TM Forum Specification

Service Activation and Configuration API Conformance Profile

TMF640B

Team Approved Date: 31-Jul-2020

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

©TM Forum 2020. All Rights Reserved.

Notice

Copyright © TM Forum 2020. 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:

4 Century Drive, Suite 100
Parsippany, NJ 07054, USA
Tel No. +1 973 944 5100
Fax No. +1 973 998 7916
TM Forum Web Page: www.tmforum.org

TABLE OF CONTENTS

© TM Forum 2020. All Rights Reserved

INTRODUCTION - API DESCRIPTION

The intent of the TMF640 Service Activation and Configuration API is to provide a consistent and standardized mechanism to query, create and modify service. This is particularly useful to configure service or to manage the service lifecycle.

© TM Forum 2020. All Rights Reserved

RESOURCE MODEL CONFORMANCE

API MANDATORY RESOURCES

The following table indicates the mandatory resources for this API.

Resource Name	Comment
Monitor	Monitor resource (operation GET) is only mandatory if Service creation triggers response 202
Service	POST, PATCH and GET operations are required. For POST and PATCH tested implementation could respond 201 or/and 202. Implementing both is not required (at least one is mandatory). If Response 202 is used, Monitor resource is tested.

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.

© TM Forum 2020. All Rights Reserved

MONITOR RESOURCE MANDATORY ATTRIBUTES

Monitor resource is tested only if Service creation triggers response 202

Mandatory attribute when parent is present		Rule
href		M (in response messages)
id		M (in response messages)
serviceDate		M (in response messages)
state		M
request (if present)		
	body	M
	header	M
request.header (if present)		
	name	M
	value	M
response (if present)		
	body	M
	header	M
response.header (if present)		
	name	M
	value	M

SERVICE RESOURCE MANDATORY ATTRIBUTES

Note: If supportingService or related service (via serviceRelationship) is provided be value, same rules apply for them than for service.

Mandatory attribute when parent is present	Rule
href	M (in response messages)
id	M (in response messages)

© TM Forum 2020. All Rights Reserved

Mandatory attribute when parent is present		Rule
state		M
serviceSpecification		M
	id	M
feature (if present)		
	name	M
	featureCharacteristic	M
feature.constraint (if present)		
	id	M
feature.featureCharacteristic (if present)		
	name	M
	value	M
feature.featureRelationship (if present)		
	name	M
	relationshipType	M
note (if present)		
	text	M
place (if present)		
	role	M
	The place could be pass by ref or by value. If place is pass by reference (@type valued to PlaceRef) id & @referredType attributes must be provided. The @referredType must indicate the place type (GeographicSite, GeographicLocation or GeograpgicAddress) If place is pass by value (@type valued to place type used: GeographicSite, GeographicLocation or GeograpgicAddress). The place payload must comply with place type used.	
relatedEntity (if present)		
	@type	M
	role	M
	The entity could be pass by ref or by value.	

© TM Forum 2020. All Rights Reserved

Mandatory attribute when parent is present		Rule
	If entity is pass by reference (@type valued to EntityRef) id & @referredType attributes must be provided. The @referredType must indicate the entity type If entity is pass by value (@type valued to entity type). Entity payload must comply with its own rules.	
relatedParty (if present)		
	id	M
	@referredType	M
	The role attribute is not mandatory because the id could be a partyRole id – In this case @referredType must indicate the partyRole (example User, Customer, etc.). If the id is a Party id then a role must be provided	
serviceOrderItem (if present)		
	itemId	M
serviceCharacteristic (if present)		
	name	M
	value	M
supportingResource (if present)		
	id	M
serviceRelationship (if present)		
	relationshipType	M
	service	M
serviceOrderItem (if present)		
	itemId	M
	serviceOrderId	M

© TM Forum 2020. All Rights Reserved

API OPERATIONS CONFORMANCE

For every single resource the following tables includes mandatory operations.

MONITOR MANDATORY OPERATIONS

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

Uniform API Operation
GET

SERVICE MANDATORY OPERATIONS

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

Uniform API Operation
GET
POST
PATCH

© TM Forum 2020. All Rights Reserved

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 /MONITOR?FIELDS=...&{FILTERING}

This operation list or find Monitor entities

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 /MONITOR/{ID}?FIELDS=...&{FILTERING}

This operation retrieves a Monitor entity. Attribute selection is 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

GET /SERVICE?FIELDS=...&{FILTERING}

This operation list or find Service entities

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

© TM Forum 2020. All Rights Reserved

GET /SERVICE/{ID}?FIELDS=...&{FILTERING}

This operation retrieves a Service entity. Attribute selection is 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

© TM Forum 2020. All Rights Reserved

API POST OPERATION CONFORMANCE

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

For POST tested implementation could respond 201 or/and 202. Implementing both is not required (at least one is mandatory).

If Response 202 is used, Monitor resource is tested (The Monitor is used to track the execution of the operation).

POST	Mandatory/Optional
Status Code 201 if resource created	M
Status code 202 if async mode is used. A link with Monitor Resource must be returned	M

POST /SERVICE

This operation creates a Service entity.

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

Mandatory Attributes	Rule
serviceSpecification	
serviceSpecification.id	
state	

© TM Forum 2020. All Rights Reserved

API PATCH OPERATION CONFORMANCE

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

The mandatory Context-Type is application/merge-patch+json (Content-Type: application/merge-patch+json)

For PATCH tested implementation could respond 201 or/and 202. Implementing both is not required (at least one is mandatory).

If Response 202 is used, Monitor resource is tested (The Monitor is used to track the execution of the operation).

PATCH	Mandatory/Optional
Status Code 200 if resource modified	M
Status code 202 if async mode is used. A link with Monitor Resource must be returned	M

PATCH /SERVICE/{ID}

This operation updates partially a Service entity.

An implementation must support the change of these attributes:

Patchable Attributes	Rule
state	

© TM Forum 2020. All Rights Reserved

ACKNOWLEDGEMENTS

RELEASE HISTORY

Release Status	Date	Release led by:	Description
Pre-production	31-Jul-2020	Ludovic Robert Orange	Updated based on schema-library and Design Guideline v4 patterns

VERSION HISTORY

Version Number	Date	Modified by	Description
4.0.0	31-Jul-2020	Alan Pope	Final edits prior to publication

© TM Forum 2020. All Rights Reserved