

TM Forum Specification

Resource Function Activation and Configuration API User Guide

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N/A

Introduction

The present document is the User Guide of the REST API for *Resource Function Activation and Configuration*. It includes the model definition as well as all available operations.

This API is used for the provisioning and lifecycle management of Resource Functions (RF) as described in *TR255 Resource Function Activation and Configuration*. Resource functions are a generalization and abstraction of various industry concepts including the ETSI NFV concepts of VNF, PNF, VNF Forwarding Graph and Network Service, as well as the SDN concepts of Service Function and Service Function Chain and physical network functions such as routers and Content Delivery Networks (CDNs).

This API is a key component in the Hybrid Infrastructure Platform (HIP) defined in *TMF070B Advanced Platform Deployment Blueprints*. HIP, in turn, is based on principles defined in *TR262 Management Platform Blueprint and Application to Hybrid Infrastructure*. TR262 defines a platform-based model, supporting autonomic closed control loop resource managers.

Both *intent-based* and *detailed-based* options are defined for configuration of resource functions. In the case of *intent-based* the consumer does not have a view, or the ability to directly affect, the entities contained within an RF. For the *detailed-based*, the opposite is true.

SAMPLE USE CASES

Please refer to TR255 for detailed background and use cases. Sample payloads for a few complex use cases have been included in this section to assist the user in consuming this API. It is suggested that the reader reads the subsequent sections to familiarize herself with the API before coming back to this section.

USE CASE 1

This use case requests creation of a composite resource function including creation of some of the component RFs and inclusion of some existing RFs.

This API allows users to request creation of a composite RF composed a number of other atomic or composite resources and connected in a topology. A resource function specification describes features and characteristics of the composite RF as well as the required component resources, their roles and the adjacency relationships among the component resources.

See the simple example in Figure 1 below where the requirement is to create a new vCDN RF. In this example, the Virtual Router Z along with the connection points I, H and K are available. However, the components with a red border i.e. the virtual content server W along with its connection points J & L as well as the link A need to be created as part of the request. There is then a requirement to connect these newly created components together in a certain topology.

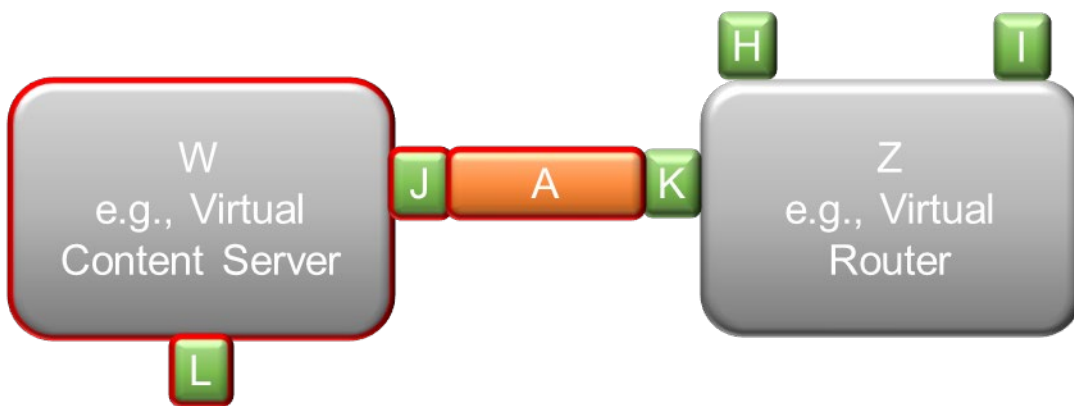


Figure 1: Creation request for a composite Resource Function along with its atomic components

A resource function specification for this vCDN will look like this (only the relevant parts of the payload are provided).

```

"@type": "ResourceFunctionSpecification",
...
"resourceSpecRelationship": [
  {
    "relationshipType": "contains",
    "id": "8b8d5279b599",
    "href": "/resourceCatalog/resourceSpecification/8b8d5279b599",
  }
]

```



```
    "@referredType": "ResourceFunctionSpecification",
    "name": "A"
  },
  {
    "relationshipType": "contains",
    "id": "e85c6fa65fb0",
    "href": "/resourceCatalog/resourceSpecification/e85c6fa65fb0",
    "@referredType": "ResourceFunctionSpecification",
    "name": "H"
  },
  {
    "relationshipType": "contains",
    "id": "e7488a2ea286", e7488a2ea286
    "href": "/resourceCatalog/resourceSpecification/",
    "@referredType": "ResourceFunctionSpecification",
    "name": "I"
  },
  {
    "relationshipType": "contains",
    "id": "df8517bcd405",
    "href": "/resourceCatalog/resourceSpecification/df8517bcd405",
    "@referredType": "ResourceFunctionSpecification",
    "name": "J"
  },
  {
    "relationshipType": "contains",
    "id": "72b2a211712e",
    "href": "/resourceCatalog/resourceSpecification/72b2a211712e",
    "@referredType": "ResourceFunctionSpecification",
    "name": "K"
  },
  {
    "relationshipType": "contains",
    "id": "5e1860156f21",
    "href": "/resourceCatalog/resourceSpecification/5e1860156f21",
    "@referredType": "ResourceFunctionSpecification",
    "name": "L"
  },
  {
    "relationshipType": "contains",
    "id": "e9034280f8e9",
    "href": "/resourceCatalog/resourceSpecification/e9034280f8e9",
    "@referredType": "ResourceFunctionSpecification",
    "role": "Virtual Content Server",
    "name": "W"
  },
  {
    {
```

```
    "relationshipType": "contains",
    "id": "4cad157ea46e",
    "href": "/resourceCatalog/resourceSpecification/4cad157ea46e",
    "@referredType": "ResourceFunctionSpecification",
    "role": "Virtual Router",
    "name": "Z"
  }
],
"connectionPointSpecification": [
  {
    "href": "/resourceCatalog/resourceSpecification/e85c6fa65fb0",
    "@referredType": "ResourceFunctionSpecification",
    "name": "H"
  },
  {
    "id": "e7488a2ea286", e7488a2ea286
    "href": "/resourceCatalog/resourceSpecification/",
    "@referredType": "ResourceFunctionSpecification",
    "name": "I"
  },
  {
    "id": "5e1860156f21",
    "href": "/resourceCatalog/resourceSpecification/5e1860156f21",
    "@referredType": "ResourceFunctionSpecification",
    "name": "L"
  }
],
"connectivitySpecification": [
  {
    "name": "Adjacency Graph",
    "connectionSpecification": [
      {
        "associationType": "pointToPoint",
        "endpointSpecification": [
          {
            "id": "e9034280f8e9",
            "href": "/resourceCatalog/resourceSpecification/e9034280f8e9",
            "@referredType": "ResourceFunctionSpecification",
            "name": "W",
            "connectionPointSpecification": {
              "id": "df8517bcd405",
              "href": "/resourceCatalog/resourceSpecification/df8517bcd405",
              "@referredType": "ResourceFunctionSpecification",
              "name": "J"
            }
          }
        ],
      },
    ]
  }
]
```

```

    "id": "8b8d5279b599",
    "href": "/resourceCatalog/resourceSpecification/8b8d5279b599",
    "@referredType": "ResourceFunctionSpecification",
    "name": "A"
  }
]
},
{
  "associationType": "pointtoPoint",
  "endpointSpecification": [
    {
      "id": "8b8d5279b599",
      "href": "/resourceCatalog/resourceSpecification/8b8d5279b599",
      "@referredType": "ResourceFunctionSpecification",
      "name": "A"
    },
    {
      "id": "4cad157ea46e",
      "href": "/resourceCatalog/resourceSpecification/4cad157ea46e",
      "@referredType": "ResourceFunctionSpecification",
      "name": "Z",
      "connectionPointSpecification": {
        "id": "72b2a211712e",
        "href": "/resourceCatalog/resourceSpecification/72b2a211712e",
        "@referredType": "ResourceFunctionSpecification",
        "name": "K"
      }
    }
  ]
}
]
}
],

```

An RF activation request for this vCDN using this API will look like this (only the relevant parts of the payload are provided).

```

"@type": "ResourceFunction",
...
"resourceRelationship": [
  {
    "relationshipType": "contains",
    "resource": {
      "id": "20e2a43627dd",
      "href": "/resourceInventory/resource/20e2a43627dd",
      "@referredType": "ResourceFunction",
      "name": "H"
    }
  }
]

```

```

    }
  },
  {
    "relationshipType": "contains",
    "resource": {
      "id": "5679dd292685",
      "href": "/resourceInventory/resource/5679dd292685",
      "@referredType": "ResourceFunction",
      "name": "I"
    }
  },
  {
    "relationshipType": "contains",
    "resource": {
      "id": "07fd822f7875",
      "href": "/resourceInventory/resource/07fd822f7875",
      "@referredType": "ResourceFunction",
      "name": "K"
    }
  },
  {
    "relationshipType": "contains"
    "resource": {
      "id": "43d48a636f00",
      "href": "/resourceInventory/resource/43d48a636f00",
      "@referredType": "ResourceFunction",
      "role:: "Virtual Router",
      "name": "Z"
    }
  }
],

```

The previously instantiated RFs above should have referenced component resource specifications of the composite RF specification for the vCDN. To avoid ambiguity the **role** attribute may be used to explicitly match an RF to a resource specification.

Other resources and connectivity will be instantiated as provided in the composite RF specification for the vCDN.

USE CASE 2

Request creation of a flow on an existing topology.

The diagram in Figure 2 has been taken from TR255A where the requirement is to create a new flow (red line) on the existing topology.



Figure 2 Flow creation on existing topology

The Flow is just another type of resource function (RF). The payload for a request to create this flow will look like this:

```
{
  "name": "CDN Cluster Flow 1"
  "description": "Consumer provided description of a flow"
  "@type": "ResourceFunction",
  "resourceSpecification": {
    "id": "931ac34ffad5",
    "href": "/resourceCatalog/resourceSpecification/931ac34ffad5",
    "@referredType": "ResourceFunctionSpecification",
    "name": "CDN Cluster Flow"
  },
  "activationFeature": [
    {
      "id": "641feff7c76d",
      "name": "Traffic Characteristics",
      "featureCharacteristic": [
        {
          "name": "capacity",
          "valueType": "number",
          "value": 1000
        },
        {
          "name": "bandwidthProfileType",
          "valueType": "string",
          "value": "MEF10.1"
        },
        {
          "name": "committedBurstRate",
          "valueType": "number",
          "value": 100
        }
      ]
    }
  ],
  "resourceRelationship": [
    {
      "relationshipType": "contains"
      "resource": {
```

```
    "id": "eeac1af5ad06",
    "href": "/resourceInventory/resource/eeac1af5ad06",
    "@referredType": "ResourceFunction",
    "name": "A"
  }
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "885f087e223e",
    "href": "/resourceInventory/resource/885f087e223e",
    "@referredType": "ResourceFunction",
    "name": "B"
  }
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "f257d922dc71",
    "href": "/resourceInventory/resource/f257d922dc71",
    "@referredType": "ResourceFunction",
    "name": "C"
  }
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "0e24f83d2a25",
    "href": "/resourceInventory/resource/0e24f83d2a25",
    "@referredType": "ResourceFunction",
    "name": "D"
  }
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "0ca6c3d022a4",
    "href": "/resourceInventory/resource/0ca6c3d022a4",
    "@referredType": "ResourceFunction",
    "name": "E"
  }
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "771cc4ab3bf3",
    "href": "/resourceInventory/resource/771cc4ab3bf3",
```

```
"@referredType": "ResourceFunction",
  "name": "F"
}
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "446c8535fb28",
    "href": "/resourceInventory/resource/446c8535fb28",
    "@referredType": "ResourceFunction",
    "name": "L"
  }
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "0073c35f3d7f",
    "href": "/resourceInventory/resource/0073c35f3d7f",
    "@referredType": "ResourceFunction",
    "name": "X"
  }
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "6103719f5b20",
    "href": "/resourceInventory/resource/6103719f5b20",
    "@referredType": "ResourceFunction",
    "name": "Y"
  }
},
{
  "relationshipType": "contains"
  "resource": {
    "id": "ac73d781e911",
    "href": "/resourceInventory/resource/ac73d781e911",
    "@referredType": "ResourceFunction",
    "name": "Z"
  }
}
],
"connectionPoint": [
  {
    "id": "446c8535fb28",
    "href": "/resourceInventory/resource/446c8535fb28",
    "@referredType": "ResourceFunction",
    "name": "L"
  }
],
```

```
{
  "id": "ac73d781e911",
  "href": "/resourceInventory/resource/ac73d781e911",
  "@referredType": "ResourceFunction",
  "name": "Z"
}
],
"connectivity": [
  {
    "name": "Adjacency Graph",
    "connection": [
      {
        "associationType": "pointtoPoint",
        "endpoint": [
          {
            "id": "",
            "href": "/resourceInventory/resource/",
            "@referredType": "ResourceFunction",
            "name": "X",
            "connectionPoint": {
              "id": "eeac1af5ad06",
              "href": "/resourceInventory/resource/eeac1af5ad06",
              "@referredType": "ResourceFunction",
              "name": "A"
            }
          },
          {
            "id": "885f087e223e",
            "href": "/resourceInventory/resource/885f087e223e",
            "@referredType": "ResourceFunction",
            "name": "B"
          }
        ]
      },
      {
        "associationType": "pointtoPoint",
        "endpoint": [
          {
            "id": "885f087e223e",
            "href": "/resourceInventory/resource/885f087e223e",
            "@referredType": "ResourceFunction",
            "name": "B"
          },
          {
            "id": "6103719f5b20",
            "href": "/resourceInventory/resource/6103719f5b20",
            "@referredType": "ResourceFunction",

```



```
    "name": "Y",
    "connectionPoint": {
      "id": "f257d922dc71",
      "href": "/resourceInventory/resource/f257d922dc71",
      "@referredType": "ResourceFunction",
      "name": "C"
    }
  }
]
},
{
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "6103719f5b20",
      "href": "/resourceInventory/resource/6103719f5b20",
      "@referredType": "ResourceFunction",
      "name": "Y",
      "connectionPoint": {
        "id": "0e24f83d2a25",
        "href": "/resourceInventory/resource/0e24f83d2a25",
        "@referredType": "ResourceFunction",
        "name": "D"
      }
    },
    {
      "id": "0ca6c3d022a4",
      "href": "/resourceInventory/resource/0ca6c3d022a4",
      "@referredType": "ResourceFunction",
      "name": "E"
    }
  ]
},
{
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "0ca6c3d022a4",
      "href": "/resourceInventory/resource/0ca6c3d022a4",
      "@referredType": "ResourceFunction",
      "name": "E"
    },
    {
      "id": "ac73d781e911",
      "href": "/resourceInventory/resource/ac73d781e911",
      "@referredType": "ResourceFunction",
      "name": "Z",
    }
  ]
}
```

```
"connectionPoint": {  
  "id": "771cc4ab3bf3",  
  "href": "/resourceInventory/resource/771cc4ab3bf3",  
  "@referredType": "ResourceFunction",  
  "name": "F"  
}  
}  
]  
}  
]  
}  
]  
}
```

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 LogicalResource and PhysicalResource inheriting properties from the Resource entity. In this API ResourceFunction inherits from LogicalResource.

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines v3.0 Part 2 document.

The @type attribute provides a way to represent the actual class type of an entity. For example, within a resource inventory collection some may be instances of PhysicalResource where others could be instances of ResourceFunction. The @type gives this information. All resources and sub-resources of this API have a @type attribute that can be provided when this is useful.

The @referredType can be used within reference entities (like for instance a ResourceRelationship 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 ResourceRelationship or ResourceSpecRelationship, 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.

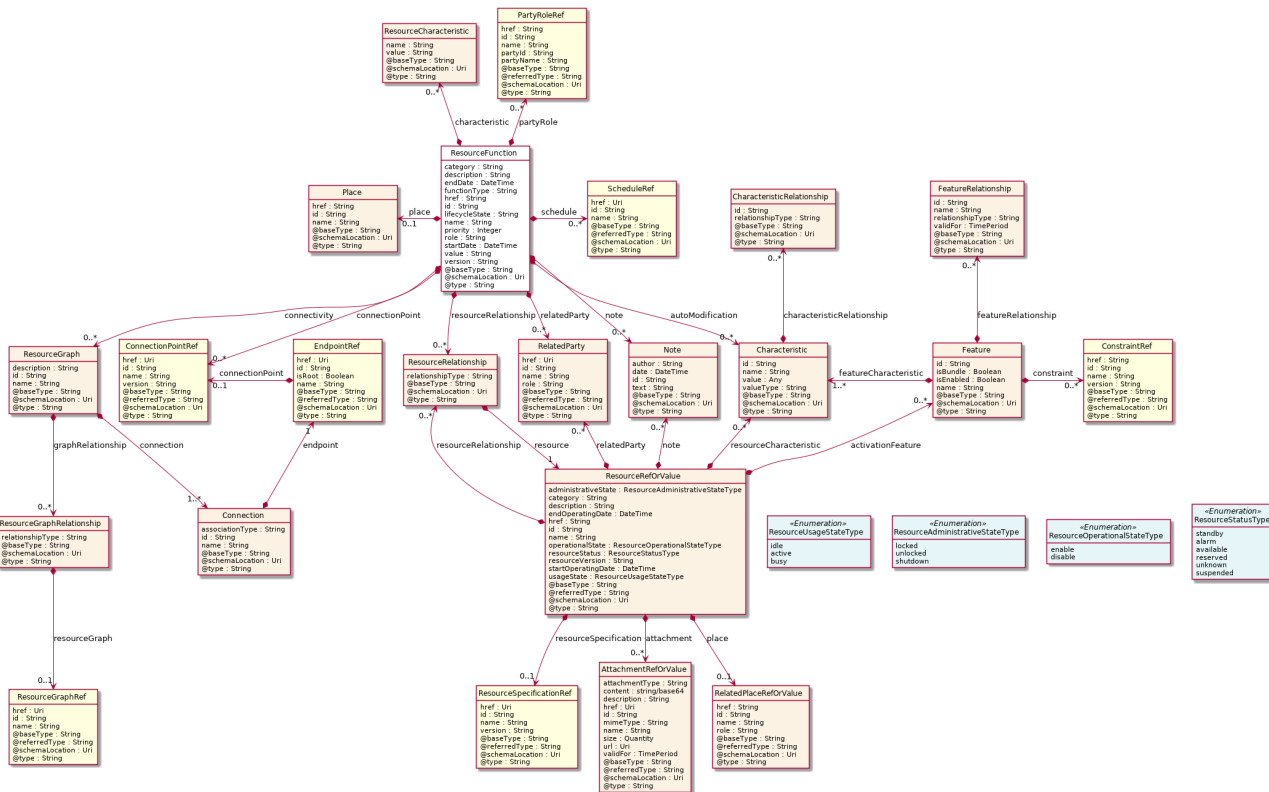
RESOURCE MODEL

Managed Entity and Task Resource Models

Resource Function resource

A ResourceFunction is a behavior to transform inputs of any nature into outputs of any nature independently from the way it is provided.

Resource model



Field descriptions

ResourceFunction fields

- category** A string. Category of the concrete resource, such as: Gold, Silver for MSISDN concrete resource.
- description** A string. Free-text description of the resource.
- endDate** A date time (DateTime). The date till the resource is effective.
- href** A string. The URI for the object itself.
- id** A string. Identifier of an instance of the resource. Required to be unique within the

	resource type. Used in URIs as the identifier for specific instances of a type.
lifecycleState	A string. The life cycle state of the resource.
name	A string. A string used to give a name to the resource.
startDate	A date time (DateTime). A date time(DateTime). The date from which the resource is effective.
value	A string. The value of the logical resource, such as: 0044746712345 for an MSISDN.
version	A string. A field that identifies the specific version of an instance of a resource.
autoModification	A list of characteristics (Characteristic [*]). List of the kinds of auto-modifications that are applied to a given network service e.g. what can be scaled.
connectionPoint	A list of connection point references (ConnectionPointRef [*]). External connection points of the resource function. These are the service access points (SAP) where inputs and outputs of the function are available.
connectivity	A list of resource graphs (ResourceGraph [*]). Internal connectivity of contained resource functions.
functionType	A string. A type of the Resource Function as specified by the provider of the API.
priority	An integer. Priority of the Resource Function. Decides what happens in a contention scenario.
role	A string. Role of the Resource Function. Used when Resource Function is a component of a composite Resource Function and the exact role of the service within the composite is not clear from descriptor/location.
schedule	A list of schedule references (ScheduleRef [*]). This is a reference to a schedule. Allows consumers to schedule modifications to the service at certain times.
characteristic	A list of resource characteristics (ResourceCharacteristic [*]).
note	A list of notes (Note [*]). Extra information about a given entity.
partyRole	A list of party role references (PartyRoleRef [*]). A party role represents the part played by a party in a given context.
place	A place (Place). Place reference. Place defines the places where the products are sold or delivered.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. A related party defines party or party role linked to a specific entity.
resourceRelationship	A list of resource relationships (ResourceRelationship [*]). Linked resources to the one

instantiate, such as [bundled] if the resource is a bundle and you want to describe the bundled resources inside this bundle; [reliesOn] if the resource needs another already owned resource to rely on (e.g. an option on an already owned mobile access resource) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

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 64 (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.

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

@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.
characteristicRelationship	A list of characteristic relationships (CharacteristicRelationship [*]). Another Characteristic that is related to the current Characteristic;.
id	A string. Unique identifier of the characteristic.
name	A string. Name of the characteristic.
value	An any (Any). The value of the characteristic.
valueType	A string. Data type of the value of the characteristic.

CharacteristicRelationship sub-resource

Another Characteristic that is related to the current Characteristic;.

id	A string. Unique identifier of the characteristic.
relationshipType	A string. The type of relationship.

Connection sub-resource

An edge in a resource graph.

associationType	A string. Association type.
endpoint	An endpoint reference (EndpointRef). Resource graph vertices connected by this edge.
id	A string. Unique identifier for graph edge.
name	A string. Descriptive name for graph edge.

Feature sub-resource

Configuration feature.

constraint	A list of constraint references (ConstraintRef [*]). This is a list of feature constraints.
featureCharacteristic	A list of characteristics (Characteristic [1..*]). This is a list of Characteristics for a particular feature.
featureRelationship	A list of feature relationships (FeatureRelationship [*]). Configuration feature.
id	A string. Unique identifier of the feature.
isBundle	A boolean. True if this is a feature group. Default is false.

isEnabled	A boolean. True if this feature is enabled. Default is true.
name	A string. This is the name for the feature.

FeatureRelationship sub-resource

Configuration feature.

id	A string. Unique identifier of the target feature.
name	A string. This is the name of the target feature.
relationshipType	A string. This is the type of the feature relationship.
validFor	A time period. The period for which this feature relationship is valid.

Note sub-resource

Extra information about a given entity.

author	A string. Author of the note.
date	A date time (DateTime). Date of the note.
id	A string. Identifier of the note within its containing entity (may or may not be globally unique, depending on provider implementation).
text	A string. Text of the note.

Place sub-resource

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

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

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.

RelatedPlaceRefOrValue sub-resource

Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. A user-friendly name for the place, such as [Paris Store], [London Store], [Main Home].
href	A string. Unique reference of the place.
id	A string. Unique identifier of the place.
@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.

ResourceCharacteristic sub-resource

name	A string. name of the characteristic.
value	A string. value of the characteristic.

ResourceGraph sub-resource

Resource graph.

connection	A list of connections (Connection [1..*]). Resource graph edges.
description	A string. Description of the resource graph.
graphRelationship	A list of resource graph relationships (ResourceGraphRelationship [*]). Relationships to other resource graphs.
id	A string. Unique identifier of the resource graph.
name	A string. Descriptive name for the resource graph.

ResourceGraphRelationship sub-resource

Describes links between resource graphs.

relationshipType	A string. Semantic of the relationship.
resourceGraph	A resource graph reference (ResourceGraphRef). A reference to the related resource graph.

ResourceRefOrValue sub-resource

Resource is an abstract entity that describes the common set of attributes shared by all concrete resources. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Resource entity and not the related ResourceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. A string used to give a name to the resource.
href	A string. The URI for the object itself.
id	A string. Identifier of an instance of the resource. Required to be unique within the resource type. Used in URIs as the identifier for specific instances of a type.
@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 string. Category of the concrete resource. e.g Gold, Silver for MSISDN concrete resource.
description	A string. free-text description of the resource.
endOperatingDate	A date time (DateTime). A date time(DateTime). The date till the resource is

	operating.
resourceVersion	A string. A field that identifies the specific version of an instance of a resource.
startOperatingDate	A date time (DateTime). A date time(DateTime). The date from which the resource is operating.
activationFeature	A list of features (Feature [*]). Configuration features.
administrativeState	A resource administrative state type (ResourceAdministrativeStateType). Tracks the lifecycle status of the resource, such as planning, installing, operating, retiring and so on.
attachment	A list of attachment ref or values (AttachmentRefOrValue [*]). An attachment by value or by reference. An attachment complements the description of an element, for example through a document, a video, a picture.
note	A list of notes (Note [*]). Extra information about a given entity.
operationalState	A resource operational state type (ResourceOperationalStateType). Tracks the lifecycle status of the resource, such as planning, installing, operating, retiring and so on.
place	A related place ref or value (RelatedPlaceRefOrValue). Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. A related party defines party or party role linked to a specific entity.
resourceCharacteristic	A list of characteristics (Characteristic [*]). Describes a given characteristic of an object or entity through a name/value pair.
resourceRelationship	A list of resource relationships (ResourceRelationship [*]). Linked resources to the one instantiate, such as [bundled] if the resource is a bundle and you want to describe the bundled resources inside this bundle; [reliesOn] if the resource needs another already owned resource to rely on (e.g. an option on an already owned mobile access resource) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.
resourceSpecification	A resource specification reference (ResourceSpecificationRef). 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.

resourceStatus	A resource status type (ResourceStatusType). Tracks the lifecycle status of the resource, such as planning, installing, operating, retiring and so on.
usageState	A resource usage state type (ResourceUsageStateType). Tracks the lifecycle status of the resource, such as planning, installing, operating, retiring and so on.

ResourceRelationship sub-resource

Linked resources to the one instantiate, such as [bundled] if the resource is a bundle and you want to describe the bundled resources inside this bundle; [reliesOn] if the resource needs another already owned resource to rely on (e.g. an option on an already owned mobile access resource) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.

relationshipType	A string. Type of the resource relationship, such as [bundled] if the resource is a bundle and you want to describe the bundled resources inside this bundle; [reliesOn] if the resource needs another already owned resource to rely on (eg: an option on an already owned mobile access resource) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful.
resource	A resource ref or value (ResourceRefOrValue). Resource is an abstract entity that describes the common set of attributes shared by all concrete resources. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Resource entity and not the related ResourceRefOrValue class itself.

ConnectionPointRef relationship

Connection point reference. A connection point provides a service access point (SAP) for input and/or output of the resource function.

@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. Connection point version.

ConstraintRef relationship

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

@referredType A string. The (class) type of the referred constraint.

href A string. Hyperlink reference to the target constraint.

id A string. reference id to the target constraint.

name A string. Name given to the constraint.

version A string. constraint version.

EndpointRef relationship

A vertex in a resource graph.

@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.

connectionPoint A connection point reference (ConnectionPointRef). The connection point (SAP) of the associated resource function (optional).

isRoot A boolean. Directionality: true when endpoint is a source, false when a sink. If true for all endpoints connectivity is bidirectional. Default is true.

PartyRoleRef relationship

Party role reference. A party role represents the part played by a party in a given context.

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

href	A string. Reference of the product.
id	A string. Unique identifier of the product.
name	A string. The name of the referred party role.
partyId	A string. The identifier of the engaged party that is linked to the PartyRole object.
partyName	A string. The name of the engaged party that is linked to the PartyRole object.

ResourceGraphRef relationship

Resource graph reference.

@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.

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.

ScheduleRef relationship

Schedule reference.

@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 'ResourceFunction' resource object

```
{
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "name": "Medium to Large Enterprise Firewall - Model 134985.3",
  "description": "This is a type of firewall to be used for our medium to large enterprise customers",
  "@type": "ResourceFunction",
  "lifecycleState": "operating",
  "category": "Security",
  "resourceSpecification": {
    "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "@type": "ResourceFunctionSpecificationRef",
    "@referredType": "ResourceFunctionSpecification"
  },
  "resourceCharacteristic": [
    {
      "name": "OperatingSystem",
      "value": "Android Pie"
    },
    {
      "name": "MaxTraffic",
      "value": 25
    }
  ],
}
```

```
{
  "name": "keywords",
  "value": "Medium Enterprise"
},
{
  "name": "language",
  "value": "English"
}
],
"activationFeature": [
  {
    "id": "h776f845f-z20a-468f-v44m-9e07fe3bd28l",
    "name": "L2&L3"
  },
  {
    "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",
    "name": "OSI-L4"
  },
  {
    "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
    "name": "OSI-L7"
  },
  {
    "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
    "name": "tarpit"
  },
  {
    "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 2000
      }
    ]
  },
  {
    "id": "db723e27-58d3-4120-b564-af199cb32bd3",
    "name": "IPAddressing",
    "featureRelationship": [
      {
        "relationshipType": "requires",
        "id": "43883a81-58ef-45af-ace4-993298ae8361",
        "name": "IPv4Addressing"
      },
      {
        "relationshipType": "requires",
        "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
        "name": "IPv6Addressing"
      }
    ]
  },
  {
    "id": "43883a81-58ef-45af-ace4-993298ae8361",
```



```

    "name": "IPv4Addressing"
  },
  {
    "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
    "name": "IPv6Addressing",
    "isEnabled": false
  }
],
"connectionPoint": [
  {
    "id": "82a48c39-787b-49b6-b919-4d8d7319c584",
    "href": "/resourceInventory/v4/resource/82a48c39-787b-49b6-b919-4d8d7319c584",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.1"
  },
  {
    "id": "2da750ad-cdb2-4337-a823-dd3f294d458c",
    "href": "/resourceInventory/v4/resource/2da750ad-cdb2-4337-a823-dd3f294d458c",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP3.2"
  },
  {
    "id": "ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "href": "/resourceInventory/v4/resource/ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP5.2"
  },
  {
    "id": "9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "href": "/resourceInventory/v4/resource/9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.4"
  }
],
"resourceRelationship": [
  {
    "resource": {
      "id": "179ed458-6053-4be5-be14-e71be8be4440",
      "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.1"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "ResourceFunctionRef",

```

```

    "@referredType": "ResourceFunction",
    "name": "SWI.2"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.3"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
    "href": "/resourceInventory/v4/resource/",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.4"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.5"
  },
  "relationshipType": "contains"
}
],
"connectivity": [
  {
    "id": "5921a308-322c-40fe-80e8-c2a7bc0ba546",
    "name": "Internal Connectivity Graph",
    "@type": "ResourceGraph",
    "connection": [
      {
        "name": "AdjacencyPair1",
        "associationType": "pointtoPoint",
        "@type": "Connection",
        "endpoint": [
          {
            "id": "179ed458-6053-4be5-be14-e71be8be4440",
            "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
            "@type": "EndpointRef",
            "@referredType": "ResourceFunction",
            "name": "SWI.1",
            "isRoot": true,

```

```

    "connectionPoint": {
      "id": "8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
      "href": "/resourceInventory/v4/resource/8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP1.2"
    }
  },
  {
    "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
    "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb4032",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.2",
    "isRoot": false,
    "connectionPoint": {
      "id": "c8937fec-1923-4bdc-99d1-4a168f14d445",
      "href": "/resourceInventory/v4/resource/c8937fec-1923-4bdc-99d1-4a168f14d445",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP2.1"
    }
  }
]
},
{
  "name": "AdjacencyPair2",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.2",
      "isRoot": true,
      "connectionPoint": {
        "id": "acbdf06a-1f2e-4815-8db5-4220bc87ade2",
        "href": "/resourceInventory/v4/resource/acbdf06a-1f2e-4815-8db5-4220bc87ade2",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP2.2"
      }
    }
  ],
  {
    "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.3",
    "isRoot": false,
    "connectionPoint": {
      "id": "0564e364-dd52-461b-a9f6-718e342e2217",

```

```

        "href": "/resourceInventory/v4/resource/0564e364-dd52-461b-a9f6-718e342e2217",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP3.1"
      }
    ]
  },
  {
    "name": "AdjacencyPair3",
    "@type": "Connection",
    "associationType": "pointToPoint",
    "endpoint": [
      {
        "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
        "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
        "@type": "EndpointRef",
        "@referredType": "ResourceFunction",
        "name": "SW1.3",
        "isRoot": true,
        "connectionPoint": {
          "id": "14ae7a86-8d6e-407e-adf0-f99505e48b67",
          "href": "/resourceInventory/v4/resource/14ae7a86-8d6e-407e-adf0-f99505e48b67",
          "@type": "ConnectionPointRef",
          "@referredType": "ResourceFunction",
          "name": "CP3.3"
        }
      },
      {
        "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
        "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
        "@type": "EndpointRef",
        "@referredType": "ResourceFunction",
        "name": "SW1.4",
        "isRoot": false,
        "connectionPoint": {
          "id": "98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
          "href": "/resourceInventory/v4/resource/98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
          "@type": "ConnectionPointRef",
          "@referredType": "ResourceFunction",
          "name": "CP4.1"
        }
      }
    ]
  },
  {
    "name": "AdjacencyPair4",
    "@type": "Connection",
    "associationType": "pointToPoint",
    "endpoint": [
      {
        "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
        "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
        "@type": "EndpointRef",

```

```

"@referredType": "ResourceFunction",
"name": "SWI.4",
"isRoot": true,
"connectionPoint": {
  "id": "415a8aa1-5d8b-4a7b-a886-cfb248fba864",
  "href": "/resourceInventory/v4/resource/415a8aa1-5d8b-4a7b-a886-cfb248fba864",
  "@type": "ConnectionPointRef",
  "@referredType": "ResourceFunction",
  "name": "CP4.2"
}
},
{
  "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
  "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
  "@type": "EndpointRef",
  "@referredType": "ResourceFunction",
  "name": "SWI.5",
  "isRoot": false,
  "connectionPoint": {
    "id": "29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
    "href": "/resourceInventory/v4/resource/29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP5.1"
  }
}
]
},
{
  "name": "AdjacencyPair5",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.5",
      "isRoot": true,
      "connectionPoint": {
        "id": "e26d911c-3e61-409c-bcca-c7500e12b5a6",
        "href": "/resourceInventory/v4/resource/e26d911c-3e61-409c-bcca-c7500e12b5a6",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP5.3"
      }
    }
  ],
  {
    "id": "179ed458-6053-4be5-be14-e71be8be4440",
    "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.1",
  }
}

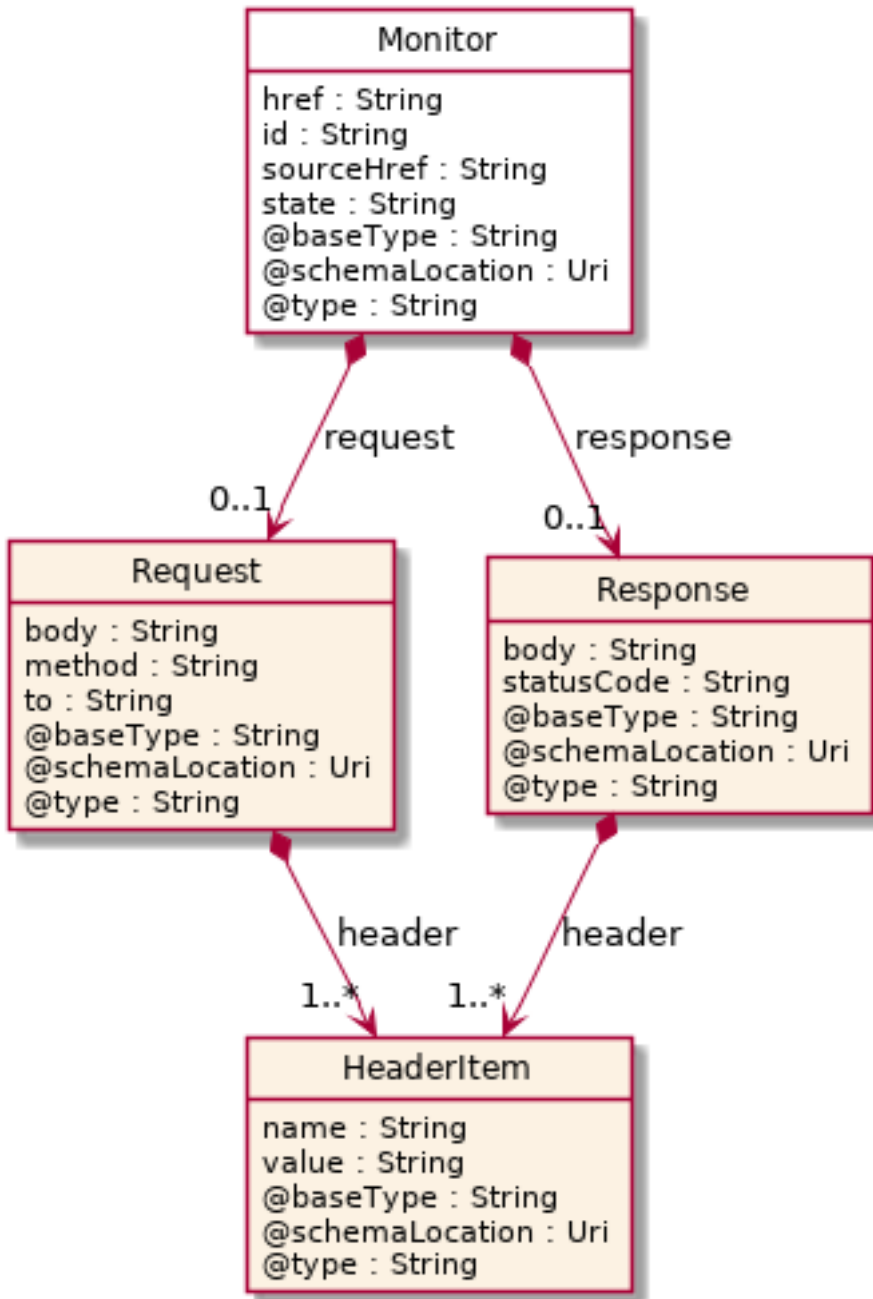
```

```
"isRoot": false,
"connectionPoint": {
  "id": "62606a50-3cce-4225-b862-3b9ac72ef8ca",
  "href": "/resourceInventory/v4/resource/62606a50-3cce-4225-b862-3b9ac72ef8ca",
  "@type": "ConnectionPointRef",
  "@referredType": "ResourceFunction",
  "name": "CP1.3"
}
}
]
}
]
}
]
}
```

Monitor resource

Monitoring of resources.

Resource model



Field descriptions

Monitor fields

href	A string. reference to this monitor.
id	A string. Identifier of an instance of the monitor. Required to be unique within the resource type. Used in URIs as the identifier for specific instances of a type.
request	A request (Request). Represents the request.

response	A response (Response). Represents the response.
sourceHref	A string. The monitored resource href.
state	A string. The Monitor state of the resource. InProgress, InError, Completed.

HeaderItem sub-resource

An item typically included in a request or response.

name	A string. The name of the header item, e.g. locale.
value	A string. The value of the header item, e.g. en-us.

Request sub-resource

A response to a request.

body	A string. The body of the request. For example for an HTTP request might contain content of a form.
header	A list of header items (HeaderItem [1..*]). Items included in the header of the request. For example, for an HTTP request might contain requested locale, basic authentication.
method	A string. The protocol of the request, e.g. http.
to	A string. The target of the request, e.g. a URL for an HTTP request.

Response sub-resource

A response to a request.

body	A string. The body of the response. For example, for an HTTP response might contain HTML for rendering.
header	A list of header items (HeaderItem [1..*]). Items included in the header of the response. For example, for an HTTP response might contain negotiated locale.
statusCode	A string. The status of the response. For example, for an HTTP response would be codes such as 200, 400, etc.

Json representation sample

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

```
{
  "id": "3bc72846-3516-4504-86ce-63a4954f7c00",
  "href": "/resourceFunctionActivation/v4/monitor/3bc72846-3516-4504-86ce-63a4954f7c00",
  "sourceHref": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "state": "InProgress",
}
```



```
"request": {
  "method": "POST",
  "to": "/resourceFunctionActivation/v4/resourceFunction",
  "header": [
    {
      "name": "accept",
      "value": "application/json"
    }
  ],
  "body": {
    "name": "Medium to Large Enterprise Firewall - Model 134985.3",
    "description": "This is a type of firewall to be used for our medium to large enterprise customers",
    "@type": "ResourceFunction",
    "lifecycleState": "operating",
    "category": "Security",
    "resourceSpecification": {
      "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
      "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
      "@type": "ResourceFunctionSpecificationRef",
      "@referredType": "ResourceFunctionSpecification"
    },
    "resourceCharacteristic": [
      {
        "name": "OperatingSystem",
        "value": "Android Pie"
      },
      {
        "name": "keywords",
        "value": "Medium Enterprise"
      },
      {
        "name": "language",
        "value": "English"
      }
    ],
    "feature": [
      {
        "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
        "name": "log",
        "featureCharacteristic": [
          {
            "name": "logSize",
            "value": 8000
          }
        ]
      }
    ]
  },
  "response": {
    "statusCode": "202 Accepted",
    "header": [
      {
        "name": "content-type",
```

```

    "value": "application/json"
  },
  {
    "name": "location",
    "value": "/resourceFunctionActivation/v4/resourceFunction/91f13709-593d-4175-a5e5-ce0ee95db0d5"
  },
  {
    "name": "link",
    "value": "</resourceFunctionActivation/v4/monitor/3bc72846-3516-4504-86ce-63a4954f7c00>;rel=related;title=monitor,</resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386>;rel=self,</resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386>;rel=canonical"
  }
],
"body": {
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "name": "Medium to Large Enterprise Firewall - Model 134985.3",
  "description": "This is a type of firewall to be used for our medium to large enterprise customers",
  "@type": "ResourceFunction",
  "@baseType": "LogicalResource",
  "lifecycleState": "installing",
  "category": "Security",
  "resourceSpecification": {
    "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "@type": "ResourceFunctionSpecification",
    "@baseType": "LogicalResourceSpecification"
  }
},
"resourceCharacteristic": [
  {
    "name": "OperatingSystem",
    "value": "Android Pie"
  },
  {
    "name": "MaxTraffic",
    "value": 25
  },
  {
    "name": "keywords",
    "value": "Medium Enterprise"
  },
  {
    "name": "language",
    "value": "English"
  }
],
"feature": [
  {
    "id": "h776f845f-z20a-468f-v44m-9e07fe3bd28l",
    "name": "L2&L3"
  },
  {
    "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",

```

```

    "name": "OSI-L4"
  },
  {
    "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
    "name": "OSI-L7"
  },
  {
    "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
    "name": "tarpit"
  },
  {
    "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 8000
      }
    ]
  },
  {
    "id": "db723e27-58d3-4120-b564-af199cb32bd3",
    "name": "IPAddressing",
    "featureRelationship": [
      {
        "relationshipType": "requires",
        "id": "43883a81-58ef-45af-ace4-993298ae8361",
        "name": "IPv4Addressing"
      },
      {
        "relationshipType": "requires",
        "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
        "name": "IPv6Addressing"
      }
    ]
  },
  {
    "id": "43883a81-58ef-45af-ace4-993298ae8361",
    "name": "IPv4Addressing"
  },
  {
    "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
    "name": "IPv6Addressing",
    "isEnabled": false
  }
],
"connectionPoint": [],
"resourceRelationship": [
  {
    "resource": {
      "id": "179ed458-6053-4be5-be14-e71be8be4440",
      "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
      "name": "SWI.1"
    }
  },

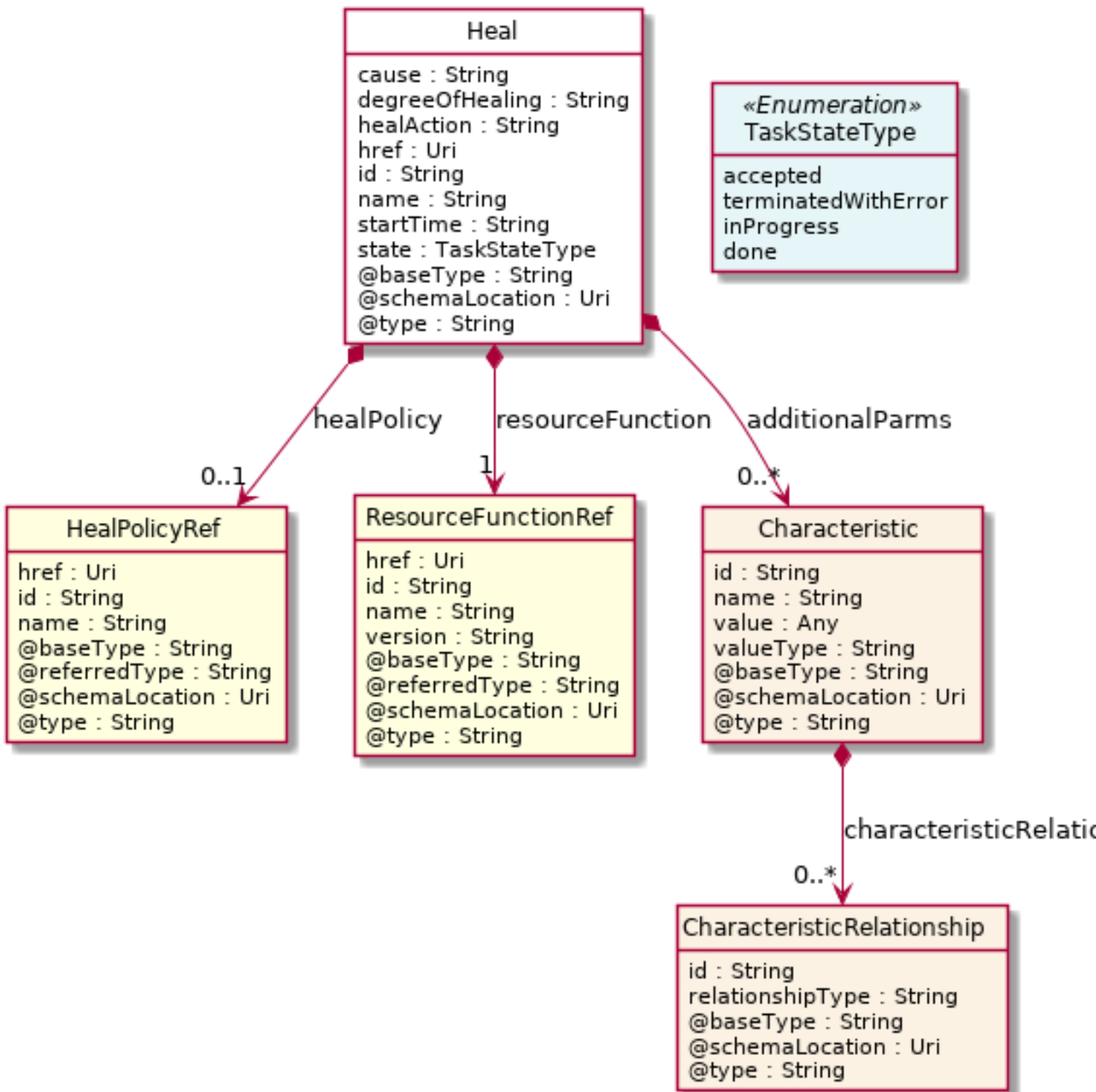
```

```
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "name": "SWI.2"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "name": "SWI.3"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "href": "/resourceInventory/v4/resource/",
      "name": "SWI.4"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "name": "SWI.5"
    },
    "relationshipType": "contains"
  }
],
"connectivity": []
}
```

Heal resource

Task Resource used to request healing of a Resource Function.

Resource model



Field descriptions

Heal fields

additionalParms A list of characteristics (Characteristic [*]). Additional parameters to be sent to the

	heal action as name value pairs.
cause	A string. Reason why healing is being requested.
degreeOfHealing	A string. Indicates the degree of healing required.
healAction	A string. Exact action to be taken as part of the heal process or a pointer to a script to be run.
healPolicy	A heal policy reference (HealPolicyRef).
href	An uri (Uri). Reference to the Heal task resource.
id	A string. Unique identifier of the Heal task resource.
name	A string. Name of the Heal task resource.
resourceFunction	A resource function reference (ResourceFunctionRef). Reference to the Resource Function that needs to be healed.
startTime	A string. The time when the heal action needs to commence. This allows a delay to be added.
state	A task state type (TaskStateType). Tracks the lifecycle status of the migrate request.

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

@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.
characteristicRelationship	A list of characteristic relationships (CharacteristicRelationship [*]). Another Characteristic that is related to the current Characteristic;
id	A string. Unique identifier of the characteristic.
name	A string. Name of the characteristic.
value	An any (Any). The value of the characteristic.
valueType	A string. Data type of the value of the characteristic.

CharacteristicRelationship sub-resource

Another Characteristic that is related to the current Characteristic;

id A string. Unique identifier of the characteristic.

relationshipType A string. The type of relationship.

HealPolicyRef relationship

Heal policy reference.

@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.

ResourceFunctionRef relationship

Resource Function reference.

@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 function version.

Json representation sample

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

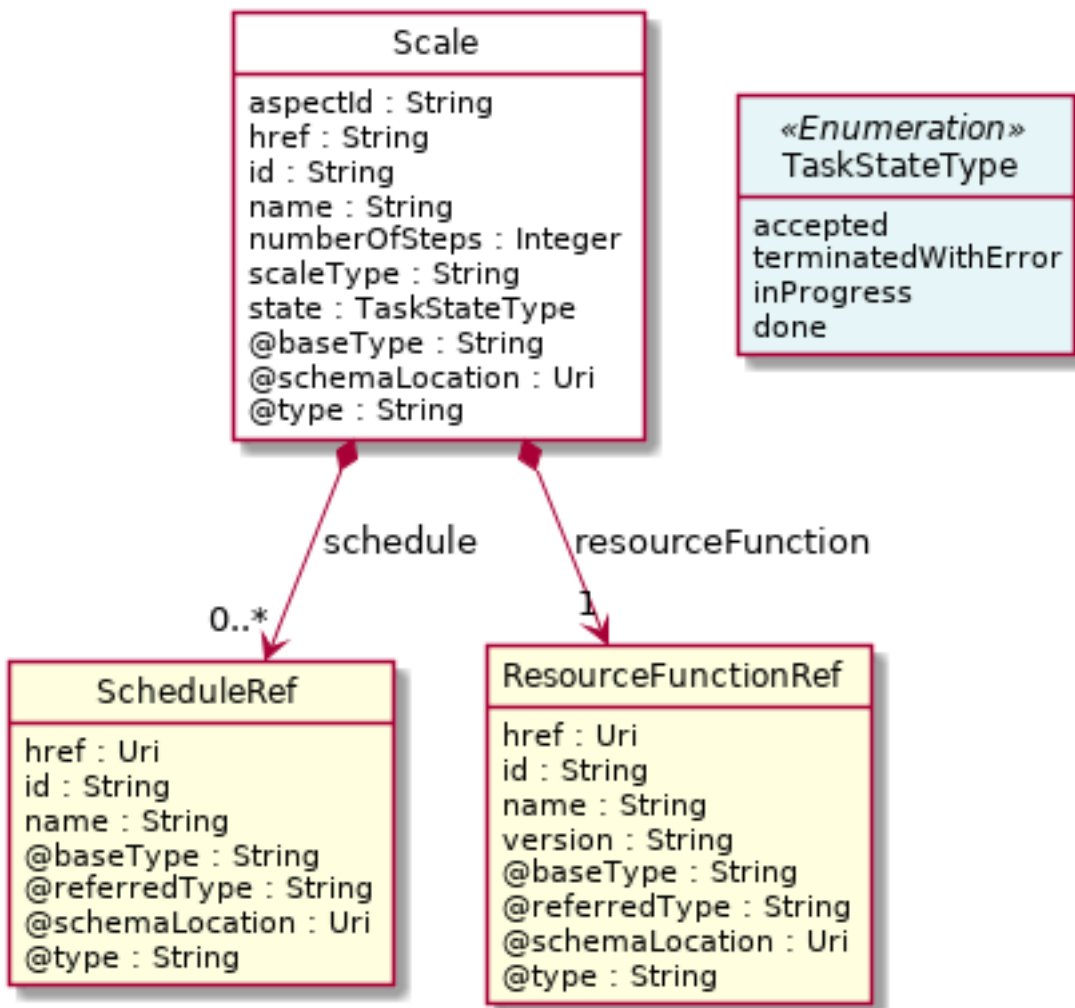
```
{
  "id": "c6015b3d-64ad-432d-b7a5-9a9fa3430aa4",
  "href": "/resourceFunctionActivation/v4/heal/c6015b3d-64ad-432d-b7a5-9a9fa3430aa4",
  "name": "SLA Violation",
```

```
"@type": "Heal",
"resourceFunction": {
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
},
"cause": "SLA violation",
"degreeOfHealing": "Complete - Restore to state before failure",
"healAction": "bin/heal.sh",
"healPolicy": {
  "id": "8b21c64b-d25d-4a3d-8571-9fe9bcd470f0",
  "href": "/entityCatalogManagement/v4/policy/8b21c64b-d25d-4a3d-8571-9fe9bcd470f0"
},
"state": "InProgress",
"startTime": "2019-08-17T13:11:51Z",
"additionalParms": [
  {
    "name": "T1",
    "value": 42
  },
  {
    "name": "N5",
    "value": true
  }
]
}
```

Scale resource

Task Resource used to request scaling of a Resource Function.

Resource model



Field descriptions

Scale fields

<code>aspectId</code>	A string. Scaling aspect is the dimension along which the Resource Function needs to be scaled. The id of the aspect is provided here.
<code>href</code>	A string. Reference to the Scale task resource.
<code>id</code>	A string. Unique identifier of the Scale task resource.
<code>name</code>	A string. Name of the Scale task resource.
<code>numberOfSteps</code>	An integer. Number of scaling steps in the direction indicated by type of scale.
<code>resourceFunction</code>	A resource function reference (ResourceFunctionRef). Reference to the Resource Function that needs to be scaled.
<code>scaleType</code>	A string. Type of scaling requested.

schedule	A list of schedule references (ScheduleRef [*]). Schedule for the scale. If not provided then needs to be actioned immediately.
state	A task state type (TaskStateType). Tracks the lifecycle status of the migrate request.

ResourceFunctionRef relationship

Resource Function reference.

@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 function version.

ScheduleRef relationship

Schedule reference.

@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 'Scale' resource object

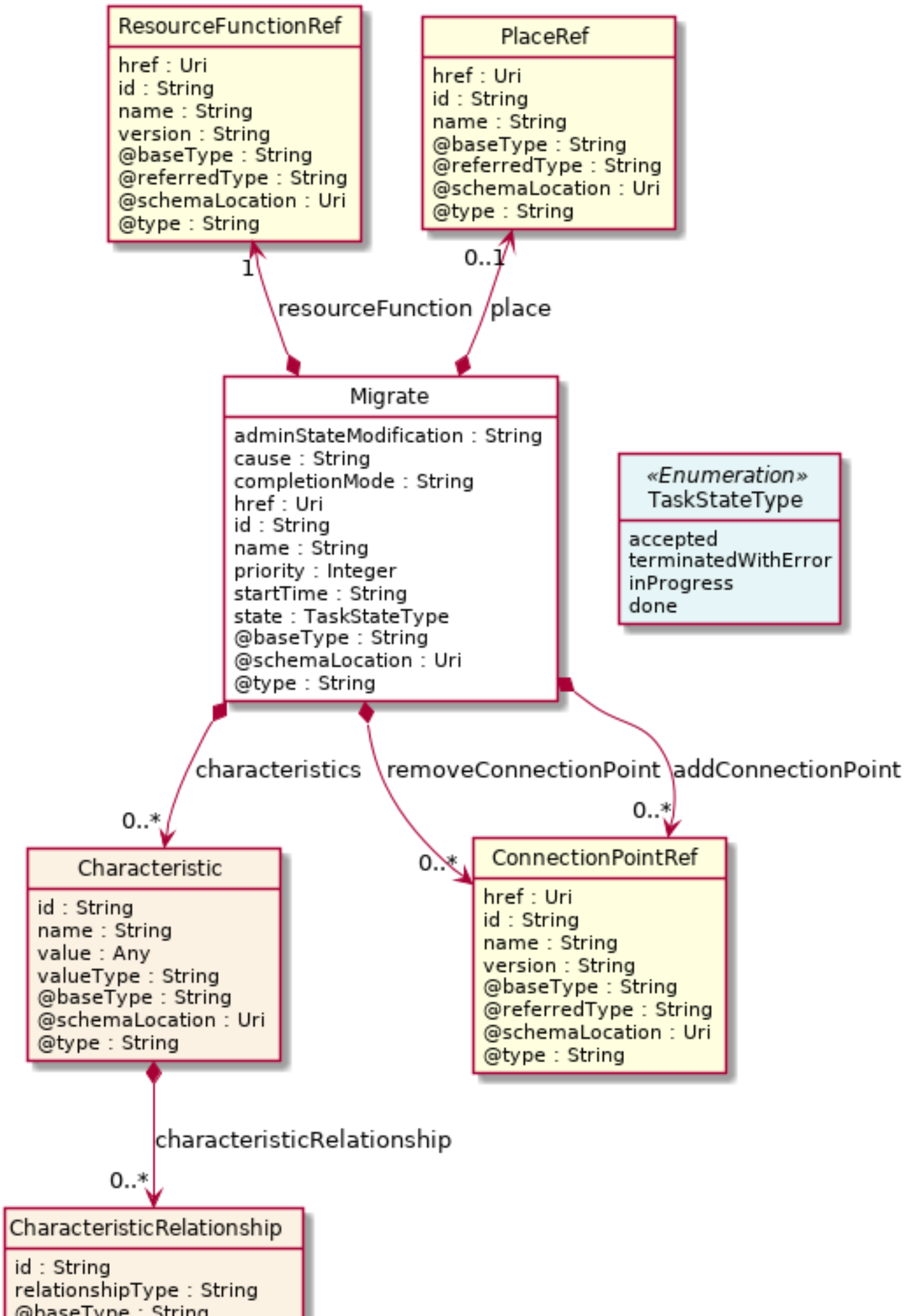
```
{
  "id": "4a41a328-1cf3-4674-bdd7-c43129fbfa7c",
  "href": "/resourceFunctionActivation/v4/scale/4a41a328-1cf3-4674-bdd7-c43129fbfa7c",
```

```
"name": "Increase Memory",
"@type": "Scale",
"resourceFunction": {
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
},
"status": "InProgress",
"scaleType": "Scale Out",
"aspectId": "Quick Access Memory",
"numberOfSteps": 2,
"schedule": [
  {
    "id": "b32c19f3-0297-4dd4-93c7-87c3a4fee14e",
    "href": "/resourceCatalog/v4/resourceSpecification/b32c19f3-0297-4dd4-93c7-87c3a4fee14e"
  }
]
}
```

Migrate resource

Task resource used to request migration of the Resource Function.

Resource model



Field descriptionsMigrate fields

addConnectionPoint	A list of connection point references (ConnectionPointRef [*]). Connection points to be added when function is migrated.
adminStateModification	A string. SubState required before migrate is carried out.
cause	A string. Reason why migration is being requested.
characteristics	A list of characteristics (Characteristic [*]). Additional attributes to pass to the migrate operation.
completionMode	A string. In what mode is the migrate operation to be performed.
href	An uri (Uri). Reference to the Migrate task resource.
id	A string. Unique identifier of the Migrate task resource.
name	A string. Name of the Migrate task resource.
place	A place reference (PlaceRef). PlaceRef defines the placeRefs where the products are sold or delivered.
priority	An integer. Priority of the migrate operation.
removeConnectionPoint	A list of connection point references (ConnectionPointRef [*]). Connection points to be removed when function is migrated.
resourceFunction	A resource function reference (ResourceFunctionRef). Reference to the Resource Function that needs to be migrated.
startTime	A string. The time when the migration needs to commence. This allows a delay to be added.
state	A task state type (TaskStateType). Tracks the lifecycle status of the migrate request.

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

@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.
characteristicRelationship	A list of characteristic relationships (CharacteristicRelationship [*]). Another

	Characteristic that is related to the current Characteristic;
id	A string. Unique identifier of the characteristic.
name	A string. Name of the characteristic.
value	An any (Any). The value of the characteristic.
valueType	A string. Data type of the value of the characteristic.

CharacteristicRelationship sub-resource

Another Characteristic that is related to the current Characteristic;

id	A string. Unique identifier of the characteristic.
relationshipType	A string. The type of relationship.

ConnectionPointRef relationship

Connection point reference. A connection point provides a service access point (SAP) for input and/or output of the resource function.

@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. Connection point version.

PlaceRef relationship

Place reference. PlaceRef defines the placeRefs where the products are sold or delivered.

@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.

ResourceFunctionRef relationship

Resource Function reference.

@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 function version.

Json representation sample

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

```
{
  "id": "afccfc16-a28e-4f3b-81e0-1cf7ba649ef9",
  "href": "/resourceFunctionActivation/v4/migrate/afccfc16-a28e-4f3b-81e0-1cf7ba649ef9",
  "name": "Move Location",
  "@type": "Migrate",
  "resourceFunction": {
    "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
    "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
  },
  "state": "InProgress",
  "cause": "planned",
  "adminStateModification": "locked",
  "removeConnectionPoint": [
    {
      "id": "97111c52-ca05-457b-9980-3783d471f92f",
      "href": "/resourceInventory/v4/resource/97111c52-ca05-457b-9980-3783d471f92f",
      "name": "CP1.1"
    },
    {
      "id": "f7647371-74cc-4e2b-b8c3-67746a326ee3",
      "href": "/resourceInventory/v4/resource/f7647371-74cc-4e2b-b8c3-67746a326ee3",

```

```

    "name": "CP3.3"
  },
  {
    "id": "53fea7a6-2b5d-4ed5-96a8-29ab7be89cf7",
    "href": "/resourceInventory/v4/resource/53fea7a6-2b5d-4ed5-96a8-29ab7be89cf7",
    "name": "CP5.3"
  }
],
"addConnectionPoint": [
  {
    "id": "95ae4067-72af-4495-905d-b92ec5f9c310",
    "href": "/resourceInventory/v4/resource/95ae4067-72af-4495-905d-b92ec5f9c310",
    "name": "CP1.1"
  },
  {
    "id": "6b8446c6-3deb-45e7-9e8b-2395db8ae693",
    "href": "/resourceInventory/v4/resource/6b8446c6-3deb-45e7-9e8b-2395db8ae693",
    "name": "CP3.3"
  },
  {
    "id": "fb35655e-c6d7-47b3-aff5-6b6eac487290",
    "href": "/resourceInventory/v4/resource/fb35655e-c6d7-47b3-aff5-6b6eac487290",
    "name": "CP5.3"
  }
],
"priority": 1,
"startTime": "2019-08-19T04:00:00Z",
"completionMode": "bestEffort",
"place": {
  "id": "72a41352-7a2c-4baa-8df6-cab6845f6369",
  "href": "/geographicLocation/v4/geographicLocation/72a41352-7a2c-4baa-8df6-cab6845f6369"
},
"characteristics": [
  {
    "name": "zone",
    "value": 42
  }
]
}

```

Notification Resource Models

20 notifications are defined for this API

Notifications related to ResourceFunction:

- ResourceFunctionCreateEvent
- ResourceFunctionAttributeValueChangeEvent
- ResourceFunctionStateChangeEvent
- ResourceFunctionDeleteEvent

Notifications related to Monitor:

- MonitorCreateEvent
- MonitorAttributeValueChangeEvent
- MonitorStateChangeEvent
- MonitorDeleteEvent

Notifications related to Heal:

- HealCreateEvent
- HealAttributeValueChangeEvent
- HealStateChangeEvent
- HealDeleteEvent

Notifications related to Scale:

- ScaleCreateEvent
- ScaleAttributeValueChangeEvent
- ScaleStateChangeEvent
- ScaleDeleteEvent

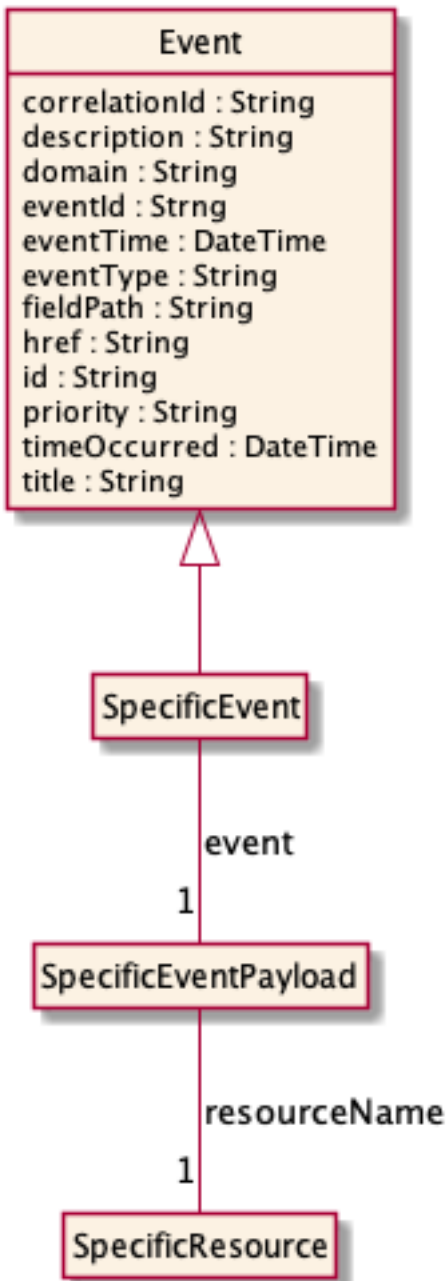
Notifications related to Migrate:

- MigrateCreateEvent
- MigrateAttributeValueChangeEvent
- MigrateStateChangeEvent
- MigrateDeleteEvent

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).



Resource Function Create Event

Notification `ResourceFunctionCreateEvent` case for resource `ResourceFunction`

Json representation sample

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

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

```
"eventType":"ResourceFunctionCreateEvent",
"event": {
  "resourceFunction" :
    [-- SEE ResourceFunction RESOURCE SAMPLE --]
}
}
```

Resource Function Attribute Value Change Event

Notification ResourceFunctionAttributeValueChangeEvent case for resource ResourceFunction

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceFunctionAttributeValueChangeEvent",
  "event": {
    "resourceFunction" :
      [-- SEE ResourceFunction RESOURCE SAMPLE --]
  }
}
```

Resource Function State Change Event

Notification ResourceFunctionStateChangeEvent case for resource ResourceFunction

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceFunctionStateChangeEvent",
  "event": {
    "resourceFunction" :
      [-- SEE ResourceFunction RESOURCE SAMPLE --]
  }
}
```

Resource Function Delete Event

Notification ResourceFunctionDeleteEvent case for resource ResourceFunction

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ResourceFunctionDeleteEvent",
  "event": {
    "resourceFunction" :
      [-- SEE ResourceFunction RESOURCE SAMPLE --]
  }
}
```

Monitor Create Event

Notification MonitorCreateEvent case for resource Monitor

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"MonitorCreateEvent",
  "event": {
    "monitor" :
      [-- SEE Monitor RESOURCE SAMPLE --]
  }
}
```

Monitor Attribute Value Change Event

Notification MonitorAttributeValueChangeEvent case for resource Monitor

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"MonitorAttributeValueChangeEvent",
  "event": {
    "monitor" :
      [-- SEE Monitor RESOURCE SAMPLE --]
  }
}
```

Monitor State Change Event

Notification MonitorStateChangeEvent case for resource Monitor

Json representation sample

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

```
{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "MonitorStateChangeEvent",
  "event": {
    "monitor":
      [-- SEE Monitor RESOURCE SAMPLE --]
  }
}
```

Monitor Delete Event

Notification MonitorDeleteEvent case for resource Monitor

Json representation sample

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

```
{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "MonitorDeleteEvent",
  "event": {
    "monitor":
      [-- SEE Monitor RESOURCE SAMPLE --]
  }
}
```

Heal Create Event

Notification HealCreateEvent case for resource Heal

Json representation sample

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

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

```
"heal" :
  {-- SEE Heal RESOURCE SAMPLE --}
}
```

Heal Attribute Value Change Event

Notification HealAttributeValueChangeEvent case for resource Heal

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"HealAttributeValueChangeEvent",
  "event": {
    "heal" :
      {-- SEE Heal RESOURCE SAMPLE --}
  }
}
```

Heal State Change Event

Notification HealStateChangeEvent case for resource Heal

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"HealStateChangeEvent",
  "event": {
    "heal" :
      {-- SEE Heal RESOURCE SAMPLE --}
  }
}
```

Heal Delete Event

Notification HealDeleteEvent case for resource Heal

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"HealDeleteEvent",
  "event": {
    "heal" :
      [-- SEE Heal RESOURCE SAMPLE --]
  }
}
```

Scale Create Event

Notification ScaleCreateEvent case for resource Scale

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ScaleCreateEvent",
  "event": {
    "scale" :
      [-- SEE Scale RESOURCE SAMPLE --]
  }
}
```

Scale Attribute Value Change Event

Notification ScaleAttributeValueChangeEvent case for resource Scale

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ScaleAttributeValueChangeEvent",
  "event": {
    "scale" :
      [-- SEE Scale RESOURCE SAMPLE --]
  }
}
```

Scale State Change Event

Notification ScaleStateChangeEvent case for resource Scale

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ScaleStateChangeEvent",
  "event": {
    "scale" :
      [-- SEE Scale RESOURCE SAMPLE --]
  }
}
```

Scale Delete Event

Notification ScaleDeleteEvent case for resource Scale

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ScaleDeleteEvent",
  "event": {
    "scale" :
      [-- SEE Scale RESOURCE SAMPLE --]
  }
}
```

Migrate Create Event

Notification MigrateCreateEvent case for resource Migrate

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"MigrateCreateEvent",
  "event": {
    "migrate" :
      [-- SEE Migrate RESOURCE SAMPLE --]
  }
}
```


Migrate Attribute Value Change Event

Notification MigrateAttributeValueChangeEvent case for resource Migrate

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"MigrateAttributeValueChangeEvent",
  "event": {
    "migrate" :
      [-- SEE Migrate RESOURCE SAMPLE --]
  }
}
```

Migrate State Change Event

Notification MigrateStateChangeEvent case for resource Migrate

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"MigrateStateChangeEvent",
  "event": {
    "migrate" :
      [-- SEE Migrate RESOURCE SAMPLE --]
  }
}
```

Migrate Delete Event

Notification MigrateDeleteEvent case for resource Migrate

Json representation sample

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

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

```
    {-- SEE Migrate RESOURCE SAMPLE --}  
  }  
}
```

API OPERATIONS

Remember the following Uniform Contract:

Operation on Entities	Uniform API Operation	Description
Query Entities	GET Resource	GET must be used to retrieve a representation of a resource.
Create Entity	POST Resource	POST must be used to create a new resource
Partial Update of an Entity	PATCH Resource	PATCH must be used to partially update a resource
Complete Update of an Entity	PUT Resource	PUT must be used to completely update a resource identified by its resource URI
Remove an Entity	DELETE Resource	DELETE must be used to remove a resource
Execute an Action on an Entity	POST on TASK Resource	POST must be used to execute Task Resources
Other Request Methods	POST on TASK Resource	GET and POST must not be used to tunnel other request methods.

Filtering and attribute selection rules are described in the TMF REST Design Guidelines.

Notifications are also described in a subsequent section.

Operations on Resource Function

List resource functions**GET /resourceFunction?fields=...&{filtering}****Description**

This operation list resource function 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 ResourceFunction resources.

Request
<pre>GET /tmf-api/resourceFunctionActivation/v4/resourceFunction Accept: application/json</pre>
Response
<pre>200 [{ "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386", "name": "Medium to Large Enterprise Firewall - Model 134985.3", "description": "This is a type of firewall to be used for our medium to large enterprise customers", "@type": "ResourceFunction", "lifecycleState": "operating", "category": "Security", "resourceSpecification": { "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889", "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889", "@type": "ResourceFunctionSpecificationRef", "@referredType": "ResourceFunctionSpecification" }, "resourceCharacteristic": [{ "name": "OperatingSystem", "value": "Android Pie" }, { "name": "MaxTraffic", "value": 25 }] }],</pre>

```

{
  "name": "keywords",
  "value": "Medium Enterprise"
},
{
  "name": "language",
  "value": "English"
}
],
"activationFeature": [
  {
    "id": "h776f845f-z20a-468f-v44m-9e07fe3bd28l",
    "name": "L2&L3"
  },
  {
    "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",
    "name": "OSI-L4"
  },
  {
    "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
    "name": "OSI-L7"
  },
  {
    "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
    "name": "tarpit"
  },
  {
    "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 2000
      }
    ]
  },
  {
    "id": "db723e27-58d3-4120-b564-af199cb32bd3",
    "name": "IPAddressing",
    "featureRelationship": [
      {
        "relationshipType": "requires",
        "id": "43883a81-58ef-45af-ace4-993298ae8361",
        "name": "IPv4Addressing"
      },
      {
        "relationshipType": "requires",
        "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
        "name": "IPv6Addressing"
      }
    ]
  },
  {
    "id": "43883a81-58ef-45af-ace4-993298ae8361",

```

```

    "name": "IPv4Addressing"
  },
  {
    "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
    "name": "IPv6Addressing",
    "isEnabled": false
  }
],
"connectionPoint": [
  {
    "id": "82a48c39-787b-49b6-b919-4d8d7319c584",
    "href": "/resourceInventory/v4/resource/82a48c39-787b-49b6-b919-4d8d7319c584",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.1"
  },
  {
    "id": "2da750ad-cdb2-4337-a823-dd3f294d458c",
    "href": "/resourceInventory/v4/resource/2da750ad-cdb2-4337-a823-dd3f294d458c",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP3.2"
  },
  {
    "id": "ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "href": "/resourceInventory/v4/resource/ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP5.2"
  },
  {
    "id": "9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "href": "/resourceInventory/v4/resource/9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.4"
  }
],
"resourceRelationship": [
  {
    "resource": {
      "id": "179ed458-6053-4be5-be14-e71be8be4440",
      "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.1"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "ResourceFunctionRef",

```

```

    "@referredType": "ResourceFunction",
    "name": "SWI.2"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.3"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
    "href": "/resourceInventory/v4/resource/",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.4"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.5"
  },
  "relationshipType": "contains"
}
],
"connectivity": [
  {
    "id": "5921a308-322c-40fe-80e8-c2a7bc0ba546",
    "name": "Internal Connectivity Graph",
    "@type": "ResourceGraph",
    "connection": [
      {
        "name": "AdjacencyPair1",
        "associationType": "pointtoPoint",
        "@type": "Connection",
        "endpoint": [
          {
            "id": "179ed458-6053-4be5-be14-e71be8be4440",
            "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
            "@type": "EndpointRef",
            "@referredType": "ResourceFunction",
            "name": "SWI.1",
            "isRoot": true,

```

```

    "connectionPoint": {
      "id": "8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
      "href": "/resourceInventory/v4/resource/8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP1.2"
    }
  },
  {
    "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
    "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb4032",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SW1.2",
    "isRoot": false,
    "connectionPoint": {
      "id": "c8937fec-1923-4bdc-99d1-4a168f14d445",
      "href": "/resourceInventory/v4/resource/c8937fec-1923-4bdc-99d1-4a168f14d445",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP2.1"
    }
  }
]
},
{
  "name": "AdjacencyPair2",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SW1.2",
      "isRoot": true,
      "connectionPoint": {
        "id": "acbdf06a-1f2e-4815-8db5-4220bc87ade2",
        "href": "/resourceInventory/v4/resource/acbdf06a-1f2e-4815-8db5-4220bc87ade2",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP2.2"
      }
    }
  ],
  {
    "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SW1.3",
    "isRoot": false,
    "connectionPoint": {
      "id": "0564e364-dd52-461b-a9f6-718e342e2217",

```



```

        "href": "/resourceInventory/v4/resource/0564e364-dd52-461b-a9f6-718e342e2217",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP3.1"
    }
}
]
},
{
    "name": "AdjacencyPair3",
    "@type": "Connection",
    "associationType": "pointtoPoint",
    "endpoint": [
        {
            "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
            "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
            "@type": "EndpointRef",
            "@referredType": "ResourceFunction",
            "name": "SWI.3",
            "isRoot": true,
            "connectionPoint": {
                "id": "14ae7a86-8d6e-407e-adf0-f99505e48b67",
                "href": "/resourceInventory/v4/resource/14ae7a86-8d6e-407e-adf0-f99505e48b67",
                "@type": "ConnectionPointRef",
                "@referredType": "ResourceFunction",
                "name": "CP3.3"
            }
        },
        {
            "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
            "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
            "@type": "EndpointRef",
            "@referredType": "ResourceFunction",
            "name": "SWI.4",
            "isRoot": false,
            "connectionPoint": {
                "id": "98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
                "href": "/resourceInventory/v4/resource/98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
                "@type": "ConnectionPointRef",
                "@referredType": "ResourceFunction",
                "name": "CP4.1"
            }
        }
    ]
},
{
    "name": "AdjacencyPair4",
    "@type": "Connection",
    "associationType": "pointtoPoint",
    "endpoint": [
        {
            "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
            "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
            "@type": "EndpointRef",

```

```

"@referredType": "ResourceFunction",
"name": "SWI.4",
"isRoot": true,
"connectionPoint": {
  "id": "415a8aa1-5d8b-4a7b-a886-cfb248fba864",
  "href": "/resourceInventory/v4/resource/415a8aa1-5d8b-4a7b-a886-cfb248fba864",
  "@type": "ConnectionPointRef",
  "@referredType": "ResourceFunction",
  "name": "CP4.2"
}
},
{
  "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
  "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
  "@type": "EndpointRef",
  "@referredType": "ResourceFunction",
  "name": "SWI.5",
  "isRoot": false,
  "connectionPoint": {
    "id": "29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
    "href": "/resourceInventory/v4/resource/29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP5.1"
  }
}
]
},
{
  "name": "AdjacencyPair5",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.5",
      "isRoot": true,
      "connectionPoint": {
        "id": "e26d911c-3e61-409c-bcca-c7500e12b5a6",
        "href": "/resourceInventory/v4/resource/e26d911c-3e61-409c-bcca-c7500e12b5a6",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP5.3"
      }
    }
  ],
  {
    "id": "179ed458-6053-4be5-be14-e71be8be4440",
    "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.1",

```

```

    "isRoot": false,
    "connectionPoint": {
      "id": "62606a50-3cce-4225-b862-3b9ac72ef8ca",
      "href": "/resourceInventory/v4/resource/62606a50-3cce-4225-b862-3b9ac72ef8ca",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP1.3"
    }
  ]
}
]

```

Retrieve resource function

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

Description

This operation retrieves a resource function 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 ResourceFunction resource.

Request
GET /tmf-api/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386 Accept: application/json
Response
200 { "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386", "name": "Medium to Large Enterprise Firewall - Model 134985.3", "description": "This is a type of firewall to be used for our medium to large enterprise customers", "@type": "ResourceFunction",

```

"lifecycleState": "operating",
"category": "Security",
"resourceSpecification": {
  "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
  "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
  "@type": "ResourceFunctionSpecificationRef",
  "@referredType": "ResourceFunctionSpecification"
},
"resourceCharacteristic": [
  {
    "name": "OperatingSystem",
    "value": "Android Pie"
  },
  {
    "name": "MaxTraffic",
    "value": 25
  },
  {
    "name": "keywords",
    "value": "Medium Enterprise"
  },
  {
    "name": "language",
    "value": "English"
  }
],
"activationFeature": [
  {
    "id": "h776f845f-z20a-468f-v44m-9e07fe3bd28l",
    "name": "L2&L3"
  },
  {
    "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",
    "name": "OSI-L4"
  },
  {
    "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
    "name": "OSI-L7"
  },
  {
    "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
    "name": "tarpit"
  },
  {
    "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 2000
      }
    ]
  }
],
{

```

```

{id": "db723e27-58d3-4120-b564-af199cb32bd3",
"name": "IPAddressing",
"featureRelationship": [
  {
    "relationshipType": "requires",
    "id": "43883a81-58ef-45af-ace4-993298ae8361",
    "name": "IPv4Addressing"
  },
  {
    "relationshipType": "requires",
    "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
    "name": "IPv6Addressing"
  }
]
},
{
  "id": "43883a81-58ef-45af-ace4-993298ae8361",
  "name": "IPv4Addressing"
},
{
  "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
  "name": "IPv6Addressing",
  "isEnabled": false
}
],
"connectionPoint": [
  {
    "id": "82a48c39-787b-49b6-b919-4d8d7319c584",
    "href": "/resourceInventory/v4/resource/82a48c39-787b-49b6-b919-4d8d7319c584",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.1"
  },
  {
    "id": "2da750ad-cdb2-4337-a823-dd3f294d458c",
    "href": "/resourceInventory/v4/resource/2da750ad-cdb2-4337-a823-dd3f294d458c",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP3.2"
  },
  {
    "id": "ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "href": "/resourceInventory/v4/resource/ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP5.2"
  },
  {
    "id": "9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "href": "/resourceInventory/v4/resource/9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.4"
  }
]
}

```

```

],
"resourceRelationship": [
  {
    "resource": {
      "id": "179ed458-6053-4be5-be14-e71be8be4440",
      "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.1"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.2"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.3"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "href": "/resourceInventory/v4/resource/",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.4"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.5"
    },
    "relationshipType": "contains"
  }
]
"connectivity": [

```

```

{
  "id": "5921a308-322c-40fe-80e8-c2a7bc0ba546",
  "name": "Internal Connectivity Graph",
  "@type": "ResourceGraph",
  "connection": [
    {
      "name": "AdjacencyPair1",
      "associationType": "pointtoPoint",
      "@type": "Connection",
      "endpoint": [
        {
          "id": "179ed458-6053-4be5-be14-e71be8be4440",
          "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
          "@type": "EndpointRef",
          "@referredType": "ResourceFunction",
          "name": "SWI.1",
          "isRoot": true,
          "connectionPoint": {
            "id": "8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
            "href": "/resourceInventory/v4/resource/8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
            "@type": "ConnectionPointRef",
            "@referredType": "ResourceFunction",
            "name": "CP1.2"
          }
        }
      ],
    },
    {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb4032",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.2",
      "isRoot": false,
      "connectionPoint": {
        "id": "c8937fec-1923-4bdc-99d1-4a168f14d445",
        "href": "/resourceInventory/v4/resource/c8937fec-1923-4bdc-99d1-4a168f14d445",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP2.1"
      }
    }
  ]
},
{
  "name": "AdjacencyPair2",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.2",
      "isRoot": true,
    }
  ]
}

```

```

"connectionPoint": {
  "id": "acbdf06a-1f2e-4815-8db5-4220bc87ade2",
  "href": "/resourceInventory/v4/resource/acbdf06a-1f2e-4815-8db5-4220bc87ade2",
  "@type": "ConnectionPointRef",
  "@referredType": "ResourceFunction",
  "name": "CP2.2"
}
},
{
  "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
  "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
  "@type": "EndpointRef",
  "@referredType": "ResourceFunction",
  "name": "SWI.3",
  "isRoot": false,
  "connectionPoint": {
    "id": "0564e364-dd52-461b-a9f6-718e342e2217",
    "href": "/resourceInventory/v4/resource/0564e364-dd52-461b-a9f6-718e342e2217",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP3.1"
  }
}
]
},
{
  "name": "AdjacencyPair3",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.3",
      "isRoot": true,
      "connectionPoint": {
        "id": "14ae7a86-8d6e-407e-adf0-f99505e48b67",
        "href": "/resourceInventory/v4/resource/14ae7a86-8d6e-407e-adf0-f99505e48b67",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP3.3"
      }
    }
  ],
  {
    "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
    "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.4",
    "isRoot": false,
    "connectionPoint": {
      "id": "98b5906c-bbd0-4bb9-8551-1eaac552a4a3",

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```

        "href": "/resourceInventory/v4/resource/98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP4.1"
    }
}
],
},
{
    "name": "AdjacencyPair4",
    "@type": "Connection",
    "associationType": "pointtoPoint",
    "endpoint": [
        {
            "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
            "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
            "@type": "EndpointRef",
            "@referredType": "ResourceFunction",
            "name": "SWI.4",
            "isRoot": true,
            "connectionPoint": {
                "id": "415a8aa1-5d8b-4a7b-a886-cfb248fba864",
                "href": "/resourceInventory/v4/resource/415a8aa1-5d8b-4a7b-a886-cfb248fba864",
                "@type": "ConnectionPointRef",
                "@referredType": "ResourceFunction",
                "name": "CP4.2"
            }
        },
        {
            "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
            "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
            "@type": "EndpointRef",
            "@referredType": "ResourceFunction",
            "name": "SWI.5",
            "isRoot": false,
            "connectionPoint": {
                "id": "29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
                "href": "/resourceInventory/v4/resource/29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
                "@type": "ConnectionPointRef",
                "@referredType": "ResourceFunction",
                "name": "CP5.1"
            }
        }
    ]
},
{
    "name": "AdjacencyPair5",
    "@type": "Connection",
    "associationType": "pointtoPoint",
    "endpoint": [
        {
            "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
            "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
            "@type": "EndpointRef",

```

```

"@referredType": "ResourceFunction",
"name": "SWI.5",
"isRoot": true,
"connectionPoint": {
  "id": "e26d911c-3e61-409c-bcca-c7500e12b5a6",
  "href": "/resourceInventory/v4/resource/e26d911c-3e61-409c-bcca-c7500e12b5a6",
  "@type": "ConnectionPointRef",
  "@referredType": "ResourceFunction",
  "name": "CP5.3"
}
},
{
  "id": "179ed458-6053-4be5-be14-e71be8be4440",
  "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
  "@type": "EndpointRef",
  "@referredType": "ResourceFunction",
  "name": "SWI.1",
  "isRoot": false,
  "connectionPoint": {
    "id": "62606a50-3cce-4225-b862-3b9ac72ef8ca",
    "href": "/resourceInventory/v4/resource/62606a50-3cce-4225-b862-3b9ac72ef8ca",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.3"
  }
}
]
}
]
}
]
}
}

```

Create resource function

POST /resourceFunction

Description

This operation creates a resource function entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a ResourceFunction, 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	
resourceSpecification	
lifecycleState	

Non Mandatory Attributes	Rule
category	
description	
endDate	
startDate	
value	
version	
autoModification	
connectionPoint	
connectivity	
functionType	
priority	
role	
schedule	
characteristic	
note	
partyRole	
place	
relatedParty	
resourceRelationship	

Usage Samples

The following is an example of a synchronous request to create a resource function:

Request
POST /tmf-api/resourceFunctionActivation/v4/resourceFunction Content-Type: application/json <pre>{ "name": "Medium to Large Enterprise Firewall - Model 134985.3", "description": "This is a type of firewall to be used for our medium to large enterprise customers", "@type": "ResourceFunction", "lifecycleState": "planning", "category": "Security", "resourceSpecification": { "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889", "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889", "@type": "ResourceFunctionSpecificationRef", "@referredType": "ResourceFunctionSpecification" }, "resourceCharacteristic": [{ "name": "OperatingSystem", "value": "Android Pie" }] }</pre>

```

{
  "name": "keywords",
  "value": "Medium Enterprise"
},
{
  "name": "language",
  "value": "en"
}
],
"feature": [
  {
    "id": "122m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 8000
      }
    ]
  }
]
}

```

Response

201

```

{
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "name": "Medium to Large Enterprise Firewall - Model 134985.3",
  "description": "This is a type of firewall to be used for our medium to large enterprise customers",
  "@type": "ResourceFunction",
  "lifecycleState": "planning",
  "category": "Security",
  "resourceSpecification": {
    "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "@type": "ResourceFunctionSpecificationRef",
    "@referredType": "ResourceFunctionSpecification"
  },
  "resourceCharacteristic": [
    {
      "name": "OperatingSystem",
      "value": "Android Pie"
    },
    {
      "name": "MaxTraffic",
      "value": 25
    },
    {
      "name": "keywords",

```

```

    "value": "Medium Enterprise"
  },
  {
    "name": "language",
    "value": "en"
  }
],
"feature": [
  {
    "id": "h776f845f-z20a-468f-v44m-9e07fe3bd28l",
    "name": "L2&L3"
  },
  {
    "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",
    "name": "OSI-L4"
  },
  {
    "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
    "name": "OSI-L7"
  },
  {
    "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
    "name": "tarpit"
  },
  {
    "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 8000
      }
    ]
  },
  {
    "id": "db723e27-58d3-4120-b564-af199cb32bd3",
    "name": "IPAddressing",
    "featureRelationship": [
      {
        "relationshipType": "requires",
        "id": "43883a81-58ef-45af-ace4-993298ae8361",
        "name": "IPv4Addressing"
      },
      {
        "relationshipType": "requires",
        "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
        "name": "IPv6Addressing"
      }
    ]
  },
  {
    "id": "43883a81-58ef-45af-ace4-993298ae8361",
    "name": "IPv4Addressing"
  }
],

```

```

{
  "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
  "name": "IPv6Addressing",
  "isEnabled": false
}
],
"connectionPoint": [],
"resourceRelationship": [],
"connectivity": []
}

```

The following is an example of an asynchronous request to create a resource function.

The response status code SHOULD be '202 Accepted'. A 'Link:' header SHOULD be included providing a URI, with the 'title' parameter having value 'monitor', at which progress of the request may be tracked.

See TMF630 REST API Design Guidelines Part 1 section 9 Monitor Pattern.

Request

POST /tmf-api/resourceFunctionActivation/v4/resourceFunction
Content-Type: application/json

```

{
  "name": "Medium to Large Enterprise Firewall - Model 134985.3",
  "description": "This is a type of firewall to be used for our medium to large enterprise customers",
  "@type": "ResourceFunction",
  "category": "Security",
  "resourceSpecification": {
    "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "@type": "ResourceFunctionSpecificationRef",
    "@referredType": "ResourceFunctionSpecification"
  },
  "resourceCharacteristic": [
    {
      "name": "OperatingSystem",
      "value": "Android Pie"
    },
    {
      "name": "keywords",
      "value": "Medium Enterprise"
    },
    {
      "name": "language",
      "value": "en"
    }
  ],
  "feature": [
    {

```

```

    "id": "122m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 8000
      }
    ]
  }
]
}

```

Response

```

201
{
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "name": "Medium to Large Enterprise Firewall - Model 134985.3",
  "description": "This is a type of firewall to be used for our medium to large enterprise customers",
  "@type": "ResourceFunction",
  "lifecycleState": "installing",
  "category": "Security",
  "resourceSpecification": {
    "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "@type": "ResourceFunctionSpecificationRef",
    "@referredType": "ResourceFunctionSpecification"
  },
  "resourceCharacteristic": [
    {
      "name": "OperatingSystem",
      "value": "Android Pie"
    },
    {
      "name": "MaxTraffic",
      "value": 25
    },
    {
      "name": "keywords",
      "value": "Medium Enterprise"
    },
    {
      "name": "language",
      "value": "en"
    }
  ],
  "feature": [
    {
      "id": "h776f845f-z20a-468f-v44m-9e07fe3bd281",
      "name": "L2&L3"
    }
  ]
}

```

```

},
{
  "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",
  "name": "OSI-L4"
},
{
  "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
  "name": "OSI-L7"
},
{
  "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
  "name": "tarpit"
},
{
  "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
  "name": "log",
  "featureCharacteristic": [
    {
      "name": "logSize",
      "value": 8000
    }
  ]
},
{
  "id": "db723e27-58d3-4120-b564-af199cb32bd3",
  "name": "IPAddressing",
  "featureRelationship": [
    {
      "relationshipType": "requires",
      "id": "43883a81-58ef-45af-ace4-993298ae8361",
      "name": "IPv4Addressing"
    },
    {
      "relationshipType": "requires",
      "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
      "name": "IPv6Addressing"
    }
  ]
},
{
  "id": "43883a81-58ef-45af-ace4-993298ae8361",
  "name": "IPv4Addressing"
},
{
  "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
  "name": "IPv6Addressing",
  "isEnabled": false
}
],
"connectionPoint": [],
"resourceRelationship": [
  {
    "resource": {
      "id": "179ed458-6053-4be5-be14-e71be8be4440",

```



```

    "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.1"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
    "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.2"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.3"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
    "href": "/resourceInventory/v4/resource/",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.4"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.5"
  },
  "relationshipType": "contains"
}
],
"connectivity": []
}

```

Patch resource function**PATCH /resourceFunction/{id}****Description**

This operation allows partial updates of a resource function 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
category	
description	
endDate	
href	
id	
lifecycleState	
name	
startDate	
value	
version	
autoModification	
connectionPoint	
connectivity	
functionType	
priority	
role	
schedule	
characteristic	
note	
partyRole	
place	
relatedParty	
resourceRelationship	

Non Patchable Attributes	Rule
--------------------------	------

Usage Samples

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

Request
<pre>PATCH /tmf-api/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386 Content-Type: application/merge-patch+json { "name": "new name" }</pre>
Response
<pre>200 { "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386", "name": "new name", "description": "This is a type of firewall to be used for our medium to large enterprise customers", "@type": "ResourceFunction", "lifecycleState": "operating", "category": "Security", "resourceSpecification": { "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889", "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889", "@type": "ResourceFunctionSpecificationRef", "@referredType": "ResourceFunctionSpecification" }, "resourceCharacteristic": [{ "name": "OperatingSystem", "value": "Android Pie" }, { "name": "MaxTraffic", "value": 25 }, { "name": "keywords", "value": "Medium Enterprise" }, { "name": "language", "value": "English" }], "activationFeature": [</pre>

```

{
  "id": "h776f845f-z20a-468f-v44m-9e07fe3bd28l",
  "name": "L2&L3"
},
{
  "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",
  "name": "OSI-L4"
},
{
  "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
  "name": "OSI-L7"
},
{
  "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
  "name": "tarpit"
},
{
  "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
  "name": "log",
  "featureCharacteristic": [
    {
      "name": "logSize",
      "value": 2000
    }
  ]
},
{
  "id": "db723e27-58d3-4120-b564-af199cb32bd3",
  "name": "IPAddressing",
  "featureRelationship": [
    {
      "relationshipType": "requires",
      "id": "43883a81-58ef-45af-ace4-993298ae8361",
      "name": "IPv4Addressing"
    },
    {
      "relationshipType": "requires",
      "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
      "name": "IPv6Addressing"
    }
  ]
},
{
  "id": "43883a81-58ef-45af-ace4-993298ae8361",
  "name": "IPv4Addressing"
},
{
  "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
  "name": "IPv6Addressing",
  "isEnabled": false
}
],
"connectionPoint": [
{

```

```

    "id": "82a48c39-787b-49b6-b919-4d8d7319c584",
    "href": "/resourceInventory/v4/resource/82a48c39-787b-49b6-b919-4d8d7319c584",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.1"
  },
  {
    "id": "2da750ad-cdb2-4337-a823-dd3f294d458c",
    "href": "/resourceInventory/v4/resource/2da750ad-cdb2-4337-a823-dd3f294d458c",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP3.2"
  },
  {
    "id": "ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "href": "/resourceInventory/v4/resource/ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP5.2"
  },
  {
    "id": "9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "href": "/resourceInventory/v4/resource/9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.4"
  }
],
"resourceRelationship": [
  {
    "resource": {
      "id": "179ed458-6053-4be5-be14-e71be8be4440",
      "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.1"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.2"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "@type": "ResourceFunctionRef",

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```

    "@referredType": "ResourceFunction",
    "name": "SWI.3"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
    "href": "/resourceInventory/v4/resource/",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.4"
  },
  "relationshipType": "contains"
},
{
  "resource": {
    "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.5"
  },
  "relationshipType": "contains"
}
],
"connectivity": [
  {
    "id": "5921a308-322c-40fe-80e8-c2a7bc0ba546",
    "name": "Internal Connectivity Graph",
    "@type": "ResourceGraph",
    "connection": [
      {
        "name": "AdjacencyPair1",
        "associationType": "pointtoPoint",
        "@type": "Connection",
        "endpoint": [
          {
            "id": "179ed458-6053-4be5-be14-e71be8be4440",
            "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
            "@type": "EndpointRef",
            "@referredType": "ResourceFunction",
            "name": "SWI.1",
            "isRoot": true,
            "connectionPoint": {
              "id": "8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
              "href": "/resourceInventory/v4/resource/8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
              "@type": "ConnectionPointRef",
              "@referredType": "ResourceFunction",
              "name": "CP1.2"
            }
          }
        ],
        "name": "SWI.1",
        "isRoot": true,
        "connectionPoint": {
          "id": "8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
          "href": "/resourceInventory/v4/resource/8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
          "@type": "ConnectionPointRef",
          "@referredType": "ResourceFunction",
          "name": "CP1.2"
        }
      }
    ],
    "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",

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```

    "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb4032",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.2",
    "isRoot": false,
    "connectionPoint": {
      "id": "c8937fec-1923-4bdc-99d1-4a168f14d445",
      "href": "/resourceInventory/v4/resource/c8937fec-1923-4bdc-99d1-4a168f14d445",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP2.1"
    }
  }
]
},
{
  "name": "AdjacencyPair2",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.2",
      "isRoot": true,
      "connectionPoint": {
        "id": "acbdf06a-1f2e-4815-8db5-4220bc87ade2",
        "href": "/resourceInventory/v4/resource/acbdf06a-1f2e-4815-8db5-4220bc87ade2",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP2.2"
      }
    },
    {
      "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.3",
      "isRoot": false,
      "connectionPoint": {
        "id": "0564e364-dd52-461b-a9f6-718e342e2217",
        "href": "/resourceInventory/v4/resource/0564e364-dd52-461b-a9f6-718e342e2217",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP3.1"
      }
    }
  ]
},
{
  "name": "AdjacencyPair3",

```

```

"@type": "Connection",
"associationType": "pointToPoint",
"endpoint": [
  {
    "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.3",
    "isRoot": true,
    "connectionPoint": {
      "id": "14ae7a86-8d6e-407e-adf0-f99505e48b67",
      "href": "/resourceInventory/v4/resource/14ae7a86-8d6e-407e-adf0-f99505e48b67",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP3.3"
    }
  },
  {
    "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
    "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.4",
    "isRoot": false,
    "connectionPoint": {
      "id": "98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
      "href": "/resourceInventory/v4/resource/98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP4.1"
    }
  }
]
},
{
  "name": "AdjacencyPair4",
  "@type": "Connection",
  "associationType": "pointToPoint",
  "endpoint": [
    {
      "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.4",
      "isRoot": true,
      "connectionPoint": {
        "id": "415a8aa1-5d8b-4a7b-a886-cfb248fba864",
        "href": "/resourceInventory/v4/resource/415a8aa1-5d8b-4a7b-a886-cfb248fba864",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP4.2"
      }
    }
  ]
}

```



```

    },
    {
      "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.5",
      "isRoot": false,
      "connectionPoint": {
        "id": "29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
        "href": "/resourceInventory/v4/resource/29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP5.1"
      }
    }
  ]
},
{
  "name": "AdjacencyPair5",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.5",
      "isRoot": true,
      "connectionPoint": {
        "id": "e26d911c-3e61-409c-bcca-c7500e12b5a6",
        "href": "/resourceInventory/v4/resource/e26d911c-3e61-409c-bcca-c7500e12b5a6",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP5.3"
      }
    }
  ],
  {
    "id": "179ed458-6053-4be5-be14-e71be8be4440",
    "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.1",
    "isRoot": false,
    "connectionPoint": {
      "id": "62606a50-3cce-4225-b862-3b9ac72ef8ca",
      "href": "/resourceInventory/v4/resource/62606a50-3cce-4225-b862-3b9ac72ef8ca",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP1.3"
    }
  }
]
}

```

```
    }  
  ]  
}
```

Delete resource function

DELETE /resourceFunction/{id}

Description

This operation deletes a resource function entity.

Usage Samples

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

Request
DELETE /tmf-api/resourceFunctionActivation/v4/resourceFunction/42
Response
204

Operations on Monitor

List monitors

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

Description

This operation list monitor 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 Monitor resources.

Request
GET /tmf-api/resourceFunctionActivation/v4/monitor Accept: application/json
Response
200 [{ "id": "3bc72846-3516-4504-86ce-63a4954f7c00", "href": "/resourceFunctionActivation/v4/monitor/3bc72846-3516-4504-86ce-63a4954f7c00", "sourceHref": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386", "state": "InProgress", "request": { "method": "POST", "to": "/resourceFunctionActivation/v4/resourceFunction", "header": [{ "name": "accept", "value": "application/json" }], "body": { "name": "Medium to Large Enterprise Firewall - Model 134985.3", "description": "This is a type of firewall to be used for our medium to large enterprise customers", "@type": "ResourceFunction", "lifecycleState": "operating", "category": "Security", "resourceSpecification": { "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889", "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889", "@type": "ResourceFunctionSpecificationRef", "@referredType": "ResourceFunctionSpecification" }, "resourceCharacteristic": [{ "name": "OperatingSystem", "value": "Android Pie" }, { "name": "keywords", "value": "Medium Enterprise" }, { "name": "language", "value": "English" }] } },]

```

    }
  ],
  "feature": [
    {
      "id": "122m455f-671a-499d-a95j-8h46fe3bc88c",
      "name": "log",
      "featureCharacteristic": [
        {
          "name": "logSize",
          "value": 8000
        }
      ]
    }
  ]
}
},
"response": {
  "statusCode": "202 Accepted",
  "header": [
    {
      "name": "content-type",
      "value": "application/json"
    },
    {
      "name": "location",
      "value": "/resourceFunctionActivation/v4/resourceFunction/91f13709-593d-4175-a5e5-ce0ee95db0d5"
    },
    {
      "name": "link",
      "value": "</resourceFunctionActivation/v4/monitor/3bc72846-3516-4504-86ce-63a4954f7c00>;rel=related;title=monitor,</resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386>;rel=self,</resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386>;rel=canonical"
    }
  ],
  "body": {
    "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
    "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386",
    "name": "Medium to Large Enterprise Firewall - Model 134985.3",
    "description": "This is a type of firewall to be used for our medium to large enterprise customers",
    "@type": "ResourceFunction",
    "@baseType": "LogicalResource",
    "lifecycleState": "installing",
    "category": "Security",
    "resourceSpecification": {
      "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
      "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
      "@type": "ResourceFunctionSpecification",
      "@baseType": "LogicalResourceSpecification"
    },
    "resourceCharacteristic": [
      {
        "name": "OperatingSystem",
        "value": "Android Pie"
      }
    ]
  }
}

```

```
    },
    {
      "name": "MaxTraffic",
      "value": 25
    },
    {
      "name": "keywords",
      "value": "Medium Enterprise"
    },
    {
      "name": "language",
      "value": "English"
    }
  ],
  "feature": [
    {
      "id": "h776f845f-z20a-468f-v44m-9e07fe3bd28l",
      "name": "L2&L3"
    },
    {
      "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",
      "name": "OSI-L4"
    },
    {
      "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
      "name": "OSI-L7"
    },
    {
      "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
      "name": "tarpit"
    },
    {
      "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
      "name": "log",
      "featureCharacteristic": [
        {
          "name": "logSize",
          "value": 8000
        }
      ]
    }
  ],
  {
    "id": "db723e27-58d3-4120-b564-af199cb32bd3",
    "name": "IPAddressing",
    "featureRelationship": [
      {
        "relationshipType": "requires",
        "id": "43883a81-58ef-45af-ace4-993298ae8361",
        "name": "IPv4Addressing"
      },
      {
        "relationshipType": "requires",
        "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
        "name": "IPv6Addressing"
      }
    ]
  }
}
```

```
    }
  ]
},
{
  "id": "43883a81-58ef-45af-ace4-993298ae8361",
  "name": "IPv4Addressing"
},
{
  "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
  "name": "IPv6Addressing",
  "isEnabled": false
}
],
"connectionPoint": [],
"resourceRelationship": [
  {
    "resource": {
      "id": "179ed458-6053-4be5-be14-e71be8be4440",
      "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
      "name": "SWI.1"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "name": "SWI.2"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "name": "SWI.3"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "href": "/resourceInventory/v4/resource/",
      "name": "SWI.4"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
      "name": "SWI.5"
    },
    "relationshipType": "contains"
  }
]
```

```

    }
  ],
  "connectivity": []
}
}
}
]

```

Retrieve monitor

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

Description

This operation retrieves a monitor 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

The following is an example of retrieving a monitor for an in progress task resource:

Request

```

GET /tmf-api/resourceFunctionActivation/v4/monitor/3bc72846-3516-4504-86ce-63a4954f7c00
Accept: application/json

```

Response

```

200
{
  "id": "3bc72846-3516-4504-86ce-63a4954f7c00",
  "href": "/resourceFunctionActivation/v4/monitor/3bc72846-3516-4504-86ce-63a4954f7c00",
  "sourceHref": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "state": "Complete",
  "request": {
    "method": "POST",
    "to": "/resourceFunctionActivation/v4/resourceFunction",
    "header": [
      {
        "name": "accept",
        "value": "application/json"
      }
    ],
    "body": {

```

```

"name": "Medium to Large Enterprise Firewall - Model 134985.3",
"description": "This is a type of firewall to be used for our medium to large enterprise customers",
"@type": "ResourceFunction",
"lifecycleState": "operating",
"category": "Security",
"resourceSpecification": {
  "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
  "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
  "@type": "ResourceFunctionSpecificationRef",
  "@referredType": "ResourceFunctionSpecification"
},
"resourceCharacteristic": [
  {
    "name": "OperatingSystem",
    "value": "Android Pie"
  },
  {
    "name": "keywords",
    "value": "Medium Enterprise"
  },
  {
    "name": "language",
    "value": "en"
  }
],
"feature": [
  {
    "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 8000
      }
    ]
  }
]
},
"response": {
  "statusCode": "202 Accepted",
  "header": [
    {
      "name": "content-type",
      "value": "application/json"
    },
    {
      "name": "location",
      "value": "/resourceFunctionActivation/v4/resourceFunction/91f13709-593d-4175-a5e5-ce0ee95db0d5"
    },
    {
      "name": "link",
      "value": "</resourceFunctionActivation/v4/monitor/3bc72846-3516-4504-86ce-63a4954f7c00>;rel=related;title=monitor,</resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-

```



```

52bc72d82386>;rel=self,</resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-
52bc72d82386>;rel=canonical"
  }
],
"body": {
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "name": "Medium to Large Enterprise Firewall - Model 134985.3",
  "description": "This is a type of firewall to be used for our medium to large enterprise customers",
  "@type": "ResourceFunction",
  "lifecycleState": "operating",
  "category": "Security",
  "resourceSpecification": {
    "id": "5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "href": "/resourceCatalog/v4/resourceSpecification/5fc91de8-88be-4c7c-8b3c-e08ccc53b889",
    "@type": "ResourceFunctionSpecificationRef",
    "@referredType": "ResourceFunctionSpecification"
  },
  "resourceCharacteristic": [
    {
      "name": "OperatingSystem",
      "value": "Android Pie"
    },
    {
      "name": "MaxTraffic",
      "value": 25
    },
    {
      "name": "keywords",
      "value": "Medium Enterprise"
    },
    {
      "name": "language",
      "value": "English"
    }
  ],
  "feature": [
    {
      "id": "h776f845f-z20a-468f-v44m-9e07fe3bd28l",
      "name": "L2&L3"
    },
    {
      "id": "g535f845f-032a-468f-a86e-9e07fe3bc85b",
      "name": "OSI-L4"
    },
    {
      "id": "k463345f-011a-463a-a92f-4h2kfe3bc44b",
      "name": "OSI-L7"
    },
    {
      "id": "f78g245f-671a-468f-a95j-9e07fe3bc98b",
      "name": "tarpit"
    }
  ]
}

```

```

    "id": "l22m455f-671a-499d-a95j-8h46fe3bc88c",
    "name": "log",
    "featureCharacteristic": [
      {
        "name": "logSize",
        "value": 2000
      }
    ]
  },
  {
    "id": "db723e27-58d3-4120-b564-af199cb32bd3",
    "name": "IPAddressing",
    "featureRelationship": [
      {
        "relationshipType": "requires",
        "id": "43883a81-58ef-45af-ace4-993298ae8361",
        "name": "IPv4Addressing"
      },
      {
        "relationshipType": "requires",
        "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
        "name": "IPv6Addressing"
      }
    ]
  },
  {
    "id": "43883a81-58ef-45af-ace4-993298ae8361",
    "name": "IPv4Addressing"
  },
  {
    "id": "b85f845f-011a-468f-a90e-9e07fe3bc90a",
    "name": "IPv6Addressing",
    "isEnabled": false
  }
],
"connectionPoint": [
  {
    "id": "82a48c39-787b-49b6-b919-4d8d7319c584",
    "href": "/resourceInventory/v4/resource/82a48c39-787b-49b6-b919-4d8d7319c584",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.1"
  },
  {
    "id": "2da750ad-cdb2-4337-a823-dd3f294d458c",
    "href": "/resourceInventory/v4/resource/2da750ad-cdb2-4337-a823-dd3f294d458c",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP3.2"
  },
  {
    "id": "ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "href": "/resourceInventory/v4/resource/ecc5eb54-b032-409d-9213-604b5ebb74ac",
    "@type": "ConnectionPointRef",

```

```

    "@referredType": "ResourceFunction",
    "name": "CP5.2"
  },
  {
    "id": "9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "href": "/resourceInventory/v4/resource/9af2fa2c-08b2-474d-8eb2-174c6a02f021",
    "@type": "ConnectionPointRef",
    "@referredType": "ResourceFunction",
    "name": "CP1.4"
  }
],
"resourceRelationship": [
  {
    "resource": {
      "id": "179ed458-6053-4be5-be14-e71be8be4440",
      "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.1"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.2"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.3"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {
      "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "href": "/resourceInventory/v4/resource/",
      "@type": "ResourceFunctionRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.4"
    },
    "relationshipType": "contains"
  },
  {
    "resource": {

```

```

    "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "@type": "ResourceFunctionRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.5"
  },
  "relationshipType": "contains"
}
],
"connectivity": [
  {
    "id": "5921a308-322c-40fe-80e8-c2a7bc0ba546",
    "name": "Internal Connectivity Graph",
    "@type": "ResourceGraph",
    "connection": [
      {
        "name": "AdjacencyPair1",
        "@type": "Connection",
        "associationType": "pointtoPoint",
        "endpoint": [
          {
            "id": "179ed458-6053-4be5-be14-e71be8be4440",
            "href": "/resourceInventory/v4/resource/179ed458-6053-4be5-be14-e71be8be4440",
            "@type": "EndpointRef",
            "@referredType": "ResourceFunction",
            "name": "SWI.1",
            "isRoot": true,
            "connectionPoint": {
              "id": "8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
              "href": "/resourceInventory/v4/resource/8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
              "@type": "ConnectionPointRef",
              "@referredType": "ResourceFunction",
              "name": "CP1.2"
            }
          }
        ],
        "name": "SWI.1",
        "isRoot": true,
        "connectionPoint": {
          "id": "8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
          "href": "/resourceInventory/v4/resource/8c237137-46b1-4eac-9b20-0f2b35f5ffb2",
          "@type": "ConnectionPointRef",
          "@referredType": "ResourceFunction",
          "name": "CP1.2"
        }
      },
      {
        "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
        "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb4032",
        "@type": "EndpointRef",
        "@referredType": "ResourceFunction",
        "name": "SWI.2",
        "isRoot": false,
        "connectionPoint": {
          "id": "c8937fec-1923-4bdc-99d1-4a168f14d445",
          "href": "/resourceInventory/v4/resource/c8937fec-1923-4bdc-99d1-4a168f14d445",
          "@type": "ConnectionPointRef",
          "@referredType": "ResourceFunction",
          "name": "CP2.1"
        }
      }
    ]
  },
  {
    "name": "AdjacencyPair2",

```

```

"@type": "Connection",
"associationType": "pointtoPoint",
"endpoint": [
  {
    "id": "d66a404f-9464-47b8-92f5-7a3de88cfb40",
    "href": "/resourceInventory/v4/resource/d66a404f-9464-47b8-92f5-7a3de88cfb40",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.2",
    "isRoot": true,
    "connectionPoint": {
      "id": "acbdf06a-1f2e-4815-8db5-4220bc87ade2",
      "href": "/resourceInventory/v4/resource/acbdf06a-1f2e-4815-8db5-4220bc87ade2",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP2.2"
    }
  },
  {
    "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.3",
    "isRoot": false,
    "connectionPoint": {
      "id": "0564e364-dd52-461b-a9f6-718e342e2217",
      "href": "/resourceInventory/v4/resource/0564e364-dd52-461b-a9f6-718e342e2217",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP3.1"
    }
  }
]
},
{
  "name": "AdjacencyPair3",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "href": "/resourceInventory/v4/resource/c47b1f3a-d74b-4594-9596-b1f2ace66365",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.3",
      "isRoot": true,
      "connectionPoint": {
        "id": "14ae7a86-8d6e-407e-adf0-f99505e48b67",
        "href": "/resourceInventory/v4/resource/14ae7a86-8d6e-407e-adf0-f99505e48b67",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP3.3"
      }
    }
  ]
}

```

```

    },
    {
      "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.4",
      "isRoot": false,
      "connectionPoint": {
        "id": "98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
        "href": "/resourceInventory/v4/resource/98b5906c-bbd0-4bb9-8551-1eaac552a4a3",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP4.1"
      }
    }
  ]
},
{
  "name": "AdjacencyPair4",
  "@type": "Connection",
  "associationType": "pointtoPoint",
  "endpoint": [
    {
      "id": "fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "href": "/resourceInventory/v4/resource/fb126b4f-5d2e-4fb3-8e94-3d0a721a6cbc",
      "@type": "EndpointRef",
      "@referredType": "ResourceFunction",
      "name": "SWI.4",
      "isRoot": true,
      "connectionPoint": {
        "id": "415a8aa1-5d8b-4a7b-a886-cfb248fba864",
        "href": "/resourceInventory/v4/resource/415a8aa1-5d8b-4a7b-a886-cfb248fba864",
        "@type": "ConnectionPointRef",
        "@referredType": "ResourceFunction",
        "name": "CP4.2"
      }
    }
  ],
  {
    "id": "11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "href": "/resourceInventory/v4/resource/11c59a1e-f15d-4cc0-9ae5-aaa20380ccdc",
    "@type": "EndpointRef",
    "@referredType": "ResourceFunction",
    "name": "SWI.5",
    "isRoot": false,
    "connectionPoint": {
      "id": "29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
      "href": "/resourceInventory/v4/resource/29bf728a-08c1-4bb9-84b0-5ad63468b1fb",
      "@type": "ConnectionPointRef",
      "@referredType": "ResourceFunction",
      "name": "CP5.1"
    }
  }
}
]

```


This operation list heal 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 Heal resources.

Request
<pre>GET /tmf-api/resourceFunctionActivation/v4/heal Accept: application/json</pre>
Response
<pre>200 [{ "id": "c6015b3d-64ad-432d-b7a5-9a9fa3430aa4", "href": "/resourceFunctionActivation/v4/heal/c6015b3d-64ad-432d-b7a5-9a9fa3430aa4", "name": "SLA Violation", "@type": "Heal", "resourceFunction": { "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386" }, "cause": "SLA violation", "degreeOfHealing": "Complete - Restore to state before failure", "healAction": "bin/heal.sh", "healPolicy": { "id": "8b21c64b-d25d-4a3d-8571-9fe9bcd470f0", "href": "/entityCatalogManagement/v4/policy/8b21c64b-d25d-4a3d-8571-9fe9bcd470f0" }, "state": "InProgress", "startTime": "2019-08-17T13:11:51Z", "additionalParms": [{ "name": "T1", "value": 42 }, { "name": "N5", "value": true }] }]</pre>

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

This operation retrieves a heal 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 Heal resource.

Request
<pre>GET /tmf-api/resourceFunctionActivation/v4/heal/c6015b3d-64ad-432d-b7a5-9a9fa3430aa4 Accept: application/json</pre>
Response
<pre>200 { "id": "c6015b3d-64ad-432d-b7a5-9a9fa3430aa4", "href": "/resourceFunctionActivation/v4/heal/c6015b3d-64ad-432d-b7a5-9a9fa3430aa4", "name": "SLA Violation", "@type": "Heal", "resourceFunction": { "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386" }, "cause": "SLA violation", "degreeOfHealing": "Complete - Restore to state before failure", "healAction": "bin/heal.sh", "healPolicy": { "id": "8b21c64b-d25d-4a3d-8571-9fe9bcd470f0", "href": "/entityCatalogManagement/v4/policy/8b21c64b-d25d-4a3d-8571-9fe9bcd470f0" }, "state": "InProgress", "startTime": "2019-08-17T13:11:51Z", "additionalParms": [{ "name": "T1", "value": 42 }] }</pre>

```

    },
    {
      "name": "N5",
      "value": true
    }
  ]
}

```

Create heal

POST /heal

Description

This operation creates a heal entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a Heal, 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
resourceFunction	
cause	
degreeOfHealing	

Non Mandatory Attributes	Rule
additionalParms	
healAction	
healPolicy	
name	
startTime	
state	

Usage Samples

The following is an example of a request to create a Heal task resource:

Request
POST /tmf-api/resourceFunctionActivation/v4/heal Content-Type: application/json { "name": "SLA Violation",

```

"@type": "Heal",
"@schemaLocation": "/resourceFunctionActivation/v4/schema/Heal",
"resourceFunction": {
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
},
"cause": "SLA violation",
"degreeOfHealing": "Complete - Restore to state before failure",
"healAction": "bin/heal.sh",
"healPolicy": {
  "id": "8b21c64b-d25d-4a3d-8571-9fe9bcd470f0",
  "href": "/entityCatalogManagement/v4/policy/8b21c64b-d25d-4a3d-8571-9fe9bcd470f0"
},
"startTime": "2019-08-17T13:11:51Z",
"additionalParms": [
  {
    "name": "T1",
    "value": 42
  },
  {
    "name": "N5",
    "value": true
  }
]
}

```

Response

201

```

{
  "id": "c6015b3d-64ad-432d-b7a5-9a9fa3430aa4",
  "href": "/resourceFunctionActivation/v4/heal/c6015b3d-64ad-432d-b7a5-9a9fa3430aa4",
  "name": "SLA Violation",
  "@type": "Heal",
  "@schemaLocation": "/resourceFunctionActivation/v4/schema/Heal",
  "resourceFunction": {
    "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
    "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
  },
  "cause": "SLA violation",
  "degreeOfHealing": "Complete - Restore to state before failure",
  "healAction": "bin/heal.sh",
  "healPolicy": {
    "id": "8b21c64b-d25d-4a3d-8571-9fe9bcd470f0",
    "href": "/entityCatalogManagement/v4/policy/8b21c64b-d25d-4a3d-8571-9fe9bcd470f0"
  },
  "state": "InProgress",
  "startTime": "2019-08-17T13:11:51Z",
  "additionalParms": [
    {
      "name": "T1",

```

```

    "value": 42
  },
  {
    "name": "N5",
    "value": true
  }
]
}

```

Operations on Scale

List scales

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

Description

This operation list scale 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 Scale resources.

Request
GET /tmf-api/resourceFunctionActivation/v4/scale Accept: application/json
Response
200 <pre> [{ "id": "4a41a328-1cf3-4674-bdd7-c43129fbfa7c", "href": "/resourceFunctionActivation/v4/scale/4a41a328-1cf3-4674-bdd7-c43129fbfa7c", "name": "Increase Memory", "@type": "Scale", "resourceFunction": { "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386" }, "status": "InProgress", </pre>

```

"scaleType": "Scale Out",
"aspectId": "Quick Access Memory",
"numberOfSteps": 2,
"schedule": [
  {
    "id": "b32c19f3-0297-4dd4-93c7-87c3a4fee14e",
    "href": "/resourceCatalog/v4/resourceSpecification/b32c19f3-0297-4dd4-93c7-87c3a4fee14e"
  }
]
}
]

```

Retrieve scale

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

Description

This operation retrieves a scale 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 Scale resource.

Request
<pre> GET /tmf-api/resourceFunctionActivation/v4/scale/4a41a328-1cf3-4674-bdd7-c43129fbfa7c Accept: application/json </pre>
Response
<pre> 200 { "id": "4a41a328-1cf3-4674-bdd7-c43129fbfa7c", "href": "/resourceFunctionActivation/v4/scale/4a41a328-1cf3-4674-bdd7-c43129fbfa7c", "name": "Increase Memory", "@type": "Scale", "resourceFunction": { "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386" }, "status": "InProgress", "scaleType": "Scale Out", </pre>

```

"aspectId": "Quick Access Memory",
"numberOfSteps": 2,
"schedule": [
  {
    "id": "b32c19f3-0297-4dd4-93c7-87c3a4fee14e",
    "href": "/resourceCatalog/v4/resourceSpecification/b32c19f3-0297-4dd4-93c7-87c3a4fee14e"
  }
]
}

```

Create scale

POST /scale

Description

This operation creates a scale entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a Scale, 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
resourceFunction	
scaleType	
numberOfSteps	

Non Mandatory Attributes	Rule
aspectId	
name	
schedule	
state	

Usage Samples

The following is an example of a request to create a Scale task resource:

Request
POST /tmf-api/resourceFunctionActivation/v4/scale Content-Type: application/json { "name": "Increase Memory", "@type": "Scale", }

```

"@schemaLocation": "/resourceFunctionActivation/v4/schema/Scale",
"resourceFunction": {
  "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
  "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
},
"scaleType": "Scale Out",
"aspectId": "Quick Access Memory",
"numberOfSteps": 2,
"schedule": [
  {
    "id": "b32c19f3-0297-4dd4-93c7-87c3a4fee14e",
    "href": "/resourceCatalog/v4/resourceSpecification/b32c19f3-0297-4dd4-93c7-87c3a4fee14e"
  }
]
}

```

Response

201

```

{
  "id": "4a41a328-1cf3-4674-bdd7-c43129fbfa7c",
  "href": "/resourceFunctionActivation/v4/scale/4a41a328-1cf3-4674-bdd7-c43129fbfa7c",
  "name": "Increase Memory",
  "@type": "Scale",
  "@schemaLocation": "/resourceFunctionActivation/v4/schema/Scale",
  "resourceFunction": {
    "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
    "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
  },
  "state": "InProgress",
  "scaleType": "Scale Out",
  "aspectId": "Quick Access Memory",
  "numberOfSteps": 2,
  "schedule": [
    {
      "id": "b32c19f3-0297-4dd4-93c7-87c3a4fee14e",
      "href": "/resourceCatalog/v4/resourceSpecification/b32c19f3-0297-4dd4-93c7-87c3a4fee14e"
    }
  ]
}

```

Operations on Migrate

List migrates

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

Description

This operation list migrate 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 Migrate resources.

Request
GET /tmf-api/resourceFunctionActivation/v4/migrate Accept: application/json
Response
200 [{ "id": "afccfc16-a28e-4f3b-81e0-1cf7ba649ef9", "href": "/resourceFunctionActivation/v4/migrate/afccfc16-a28e-4f3b-81e0-1cf7ba649ef9", "name": "Move Location", "@type": "Migrate", "resourceFunction": { "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386" }, "state": "InProgress", "cause": "planned", "adminStateModification": "locked", "removeConnectionPoint": [{ "id": "97111c52-ca05-457b-9980-3783d471f92f", "href": "/resourceInventory/v4/resource/97111c52-ca05-457b-9980-3783d471f92f", "name": "CP1.1" }, { "id": "f7647371-74cc-4e2b-b8c3-67746a326ee3", "href": "/resourceInventory/v4/resource/f7647371-74cc-4e2b-b8c3-67746a326ee3", "name": "CP3.3" }, { "id": "53fea7a6-2b5d-4ed5-96a8-29ab7be89cf7", "href": "/resourceInventory/v4/resource/53fea7a6-2b5d-4ed5-96a8-29ab7be89cf7", "name": "CP5.3" }], "addConnectionPoint": [{ "id": "97111c52-ca05-457b-9980-3783d471f92f", "href": "/resourceInventory/v4/resource/97111c52-ca05-457b-9980-3783d471f92f", "name": "CP1.1" }, { "id": "f7647371-74cc-4e2b-b8c3-67746a326ee3", "href": "/resourceInventory/v4/resource/f7647371-74cc-4e2b-b8c3-67746a326ee3", "name": "CP3.3" }, { "id": "53fea7a6-2b5d-4ed5-96a8-29ab7be89cf7", "href": "/resourceInventory/v4/resource/53fea7a6-2b5d-4ed5-96a8-29ab7be89cf7", "name": "CP5.3" }] },]


```

{
  "id": "95ae4067-72af-4495-905d-b92ec5f9c310",
  "href": "/resourceInventory/v4/resource/95ae4067-72af-4495-905d-b92ec5f9c310",
  "name": "CP1.1"
},
{
  "id": "6b8446c6-3deb-45e7-9e8b-2395db8ae693",
  "href": "/resourceInventory/v4/resource/6b8446c6-3deb-45e7-9e8b-2395db8ae693",
  "name": "CP3.3"
},
{
  "id": "fb35655e-c6d7-47b3-aff5-6b6eac487290",
  "href": "/resourceInventory/v4/resource/fb35655e-c6d7-47b3-aff5-6b6eac487290",
  "name": "CP5.3"
}
],
"priority": 1,
"startTime": "2019-08-19T04:00:00Z",
"completionMode": "bestEffort",
"place": {
  "id": "72a41352-7a2c-4baa-8df6-cab6845f6369",
  "href": "/geographicLocation/v4/geographicLocation/72a41352-7a2c-4baa-8df6-cab6845f6369"
},
"characteristics": [
  {
    "name": "zone",
    "value": 42
  }
]
}
]

```

Retrieve migrate

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

Description

This operation retrieves a migrate 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 Migrate resource.

Request

```
GET /tmf-api/resourceFunctionActivation/v4/migrate/afccfc16-a28e-4f3b-81e0-1cf7ba649ef9
Accept: application/json
```

Response

200

```
{
  "id": "afccfc16-a28e-4f3b-81e0-1cf7ba649ef9",
  "href": "/resourceFunctionActivation/v4/migrate/afccfc16-a28e-4f3b-81e0-1cf7ba649ef9",
  "name": "Move Location",
  "@type": "Migrate",
  "resourceFunction": {
    "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
    "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
  },
  "state": "InProgress",
  "cause": "planned",
  "adminStateModification": "locked",
  "removeConnectionPoint": [
    {
      "id": "97111c52-ca05-457b-9980-3783d471f92f",
      "href": "/resourceInventory/v4/resource/97111c52-ca05-457b-9980-3783d471f92f",
      "name": "CP1.1"
    },
    {
      "id": "f7647371-74cc-4e2b-b8c3-67746a326ee3",
      "href": "/resourceInventory/v4/resource/f7647371-74cc-4e2b-b8c3-67746a326ee3",
      "name": "CP3.3"
    },
    {
      "id": "53fea7a6-2b5d-4ed5-96a8-29ab7be89cf7",
      "href": "/resourceInventory/v4/resource/53fea7a6-2b5d-4ed5-96a8-29ab7be89cf7",
      "name": "CP5.3"
    }
  ],
  "addConnectionPoint": [
    {
      "id": "95ae4067-72af-4495-905d-b92ec5f9c310",
      "href": "/resourceInventory/v4/resource/95ae4067-72af-4495-905d-b92ec5f9c310",
      "name": "CP1.1"
    },
    {
      "id": "6b8446c6-3deb-45e7-9e8b-2395db8ae693",
      "href": "/resourceInventory/v4/resource/6b8446c6-3deb-45e7-9e8b-2395db8ae693",
      "name": "CP3.3"
    },
    {
      "id": "fb35655e-c6d7-47b3-aff5-6b6eac487290",
      "href": "/resourceInventory/v4/resource/fb35655e-c6d7-47b3-aff5-6b6eac487290",
      "name": "CP5.3"
    }
  ]
}
```

```

],
"priority": 1,
"startTime": "2019-08-19T04:00:00Z",
"completionMode": "bestEffort",
"place": {
  "id": "72a41352-7a2c-4baa-8df6-cab6845f6369",
  "href": "/geographicLocation/v4/geographicLocation/72a41352-7a2c-4baa-8df6-cab6845f6369"
},
"characteristics": [
  {
    "name": "zone",
    "value": 42
  }
]
}

```

Create migrate

POST /migrate

Description

This operation creates a migrate entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a Migrate, 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
resourceFunction	
cause	

Non Mandatory Attributes	Rule
addConnectionPoint	
adminStateModification	
characteristics	
completionMode	
name	
place	
priority	
removeConnectionPoint	
startTime	
state	

Usage Samples

The following is an example of a request to create a Migrate task resource:

Request

POST /tmf-api/resourceFunctionActivation/v4/migrate

Content-Type: application/json

```
{
  "name": "Move Location",
  "@type": "Migrate",
  "@schemaLocation": "/resourceFunctionActivation/v4/schema/Migrate",
  "resourceFunction": {
    "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386",
    "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386"
  },
  "cause": "planned",
  "adminStateModification": "locked",
  "addConnectionPoint": [
    {
      "id": "95ae4067-72af-4495-905d-b92ec5f9c310",
      "href": "/resourceInventory/v4/resource/95ae4067-72af-4495-905d-b92ec5f9c310",
      "name": "CP1.1"
    },
    {
      "id": "6b8446c6-3deb-45e7-9e8b-2395db8ae693",
      "href": "/resourceInventory/v4/resource/6b8446c6-3deb-45e7-9e8b-2395db8ae693",
      "name": "CP1.4"
    }
  ],
  "removeConnectionPoint": [
    {
      "id": "82a48c39-787b-49b6-b919-4d8d7319c584",
      "href": "/resourceInventory/v4/resource/82a48c39-787b-49b6-b919-4d8d7319c584",
      "name": "CP1.1"
    },
    {
      "id": "9af2fa2c-08b2-474d-8eb2-174c6a02f021",
      "href": "/resourceInventory/v4/resource/9af2fa2c-08b2-474d-8eb2-174c6a02f021",
      "name": "CP1.4"
    }
  ],
  "priority": 1,
  "startTime": "2019-08-19T04:00:00Z",
  "completionMode": "bestEffort",
  "place": {
    "id": "72a41352-7a2c-4baa-8df6-cab6845f6369",
    "href": "/geographicLocation/v4/geographicLocation/72a41352-7a2c-4baa-8df6-cab6845f6369"
  },
  "characteristics": [
    {
      "name": "zone",
      "value": 42
    }
  ]
}
```

<pre>] } </pre>
Response
<pre> 201 { "id": "afccfc16-a28e-4f3b-81e0-1cf7ba649ef9", "href": "/resourceFunctionActivation/v4/migrate/afccfc16-a28e-4f3b-81e0-1cf7ba649ef9", "name": "Move Location", "@type": "Migrate", "@schemaLocation": "/resourceFunctionActivation/v4/schema/Migrate", "resourceFunction": { "id": "acd6cbde-22a1-4f42-9ed0-52bc72d82386", "href": "/resourceFunctionActivation/v4/resourceFunction/acd6cbde-22a1-4f42-9ed0-52bc72d82386" }, "state": "InProgress", "cause": "planned", "adminStateModification": "locked", "addConnectionPoint": [{ "id": "95ae4067-72af-4495-905d-b92ec5f9c310", "href": "/resourceInventory/v4/resource/95ae4067-72af-4495-905d-b92ec5f9c310", "name": "CP1.1" }, { "id": "6b8446c6-3deb-45e7-9e8b-2395db8ae693", "href": "/resourceInventory/v4/resource/6b8446c6-3deb-45e7-9e8b-2395db8ae693", "name": "CP1.4" }], "removeConnectionPoint": [{ "id": "82a48c39-787b-49b6-b919-4d8d7319c584", "href": "/resourceInventory/v4/resource/82a48c39-787b-49b6-b919-4d8d7319c584", "name": "CP1.1" }, { "id": "9af2fa2c-08b2-474d-8eb2-174c6a02f021", "href": "/resourceInventory/v4/resource/9af2fa2c-08b2-474d-8eb2-174c6a02f021", "name": "CP1.4" }], "priority": 1, "startTime": "2019-08-19T04:00:00Z", "completionMode": "bestEffort", "place": { "id": "72a41352-7a2c-4baa-8df6-cab6845f6369", "href": "/geographicLocation/v4/geographicLocation/72a41352-7a2c-4baa-8df6-cab6845f6369" }, "characteristics": [</pre>

```
{  
  "name": "zone",  
  "value": 42  
}  
]  
}
```

API NOTIFICATIONS

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

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

Register listener

POST /hub

Description

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

Behavior

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

Returns HTTP/1.1 status code 409 if 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.

Acknowledgements

Version History

Release Number	Date	Release led by:	Description
Release 17.0.0 Version 0.2.0	2017-05-25	Milind Bhagwat, BT plc <milind.2.bhagwat@bt.com>	Draft Version 0.2 of the Document produced after the initial review
Release 17.0.0 Version 0.2.1	2017-07-05	Alan Pope, TM Forum <apope@tmforum.org>	Draft Version 0.2.1 Document Title changed from 'Resource Function Configuration and Activation' to 'Resource Function Activation and Configuration'
Release 17.0.1 Version 0.2.2	2017-11-20	Adrienne Walcott	Updated to reflect TM Forum Approved Status
Release 17.5.0 Version 0.3.0	2017-11-17	Milind Bhagwat, BT plc <milind.2.bhagwat@bt.com>	Draft Version 0.3 of the document. Added 2 sample use cases to include requirements AP-971 and AP-972 Added valueType attribute to characteristics
Release 17.5.0 Version 0.3.1	2017-12-11	Milind Bhagwat, BT plc <milind.2.bhagwat@bt.com>	Updated document based on review comments received
Release 17.5.0 Version 0.3.2	2018-01-16	Alan Pope, TM Forum <apope@tmforum.org>	Minor edits and formatting for release.
Release 17.5.1 Version 0.3.3	2018-01-16	Adrienne Walcott	Updated to reflect TM Forum Approved Status
	2019-11-26	Vance Shipley, SigScale <vances@sigscale.com>	Schemafication project. Topology graph array.
Version 4.0.0	03-Apr-2020	Vance Shipley, SigScale <vances@sigscale.com>	User Guide updates.

Release History

Release Number	Date	Release led by:	Description
Pre-production	03-Apr-2020	Vance Shipley, SigScale < vances@sigscale.com >	User Guide updates.

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