"category": [
  {
    "id": "7001",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/7001",
    "version": "1.0",
    "name": "Mobile",
    "@referredType": "ServiceCategory",
    "@type": "ServiceCategoryRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
    "@baseType": ""
  }
],
"serviceSpecification": {
  "id": "2233",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/2233",
  "version": "1.0",
  "name": "CFSS_Access",
  "@referredType": "CustomerFacingServiceSpecification",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecificationRef.schema.json ",
  "@baseType": "",
  "@type": "ServiceSpecificationRef"
},
"@type": "ServiceCandidate",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidate.schema.json ",
"@baseType": ""
}
]

```

Retrieve service candidate

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

Description

This operation retrieves a service 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 specific candidate.

Request

```

GET /tmf-api/serviceCatalogManagement/v4/serviceCandidate/4994
Accept: application/json

```


Response

200

```

{
  "id": "4994",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/4994",
  "name": "TVServiceCandidate",
  "description": "This service candidate allows provision of TV service",
  "version": "2.1",
  "validFor": {
    "startDateTime": "2017-08-23T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lastUpdate": "2020-08-16T00:00",
  "lifecycleStatus": "Active",
  "category": [
    {
      "id": "5980",
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980",
      "version": "3.2",
      "name": "TV",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ],
  "serviceSpecification": {
    "id": "9600",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/9600",
    "version": "2.1",
    "name": "CFSS_TV",
    "@referredType": "CustomerFacingServiceSpecification",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecificationRef.schema.json ",
    "@baseType": "",
    "@type": "ServiceSpecificationRef"
  },
  "@type": "ServiceCandidate",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidate.schema.json ",
  "@baseType": ""
}

```

Create service candidate**POST /serviceCandidate****Description**

This operation creates a service candidate entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a ServiceCandidate, 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	
serviceSpecification	

Non Mandatory Attributes	Rule
@baseType	
@schemaLocation	
@type	
category	
description	
lastUpdate	
lifecycleStatus	
validFor	
version	

Usage Samples

Here's an example of a request for creating a specific candidate. The request includes the service specification and the category.

Request
<pre> POST /tmf-api/serviceCatalogManagement/v4/serviceCandidate Content-Type: application/json { "name": "TVServiceCandidate", "description": "This service candidate allows provision of TV service", "version": "2.1", "validFor": { "startDateTime": "2017-08-23T00:00", "endDateTime": "2021-03-25T00:00" }, "lifecycleStatus": "Active", "category": [{ "id": "5980", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980", "version": "3.2", "name": "TV", "@referredType": "ServiceCategory", "@type": "ServiceCategoryRef", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json " }], "serviceSpecification": { "id": "9600", </pre>

```

    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/9600",
    "version": "2.1",
    "name": "CFSS_TV",
    "@referredType": "CustomerFacingServiceSpecification",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecificationRef.schema.json ",
    "@type": "ServiceSpecificationRef"
  },
  "@type": "ServiceCandidate",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidate.schema.json"
}

```

Response

201

```

{
  "id": "4994",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/4994",
  "name": "TVServiceCandidate",
  "description": "This service candidate allows provision of TV service",
  "version": "2.1",
  "validFor": {
    "startDateTime": "2017-08-23T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lastUpdate": "2020-08-16T00:00",
  "lifecycleStatus": "Active",
  "category": [
    {
      "id": "5980",
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980",
      "version": "3.2",
      "name": "TV",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ],
  "serviceSpecification": {
    "id": "9600",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/9600",
    "version": "2.1",
    "name": "CFSS_TV",
    "@referredType": "CustomerFacingServiceSpecification",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecificationRef.schema.json ",
    "@baseType": "",
    "@type": "ServiceSpecificationRef"
  },
  "@type": "ServiceCandidate",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidate.schema.json ",
  "@baseType": ""
}

```

Patch service candidate**PATCH /serviceCandidate/{id}****Description**

This operation allows partial updates of a service 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.

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

Non Patchable Attributes	Rule
id	
href	
lastUpdate	

Usage Samples

Here's an example of a request for patching a candidate. In this example, a new version is set, together with validity period.

Request
PATCH /tmf-api/serviceCatalogManagement/v4/serviceCandidate/4994 Content-Type: application/merge-patch+json <pre>{ "version": "3.1", "validFor": {</pre>

```

    "startDateTime": "2017-08-23T00:00",
    "endDateTime": "2025-09-23T00:00"
  }
}

```

Response

200

```

{
  "id": "4994",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCandidate/4994",
  "name": "TVServiceCandidate",
  "description": "This service candidate allows provision of TV service",
  "version": "3.1",
  "validFor": {
    "startDateTime": "2017-08-23T00:00",
    "endDateTime": "2025-09-23T00:00"
  },
  "lastUpdate": "2020-08-25T00:00",
  "lifecycleStatus": "Active",
  "category": [
    {
      "id": "5980",
      "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceCategory/5980",
      "version": "3.2",
      "name": "TV",
      "@referredType": "ServiceCategory",
      "@type": "ServiceCategoryRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCategoryRef.schema.json ",
      "@baseType": ""
    }
  ],
  "serviceSpecification": {
    "id": "9600",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/9600",
    "version": "2.1",
    "name": "CFSS_TV",
    "@referredType": "CustomerFacingServiceSpecification",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecificationRef.schema.json ",
    "@baseType": "",
    "@type": "ServiceSpecificationRef"
  },
  "@type": "ServiceCandidate",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceCandidate.schema.json ",
  "@baseType": ""
}

```

Delete service candidate**DELETE /serviceCandidate/{id}****Description**

This operation deletes a service candidate entity.

Usage Samples

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

Request
DELETE /tmf-api/serviceCatalogManagement/v4/serviceCandidate/4994
Response
204

OPERATIONS ON SERVICE SPECIFICATION

List service specifications

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

Description

This operation list service 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 multiple service specifications.

Request
GET /tmf-api/serviceCatalogManagement/v4/serviceSpecification?targetServiceSchema.@type=RFS Accept: application/json
Response
200 [{

```

    "id": "7655",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/7655",
    "name": "Firewall Service",
    "description": "This service specification describes a firewall service that can be deployed in customer-premises
equipment.",
    "version": "2.1",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "lastUpdate": "2020-08-25T00:00",
    "lifecycleStatus": "Active",
    "isBundle": false,
    "resourceSpecification": [
      {
        "href": "https://mycsp.com:8080/tmf-api/resourceCatalogManagement/v4/resourceSpecification/42",
        "id": "42",
        "name": "Firewall",
        "version": "1.0",
        "@referredType": "ResourceFunctionSpec",
        "@type": "ResourceSpecificationRef",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Resource/ResourceSpecificationRef.schema.json"
      }
    ],
    "attachment": [
      {
        "description": "This attachment gives a description of the firewall service with diagrams.",
        "href": "https://mycsp.com:8080/tmf-api/documentManagement/v4/attachment/22",
        "id": "22",
        "url": "https://mycsp.com:7070/docloader?docnum=3534536",
        "@attachmentType": "Document",
        "content": "",
        "mimeType": ".docx",
        "validFor": {
          "startDateTime": "2020-08-25T00:00",
          "endDateTime": "2021-03-25T00:00"
        },
        "size": {
          "amount": 1532,
          "units": "KB"
        },
        "name": "Firewall Service",
        "@type": "Attachment",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Attachment.schema.json"
      }
    ],
    "specCharacteristic": [
      {
        "name": "operatingSystem",
        "id": "5843",
        "description": "This characteristic describes the operating system run by the service",
        "valueType": "string",
        "configurable": true,
        "validFor": {
          "startDateTime": "2020-08-25T00:00",

```

```

        "endTime": "2021-03-07T00:00"
      },
      "@valueSchemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/StringCharacteristic.schema.json",
      "minCardinality": 0,
      "maxCardinality": 1,
      "isUnique": true,
      "regex": "",
      "extensible": false,
      "characteristicValueSpecification": [
        {
          "valueType": "string",
          "isDefault": true,
          "value": "Android KitKat",
          "validFor": {
            "startTime": "2020-08-25T00:00",
            "endTime": "2021-03-07T00:00"
          },
          "regex": "",
          "valueFrom": "",
          "valueTo": "",
          "unitOfMeasure": "",
          "rangeInterval": "open",
          "@type": "CharacteristicValueSpecification",
          "@baseType": "",
          "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
        }
      ],
      "charSpecRelationship": [
        {
          "relationshipType": "dependency",
          "parentSpecificationId": "1741",
          "parentSpecificationHref": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecification/1741",
          "characteristicSpecificationId": "4690",
          "href": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecificationCharacteristic/4690",
          "name": "operatingSystem",
          "validFor": {
            "startTime": "2020-08-25T00:00",
            "endTime": "2021-03-07T00:00"
          },
          "@type": "CharacteristicSpecificationRelationship",
          "@baseType": "",
          "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicSpecificationRelationship.schema.json"
        }
      ],
      "@type": "SpecCharacteristic",
      "@baseType": "",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
    },
    {
      "name": "scalability",
      "description": "Scalability parameters for this resource facing service spec ",
      "valueType": "CapabilityScalable",
      "configurable": true,

```



```

    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-12T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/CapabilityScalable.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": true,
    "characteristicValueSpecification": [
      {
        "valueType": "object",
        "isDefault": true,
        "value": {
          "minInstances": 1,
          "maxInstances": 1000
        },
        "validFor": {
          "startDateTime": "2020-08-25T00:00",
          "endDateTime": "2021-03-12T00:00"
        },
        "regex": "",
        "valueFrom": "",
        "valueTo": "",
        "unitOfMeasure": "",
        "rangeInterval": "open",
        "@type": "CharacteristicValueSpecification",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
      }
    ],
    "charSpecRelationship": [],
    "@type": "SpecCharacteristic",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
  }
],
"relatedParty": [
  {
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/3643",
    "id": "3643",
    "name": "Firewall Express",
    "role": "Supplier",
    "@referredType": "PartyRole",
    "@type": "RelatedParty",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json"
  }
],
"serviceSpecRelationship": [
  {
    "relationshipType": "dependency",
    "role": "dependent",
    "id": "5563",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/5563",
    "name": "Points to the Deep Packet Inspection service on which this Firewall service depends",

```

```

    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ResourceFacingServiceSpecification",
    "@type": "ServiceSpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecRelationship.schema.json"
  }
],
"serviceLevelSpecification": [
  {
    "href": "https://mycsp.com:8080/tmf-api/serviceQualityManagement/v4/serviceLevelSpecification/8899",
    "id": "8899",
    "name": "Platinum",
    "@type": "ServiceLevelSpecificationRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ServiceLevelSpecificationRef.schema.json"
  }
],
"targetServiceSchema": {
  "@type": "RFS",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/RFS.schema.json"
},
"constraint": [
  {
    "href": "https://mycsp.com:8080/tmf-api/policyManagement/v4/policy/1994",
    "id": "1994",
    "name": "firewallEligibilityRule",
    "version": "1.0",
    "@referredType": "Constraint",
    "@type": "ConstraintRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ConstraintRef.schema.json"
  }
],
"entitySpecRelationship": [
  {
    "relationshipType": "ServiceSpecTestedVia",
    "role": "serviceUnderTest",
    "id": "3331",
    "href": "https://mycsp.com:8080/tmf-api/serviceTestManagement/v4/serviceTestSpec/3331",
    "name": "FirewallFunctionalTestSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "FunctionalServiceTestSpec",
    "@type": "EntitySpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/EntitySpecRelationship.schema.json"
  },
  {
    "relationshipType": "ServiceSpecMeasuredBy",
    "role": "serviceUnderTest",
    "id": "7316",

```

```

    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/servicePerformanceSpec/7316",
    "name": "FirewallPerformanceSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ServicePerformanceSpec",
    "@type": "EntitySpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/EntitySpecRelationship.schema.json"
  }
],
"featureSpecification": [
  {
    "isEnabled": false,
    "isBundle": false,
    "id": "DPI-2221",
    "href": "",
    "name": "deep packet inspection",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  },
  {
    "isEnabled": true,
    "isBundle": false,
    "id": "IPS-2222",
    "href": "",
    "name": "Intrusion Prevention Systems ",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  }
],
"@type": "ResourceFacingServiceSpecification",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ResourceFacingServiceSpecification.schema.json",
"@baseType": "ServiceSpecification"
},
{
  "id": "4444",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/4444",
  "name": "CG-NAT Service",

```

```

"description": "This service specification describes a NAT service that can be deployed in customer-premises
equipment.",
"version": "1.0",
"validFor": {
  "startDateTime": "2020-08-23T00:00",
  "endDateTime": "2021-03-25T00:00"
},
"lastUpdate": "2020-08-23T00:00",
"lifecycleStatus": "Defined",
"isBundle": false,
"resourceSpecification": [
  {
    "href": "https://mycsp.com:8080/tmf-api/resourceCatalogManagement/v4/resourceSpecification/33",
    "id": "33",
    "name": "NAT",
    "version": "1.0",
    "@referredType": "ResourceFunctionSpec",
    "@type": "ResourceSpecificationRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Resource/ResourceSpecificationRef.schema.json"
  }
],
"attachment": [],
"specCharacteristic": [
  {
    "name": "ipv6Enabled",
    "id": "55",
    "description": "This characteristic describes the operating system run by the service",
    "valueType": "boolean",
    "configurable": true,
    "validFor": {
      "startDateTime": "2020-08-23T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/BooleanCharacteristic.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": false,
    "characteristicValueSpecification": [
      {
        "valueType": "boolean",
        "isDefault": true,
        "value": true,
        "validFor": {
          "startDateTime": "2020-08-23T00:00",
          "endDateTime": "2021-03-07T00:00"
        },
        "regex": "",
        "valueFrom": "",
        "valueTo": "",
        "unitOfMeasure": "",
        "rangeInterval": "open",
        "@type": "CharacteristicValueSpecification",
        "@baseType": ""
      }
    ]
  }
]

```

```

      "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
    }
  ],
  "charSpecRelationship": [],
  "@type": "SpecCharacteristic",
  "@baseType": "",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
}
],
"relatedParty": [],
"serviceSpecRelationship": [],
"serviceLevelSpecification": [
  {
    "href": "https://mycsp.com:8080/tmf-api/serviceQualityManagement/v4/serviceLevelSpecification/5656",
    "id": "5656",
    "name": "Gold",
    "@type": "ServiceLevelSpecificationRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ServiceLevelSpecificationRef.schema.json"
  }
],
"targetServiceSchema": {
  "@type": "RFS",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/RFS.schema.json"
},
"constraint": [],
"entitySpecRelationship": [],
"featureSpecification": [],
"@type": "ResourceFacingServiceSpecification",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ResourceFacingServiceSpecification.schema.json",
"@baseType": "ServiceSpecification"
}
]

```

Retrieve service specification

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

Description

This operation retrieves a service 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 specific specification.

Request
GET /tmf-api/serviceCatalogManagement/v4/serviceSpecification/7655 Accept: application/json
Response
<pre> 200 { "id": "7655", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/7655", "name": "Firewall Service", "description": "This service specification describes a firewall service that can be deployed in customer-premises equipment.", "version": "2.1", "validFor": { "startDateTime": "2020-08-25T00:00", "endDateTime": "2021-03-25T00:00" }, "lastUpdate": "2020-08-25T00:00", "lifecycleStatus": "Active", "isBundle": false, "resourceSpecification": [{ "href": "https://mycsp.com:8080/tmf-api/resourceCatalogManagement/v4/resourceSpecification/42", "id": "42", "name": "Firewall", "version": "1.0", "@referredType": "ResourceFunctionSpec", "@type": "ResourceSpecificationRef", "@baseType": "", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Resource/ResourceSpecificationRef.schema.json" }], "attachment": [{ "description": "This attachment gives a description of the firewall service with diagrams.", "href": "https://mycsp.com:8080/tmf-api/documentManagement/v4/attachment/22", "id": "22", "url": "https://mycsp.com:7070/docloader?docnum=3534536", "@attachmentType": "Document", "content": "", "mimeType": ".docx", "validFor": { "startDateTime": "2020-08-23T00:00", "endDateTime": "2021-03-25T00:00" }, "size": { "amount": 1532, "units": "KB" }, "name": "Firewall Service", </pre>

```

    "@type": "Attachment",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Attachment.schema.json"
  }
],
"specCharacteristic": [
  {
    "name": "operatingSystem",
    "id": "5843",
    "description": "This characteristic describes the operating system run by the service",
    "valueType": "string",
    "configurable": true,
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/StringCharacteristic.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": false,
    "characteristicValueSpecification": [
      {
        "valueType": "string",
        "isDefault": true,
        "value": "Android KitKat",
        "validFor": {
          "startDateTime": "2020-08-25T00:00",
          "endDateTime": "2021-03-07T00:00"
        },
        "regex": "",
        "valueFrom": "",
        "valueTo": "",
        "unitOfMeasure": "",
        "rangeInterval": "open",
        "@type": "CharacteristicValueSpecification",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
      }
    ],
    "charSpecRelationship": [
      {
        "relationshipType": "dependency",
        "parentSpecificationId": "1741",
        "parentSpecificationHref": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecification/1741",
        "characteristicSpecificationId": "4690",
        "href": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecificationCharacteristic/4690",
        "name": "operatingSystem",
        "validFor": {
          "startDateTime": "2020-08-25T00:00",
          "endDateTime": "2021-03-07T00:00"
        },
        "@type": "CharacteristicSpecificationRelationship",

```

```

        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicSpecificationRelationship.schema.json"
    }
],
"@type": "SpecCharacteristic",
"@baseType": "",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
},
{
    "name": "scalability",
    "description": "Scalability parameters for this resource facing service spec ",
    "valueType": "CapabilityScalable",
    "configurable": true,
    "validFor": {
        "startDateTime": "2020-08-25T00:00",
        "endDateTime": "2021-03-12T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/CapabilityScalable.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": true,
    "characteristicValueSpecification": [
        {
            "valueType": "object",
            "isDefault": true,
            "value": {
                "minInstances": 1,
                "maxInstances": 1000
            },
            "validFor": {
                "startDateTime": "2020-08-25T00:00",
                "endDateTime": "2021-03-12T00:00"
            },
            "regex": "",
            "valueFrom": "",
            "valueTo": "",
            "unitOfMeasure": "",
            "rangeInterval": "open",
            "@type": "CharacteristicValueSpecification",
            "@baseType": "",
            "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
        }
    ],
    "charSpecRelationship": [],
    "@type": "SpecCharacteristic",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
}
],
"relatedParty": [
    {
        "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/3643",
        "id": "3643",
        "name": "Firewall Express",

```



```

    "role": "Supplier",
    "@referredType": "PartyRole",
    "@type": "RelatedParty",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json"
  }
],
"serviceSpecRelationship": [
  {
    "relationshipType": "dependency",
    "role": "dependent",
    "id": "5563",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/5563",
    "name": "Points to the Deep Packet Inspection service on which this Firewall service depends",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ResourceFacingServiceSpecification",
    "@type": "ServiceSpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecRelationship.schema.json"
  }
],
"serviceLevelSpecification": [
  {
    "href": "https://mycsp.com:8080/tmf-api/serviceQualityManagement/v4/serviceLevelSpecification/8899",
    "id": "8899",
    "name": "Platinum",
    "@type": "ServiceLevelSpecificationRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ServiceLevelSpecificationRef.schema.json"
  }
],
"targetServiceSchema": {
  "@type": "RFS",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/RFS.schema.json"
},
"constraint": [
  {
    "href": "https://mycsp.com:8080/tmf-api/policyManagement/v4/policy/1994",
    "id": "1994",
    "name": "firewallEligibilityRule",
    "version": "1.0",
    "@referredType": "Constraint",
    "@type": "ConstraintRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ConstraintRef.schema.json"
  }
],
"entitySpecRelationship": [
  {
    "relationshipType": "ServiceSpecTestedVia",
    "role": "serviceUnderTest",
    "id": "3331",
    "href": "https://mycsp.com:8080/tmf-api/serviceTestManagement/v4/serviceTestSpec/3331",
    "name": "FirewallFunctionalTestSpec",

```

```

    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "FunctionalServiceTestSpec",
    "@type": "EntitySpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
  },
  {
    "relationshipType": "ServiceSpecMeasuredBy",
    "role": "serviceUnderTest",
    "id": "7316",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/servicePerformanceSpec/7316",
    "name": "FirewallPerformanceSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ServicePerformanceSpec",
    "@type": "EntitySpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
  }
],
"featureSpecification": [
  {
    "isEnabled": false,
    "isBundle": false,
    "id": "DPI-2221",
    "href": "",
    "name": "deep packet inspection",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  },
  {
    "isEnabled": true,
    "isBundle": false,
    "id": "IPS-2222",
    "href": "",
    "name": "Intrusion Prevention Systems ",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": ""
  }
]

```

```

    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  }
},
"@type": "ResourceFacingServiceSpecification",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ResourceFacingServiceSpecification.schema.json",
"@baseType": "ServiceSpecification"
}

```

Create service specification

POST /serviceSpecification

Description

This operation creates a service specification entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a ServiceSpecification, 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	Rule
description	
isBundle	
lastUpdate	
lifecycleStatus	
version	
@baseType	
@schemaLocation	
@type	
featureSpecification	
resourceSpecification	
serviceLevelSpecification	
serviceSpecRelationship	
attachment	
constraint	
entitySpecRelationship	
relatedParty	
specCharacteristic	
targetEntitySchema	
validFor	

Usage Samples

Here's an example of a request for creating a specification.

Request

POST /tmf-api/serviceCatalogManagement/v4/serviceSpecification

Content-Type: application/json

```
{
  "name": "Firewall Service",
  "description": "This service specification describes a firewall service that can be deployed in customer-premises equipment.",
  "version": "2.1",
  "validFor": {
    "startDateTime": "2020-08-25T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lifecycleStatus": "Active",
  "resourceSpecification": [
    {
      "href": "https://mycsp.com:8080/tmf-api/resourceCatalogManagement/v4/resourceSpecification/42",
      "id": "42",
      "name": "Firewall",
      "version": "1.0",
      "@referredType": "ResourceFunctionSpec",
      "@type": "ResourceSpecificationRef",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Resource/ResourceSpecificationRef.schema.json"
    }
  ],
  "attachment": [
    {
      "description": "This attachment gives a description of the firewall service with diagrams.",
      "href": "https://mycsp.com:8080/tmf-api/documentManagement/v4/attachment/22",
      "id": "22",
      "url": "https://mycsp.com:7070/docloader?docnum=3534536",
      "@attachmentType": "Document",
      "mimeType": ".docx",
      "validFor": {
        "startDateTime": "2020-08-25T00:00",
        "endDateTime": "2021-03-25T00:00"
      },
      "size": {
        "amount": 1532,
        "units": "KB"
      },
      "name": "Firewall Service",
      "@type": "Attachment",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Attachment.schema.json"
    }
  ],
  "specCharacteristic": [
    {
      "name": "operatingSystem",
      "id": "5843",
      "description": "This characteristic describes the operating system run by the service",
      "valueType": "string",

```

```

    "configurable": true,
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/StringCharacteristic.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": false,
    "characteristicValueSpecification": [
      {
        "valueType": "string",
        "isDefault": true,
        "value": "Android KitKat",
        "validFor": {
          "startDateTime": "2020-08-25T00:00",
          "endDateTime": "2021-03-07T00:00"
        },
        "rangeInterval": "open",
        "@type": "CharacteristicValueSpecification",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
      }
    ],
    "charSpecRelationship": [
      {
        "relationshipType": "dependency",
        "parentSpecificationId": "1741",
        "parentSpecificationHref": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecification/1741",
        "characteristicSpecificationId": "4690",
        "href": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecificationCharacteristic/4690",
        "name": "operatingSystem",
        "validFor": {
          "startDateTime": "2020-08-25T00:00",
          "endDateTime": "2021-03-07T00:00"
        },
        "@type": "CharacteristicSpecificationRelationship",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicSpecificationRelationship.schema.json"
      }
    ],
    "@type": "SpecCharacteristic",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
  },
  {
    "name": "scalability",
    "description": "Scalability parameters for this resource facing service spec ",
    "valueType": "CapabilityScalable",
    "configurable": true,
    "validFor": {
      "startDateTime": "2020-08-25T00:00",

```

```

    "endDateTime": "2021-03-12T00:00"
  },
  "@valueSchemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/CapabilityScalable.schema.json",
  "minCardinality": 0,
  "maxCardinality": 1,
  "isUnique": true,
  "regex": "",
  "extensible": true,
  "characteristicValueSpecification": [
    {
      "valueType": "object",
      "isDefault": true,
      "value": {
        "minInstances": 1,
        "maxInstances": 1000
      },
      "validFor": {
        "startDateTime": "2020-08-25T00:00",
        "endDateTime": "2021-03-12T00:00"
      },
      "rangeInterval": "open",
      "@type": "CharacteristicValueSpecification",
      "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
    }
  ],
  "@type": "SpecCharacteristic",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
}
],
"relatedParty": [
  {
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/3643",
    "id": "3643",
    "name": "Firewall Express",
    "role": "Supplier",
    "@referredType": "PartyRole",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json"
  }
],
"serviceSpecRelationship": [
  {
    "relationshipType": "dependency",
    "role": "dependent",
    "id": "5563",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/5563",
    "name": "Points to the Deep Packet Inspection service on which this Firewall service depends",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ResourceFacingServiceSpecification",
    "@type": "ServiceSpecRelationship",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecRelationship.schema.json"
  }
],
"serviceLevelSpecification": [

```

```

{
  "href": "https://mycsp.com:8080/tmf-api/serviceQualityManagement/v4/serviceLevelSpecification/8899",
  "id": "8899",
  "name": "Platinum",
  "@type": "ServiceLevelSpecificationRef",
  "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ServiceLevelSpecificationRef.schema.json"
}
],
"targetServiceSchema": {
  "@type": "RFS",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/RFS.schema.json"
},
"constraint": [
  {
    "href": "https://mycsp.com:8080/tmf-api/policyManagement/v4/policy/1994",
    "id": "1994",
    "name": "firewallEligibilityRule",
    "version": "1.0",
    "@referredType": "Constraint",
    "@type": "ConstraintRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ConstraintRef.schema.json"
  }
],
"entitySpecRelationship": [
  {
    "relationshipType": "ServiceSpecTestedVia",
    "role": "serviceUnderTest",
    "id": "3331",
    "href": "https://mycsp.com:8080/tmf-api/serviceTestManagement/v4/serviceTestSpec/3331",
    "name": "FirewallFunctionalTestSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "FunctionalServiceTestSpec",
    "@type": "EntitySpecRelationship",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
  },
  {
    "relationshipType": "ServiceSpecMeasuredBy",
    "role": "serviceUnderTest",
    "id": "7316",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/servicePerformanceSpec/7316",
    "name": "FirewallPerformanceSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ServicePerformanceSpec",
    "@type": "EntitySpecRelationship",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
  }
],
"featureSpecification": [
  {
    "isEnabled": false,
    "isBundle": false,

```

```

    "id": "DPI-2221",
    "name": "deep packet inspection",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  },
  {
    "isEnabled": true,
    "isBundle": false,
    "id": "IPS-2222",
    "name": "Intrusion Prevention Systems ",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  }
],
"@type": "ResourceFacingServiceSpecification",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ResourceFacingServiceSpecification.schema.json",
"@baseType": "ServiceSpecification"
}

```

Response

201

```

{
  "id": "7655",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/7655",
  "name": "Firewall Service",
  "description": "This service specification describes a firewall service that can be deployed in customer-premises equipment.",
  "version": "2.1",
  "validFor": {
    "startDateTime": "2020-08-25T00:00",
    "endDateTime": "2021-03-25T00:00"
  },
  "lastUpdate": "2020-08-25T00:00",
  "lifecycleStatus": "Active",
  "isBundle": false,
  "resourceSpecification": [
    {

```



```

    "href": "https://mycsp.com:8080/tmf-api/resourceCatalogManagement/v4/resourceSpecification/42",
    "id": "42",
    "name": "Firewall",
    "version": "1.0",
    "@referredType": "ResourceFunctionSpec",
    "@type": "ResourceSpecificationRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Resource/ResourceSpecificationRef.schema.json"
  }
],
"attachment": [
  {
    "description": "This attachment gives a description of the firewall service with diagrams.",
    "href": "https://mycsp.com:8080/tmf-api/documentManagement/v4/attachment/22",
    "id": "22",
    "url": "https://mycsp.com:7070/docloader?docnum=3534536",
    "@attachmentType": "Document",
    "content": "",
    "mimeType": ".docx",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "size": {
      "amount": 1532,
      "units": "KB"
    },
    "name": "Firewall Service",
    "@type": "Attachment",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Attachment.schema.json"
  }
],
"specCharacteristic": [
  {
    "name": "operatingSystem",
    "id": "5843",
    "description": "This characteristic describes the operating system run by the service",
    "valueType": "string",
    "configurable": true,
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/StringCharacteristic.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": false,
    "characteristicValueSpecification": [
      {
        "valueType": "string",
        "isDefault": true,
        "value": "Android KitKat",
        "validFor": {

```

```

        "startDateTime": "2020-08-25T00:00",
        "endDateTime": "2021-03-07T00:00"
    },
    "regex": "",
    "valueFrom": "",
    "valueTo": "",
    "unitOfMeasure": "",
    "rangeInterval": "open",
    "@type": "CharacteristicValueSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
    }
},
"charSpecRelationship": [
    {
        "relationshipType": "dependency",
        "parentSpecificationId": "1741",
        "parentSpecificationHref": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecification/1741",
        "characteristicSpecificationId": "4690",
        "href": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecificationCharacteristic/4690",
        "name": "operatingSystem",
        "validFor": {
            "startDateTime": "2020-08-25T00:00",
            "endDateTime": "2021-03-07T00:00"
        },
        "@type": "CharacteristicSpecificationRelationship",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicSpecificationRelationship.schema.json"
    }
},
"@type": "SpecCharacteristic",
"@baseType": "",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
},
{
    "name": "scalability",
    "description": "Scalability parameters for this resource facing service spec ",
    "valueType": "CapabilityScalable",
    "configurable": true,
    "validFor": {
        "startDateTime": "2020-08-25T00:00",
        "endDateTime": "2021-03-12T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/CapabilityScalable.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": true,
    "characteristicValueSpecification": [
        {
            "valueType": "object",
            "isDefault": true,
            "value": {

```

```

        "minInstances": 1,
        "maxInstances": 1000
    },
    "validFor": {
        "startDateTime": "2020-08-25T00:00",
        "endDateTime": "2021-03-12T00:00"
    },
    "regex": "",
    "valueFrom": "",
    "valueTo": "",
    "unitOfMeasure": "",
    "rangeInterval": "open",
    "@type": "CharacteristicValueSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
    }
},
"charSpecRelationship": [],
"@type": "SpecCharacteristic",
"@baseType": "",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
}
],
"relatedParty": [
{
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/3643",
    "id": "3643",
    "name": "Firewall Express",
    "role": "Supplier",
    "@referredType": "PartyRole",
    "@type": "RelatedParty",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json"
}
],
"serviceSpecRelationship": [
{
    "relationshipType": "dependency",
    "role": "dependent",
    "id": "5563",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/5563",
    "name": "Points to the Deep Packet Inspection service on which this Firewall service depends",
    "validFor": {
        "startDateTime": "2020-08-25T00:00",
        "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ResourceFacingServiceSpecification",
    "@type": "ServiceSpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecRelationship.schema.json"
}
],
"serviceLevelSpecification": [
{
    "href": "https://mycsp.com:8080/tmf-api/serviceQualityManagement/v4/serviceLevelSpecification/8899",
    "id": "8899",
    "name": "Platinum",

```

```

    "@type": "ServiceLevelSpecificationRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ServiceLevelSpecificationRef.schema.json"
  }
],
"targetServiceSchema": {
  "@type": "RFS",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/RFS.schema.json"
},
"constraint": [
  {
    "href": "https://mycsp.com:8080/tmf-api/policyManagement/v4/policy/1994",
    "id": "1994",
    "name": "firewallEligibilityRule",
    "version": "1.0",
    "@referredType": "Constraint",
    "@type": "ConstraintRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ConstraintRef.schema.json"
  }
],
"entitySpecRelationship": [
  {
    "relationshipType": "ServiceSpecTestedVia",
    "role": "serviceUnderTest",
    "id": "3331",
    "href": "https://mycsp.com:8080/tmf-api/serviceTestManagement/v4/serviceTestSpec/3331",
    "name": "FirewallFunctionalTestSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "FunctionalServiceTestSpec",
    "@type": "EntitySpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
  },
  {
    "relationshipType": "ServiceSpecMeasuredBy",
    "role": "serviceUnderTest",
    "id": "7316",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/servicePerformanceSpec/7316",
    "name": "FirewallPerformanceSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ServicePerformanceSpec",
    "@type": "EntitySpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
  }
],
"featureSpecification": [
  {
    "isEnabled": false,
    "isBundle": false,

```

```

    "id": "DPI-2221",
    "href": "",
    "name": "deep packet inspection",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  },
  {
    "isEnabled": true,
    "isBundle": false,
    "id": "IPS-2222",
    "href": "",
    "name": "Intrusion Prevention Systems ",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  }
],
"@type": "ResourceFacingServiceSpecification",
"@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ResourceFacingServiceSpecification.schema.json",
"@baseType": "ServiceSpecification"
}

```

Patch service specification

PATCH /serviceSpecification/{id}

Description

This operation allows partial updates of a service 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.

Patchable Attributes	Rule
description	
isBundle	
lifecycleStatus	
name	
version	
@baseType	
@schemaLocation	
@type	
featureSpecification	
resourceSpecification	
serviceLevelSpecification	
serviceSpecRelationship	
attachment	
constraint	
entitySpecRelationship	
relatedParty	
specCharacteristic	
targetEntitySchema	
validFor	

Non Patchable Attributes	Rule
id	
href	
lastUpdate	

Usage Samples

Here's an example of a request for patching a specification. In this example, a new version is set, together with validity period.

Request
PATCH /tmf-api/serviceCatalogManagement/v4/serviceSpecification/7655 Content-Type: application/merge-patch+json <pre>{ "version": "3.0", "validFor": { "startDateTime": "2020-09-23T00:00", "endDateTime": "2024-03-25T00:00" } }</pre>

Response

200

```

{
  "id": "7655",
  "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/7655",
  "name": "Firewall Service",
  "description": "This service specification describes a firewall service that can be deployed in customer-premises
equipment.",
  "version": "3.0",
  "validFor": {
    "startDateTime": "2020-09-23T00:00",
    "endDateTime": "2024-03-25T00:00"
  },
  "lastUpdate": "2020-09-23T00:00",
  "lifecycleStatus": "Active",
  "isBundle": false,
  "resourceSpecification": [
    {
      "href": "https://mycsp.com:8080/tmf-api/resourceCatalogManagement/v4/resourceSpecification/42",
      "id": "42",
      "name": "Firewall",
      "version": "1.0",
      "@referredType": "ResourceFunctionSpec",
      "@type": "ResourceSpecificationRef",
      "@baseType": "",
      "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Resource/ResourceSpecificationRef.schema.json"
    }
  ],
  "attachment": [
    {
      "description": "This attachment gives a description of the firewall service with diagrams.",
      "href": "https://mycsp.com:8080/tmf-api/documentManagement/v4/attachment/22",
      "id": "22",
      "url": "https://mycsp.com:7070/docloader?docnum=3534536",
      "@attachmentType": "Document",
      "content": "",
      "mimeType": ".docx",
      "validFor": {
        "startDateTime": "2020-08-25T00:00",
        "endDateTime": "2021-03-25T00:00"
      },
      "size": {
        "amount": 1532,
        "units": "KB"
      },
      "name": "Firewall Service",
      "@type": "Attachment",
      "@baseType": "",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Attachment.schema.json"
    }
  ],
  "specCharacteristic": [
    {

```

```

"name": "operatingSystem",
"id": "5843",
"description": "This characteristic describes the operating system run by the service",
"valueType": "string",
"configurable": true,
"validFor": {
  "startDateTime": "2020-08-25T00:00",
  "endDateTime": "2021-03-07T00:00"
},
"@valueSchemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/StringCharacteristic.schema.json",
"minCardinality": 0,
"maxCardinality": 1,
"isUnique": true,
"regex": "",
"extensible": false,
"characteristicValueSpecification": [
  {
    "valueType": "string",
    "isDefault": true,
    "value": "Android KitKat",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "regex": "",
    "valueFrom": "",
    "valueTo": "",
    "unitOfMeasure": "",
    "rangeInterval": "open",
    "@type": "CharacteristicValueSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
  }
],
"charSpecRelationship": [
  {
    "relationshipType": "dependency",
    "parentSpecificationId": "1741",
    "parentSpecificationHref": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecification/1741",
    "characteristicSpecificationId": "4690",
    "href": "https://mycsp.com:8080/tmf-
api/serviceCatalogManagement/v4/serviceSpecificationCharacteristic/4690",
    "name": "operatingSystem",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-07T00:00"
    },
    "@type": "CharacteristicSpecificationRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicSpecificationRelationship.schema.json"
  }
],
"@type": "SpecCharacteristic",
"@baseType": ""

```



```

    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
  },
  {
    "name": "scalability",
    "description": "Scalability parameters for this resource facing service spec ",
    "valueType": "CapabilityScalable",
    "configurable": true,
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-12T00:00"
    },
    "@valueSchemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/CapabilityScalable.schema.json",
    "minCardinality": 0,
    "maxCardinality": 1,
    "isUnique": true,
    "regex": "",
    "extensible": true,
    "characteristicValueSpecification": [
      {
        "valueType": "object",
        "isDefault": true,
        "value": {
          "minInstances": 1,
          "maxInstances": 1000
        },
        "validFor": {
          "startDateTime": "2020-08-25T00:00",
          "endDateTime": "2021-03-12T00:00"
        },
        "regex": "",
        "valueFrom": "",
        "valueTo": "",
        "unitOfMeasure": "",
        "rangeInterval": "open",
        "@type": "CharacteristicValueSpecification",
        "@baseType": "",
        "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/CharacteristicValueSpecification.schema.json"
      }
    ],
    "charSpecRelationship": [],
    "@type": "SpecCharacteristic",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/SpecCharacteristic.schema.json"
  }
],
"relatedParty": [
  {
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/3643",
    "id": "3643",
    "name": "Firewall Express",
    "role": "Supplier",
    "@referredType": "PartyRole",
    "@type": "RelatedParty",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json"
  }
],

```

```

"serviceSpecRelationship": [
  {
    "relationshipType": "dependency",
    "role": "dependent",
    "id": "5563",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/serviceSpecification/5563",
    "name": "Points to the Deep Packet Inspection service on which this Firewall service depends",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ResourceFacingServiceSpecification",
    "@type": "ServiceSpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceSpecRelationship.schema.json"
  }
],
"serviceLevelSpecification": [
  {
    "href": "https://mycsp.com:8080/tmf-api/serviceQualityManagement/v4/serviceLevelSpecification/8899",
    "id": "8899",
    "name": "Platinum",
    "@type": "ServiceLevelSpecificationRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Service/ServiceLevelSpecificationRef.schema.json"
  }
],
"targetServiceSchema": {
  "@type": "RFS",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/RFS.schema.json"
},
"constraint": [
  {
    "href": "https://mycsp.com:8080/tmf-api/policyManagement/v4/policy/1994",
    "id": "1994",
    "name": "firewallEligibilityRule",
    "version": "1.0",
    "@referredType": "Constraint",
    "@type": "ConstraintRef",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ConstraintRef.schema.json"
  }
],
"entitySpecRelationship": [
  {
    "relationshipType": "ServiceSpecTestedVia",
    "role": "serviceUnderTest",
    "id": "3331",
    "href": "https://mycsp.com:8080/tmf-api/serviceTestManagement/v4/serviceTestSpec/3331",
    "name": "FirewallFunctionalTestSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "FunctionalServiceTestSpec",
    "@type": "EntitySpecRelationship",
    "@baseType": ""
  }
]

```

```

    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
  },
  {
    "relationshipType": "ServiceSpecMeasuredBy",
    "role": "serviceUnderTest",
    "id": "7316",
    "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/servicePerformanceSpec/7316",
    "name": "FirewallPerformanceSpec",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "@referredType": "ServicePerformanceSpec",
    "@type": "EntitySpecRelationship",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecRelationship.schema.json"
  }
],
"featureSpecification": [
  {
    "isEnabled": false,
    "isBundle": false,
    "id": "DPI-2221",
    "href": "",
    "name": "deep packet inspection",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  },
  {
    "isEnabled": true,
    "isBundle": false,
    "id": "IPS-2222",
    "href": "",
    "name": "Intrusion Prevention Systems ",
    "validFor": {
      "startDateTime": "2020-08-25T00:00",
      "endDateTime": "2021-03-25T00:00"
    },
    "featureSpecRelationship": [],
    "featureSpecCharacteristic": [],
    "version": "1.0",
    "@type": "FeatureSpecification",
    "@baseType": "",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/FeatureSpecification.schema.json"
  }
],
"@type": "ResourceFacingServiceSpecification",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ResourceFacingServiceSpecification.schema.json",
"@baseType": "ServiceSpecification"

```

}

Delete service specification

DELETE /serviceSpecification/{id}

Description

This operation deletes a service specification entity.

Usage Samples

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

Request
DELETE /tmf-api/serviceCatalogManagement/v4/serviceSpecification/7655
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 multiple import jobs.

Request
GET /tmf-api/serviceCatalogManagement/v4/importJob?creationDate=2020-08-25 Accept: application/json

Response
<pre> 200 [{ "completionDate": "2020-08-25T00:03", "contentType": "application/json", "creationDate": "2020-08-25T00:00", "errorLog": "http://my-platform/daily/logging/ImportJobErrors.log", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/importJob/1997", "id": "1997", "path": "serviceCatalogManagement/", "status": "completed", "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/ImportJob.json" }, { "completionDate": "", "contentType": "application/json", "creationDate": "2020-08-25T00:06", "errorLog": "http://my-platform/daily/logging/ImportJob2Errors.log", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/importJob/1999", "id": "1999", "path": "serviceCatalogManagement/", "status": "started", "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/ImportJob2.json" }] </pre>

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 specific import job.

Request
<pre> GET /tmf-api/serviceCatalogManagement/v4/importJob/1997 Accept: application/json </pre>

Response
<pre> 200 { "completionDate": "2020-08-25T00:03", "contentType": "application/json", "creationDate": "2020-08-25T00:00", "errorLog": "http://my-platform/daily/logging/ImportJobErrors.log", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/importJob/1997", "id": "1997", "path": "serviceCatalogManagement/", "status": "completed", "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/ImportJob.json" } </pre>

Create import job

POST /importJob

Description

This operation creates an import job entity.

Mandatory and Non Mandatory Attributes

The following tables provide 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	Rule
@baseType	
@schemaLocation	
@type	
completionDate	
contentType	
creationDate	
errorLog	
path	
status	

Usage Samples

Here's an example of a request for creating an import job.

Request
<pre>POST /tmf-api/serviceCatalogManagement/v4/importJob Content-Type: application/json { "contentType": "application/json", "errorLog": "http://my-platform/daily/logging/ImportJobErrors.log", "path": "serviceCatalogManagement/", "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/ImportJob.json" }</pre>
Response
<pre>201 { "completionDate": "2020-08-25T00:03", "contentType": "application/json", "creationDate": "2020-08-25T00:00", "errorLog": "http://my-platform/daily/logging/ImportJobErrors.log", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/importJob/1997", "id": "1997", "path": "serviceCatalogManagement/", "status": "completed", "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/ImportJob.json" }</pre>

Delete import job

DELETE /importJob/{id}

Description

This operation deletes an import job entity.

Usage Samples

Here's an example of a request for deleting an import job.

Request
<pre>DELETE /tmf-api/serviceCatalogManagement/v4/importJob/1997</pre>
Response

204

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 multiple export jobs.

Request
GET /tmf-api/serviceCatalogManagement/v4/exportJob?creationDate=2020-08-17 Accept: application/json
Response
200 [{ "completionDate": "2020-08-17T00:08", "contentType": "application/json", "creationDate": "2020-08-17T00:00", "errorLog": "http://my-platform/daily/logging/exportJob2Errors.log", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/exportJob/1511", "id": "1511", "path": "serviceCatalogManagement/", "query": "@type=ResourceFacingServiceSpecification", "status": "completed", "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/exportJob2.json" }, { "completionDate": "2020-08-17T00:05", "contentType": "application/json", "creationDate": "2020-08-17T00:00", "errorLog": "http://my-platform/daily/logging/exportJobErrors.log", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/exportJob/1867", "id": "1867", "path": "serviceCatalogManagement/",


```

    "query": "@type=CustomerFacingServiceSpecification",
    "status": "completed",
    "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/exportJob.json"
  }
]

```

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 specific export job.

Request
<pre> GET /tmf-api/serviceCatalogManagement/v4/exportJob/1867 Accept: application/json </pre>
Response
<pre> 200 { "completionDate": "2020-08-17T00:05", "contentType": "application/json", "creationDate": "2020-08-17T00:00", "errorLog": "http://my-platform/daily/logging/exportJobErrors.log", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/exportJob/1867", "id": "1867", "path": "serviceCatalogManagement/", "query": "@type=ResourceFacingServiceSpecification", "status": "completed", "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/exportJob.json" } </pre>

Create export job

POST /exportJob

Description

This operation creates an export job entity.

Mandatory and Non Mandatory Attributes

The following tables provide 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	Rule
@baseType	
@schemaLocation	
@type	
completionDate	
contentType	
creationDate	
errorLog	
path	
query	
status	

Usage Samples

Here's an example of a request for creating an export job.

Request
POST /tmf-api/serviceCatalogManagement/v4/exportJob Content-Type: application/json <pre>{ "contentType": "application/json", "path": "serviceCatalogManagement/", "query": "@type=ServiceSpecification", "url": "ftp://ftp.mycsp.com/serviceCatalogManagement/exportJob.json" }</pre>
Response
201 <pre>{ "completionDate": "2020-08-17T00:05", "contentType": "application/json", "creationDate": "2020-08-17T00:00", "errorLog": "http://my-platform/daily/logging/exportJobErrors.log", "href": "https://mycsp.com:8080/tmf-api/serviceCatalogManagement/v4/exportJob/1867",</pre>

```
"id": "1867",  
"path": "serviceCatalogManagement/",  
"query": "@type=ServiceSpecification",  
"status": "completed",  
"url": "ftp://ftp.mycsp.com/serviceCatalogManagement/exportJob.json"  
}
```

Delete export job

DELETE /exportJob/{id}

Description

This operation deletes an export job entity.

Usage Samples

Here's an example of a request for deleting an export job.

Request
DELETE /tmf-api/serviceCatalogManagement/v4/exportJob/1867
Response
204

API NOTIFICATIONS

This section describes how Pub/Sub pattern with the Register and UnRegister mechanisms is used to support API notifications. For more details please refer to the REST API Guidelines (TMF630).

REGISTER LISTENER

POST /hub

Description

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

Behavior

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

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

Usage Samples

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

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

UNREGISTER LISTENER

DELETE /hub/{id}

Description

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

Behavior

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

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

Usage Samples

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

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

PUBLISH EVENT TO LISTENER

POST /client/listener

Description

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

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

Behavior

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

Usage Samples

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

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

For detailed examples on the general TM Forum notification mechanism, see the TMF REST Design Guidelines (TMF630) document.

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 Service 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": "VirtualStorageService",
  "href":
"http://serverlocation:port/catalogManagement/serviceCandidate/VirtualStorageService",
  "version": "1.0",
  "lastUpdate": "2020-08-19T16:42:23-04:00",
  "name": "Virtual Storage Service",
  "description": "Virtual Storage Service",
  "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. `/VirtualStorageService:(version=1.0)`, `/VirtualStorageService:(version=2.0)`.

In the following examples, we will assume that two versions of the VirtualStorage Service Candidate exist in the Service 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/serviceCandidate/?id=VirtualStorageService Accept: application/json
RESPONSE
200 Content-Type: application/json [{ "id": "VirtualStorageService", "href": "http://serverlocation:port/catalogManagement/serviceCandidate/VirtualStorage Service", "version": "1.0", "lastUpdate": "2020-06-19T17:40:13-05:00", "name": "Virtual Storage Service", "description": "Virtual Storage Service", "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
<pre>GET api/admin/catalogManagement/serviceCandidate/?id=VirtualStorageService&version=1.0 Accept: application/json</pre>
RESPONSE
<pre>200 Content-Type: application/json [{ "id": "VirtualStorageMedium", "href": "http://serverlocation:port/catalogManagement/serviceCandidate/VirtualStorage Service", "version": "1.0", "lastUpdate": "2020-08-19T16:42:23-05:00", "name": "Virtual Storage Service", "description": "Virtual Storage Service", "lifecycleStatus": "Active", }, ]</pre>

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/serviceCandidate/VirtualStorageService Accept: application/json
RESPONSE
200 Content-Type: application/json { "id": "VirtualStorageMedium", "href": "http://serverlocation:port/catalogManagement/serviceCandidate/VirtualStorage Service", "version": "2.0", "lastUpdate": "2020-08-19T16:42:23-05:00", "name": "Virtual Storage Service", "description": "Virtual Storage Service", "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/serviceCandidate Content-type: application/json { "id": "VirtualStorage", "href": "http://serverlocation:port/catalogManagement/serviceCandidate/VirtualStorage Service", "version": "3.0",

```

"name": "Virtual Storage Service",
"description": "Virtual Storage Service",
"lifecycleStatus": "Active",
"validFor": {
  "startDateTime": "2017-07-19T16:42:23-05:00",
  "endDateTime": "2023-01-11T00:00:00-05:00"
},
...
}

```

RESPONSE

```

201
Content-Type: application/json

{
  "id": "VirtualStorage",
  "href": "http://serverlocation:port/catalogManagement/serviceCandidate/VirtualStorage
Service",
  "version": "3.0",
  "lastUpdate": "2020-08-19T13:42:23-05:00",
  "name": "Virtual Storage Service",
  "description": "Virtual Storage Service",
  "lifecycleStatus": "Active",
  "validFor": {
    "startDateTime": "2017-07-19T16:42:23-05:00",
    "endDateTime": "2023-01-11T00:00:00-05:00"
  },
  ...
}

```

Modify an existing version of a catalog resource

By default, PATCH will be acting only on the latest version of a catalog resource. For example, PATCH `/.../serviceCandidate/VirtualStorageService` will only update the VirtualStorageService ServiceCandidate 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 VirtualStorageService versioned at 1.0 we could use:
`/serviceCandidate/VirtualStorageService(Version=1.0)`

REQUEST

PATCH /catalogManagement/serviceCandidate/VirtualStorageService(Version=1.0)

Content-type: application/json-patch+json

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

RESPONSE

200

Content-Type: application/json

```
{  
  "id": "VirtualStorageService",  
  "href":  
  "http://serverlocation:port/catalogManagement/serviceCanddidate/VirtualStorageService",  
  "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

DOCUMENT HISTORY

Release History

Release Status	Date	Release led by:	Description
Version 1.0	15-Apr-2013	Pierre Gauthier TM Forum pgauthier@tmforum.org	First Release of Draft Version of the Document
Version 1.2	15-Aug-2016	Frank Wong DGIT fwong@dgitsystems.com	Updated to resolve errors and reflect discussion following Team Action Week Vancouver 2016
Version 1.4	16-Oct-2016	Frank Wong DGIT fwong@dgitsystems.com	Incorporated comments from the review meeting
Version 2.0 Release 17.5	27-Aug-2017	Kamal Maghsoudlou Ericsson kamal.maghsoudlou@ericsson.com	Added extension pattern for REST resources Published
Version 3.0	13-Jan-2019	Jonathan Goldberg Amdocs Jonathan.Goldberg@amdocs.com	Schema alignment for NaaS APIs in release 18.5
Release 18.5.0	13-Jan-2019	Pierre Gauthier TM Forum pgauthier@tmforum.org	Published

Version History

Release Status	Date	Modified by:	Description
Version 4.0.0	12-Oct-2020	Kamal Maghsoudlou Ericsson kamal.maghsoudlou@ericsson.com	<ul style="list-style-type: none"> • Schema alignment for v4.0 extension patterns and naming convention • Augmented Service Specification with relations to feature specification and other entity specifications • Service Specification extended from Entity Specification, Updated examples
Pre-production	01-Nov-2020	Alan Pope	Final edits prior to publication

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