Resource Inventory Management

NOTICE

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Table of Contents

Introduction

The following document is the user guide of the Async API for Any management. It includes the model definition as well as all available operations.

Sample Use Cases

Reader will find example of use cases using Usage API in “Open Digital Business Scenarios and Use Cases” document.

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 BillingAccount and SettlementAccount inheriting properties from the abstract Account entity.

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines, Part 2 (TMF630).

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

The @referredType can be used within reference entities (like for instance an AccountRef 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 BillingAccountRef or SettlementAccountRef, 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 resource

Resource is an abstract entity that describes the common set of attributes shared by all concrete resources (e.g. TPE, EQUIPMENT) in the inventory.

Resource model

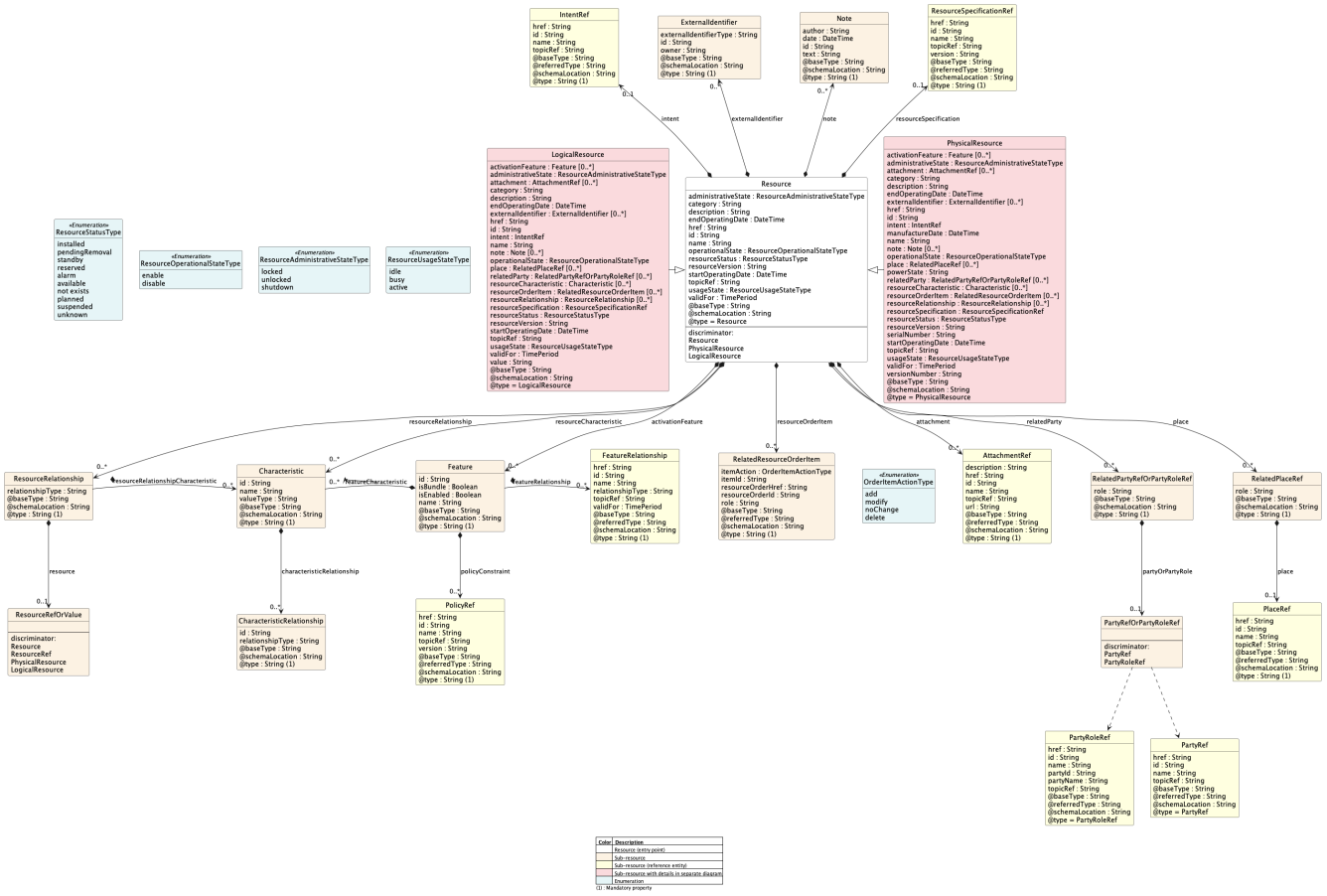

Figure 1 - Resource

Field descriptions

Resource fields

activationFeature	A Feature. Configuration feature.
administrativeState	A ResourceAdministrativeStateType. ResourceAdministrativeStateType enumerations.
attachment	An AttachmentRef. Attachment reference. An attachment complements the description of an element (for instance a product) through video, pictures.

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 DateTime. A date time(DateTime). The date till the resource is operating.
externalIdentifier	An ExternalIdentifier. An identification of an entity that is owned by or originates in a software system different from the current system, for example a ProductOrder handed off from a commerce platform into an order handling system. The structure identifies the system itself, the nature of the entity within the system (e.g. class name) and the unique ID of the entity within the system. It is anticipated that multiple external IDs can be held for a single entity, e.g. if the entity passed through multiple systems on the way to the current system. In this case the consumer is expected to sequence the IDs in the array in reverse order of provenance, i.e. most recent system first in the list.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
intent	An IntentRef. Intent reference, for when Intent is used by other entities.
name	A String. The name of the resource.
note	A Note. Extra information about a given entity.
operationalState	A ResourceOperationalStateType. ResourceOperationalStateType enumerations.
place	A RelatedPlaceRef. Entity reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the RelatedPlace entity and not the RelatedPlaceRef class itself.
relatedParty	A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
resourceCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic…
resourceOrderItem	A RelatedResourceOrderItem. RelatedResourceOrderItem (a ResourceOrder item) .The resource order item which triggered resource creation/change/termination.

resourceRelationship	A 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 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 ResourceStatusType. ResourceStatusType enumerations.
resourceVersion	A String. A field that identifies the specific version of an instance of a resource.
startOperatingDate	A DateTime. A date time(DateTime). The date from which the resource is operating.
topicRef	A String. A reference to the topic from which this entity can be fetched.
usageState	A ResourceUsageStateType. ResourceUsageStateType enumerations.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

AttachmentRef sub-resource fields

description	A String. A narrative text describing the content of the attachment.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
url	A String. Link to the attachment media/content.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

Characteristic sub-resource fields

characteristicRelationship	A 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.
valueType	A String. Data type of the value of the characteristic.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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 sub-resource fields

id	A String. Unique identifier of the characteristic.
relationshipType	A String. The type of relationship.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

ExternalIdentifier sub-resource fields

externalIdentifierType	A String. Type of the identification, typically would be the type of the entity within the external system.
id	A String. Identification of the entity within the external system.
owner	A String. Name of the external system that owns the entity.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

Feature sub-resource fields

featureCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...
featureRelationship	A FeatureRelationship. Configuration feature.
id	A String. Unique identifier.
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.
policyConstraint	A PolicyRef. Reference to managed Policy object.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

FeatureRelationship sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
relationshipType	A String. This is the type of the feature relationship.
topicRef	A String. A reference to the topic from which this entity can be fetched.

validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

IntentRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

LogicalResource sub-resource fields

administrativeState	A ResourceAdministrativeStateType. ResourceAdministrativeStateType enumerations.
operationalState	A ResourceOperationalStateType. ResourceOperationalStateType enumerations.
resourceStatus	A ResourceStatusType. ResourceStatusType enumerations.
usageState	A ResourceUsageStateType. ResourceUsageStateType enumerations.
value	A String. The value of the logical resource. E.g '0746712345' for MSISDN's.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

Note sub-resource fields

author	A String. Author of the note.
date	A DateTime. Date of the note.
id	A String. Identifier of the note within its containing entity.
text	A String. Text of the note.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

PartyRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

PartyRoleRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
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.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.

@schemaLocation	A String. 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.

PhysicalResource sub-resource fields

administrativeState	A ResourceAdministrativeStateType. ResourceAdministrativeStateType enumerations.
manufactureDate	A DateTime. This is a string attribute that defines the date of manufacture of this item in the fixed format "dd/mm/yyyy". This is an optional attribute.
operationalState	A ResourceOperationalStateType. ResourceOperationalStateType enumerations.
powerState	A String. This defines the current power status of the hardware item. Values include: 0: Unknown 1: Not Applicable 2: No Power Applied 3: Full Power Applied 4: Power Save - Normal 5: Power Save - Degraded 6: Power Save - Standby 7: Power Save - Critical 8: Power Save - Low Power Mode 9: Power Save - Unknown 10: Power Cycle 11: Power Warning 12: Power Off.
resourceStatus	A ResourceStatusType. ResourceStatusType enumerations.
serialNumber	A String. This is a string that represents a manufacturer-allocated number used to identify different instances of the same hardware item. The ModelNumber and PartNumber attributes are used to identify different types of hardware items. This is a REQUIRED attribute.
usageState	A ResourceUsageStateType. ResourceUsageStateType enumerations.
versionNumber	A String. This is a string that identifies the version of this physical resource. This is an optional attribute.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

PlaceRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

PolicyRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
version	A String.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

RelatedPartyRefOrPartyRoleRef sub-resource fields

partyOrPartyRole	A PartyRefOrPartyRoleRef.
role	A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

RelatedPlaceRef sub-resource fields

place	A PlaceRef. Place reference.
role	A String.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

RelatedResourceOrderItem sub-resource fields

itemAction	An OrderItemActionType. Action to be performed on the product.
itemId	A String. Identifier of the order item where the resource was managed.
resourceOrderHref	A String. Reference of the related entity.
resourceOrderId	A String. Unique identifier of a related entity.
role	A String. Role of the resource order item for this resource.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

ResourceRelationship sub-resource fields

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 ResourceRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Resource entity and not the ResourceRefOrValue class itself.

resourceRelationshipCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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 sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
version	A String. Resource Specification version.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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(s)

We provide below a JSON representation as example of the 'Resource' resource object.

```
{
  "id" : "8044",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8044",
  "description" : "This is a Router resource with the category Router and with a
reserved resourceStatus for organisations.",
  "category" : "Router",
  "startOperatingDate" : "2020-03-04T00:00.000Z",
  "endOperatingDate" : "2023-09-04T08:00.000Z",
  "administrativeState" : "locked",
  "operationalState" : "enable",
```

```
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "relatedParty" : [ {
    "role" : "user",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "href" : "https://server:port/tmf-api/partyManagement/v5/individual/456",
      "id" : "456",
      "name" : "John Doe",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://server:port/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "note" : [ {
    "text" : "something about this resource",
    "@type" : "Note"
  } ],
  "place" : {
    "role" : "installationAddress",
    "@type" : "RelatedPlaceRefOrValue",
    "place" : {
      "id" : "9912",
      "href" :
"https://host:port/geographicAddressManagement/v5/geographicAddress/9912",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
  },
  "resourceRelationship" : [ {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "@type" : "ResourceRef",
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "45",
```

```
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/45",
      "@type" : "ResourceRef",
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

We provide below a JSON representation as example of the 'Resource' resource object.

```
{
  "id" : "44",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
  "description" : "This is Port 1 contained in the Router.",
  "category" : "Port",
  "@type" : "Resource",
  "resourceSpecification" : {
    "id" : "1004",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

LogicalResource resource

Logic resource is a type of resource that describes the common set of attributes shared by all concrete logical resources (e.g. TPE, MSISDN, IP Addresses) in the inventory.

Resource model

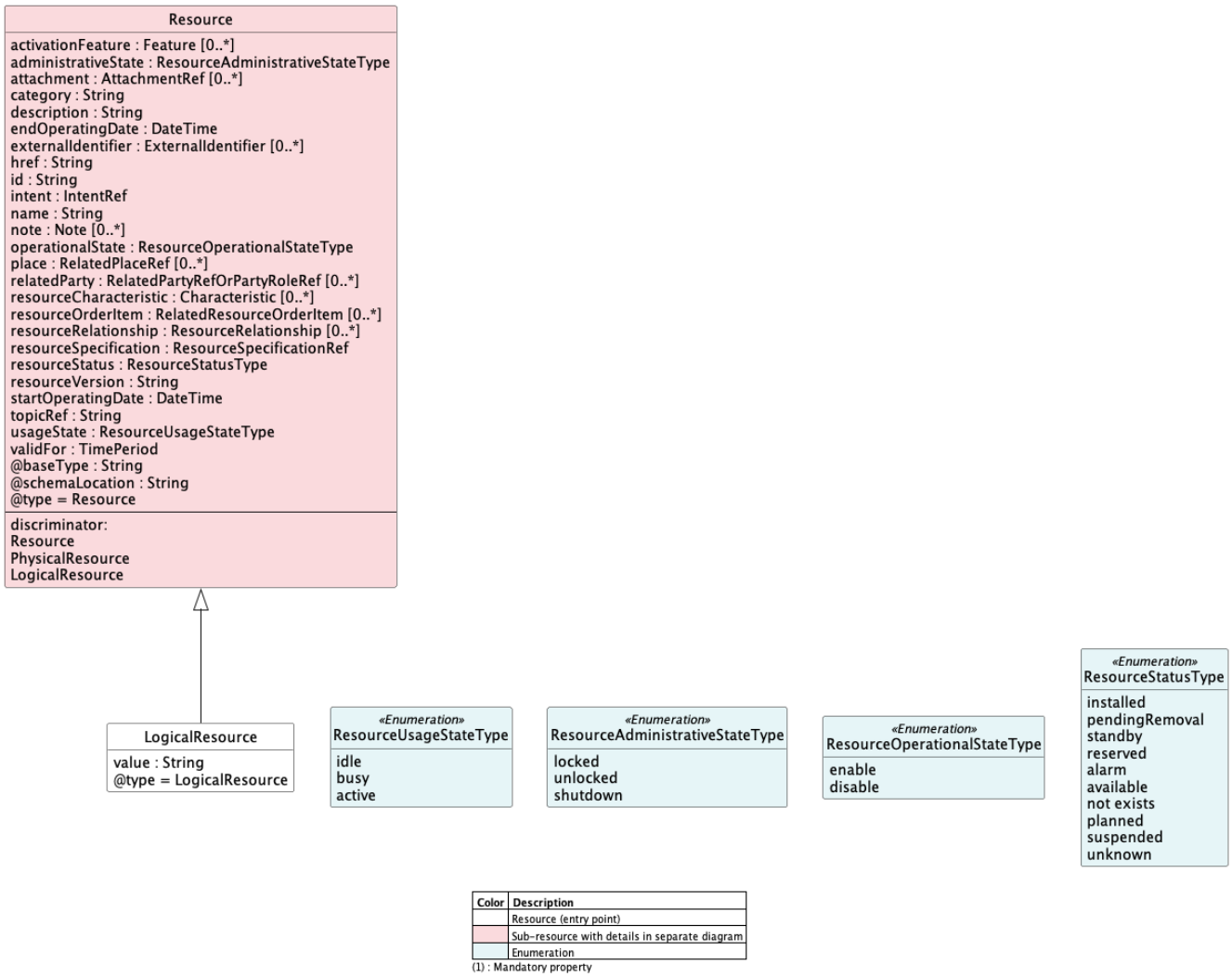

Figure 2 - LogicalResource

Field descriptions

LogicalResource fields

administrativeState	A ResourceAdministrativeStateType. ResourceAdministrativeStateType enumerations.
operationalState	A ResourceOperationalStateType. ResourceOperationalStateType enumerations.
resourceStatus	A ResourceStatusType. ResourceStatusType enumerations.
usageState	A ResourceUsageStateType. ResourceUsageStateType enumerations.
value	A String. The value of the logical resource. E.g '0746712345' for MSISDN's.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

AttachmentRef sub-resource fields

description	A String. A narrative text describing the content of the attachment.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
url	A String. Link to the attachment media/content.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

Characteristic sub-resource fields

characteristicRelationship	A 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.
valueType	A String. Data type of the value of the characteristic.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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 sub-resource fields

id	A String. Unique identifier of the characteristic.
relationshipType	A String. The type of relationship.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

ExternalIdentifier sub-resource fields

externalIdentifierType	A String. Type of the identification, typically would be the type of the entity within the external system.
id	A String. Identification of the entity within the external system.
owner	A String. Name of the external system that owns the entity.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

Feature sub-resource fields

featureCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...
featureRelationship	A FeatureRelationship. Configuration feature.
id	A String. Unique identifier.
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.
policyConstraint	A PolicyRef. Reference to managed Policy object.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

FeatureRelationship sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
relationshipType	A String. This is the type of the feature relationship.
topicRef	A String. A reference to the topic from which this entity can be fetched.

validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

IntentRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

Note sub-resource fields

author	A String. Author of the note.
date	A DateTime. Date of the note.
id	A String. Identifier of the note within its containing entity.
text	A String. Text of the note.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

PartyRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.

name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

PartyRoleRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
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.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

PlaceRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.

@schemaLocation	A String. 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.

PolicyRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
version	A String.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

RelatedPartyRefOrPartyRoleRef sub-resource fields

partyOrPartyRole	A PartyRefOrPartyRoleRef.
role	A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

RelatedPlaceRef sub-resource fields

place	A PlaceRef. Place reference.
role	A String.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

RelatedResourceOrderItem sub-resource fields

itemAction	An OrderItemActionType. Action to be performed on the product.
itemId	A String. Identifier of the order item where the resource was managed.
resourceOrderHref	A String. Reference of the related entity.
resourceOrderId	A String. Unique identifier of a related entity.
role	A String. Role of the resource order item for this resource.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

Resource sub-resource fields

activationFeature	A Feature. Configuration feature.
administrativeState	A ResourceAdministrativeStateType. ResourceAdministrativeStateType enumerations.
attachment	An AttachmentRef. Attachment reference. An attachment complements the description of an element (for instance a product) through video, pictures.
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 DateTime. A date time(DateTime). The date till the resource is operating.

externalIdentifier	An ExternalIdentifier. An identification of an entity that is owned by or originates in a software system different from the current system, for example a ProductOrder handed off from a commerce platform into an order handling system. The structure identifies the system itself, the nature of the entity within the system (e.g. class name) and the unique ID of the entity within the system. It is anticipated that multiple external IDs can be held for a single entity, e.g. if the entity passed through multiple systems on the way to the current system. In this case the consumer is expected to sequence the IDs in the array in reverse order of provenance, i.e. most recent system first in the list.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
intent	An IntentRef. Intent reference, for when Intent is used by other entities.
name	A String. The name of the resource.
note	A Note. Extra information about a given entity.
operationalState	A ResourceOperationalStateType. ResourceOperationalStateType enumerations.
place	A RelatedPlaceRef. Entity reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the RelatedPlace entity and not the RelatedPlaceRef class itself.
relatedParty	A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
resourceCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic…
resourceOrderItem	A RelatedResourceOrderItem. RelatedResourceOrderItem (a ResourceOrder item) .The resource order item which triggered resource creation/change/termination.

resourceRelationship	A 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 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 ResourceStatusType. ResourceStatusType enumerations.
resourceVersion	A String. A field that identifies the specific version of an instance of a resource.
startOperatingDate	A DateTime. A date time(DateTime). The date from which the resource is operating.
topicRef	A String. A reference to the topic from which this entity can be fetched.
usageState	A ResourceUsageStateType. ResourceUsageStateType enumerations.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

ResourceRelationship sub-resource fields

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 ResourceRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Resource entity and not the ResourceRefOrValue class itself.
resourceRelationshipCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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 sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
version	A String. Resource Specification version.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

PhysicalResource resource

Physical resource is a type of resource that describes the common set of attributes shared by all concrete physical resources (e.g. EQUIPMENT) in the inventory.

Resource model

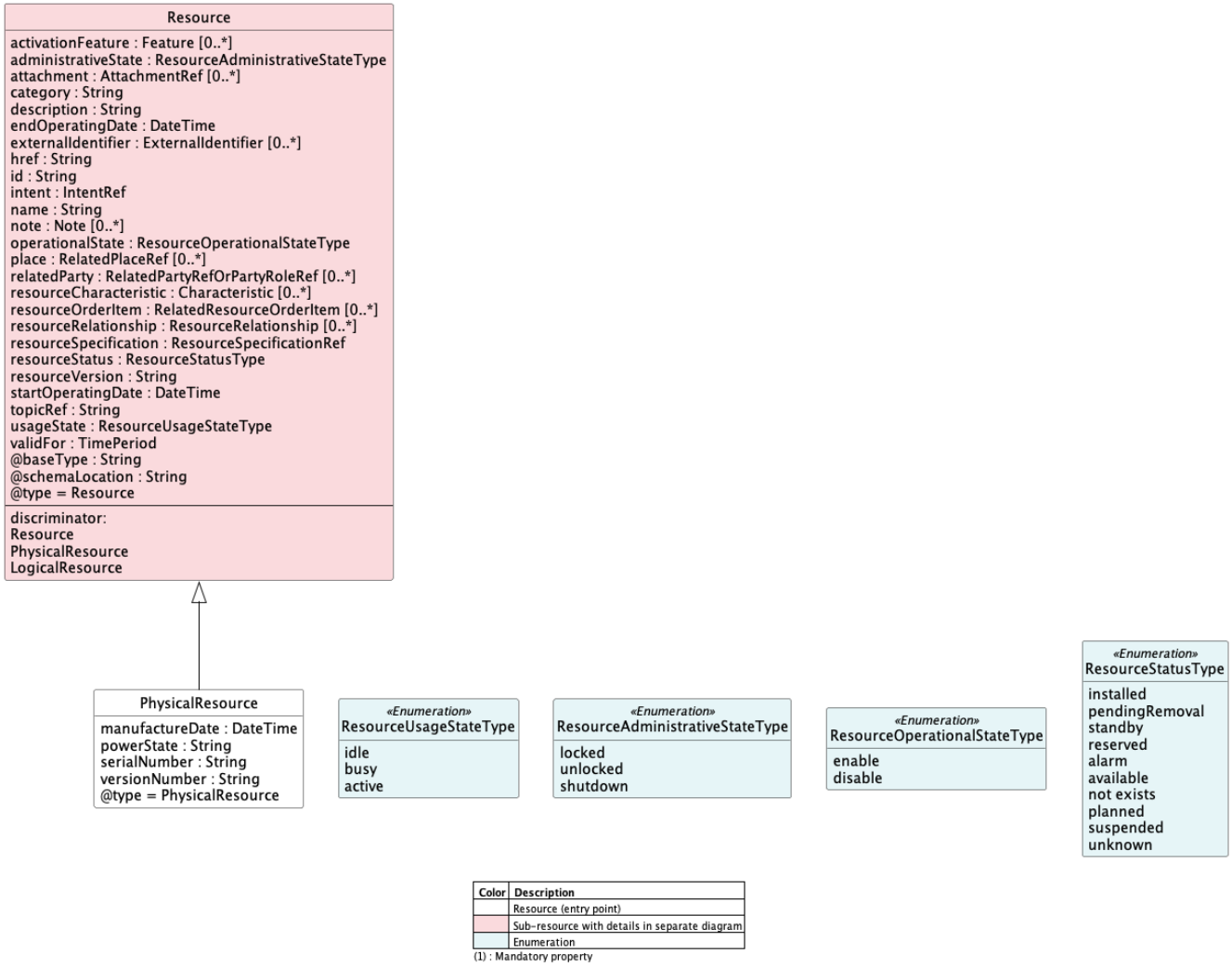

Figure 3 - PhysicalResource

Field descriptions

PhysicalResource fields

administrativeState	A ResourceAdministrativeStateType. ResourceAdministrativeStateType enumerations.
manufactureDate	A DateTime. This is a string attribute that defines the date of manufacture of this item in the fixed format "dd/mm/yyyy". This is an optional attribute.
operationalState	A ResourceOperationalStateType. ResourceOperationalStateType enumerations.

powerState	A String. This defines the current power status of the hardware item. Values include: 0: Unknown 1: Not Applicable 2: No Power Applied 3: Full Power Applied 4: Power Save - Normal 5: Power Save - Degraded 6: Power Save - Standby 7: Power Save - Critical 8: Power Save - Low Power Mode 9: Power Save - Unknown 10: Power Cycle 11: Power Warning 12: Power Off.
resourceStatus	A ResourceStatusType. ResourceStatusType enumerations.
serialNumber	A String. This is a string that represents a manufacturer-allocated number used to identify different instances of the same hardware item. The ModelNumber and PartNumber attributes are used to identify different types of hardware items. This is a REQUIRED attribute.
usageState	A ResourceUsageStateType. ResourceUsageStateType enumerations.
versionNumber	A String. This is a string that identifies the version of this physical resource. This is an optional attribute.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

AttachmentRef sub-resource fields

description	A String. A narrative text describing the content of the attachment.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
url	A String. Link to the attachment media/content.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.

@schemaLocation	A String. 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.

Characteristic sub-resource fields

characteristicRelationship	A 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.
valueType	A String. Data type of the value of the characteristic.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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 sub-resource fields

id	A String. Unique identifier of the characteristic.
relationshipType	A String. The type of relationship.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

ExternalIdentifier sub-resource fields

externalIdentifierType	A String. Type of the identification, typically would be the type of the entity within the external system.
id	A String. Identification of the entity within the external system.
owner	A String. Name of the external system that owns the entity.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

Feature sub-resource fields

featureCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...
featureRelationship	A FeatureRelationship. Configuration feature.
id	A String. Unique identifier.
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.
policyConstraint	A PolicyRef. Reference to managed Policy object.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

FeatureRelationship sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
relationshipType	A String. This is the type of the feature relationship.
topicRef	A String. A reference to the topic from which this entity can be fetched.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

IntentRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

Note sub-resource fields

author	A String. Author of the note.
date	A DateTime. Date of the note.
id	A String. Identifier of the note within its containing entity.
text	A String. Text of the note.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

PartyRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

PartyRoleRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
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.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

PlaceRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

PolicyRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.

topicRef	A String. A reference to the topic from which this entity can be fetched.
version	A String.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

RelatedPartyRefOrPartyRoleRef sub-resource fields

partyOrPartyRole	A PartyRefOrPartyRoleRef.
role	A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

RelatedPlaceRef sub-resource fields

place	A PlaceRef. Place reference.
role	A String.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

RelatedResourceOrderItem sub-resource fields

itemAction	An OrderItemActionType. Action to be performed on the product.
itemId	A String. Identifier of the order item where the resource was managed.
resourceOrderHref	A String. Reference of the related entity.
resourceOrderId	A String. Unique identifier of a related entity.

role	A String. Role of the resource order item for this resource.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

Resource sub-resource fields

activationFeature	A Feature. Configuration feature.
administrativeState	A ResourceAdministrativeStateType. ResourceAdministrativeStateType enumerations.
attachment	An AttachmentRef. Attachment reference. An attachment complements the description of an element (for instance a product) through video, pictures.
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 DateTime. A date time(DateTime). The date till the resource is operating.
externalIdentifier	An ExternalIdentifier. An identification of an entity that is owned by or originates in a software system different from the current system, for example a ProductOrder handed off from a commerce platform into an order handling system. The structure identifies the system itself, the nature of the entity within the system (e.g. class name) and the unique ID of the entity within the system. It is anticipated that multiple external IDs can be held for a single entity, e.g. if the entity passed through multiple systems on the way to the current system. In this case the consumer is expected to sequence the IDs in the array in reverse order of provenance, i.e. most recent system first in the list.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
intent	An IntentRef. Intent reference, for when Intent is used by other entities.
name	A String. The name of the resource.
note	A Note. Extra information about a given entity.

operationalState	A ResourceOperationalStateType. ResourceOperationalStateType enumerations.
place	A RelatedPlaceRef. Entity reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the RelatedPlace entity and not the RelatedPlaceRef class itself.
relatedParty	A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
resourceCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...
resourceOrderItem	A RelatedResourceOrderItem. RelatedResourceOrderItem (a ResourceOrder item) .The resource order item which triggered resource creation/change/termination.
resourceRelationship	A 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 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 ResourceStatusType. ResourceStatusType enumerations.

resourceVersion	A String. A field that identifies the specific version of an instance of a resource.
startOperatingDate	A DateTime. A date time(DateTime). The date from which the resource is operating.
topicRef	A String. A reference to the topic from which this entity can be fetched.
usageState	A ResourceUsageStateType. ResourceUsageStateType enumerations.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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.

ResourceRelationship sub-resource fields

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 ResourceRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Resource entity and not the ResourceRefOrValue class itself.
resourceRelationshipCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. 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 sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
version	A String. Resource Specification version.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. 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.

Notification Resource Models

4 notifications are defined for this API.

Notifications related to Resource:

- Resource Create Event
- Resource Delete Event
- Resource Attribute Value Change Event
- Resource State Change Event

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).

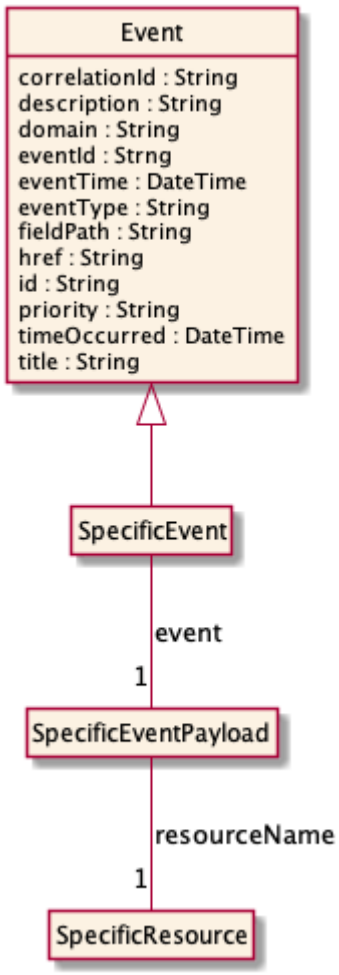

Figure 4 Notification Pattern

Resource Create Event

Message example for ResourceCreateEvent event

```
Content-Type: application/json

{
  "correlationId" : "73d0c149-b4e0",
  "description" : "ResourceCreateEvent illustration",
  "domain" : "Commercial",
  "eventId" : "411f-a2c0-bd4519deeaa2",
  "eventTime" : "2022-08-25T12:19:41.419Z",
  "eventType" : "ResourceCreateEvent",
  "priority" : "4",
  "timeOcurred" : "2022-08-25T12:19:34.183Z",
  "title" : "ResourceCreateEvent",
  "event" : {
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "description" : "This is Port 1 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
```

```
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    },
    "@type" : "ResourceCreateEventPayload"
  },
  "reportingSystem" : {
    "id" : "445",
    "name" : "APP-655",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "62",
    "name" : "APP-182",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "ResourceCreateEvent"
}
```

Resource Delete Event

Message example for ResourceDeleteEvent event

```
Content-Type: application/json

{
  "correlationId" : "dbd2cdb0-3631",
  "description" : "ResourceDeleteEvent illustration",
  "domain" : "Commercial",
  "eventId" : "403f-810a-354d44291cc0",
  "eventTime" : "2022-08-25T12:19:41.451Z",
  "eventType" : "ResourceDeleteEvent",
  "priority" : "1",
  "timeOcurred" : "2022-08-25T12:19:36.643Z",
  "title" : "ResourceDeleteEvent",
  "event" : {
    "resource" : {
```

```
      "id" : "44",
      "@type" : "Resource"
    },
    "@type" : "ResourceDeleteEventPayload"
  },
  "reportingSystem" : {
    "id" : "445",
    "name" : "APP-655",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "62",
    "name" : "APP-182",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "ResourceDeleteEvent"
}
```

Resource Attribute Value Change Event

Message example for ResourceAttributeValueChangeEvent event

```
Content-Type: application/json

{
  "correlationId" : "da76162e-c8ca",
  "description" : "ResourceAttributeValueChangeEvent illustration",
  "domain" : "Commercial",
  "eventId" : "4d1f-ac04-980d628aabcc",
  "eventTime" : "2022-08-25T12:19:41.429Z",
  "eventType" : "ResourceAttributeValueChangeEvent",
  "priority" : "3",
  "timeOcurred" : "2022-08-25T12:19:38.049Z",
  "title" : "ResourceAttributeValueChangeEvent",
  "event" : {
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "name" : "Port 1",
      "@type" : "Resource",
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    },
    "@type" : "ResourceAttributeValueChangeEventPayload"
  },
  "reportingSystem" : {
```

```
    "id" : "445",
    "name" : "APP-655",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "62",
    "name" : "APP-182",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "ResourceAttributeValueChangeEvent"
}
```

Resource State Change Event

Message example for ResourceStateChangeEvent event

```
Content-Type: application/json

{
  "correlationId" : "c9ac271e-1cf8",
  "description" : "ResourceStateChangeEvent illustration",
  "domain" : "Commercial",
  "eventId" : "48cf-bf1d-53aec2ec89f8",
  "eventTime" : "2022-08-25T12:19:41.440Z",
  "eventType" : "ResourceStateChangeEvent",
  "priority" : "4",
  "timeOcurred" : "2022-08-25T12:19:38.764Z",
  "title" : "ResourceStateChangeEvent",
  "event" : {
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "administrativeState" : "shutdown",
      "operationalState" : "disable",
      "usageState" : "idle",
      "resourceStaus" : "suspended",
      "@type" : "Resource",
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    },
    "@type" : "ResourceStateChangeEventPayload"
  },
  "reportingSystem" : {
    "id" : "445",
    "name" : "APP-655",
    "@type" : "ReportingResource",
```

```
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "62",
    "name" : "APP-182",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "ResourceStateChangeEvent"
}
```

API OPERATIONS

Every operation consists of two parts:

- REQUEST: Publish a message on a 'commandRequest' channel.
- RESPONSE: Subscribe to the corresponding 'commandReply' channel to receive the response.

Remember the following Async Uniform Contract:

Operation on Entities	Uniform Async API Operation	Description
Query One Entity	retrieveResource	retrieve must be used to retrieve a representation of a resource.
Query Entities	listResource	list must be used to retrieve a list of resources.
Create Entity	createResource	create must be used to create a new resource
Partial Update of an Entity	patchResource	patch must be used to partially update a resource
Remove an Entity	deleteResource	delete must be used to remove a resource

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

Notifications are also described in a subsequent section.

Operations on Resource

Retrieves a Resource by ID

Request topic: {prefix}.resource.v5.retrieveResource.commandRequest

Reply topic: {prefix}.resource.v5.retrieveResource.commandReply

Description

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

Usage samples

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.resource.v5.retrieveResource.commandReply
Parameters: {
```

```
    "id": 8044
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.resource.v5.retrieveResource.commandRequest
```

Response Payload

```
{
  "id" : "8044",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8044",
  "description" : "This is a Router resource with the category Router and with a
reserved resourceStatus for organisations.",
  "category" : "Router",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "endOperatingDate" : "2023-09-04T08:00:00.000Z",
  "administrativeState" : "locked",
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "relatedParty" : [ {
    "role" : "user",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "href" : "https://server:port/tmf-api/partyManagement/v5/individual/456",
      "id" : "456",
      "name" : "John Doe",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://server:port/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "note" : [ {
    "text" : "something about this resource",
    "@type" : "Note"
  } ],
  "place" : [ {
    "role" : "installationAddress",
    "@type" : "RelatedPlaceRefOrValue",
    "place" : {
      "id" : "9912",
      "href" :
"https://host:port/geographicAddressManagement/v5/geographicAddress/9912",
```

```
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
  } ],
  "resourceRelationship" : [ {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "@type" : "ResourceRef",
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "45",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/45",
      "@type" : "ResourceRef",
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

List or find Resource objects

Request topic: {prefix}.resource.v5.listResource.commandRequest

Reply topic: {prefix}.resource.v5.listResource.commandReply

Description

This operation list Resource 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 a list of Resource(s). The given criteria is the category (Router) and state (active).

Request Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.resource.v5.listResource.commandReply
```

Request message header

```
{
    "Parameters": {
        "fields": "id,href,@type,category,usageState",
        "filtering": "category=Router&usageState=active"
    }
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.resource.v5.listResource.commandRequest
```

Response Payload

```
{
  "id" : "8044",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8044",
  "@type" : "Resource",
  "category" : "Router",
  "usageState" : "active",
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

Creates a Resource

Request topic: {prefix}.resource.v5.createResource.commandRequest

Reply topic: {prefix}.resource.v5.createResource.commandReply

Description

This operation creates a Resource entity.

Usage samples

Creation of a new Resource having also new Sub-Resources via a POST operation

Request Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.resource.v5.createResource.commandReply
```

Request Payload

```
{
  "category" : "Router",
  "name" : "Name of the resource",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "administrativeState" : "locked",
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "relatedParty" : [ {
    "role" : "user",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "href" : "https://server:port/tmf-api/partyManagement/v5/individual/456",
      "id" : "456",
      "name" : "John Doe",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://server:port/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "note" : [ {
    "text" : "router installed at the user's premise",
    "@type" : "Note"
  } ],
  "place" : [ {
    "role" : "installationAddress",
    "@type" : "RelatedPlaceRefOrValue",
    "place" : {
      "id" : "9912",
      "href" :
```

```
"https://host:port/geographicAddressManagement/v5/geographicAddress/9912",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
  } ],
  "resourceRelationship" : [ {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "description" : "This is Port 1 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      }
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "description" : "This is Port 2 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      }
    }
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
```

```
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  }
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 201
X-Request-Channel: {prefix}.resource.v5.createResource.commandRequest
```

Response Payload

```
{
  "id" : "8044",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8044",
  "category" : "Router",
  "name" : "Name of the resource",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "administrativeState" : "locked",
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "relatedParty" : [ {
    "role" : "user",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "href" : "https://server:port/tmf-api/partyManagement/v5/individual/456",
      "id" : "456",
      "name" : "John Doe",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://server:port/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "note" : [ {
    "text" : "router installed at the user's premise",
    "@type" : "Note"
  } ],
  "place" : [ {
    "role" : "installationAddress",
    "@type" : "RelatedPlaceRefOrValue",
    "place" : {
      "id" : "9912",
      "href" :
```

```
"https://host:port/geographicAddressManagement/v5/geographicAddress/9912",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
  } ],
  "resourceRelationship" : [ {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "description" : "This is Port 2 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "45",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/45",
      "description" : "This is Port 2 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
```

```
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

Creation of a new Resource with Intent and POST operation

Request Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.resource.v5.createResource.commandReply
```

Request Payload

```
{
  "category" : "Router",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "administrativeState" : "locked",
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "resourceCharacteristic" : [ {
    "name" : "premiumValue",
    "valueType" : "string",
    "value" : "gold",
    "@type" : "StringCharacteristic"
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
```

```
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "intent" : {
    "id" : "42",
    "href" : "http://server:port/intentManagement/v5/intent/42",
    "@type" : "Intent",
    "description" : "Intent for ordering live broadcast service for an event",
    "validFor" : {
      "startDateTime" : "2022-10-23T00:30:00.00Z",
      "endDateTime" : "2022-10-19T23:30:00.00Z"
    },
    "isBundle" : true,
    "version" : "1.0.0",
    "intentSpecification" : {
      "@type" : "IntentSpecificationRef",
      "id" : "EventLiveBroadcast_IntentSpec",
      "name" : "EventLiveBroadcastIntentSpec",
      "@referredType" : "IntentSpecification",
      "@href" : "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "name" : "EventLiveBroadcast",
    "expression" : {
      "@type" : "JsonLdExpression",
      "expressionValue" : {
        "@context" : {
          "icm" : "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
          "cat" : "http://www.operator.com/Catalog#",
          "idan" : "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
          "xsd" : "http://www.w3.org/2001/XMLSchema#",
          "t" : "http://www.w3.org/2006/time#",
          "elb" : "http://www.operator.com/Catalog/EventWirelessAccess#",
          "app" : "http://www.operator.com/Catalog/StreamingApplication#",
          "geo" : "https://tmforum.org/2020/07/geographicPoint#"
        },
        "idan:EventLiveBroadcast000001" : {
          "@type" : "icm:Intent",
          "icm:intentOwner" : "idan:Salesforce",
          "icm:hasExpectation" : {
            "idan:Delivery_service" : {
              "@type" : "icm:DeliveryExpectation",
              "icm:target" : "_:service",
              "icm:params" : {
                "icm:targetDescription" : "cat:EventWirelessAccess"
              }
            },
            "idan:Delivery_app" : {
              "@type" : "icm:DeliveryExpectation",
              "icm:target" : "_:application",
```

```
      "icm:params" : {
        "icm:targetDescription" : "cat:StreamingApplication"
      }
    },
    "idan:Property_service" : {
      "@type" : "icm:PropertyExpectation",
      "icm:target" : "_:service",
      "icm:params" : {
        "elb:serviceQuality" : [ {
          "icm:value" : "4KUHD"
        } ],
        "elb:numberOfParticipants" : [ {
          "icm:atMost" : "200"
        } ],
        "elb:areaOfService" : [ {
          "geo:geographicPoints" : [ {
            "geo:longitude" : 90,
            "geo:latitude" : 44,
            "geo:altitude" : 84
          }, {
            "geo:longitude" : 84,
            "geo:latitude" : -12,
            "geo:altitude" : 24
          }, {
            "geo:longitude" : 131,
            "geo:latitude" : -36,
            "geo:altitude" : 29
          }, {
            "geo:longitude" : 7,
            "geo:latitude" : 81,
            "geo:altitude" : -42
          } ]
        } ]
      }
    },
    "idan:Property_app" : {
      "@type" : "icm:PropertyExpectation",
      "icm:target" : "_:application",
      "icm:params" : {
        "app:appType" : [ {
          "icm:value" : "AWS MediaLive"
        }, {
          "icm:value" : "Facebook Live"
        }, {
          "icm:value" : "YouTube"
        } ]
      }
    },
    "idan:Reporting" : {
      "@type" : "icm:ReportingExpectation",
      "icm:target" : "idan:EventLiveBroadcast",
```

```
              "icm:params" : {
                "icm:reportingInterval" : [ {
                  "t:Duration" : [ {
                    "t:numbericDuration" : 10,
                    "t:temporalUnit" : "unitMinute"
                  } ]
                } ],
                "icm:reportingEvent" : [ "icm:StateComplies", "icm:StateDegrades" ]
              }
            }
          }
        }
      }
    },
    "topicRef" :
"kafka://server:port/{prefix}.intentManagement.v5.retrieveIntent.commandRequest"
  }
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 201
X-Request-Channel: {prefix}.resource.v5.createResource.commandRequest
```

Response Payload

```
{
  "id" : "8045",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8045",
  "category" : "Router",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "administrativeState" : "locked",
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "resourceCharacteristic" : [ {
    "name" : "premiumValue",
    "valueType" : "string",
    "value" : "gold",
    "@type" : "StringCharacteristic"
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" :
"http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
```

```
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "intent" : {
    "id" : "42",
    "href" : "http://server:port/intentManagement/v5/intent/42",
    "@type" : "Intent",
    "description" : "Intent for ordering live broadcast service for an event",
    "validFor" : {
      "startDateTime" : "2022-10-23T00:30:00.00Z",
      "endDateTime" : "2022-10-19T23:30:00.00Z"
    },
    "isBundle" : true,
    "version" : "1.0.0",
    "intentSpecification" : {
      "@type" : "IntentSpecificationRef",
      "id" : "EventLiveBroadcast_IntentSpec",
      "name" : "EventLiveBroadcastIntentSpec",
      "@referredType" : "IntentSpecification",
      "@href" : "/intent/v5/IntentSpecification/EventLiveBroadcast_IntentSpec"
    },
    "name" : "EventLiveBroadcast",
    "expression" : {
      "@type" : "JsonLdExpression",
      "expressionValue" : {
        "@context" : {
          "icm" : "http://www.models.tmforum.org/tio/v1.0.0/IntentCommonModel#",
          "cat" : "http://www.operator.com/Catalog#",
          "idan" : "http://www.idan-tmforum-
catalyst.org/IntentDrivenAutonomousNetworks#",
          "xsd" : "http://www.w3.org/2001/XMLSchema#",
          "t" : "http://www.w3.org/2006/time#",
          "elb" : "http://www.operator.com/Catalog/EventWirelessAccess#",
          "app" : "http://www.operator.com/Catalog/StreamingApplication#",
          "geo" : "https://tmforum.org/2020/07/geographicPoint#"
        },
        "idan:EventLiveBroadcast000001" : {
          "@type" : "icm:Intent",
          "icm:intentOwner" : "idan:Salesforce",
          "icm:hasExpectation" : {
            "idan:Delivery_service" : {
              "@type" : "icm:DeliveryExpectation",
              "icm:target" : "_:service",
              "icm:params" : {
                "icm:targetDescription" : "cat:EventWirelessAccess"
              }
            },
            "idan:Delivery_app" : {
              "@type" : "icm:DeliveryExpectation",
```

```
      "icm:target" : "_:application",
      "icm:params" : {
        "icm:targetDescription" : "cat:StreamingApplication"
      }
    },
    "idan:Property_service" : {
      "@type" : "icm:PropertyExpectation",
      "icm:target" : "_:service",
      "icm:params" : {
        "elb:serviceQuality" : [ {
          "icm:value" : "4KUHD"
        } ],
        "elb:numberOfParticipants" : [ {
          "icm:atMost" : "200"
        } ],
        "elb:areaOfService" : [ {
          "geo:geographicPoints" : [ {
            "geo:longitude" : 90,
            "geo:latitude" : 44,
            "geo:altitude" : 84
          }, {
            "geo:longitude" : 84,
            "geo:latitude" : -12,
            "geo:altitude" : 24
          }, {
            "geo:longitude" : 131,
            "geo:latitude" : -36,
            "geo:altitude" : 29
          }, {
            "geo:longitude" : 7,
            "geo:latitude" : 81,
            "geo:altitude" : -42
          } ]
        } ]
      }
    },
    "idan:Property_app" : {
      "@type" : "icm:PropertyExpectation",
      "icm:target" : "_:application",
      "icm:params" : {
        "app:appType" : [ {
          "icm:value" : "AWS MediaLive"
        }, {
          "icm:value" : "Facebook Live"
        }, {
          "icm:value" : "YouTube"
        } ]
      }
    },
    "idan:Reporting" : {
      "@type" : "icm:ReportingExpectation",
```

```
              "icm:target" : "idan:EventLiveBroadcast",
              "icm:params" : {
                "icm:reportingInterval" : [ {
                  "t:Duration" : [ {
                    "t:numbericDuration" : 10,
                    "t:temporalUnit" : "unitMinute"
                  } ]
                } ],
                "icm:reportingEvent" : [ "icm:StateComplies", "icm:StateDegrades" ]
              }
            }
          }
        }
      }
    },
    "lastUpdate" : "2023-03-09T08:42:33.044Z",
    "topicRef" :
"kafka://server:port/{prefix}.intentManagement.v5.retrieveIntent.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

Updates partially a Resource

Request topic: {prefix}.resource.v5.patchResource.commandRequest

Reply topic: {prefix}.resource.v5.patchResource.commandReply

Description

This operation allows partial updates of a Resource entity. Support of json/merge (https://tools.ietf.org/html/rfc7386) is mandatory, support of json/patch (http://tools.ietf.org/html/rfc5789) is optiona. 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 createResource operation applies to the patchResource operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

Non Patchable Attributes	Rule
href	
id	

Patchable Attributes	Rule
activationFeature	
administrativeState	

Patchable Attributes	Rule
attachment	
category	
description	
endOperatingDate	
intent	
note	
operationalState	
place	
relatedParty	
resourceCharacteristic	
resourceRelationship	
resourceSpecification	
resourceStatus	
resourceVersion	
startOperatingDate	
usageState	

Usage samples

Update a Resource using json-patch-query+json

This example uses the PatchResourcePatchQueryRequest request message (used for a payload of type application/json-patch-query+json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.resource.v5.patchResource.commandReply
Parameters: {
    "id": 8044
}
```

Request Payload

```
[ {
  "op" : "add",
  "path" :
"resource[?(@.category=='Router')].resourceRelationship[?(@.relationshipType=='contain
s')].resource[*]",
  "value" : {
    "resourceStatus" : "standby",
```

```
    "operationalState" : "enable"
  }
} ]
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.resource.v5.patchResource.commandRequest
```

Response Payload

```
{
  "id" : "8044",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8044",
  "category" : "Router",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "administrativeState" : "unlocked",
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "relatedParty" : [ {
    "role" : "user",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "href" : "https://server:port/tmf-api/partyManagement/v5/individual/456",
      "id" : "456",
      "name" : "John Doe",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://server:port/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "note" : [ {
    "text" : "router installed at the user's premise",
    "@type" : "Note"
  } ],
  "place" : [ {
    "role" : "installationAddress",
    "@type" : "RelatedPlaceRefOrValue",
    "place" : {
      "id" : "9912",
      "href" :
"https://host:port/geographicAddressManagement/v5/geographicAddress/9912",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
```

```
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
  } ],
  "resourceRelationship" : [ {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "description" : "This is Port 1 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "45",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/45",
      "description" : "This is Port 2 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
```

```
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "56",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/56",
      "description" : "This is Port 15 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

Update a Resource using json-patch

This example uses the PatchResourceJsonPatchRequest request message (used for a payload of type application/json-patch+json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.resource.v5.patchResource.commandReply
Parameters: {
    "id": 8044
```

```
}
```

Request Payload

```
[ {
  "op" : "replace",
  "path" : "/administrativeState",
  "value" : "unlocked"
}, {
  "op" : "add",
  "path" : "/resourceRelationship",
  "valueType" : "object",
  "value" : {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "description" : "This is Port 15 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      }
    }
  }
} ]
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.resource.v5.patchResource.commandRequest
```

Response Payload

```
{
  "id" : "8044",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8044",
  "category" : "Router",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "administrativeState" : "unlocked",
```

```
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "relatedParty" : [ {
    "role" : "user",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "href" : "https://server:port/tmf-api/partyManagement/v5/individual/456",
      "id" : "456",
      "name" : "John Doe",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://server:port/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "note" : [ {
    "text" : "router installed at the user's premise",
    "@type" : "Note"
  } ],
  "place" : [ {
    "role" : "installationAddress",
    "@type" : "RelatedPlaceRefOrValue",
    "place" : {
      "id" : "9912",
      "href" :
"https://host:port/geographicAddressManagement/v5/geographicAddress/9912",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
  } ],
  "resourceRelationship" : [ {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "description" : "This is Port 1 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
```

```
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "45",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/45",
      "description" : "This is Port 2 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "56",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/56",
      "description" : "This is Port 15 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
```

```
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

PATCH Resource request leveraging merge-patch+json application example

This example uses the PatchResourceMergePatchRequest request message (used for a payload of type application/merge-patch+json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.resource.v5.patchResource.commandReply
Parameters: {
    "id": 8044
}
```

Request Payload

```
{
  "@type" : "Resource",
  "place" : [ {
    "@type" : "RelatedPlaceRefOrValue",
    "role" : "installationAddress",
    "place" : {
      "id" : "9012",
      "href" :
"https://host:port/geographicAddressManagement/v5/geographicAddress/9012",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
```

```
  } ]
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.resource.v5.patchResource.commandRequest
```

Response Payload

```
{
  "id" : "8044",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8044",
  "category" : "Router",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "administrativeState" : "locked",
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "relatedParty" : [ {
    "role" : "user",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "href" : "https://server:port/tmf-api/partyManagement/v5/individual/456",
      "id" : "456",
      "name" : "John Doe",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://server:port/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "note" : [ {
    "text" : "router installed at the user's premise",
    "@type" : "Note"
  } ],
  "place" : [ {
    "role" : "installationAddress",
    "@type" : "RelatedPlaceRefOrValue",
    "place" : {
      "id" : "9012",
      "href" :
"https://host:port/geographicAddressManagement/v5/geographicAddress/9012",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
```

```
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
  } ],
  "resourceRelationship" : [ {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "description" : "This is Port 1 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "45",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/45",
      "description" : "This is Port 2 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  } ],
```

```
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

PATCH Resource request leveraging json application example

This example uses the PatchResourceJsonRequest request message (used for a payload of type application/json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.resource.v5.patchResource.commandReply
Parameters: {
    "id": 8044
}
```

Request Payload

```
{
  "@type" : "Resource",
  "place" : [ {
    "@type" : "RelatedPlaceRefOrValue",
    "role" : "installationAddress",
    "place" : {
      "id" : "9012",
      "href" :
"https://host:port/geographicAddressManagement/v5/geographicAddress/9012",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
  } ]
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.resource.v5.patchResource.commandRequest
```

Response Payload

```
{
  "id" : "8044",
  "href" : "http://server:port/resourceInventoryManagement/v5/resource/8044",
  "category" : "Router",
  "startOperatingDate" : "2020-08-04T00:00:00.000Z",
  "administrativeState" : "locked",
  "operationalState" : "enable",
  "usageState" : "active",
  "resourceStatus" : "reserved",
  "version" : "v2",
  "@type" : "Resource",
  "relatedParty" : [ {
    "role" : "user",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "href" : "https://server:port/tmf-api/partyManagement/v5/individual/456",
      "id" : "456",
      "name" : "John Doe",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://server:port/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "note" : [ {
    "text" : "router installed at the user's premise",
    "@type" : "Note"
  } ],
  "place" : [ {
    "role" : "installationAddress",
    "@type" : "RelatedPlaceRefOrValue",
    "place" : {
      "id" : "9012",
      "href" :
"https://host:port/geographicAddressManagement/v5/geographicAddress/9012",
      "@type" : "PlaceRef",
      "@referredType" : "GeographicAddress",
      "topicRef" :
"kafka://host:port/{prefix}.geographicAddressManagement.v5.retrieveGeographicAddress.c
ommandRequest"
    }
```

```
  } ],
  "resourceRelationship" : [ {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "44",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/44",
      "description" : "This is Port 1 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  }, {
    "relationshipType" : "contains",
    "@type" : "ResourceRelationship",
    "resource" : {
      "id" : "45",
      "href" : "http://server:port/resourceInventoryManagement/v5/resource/45",
      "description" : "This is Port 2 contained in the Router.",
      "category" : "Port",
      "@type" : "Resource",
      "resourceSpecification" : {
        "id" : "1004",
        "href" : "
http://server:port/resourceCatalogManagement/v5/resourceSpecification/1004",
        "@type" : "ResourceSpecificationRef",
        "@referredType" : "ResourceSpecification",
        "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
      },
      "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
    }
  } ],
  "resourceSpecification" : {
    "id" : "4",
    "href" : "
```

```
http://server:port/resourceCatalogManagement/v5/resourceSpecification/4",
    "@type" : "ResourceSpecificationRef",
    "@referredType" : "ResourceSpecification",
    "topicRef" :
"kafka://server:port/{prefix}.resourceCatalogManagement.v5.retrieveResourceSpecificati
on.commandRequest"
  },
  "topicRef" :
"kafka://server:port/{prefix}.resourceInventoryManagement.v5.retrieveResource.commandR
equest"
}
```

Deletes a Resource

Request topic: {prefix}.resource.v5.deleteResource.commandRequest

Reply topic: {prefix}.resource.v5.deleteResource.commandReply

Description

This operation deletes a Resource entity.

Usage samples

This operation deletes a Resource resource.

Request

```
DELETE /resource/8044
```

Response

```
204
```

NOTIFICATIONS

Topic for Resource entity: {prefix}.resourceInventoryManagement.v5.resource.notificationEvent

For every single of operation on the entities use the following templates and provide sample notification message payloads.

It is assumed that consumers will subscribe to the notificationEvent channel to receive notifications, and that the server component will post notifications to that channel.

Publish Event to listener

Here’s an example of a notification received by the consumer. 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.

{ "event": { EVENT BODY }, "eventType": "EVENT_TYPE" }

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

Acknowledgements

Release History

Release Number	Date	Release led by:	Description

Contributors to Document
