

TM Forum Specification

Resource Inventory Management Conformance Profile

TMF639B

Maturity Level: Beta	Team Approved Date: 07.06.2024
Release Status: Pre-production	Approval Status: Team Approved
Version 5.0.0	IPR Mode: RAND

NOTICE

Copyright © TM Forum 2024. All Rights Reserved.

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

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

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

Direct inquiries to the TM Forum office:

181 New Road, Suite 304
Parsippany, NJ 07054, USA
Tel No. +1 862 227 1648
TM Forum Web Page: www.tmforum.org

Table of Contents

NOTICE	i
Introduction - API description	1
Resource Model Conformance	2
API Mandatory Resources	2
General Notes on Resource Attribute Conformance	2
Resource Resource Mandatory Attributes	2
Notification Model Conformance	8
API Operations Conformance	9
Resource Mandatory Operations	9
API GET Operation Conformance	10
Definitions for Filter	10
GET /resource?fields=...&{filtering}	10
GET /resource/{id}?fields=...&{filtering}	10
API POST Operation Conformance	11
POST /resource?fields=.....	11
API PATCH Operation Conformance	12
API DELETE Operation Conformance	13
Acknowledgements	14
Release History	14
Version History	14

Introduction - API description

The following document is the conformance specification of the REST API for Resource Inventory management.

Resource Model Conformance

API Mandatory Resources

The following table indicates the mandatory resources for this API.

Resource Name	Comment
Resource	This is the mandatory main resource of the API.

General Notes on Resource Attribute Conformance

There are three situations that could occur for an attribute:

- Mandatory attribute,
- Mandatory attribute if the optional parent attribute is present,
- Non-mandatory/Optional attribute. Those are all the other attributes not mentioned in the following subsections. Please refer to the corresponding API REST Specification for more details.
- The tables in the subsections below indicate which attributes are mandatory including mandatory when an optional parent is present.
- Where a resource is an input into an API (e.g. POST, PATCH), Mandatory means that the attribute value must be supplied by the API consumer in the input (and must not be blank or null).
- Where a resource is an output from an API (e.g. GET, POST), Mandatory means that the attribute value must be supplied by the API provider in the output (and must not be blank or null).
- For a sub-resource that is not an array, Mandatory (cardinality 1..1) means that the sub-resource must be present, while Optional (cardinality 0..1) means that the sub-resource may be absent. Mandatory and Optional on the sub-resource attributes apply to the sub-resource if present.
- For a sub-resource that is an array, Mandatory (cardinality 1..) **means that at least one sub-resource must be present in the array, while Optional (cardinality 0..)** means that the array may be absent. Mandatory and Optional on the sub-resource attributes apply to each of the sub-resources if present.

In this table are listed all mandatory attributes. A mandatory attribute **MUST** be retrieved in resource representation when no attribute selection is used (e.g. GET `../{id}`) without any attribute selection

When an attribute is listed with an indentation (in second column) it means this attribute is mandatory if root (parent) attribute is present.

Resource Resource Mandatory Attributes

Mandatory attribute when parent is present	Rule
@type	M

Mandatory attribute when parent is present	Rule
href	M (in response messages)
id	M (in response messages)
name	M
resourceSpecification	M
@type	M
id	M
activationFeature (if present)	
@type	M
name	M
activationFeature.featureCharacteristic	M
@type	M
name	M
activationFeature.featureCharacteristic.characteristicRelationship (if present)	
@type	M
id	M
relationshipType	M
activationFeature.policyConstraint	M
@type	M
id	M
activationFeature.featureRelationship (if present)	
@type	M
id	M
name	M
relationshipType	M
attachment (if present)	
@type	M
externalIdentifier (if present)	
@type	M
id	M
intent (if present)	
@type	M
note (if present)	
@type	M

Mandatory attribute when parent is present	Rule
id	M (in response messages)
place (if present)	
@type	M
role	M
place.place	M
@referredType	M
@type	M
id	M
relatedParty (if present)	
@type	M
role	M
relatedParty.partyOrPartyRole	M
@referredType	M
@type	M
id	M
resourceCharacteristic (if present)	See conditions for Characteristic at activationFeature.featureCharacteristic.
resourceCharacteristic.characteristicRelationship (if present)	See conditions for CharacteristicRelationship at activationFeature.featureCharacteristic.characteristicRelationship.
resourceOrderItem (if present)	
@type	M
resourceRelationship (if present)	
@type	M
relationshipType	M
resourceRelationship.resource	M
@referredType	M
@type	M
id	M
resourceRelationship.resource.activationFeature (if present)	See conditions for Feature at activationFeature.
resourceRelationship.resource.activationFeature.featureCharacteristic (if present)	See conditions for Characteristic at activationFeature.featureCharacteristic.

Mandatory attribute when parent is present	Rule
resourceRelationship.resource.activationFeature.featureCharacteristic.characteristicRelationship (if present)	See conditions for CharacteristicRelationship at activationFeature.featureCharacteristic.characteristicRelationship.
resourceRelationship.resource.activationFeature.featureRelationship (if present)	See conditions for FeatureRelationship at activationFeature.featureRelationship.
resourceRelationship.resource.activationFeature.policyConstraint (if present)	See conditions for PolicyRef at activationFeature.policyConstraint.
resourceRelationship.resource.attachment (if present)	See conditions for AttachmentRef at attachment.
resourceRelationship.resource.externalIdentifier (if present)	See conditions for ExternalIdentifier at externalIdentifier.
resourceRelationship.resource.intent (if present)	See conditions for IntentRef at intent.
resourceRelationship.resource.note (if present)	See conditions for Note at note.
resourceRelationship.resource.place (if present)	See conditions for RelatedPlaceRef at place.
place.place	M See conditions for PlaceRef at place.place.
resourceRelationship.resource.relatedParty (if present)	See conditions for RelatedPartyRefOrPartyRoleRef at relatedParty.
resourceRelationship.resource.relatedParty.partyOrPartyRole (if present)	See conditions for PartyRefOrPartyRoleRef at relatedParty.partyOrPartyRole.
resourceRelationship.resource.resourceCharacteristic (if present)	See conditions for Characteristic at activationFeature.featureCharacteristic.
resourceRelationship.resource.resourceCharacteristic.characteristicRelationship (if present)	See conditions for CharacteristicRelationship at activationFeature.featureCharacteristic.characteristicRelationship.
resourceRelationship.resource.resourceOrderItem (if present)	See conditions for RelatedResourceOrderItem at resourceOrderItem.
resourceRelationship.resource.resourceSpecification (if present)	See conditions for ResourceSpecificationRef at resourceSpecification.
resourceRelationship.resourceRelationshipCharacteristic (if present)	See conditions for Characteristic at activationFeature.featureCharacteristic.

Mandatory attribute when parent is present	Rule
resourceRelationship.resourceRelationshipCharacteristic.characteristicRelationship (if present)	See conditions for CharacteristicRelationship at activationFeature.featureCharacteristic.characteristicRelationship.
supportingResource (if present)	See conditions for ResourceRefOrValue at resourceRelationship.resource.
supportingResource.activationFeature (if present)	See conditions for Feature at activationFeature.
supportingResource.activationFeature.featureCharacteristic (if present)	See conditions for Characteristic at activationFeature.featureCharacteristic.
supportingResource.activationFeature.featureCharacteristic.characteristicRelationship (if present)	See conditions for CharacteristicRelationship at activationFeature.featureCharacteristic.characteristicRelationship.
supportingResource.activationFeature.featureRelationship (if present)	See conditions for FeatureRelationship at activationFeature.featureRelationship.
supportingResource.activationFeature.policyConstraint (if present)	See conditions for PolicyRef at activationFeature.policyConstraint.
supportingResource.attachment (if present)	See conditions for AttachmentRef at attachment.
supportingResource.externalIdentifier (if present)	See conditions for ExternalIdentifier at externalIdentifier.
supportingResource.intent (if present)	See conditions for IntentRef at intent.
supportingResource.note (if present)	See conditions for Note at note.
supportingResource.place (if present)	See conditions for RelatedPlaceRef at place.
place.place	M See conditions for PlaceRef at resourceRelationship.resource.place.place.
supportingResource.relatedParty (if present)	See conditions for RelatedPartyRefOrPartyRoleRef at relatedParty.
supportingResource.relatedParty.partyOrPartyRole (if present)	See conditions for PartyRefOrPartyRoleRef at relatedParty.partyOrPartyRole.
supportingResource.resourceCharacteristic (if present)	See conditions for Characteristic at activationFeature.featureCharacteristic.

Mandatory attribute when parent is present	Rule
supportingResource.resourceCharacteristic.characteristicRelationship (if present)	See conditions for CharacteristicRelationship at activationFeature.featureCharacteristic.characteristicRelationship.
supportingResource.resourceOrderItem (if present)	See conditions for RelatedResourceOrderItem at resourceOrderItem.
supportingResource.resourceRelationship (if present)	See conditions for ResourceRelationship at resourceRelationship.
supportingResource.resourceRelationship.resourceRelationshipCharacteristic (if present)	See conditions for Characteristic at activationFeature.featureCharacteristic.
supportingResource.resourceRelationship.resourceRelationshipCharacteristic.characteristicRelationship (if present)	See conditions for CharacteristicRelationship at activationFeature.featureCharacteristic.characteristicRelationship.
supportingResource.resourceSpecification (if present)	See conditions for ResourceSpecificationRef at resourceSpecification.

Notification Model Conformance

There are no mandatory notifications for this API.

API Operations Conformance

For every single resource the following tables includes mandatory operations.

Resource Mandatory Operations

The following table indicates which ones are mandatory for the Resource resource:

Uniform API Operation	Comment
GET	
POST	

API GET Operation Conformance

All the GET operations in this API share the same status code pattern.

GET	Mandatory/Optional
Response Status Code 200 if successful	M
Response Status Code 404 if not found	M

Definitions for Filter

The following definitions apply to all the GET operations:

- **Filtered Search:** A filtered search can be applied using query parameters to obtain only the resources that meet the criteria defined by the filtering parameters included in the query request. Several elements can be applied to the filtered search. In that case logic, a logical AND is applied to combine the criteria (e.g.: ?severity=<value>&status=<value>).
- **Attribute selection (Limiting Response Data):** In order to limit which attributes are included in the response, the GET request can include the ?fields= query parameter. Only those attributes whose names are supplied in this parameter will be returned. Attribute selection capabilities are the same for collections retrieval and individual resource queries.
- **Level:** The filtering and attribute selection can apply to the top level properties (attributes) and subproperties. The tables below show which attributes need to be supported in top-level or contained resources.

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

List or find Resource objects.

Attribute selection is mandatory for all first level attributes except for the href attribute. Filtering on sub-resources is optional for all compliance levels

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

This operation retrieves a Resource entity. Attribute selection enabled for all first level attributes.

Attribute selection is mandatory for all first level attributes except for the href attribute. Filtering on sub-resources is optional for all compliance levels

API POST Operation Conformance

All the POST operations in this API share the same status code pattern.

POST	Mandatory/Optional
Status Code 201 if resource created	M

POST /resource?fields=...

This operation creates a Resource entity.

The following table provides the list of mandatory attributes when creating an instance of the Resource resource, including any possible rule, conditions and applicable default values.

Mandatory Attribute	Rule
name	
@type	

API PATCH Operation Conformance

All the PATCH operations in this API share the same status code pattern.

The mandatory application context is JSON Merge.

PATCH	Mandatory/Optional
Status Code 200 if resource modified	M

There are no mandatory PATCH operations for Resource.

API DELETE Operation Conformance

All the DELETE operations in this API share the same status code pattern.

DELETE	Mandatory/Optional
Status Code 204 if resource deleted	M

There is no mandatory DELETE operation for Resource.

Acknowledgements

Release History

Release Number	Date	Release led by:	Description

Version History

Version Number	Date	Modified by	Description
5.0.0	04.06.2024	Lutz Bettge Alexander Klörig Deutsche Telekom	migrated to version 5