TM Forum Specification

Alarm Management API Conformance Profile

TMF642B

Team Approved Date: 07-Jul-2021

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

NOTICE

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

INTRODUCTION - API DESCRIPTION

The Alarm Management API applies lessons that were learned in previous generations of similar APIs that were implemented in the Telecommunication industry, starting from ITU recommendations,, TM Forum OSS/J, MTOSI and TIP interfaces, NGMN alignment initiative between 3GPP and TM Forum interfaces, and the more recent ETSI work on requirements for NFV interfaces.

RESOURCE MODEL CONFORMANCE

API MANDATORY RESOURCES

The following table indicates the mandatory resources for this API.

Resource Name	Comment
Alarm	

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.

Alarm Resource Mandatory Attributes

Mandatory attribute when parent is present	Rule	
alarmRaisedTime	M	
alarmType	M	
alarmedObject	M	
href	M (in response messages)	
id	M (in response messages)	
perceivedSeverity	M	
probableCause	M	
sourceSystemId	M	
state	M	
correlatedAlarm (if present)	Array of AlarmRef	
	id	M
crossedThresholdInformation.threshold (if present)		
	id	M
parentAlarm (if present)	Array of AlarmRef See conditions for AlarmRef at correlatedAlarm	
place (if present)	Array of RelatedPlaceRefOrValue	
	role	M

API OPERATIONS CONFORMANCE

For every single resource the following tables includes mandatory operations.

Alarm Mandatory Operations

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

Uniform API Operation
GET
POST
PATCH

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 /alarm?fields=...&{filtering}

This operation list or find Alarm 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 /alarm/{id}?fields=...&{filtering}

This operation retrieves a Alarm 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

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 /alarm

This operation creates a Alarm entity.

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

Mandatory Attributes	Rule
alarmRaisedTime	
alarmType	
alarmedObject	
perceivedSeverity	
probableCause	
sourceSystemId	
state	

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

PATCH /alarm/{id}

This operation updates partially a Alarm entity.

Patchable Attributes	Rule
alarmType	
perceivedSeverity	
probableCause	
state	

ACKNOWLEDGEMENTS

Release History

Release Status	Date	Release led by:	Description
Pre-production	07-Jul-2021	Pierre Gauthier, TM Forum Henrique Rodrigues, TM Forum	Updated to v4.0.0

Version History

Version Number	Date	Modified by	Description
4.0.0	07-Jul-2021	Alan Pope, TM Forum	Final edits prior to publication