TM Forum Specification

Promotion API
Conformance Profile

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INTRODUCTION - API DESCRIPTION

See the introduction of the related specification document.

The Promotion API provides the standardized client interface to Promotion for creating, tracking and managing the promotion which is used to provide the online e-commerce incentive for the customer according to the pre-configured criteria. The instances of Promotion Activity API originators (clients) include CRM applications especially the online channels (e.g. mobile app).

A promotion represents a record used to express the configuration of simulation policy for the online shopping.

The operations that can be exercised over a promotion resource using the API and covered in this document are those identified as mandatory to be supported such as

- Retrieve details of one specific promotion entity (GET)
- List all the existing promotions (GET)
- Create new promotion (POST)
- Update the existing promotion (PATCH)
- Delete the existing promotion (DELETE)

This document identifies the parameters that must be included in a request related to the operations above as well as the parameters expected in the response.

The test scenarios in this document are intended to create a set of resources (Promotion) and then retrieve the information stored in the server so as to confirm the resources created are stored with the values originally set. Additionally, some test scenarios are included to verify that the server replies with the corresponding error response in situations where a mandatory attribute is not included in the request.

RESOURCE MODEL CONFORMANCE

PROMOTION API MANDATORY AND OPTIONAL RESOURCES

For the Resources defined by the API, here the following table indicates which are mandatory and which ones are optional.

Resource Name	Mandatory / Optional	Comments
Promotion Message	M	

PROMOTION RESOURCE MANDATORY AND OPTIONAL ATTRIBUTES

For the resources defined by the API the following table indicates which ones are mandatory and which ones are optional.

Parameter	Mandatory/Optional	Comments
@type	O	
@baseType	O	
@schemaLocation	O	
id	M (in response messages) O (otherwise)	Generated by the server and provided in the response upon resource creation. Accepted in entity-creation requests if the server supports the incoming identifier as the reference to create new resources
href	M (in response messages) O (otherwise)	Value in response must be the same as the one set in Location header provided upon entity creation

name	M	
priority	O	
type	O	
description	O	
lifecycleStatus	O	
validFor	O	
lastUpdate	O	
pattern	O	A list of promotion patterns. (PromotionPattern[*])
@type	O	
@baseType	O	
@schemaLocation	O	
id	M	
name	M	
priority	O	
relationTypeAmongGroup	O	
description	O	
criteriaGroup	O	A list of promotion criteria groups. (PromotionCriteriaGroup[*])
@type	O	
@baseType	O	
@schemaLocation	O	
id	M	
groupName	M	
relationTypeInGroup	M	
criteria	O	A list of promotion criteria. (

					PromotionCriteria [*])
			id	M	
			criteriaPara	M	
			criteriaValue	M	
			criteriaOperator	M	
			@type	O	
			@baseType	O	
			@schemaLocation	O	
	action			O	A list of promotion actions.(PromotionAction[*])
		@type		O	
		@baseType		O	
		@schemaLocation		O	
		id		M	
		actionType		M	
		actionValue		M	
		actionObjectId		M	

NOTIFICATION MODEL CONFORMANCE

The Pub/Sub models are common and described in the TMF REST Design Guidelines. Use the following templates to describe the Hub Mandatory and Optional attributes and filtering support.

For the Notifications defined by the API the following table indicates which ones are mandatory and which ones are optional.

API MANDATORY AND OPTIONAL NOTIFICATIONS

Resource Name	Mandatory or Optional	Comments
PromotionCreationNotification	O	
PromotionChangeNotification	O	

API OPERATIONS CONFORMANCE

For every single resource use the following templates and define what operations are optional and what operations are mandatory.

API MANDATORY AND OPTIONAL OPERATIONS

The following table indicates which ones are mandatory and which ones are optional for each one of the resources in the API (default is for all resources).

Uniform API Operation	Mandatory/Optional	Comments
GET	M for all resources	GET must be used to retrieve a representation of a resource
POST	M for all resources	POST must be used to create a new resource
PUT	O for all resources	PUT must be used to completely update a resource identified by its resource URI
PATCH	O for all resources	PATCH must be used to partially update a resource
DELETE	O for all resources	DELETE must be used to remove a resource

API GET OPERATION CONFORMANCE

For every single resource use the following template to specify the mandatory and optional features supported by the GET operation.

GET	M	
Response Status Code 200	M	
Other Status Codes	NA	

Definitions

Filtered Search: A filtered search can be applied using query parameters in order to obtain only the resource entities 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 (Filtered Response Data): In order to apply a filter and limit the number of attributes included in the response, the GET request can include the "?fields=" query parameter. Several elements can be applied to the filter. In that case, a logical AND is applied to combine the values (e.g.:?fields=severity,status) will provide in the response only the values assigned to attributes category and channel. Attribute selection capabilities are the same for collections retrieval and individual resource queries

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

This operation retrieves a promotion entity.
Attribute selection is mandatory for all first level attributes.
Filtering on sub-resources is optional for all compliance levels.

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

This operation list promotion entities.
Attribute selection is mandatory for all first level attributes.
Filtering is mandatory for first compliance level (L1) and optional otherwise.

API POST OPERATION CONFORMANCE

For every single resource, use the following template to specify the mandatory and optional features supported by the POST operation.

POST /PROMOTION

This Uniform Contract operation is used to create a promotion entity.

POST	M	
Status Code 201	M	
Other Status Codes	NA	

The response to this operation must include a Location header set to /promotion/{ID} where {ID} indicates the identifier assigned by the server to the new promotion resource created

Mandatory and Non Mandatory Attributes

The following tables specifies the attributes required when an entity is created (and their default values if not) as well as attributes with special considerations:

Attribute name	Mandatory/Option	Rule
id	O	Accepted in entity-creation requests if the server supports the incoming identifier as the reference to create new resources
@type	O	
@baseType	O	
@schemaLocation	O	
description	O	
lastUpdate	O	

Attribute name	Mandatory/Option	Rule
lifecycleStatus	O	
name	M	
type	O	
validFor	O	
id	O	
href	O	
pattern	O	

Additional Rules

The following table provides additional rules indicating mandatory attributes in sub-resources or relationships when creating a Promotion resource.

Object	Mandatory Attributes
Pattern	id, name
PromotionAction	id, actionType, actionValue, actionObjectId
PromotionCriteria	id, criteriaPara, criteriaOperator, criteriaValue
PromotionCriteriaGroup:	id, groupName, relationTypeInGroup

Specify the attributes that must be included in the BODY of the response, even if they are not included in the request because they are mandatory in the definition of the resource to be created as per the resource model defined

- href
- id

API PATCH OPERATION CONFORMANCE

PATCH /PROMOTION/{ID}

This Uniform Contract operation is used to partially update the representation of a Promotion Resource.

PATCH	O	
Status Code 200	M	
Other Status Codes	NA	

Specify which attributes are patchable using the following table:

Attribute Name	Patchable? (Y/N)	Rule
id	N	
href	N	
@type	N	
@baseType	N	
@schemaLocation	N	
description	Y	
lastUpdate	Y	
lifecycleStatus	Y	
name	Y	
type	Y	
validFor	Y	
id	Y	

Attribute Name	Patchable? (Y/N)	Rule
href	Y	
pattern	Y	

API DELETE OPERATION CONFORMANCE

DELETE /PROMOTION/{ID}

This Uniform Contract operation is used to delete a Promotion entity.

For this operation, only the "id" field is mandatory for the client of the API. All other fields are not required.

DELETE	O	
Status Code 204	M	
Other Status Codes	NA	

API CONFORMANCE TEST SCENARIOS

This section describes the test scenarios required for the basic CONNECT certification of the API.

Test Cases must be executed in the order defined for each resource because the result from one of the scenarios will be input for the next one.

Requests must be addressed to the endpoint provided for certification, specifically they must be addressed to the URI defined by the concatenation of the {apiRoot} and the specific resource, where the {apiRoot} is defined as **{serverRoot}/promotion/v2**, where {serverRoot} defines the certification endpoint

PROMOTION RESOURCE TEST CASES

Nominal Scenarios

TC_Promotion_N1 – Create new Promotion with minimum required information

- Send a POST message to {apiRoot}/promotion/ with the following contents in the BODY

  ```
  {

      "name": "promotion201801"

  }
  ```

- Wait for a response from the server with the following characteristics

  - Response Code 201-Created

  - Include a location header in the body set to /{apiRoot}/promotion/{ID1} where {ID1} indicates the identifier assigned by the server to the new promotion resource

  - The response message includes all mandatory parameters

  - The body of the response matches the values set in the original request

- Send a GET message to /{apiRoot}/promotion/

- Wait for a response from the server with the following characteristics

  - Response Code 200-OK

- The body of the response includes one promotion resource with ID set to {ID1}, the same identifier as assigned by the server to the new resource created

- The response message includes all mandatory parameters

- The body of the response for the resource with identifier {ID1} matches the values set in the original request

- Send a GET message to /{apiRoot}/promotion/{ID1}

- Wait for a response from the server with the following characteristics

  - Response Code 200-OK

  - The response message includes all mandatory parameters

  - The body of the response includes a promotion resource structure that matches the values in the original request

TC_Promotion_N2 – Create new promotion with minimum set of parameters supported by server

- Send a POST message to {apiRoot}/promotion/ with the following contents in the BODY

```
{
  "name": "promotion201804",
  "pattern":
    [{
      "name": "des",
      "id": "pattern7834",
      "criteriaGroup":[{
       "id":"1200df",
       "groupName":"holiday",
       "relationTypeInGroup":"AND",
       "criteria":[{
        "id":"cwer",
        "criteriaPara":"age",
        "criteriaValue":"18",
        "criteriaOperator":">="
```

```
          }]
        }],
      "action":[{
        "id":"adfk",
        "actionType":"3.1",
        "actionValue":1.1,
        "actionObjectId":"2001"
      }]
    }]
  }
```

- Wait for a response from the server with the following characteristics

  - Response Code 201-Created

  - Include a location header in the body set to /{apiRoot}/promotion/{ID2} where {ID2} indicates the identifier assigned by the server to the new promotion resource

  - The response message includes all mandatory parameters

  - The body of the response matches the values set in the original request

- Send a GET message to /{apiRoot}/promotion/

- Wait for a response from the server with the following characteristics

  - Response Code 200-OK

  - The body of the response includes one promotion source with ID set to {ID2}, the same identifier as assigned by the server to the new resource created

  - The response message includes all mandatory parameters

  - The body of the response for the resource with identifier {ID2} matches the values set in the original request

- Send a GET message to /{apiRoot}/promotion/{ID2}

- Wait for a response from the server with the following characteristics

  - Response Code 200-OK

- The response message includes all mandatory parameters

- The body of the response includes a promotion resource structure that matches the values in the original request

TC_Promotion_N3 – Search for Promotions with specific characteristics

- Send a GET message to /{apiRoot}/promotion

- Wait for a response from the server with the following characteristics
  - Response Code 200-OK

  - The body of the response includes at least two promotion resources referring to {ID1} and {ID2}

  - The body of the response for the resource with each identifier matches the values in the corresponding original request

- Send a GET message to /{apiRoot}/promotion?name=promotion201802

- Wait for a response from the server with the following characteristics

  - Response Code 200-OK

  - The body of the response includes one Promotion resource referring to {ID2} and there is no reference to Promotion resource {ID1}

  - The response message includes all mandatory parameters

  - The body of the response for the resource with identifier {ID2} matches the values in the original request

- Send a GET message to /{apiRoot}/promotion?pattern.name=des

- Wait for a response from the server with the following characteristics

  - Response Code 200-OK

- The body of the response includes one Promotion resource referring to {ID2} and there is no reference to promotion resource {ID1}

- The response message includes all mandatory parameters

- The body of the response for the resource with identifier {ID2} matches the values in the original request

TC_Promotion_N4 – Filtered retrieval of Promotions

- Send a GET message to /{apiRoot}/promotion/{ID1}?fields=name

- Wait for a response from the server with the following characteristics

    - Response Code 200-OK

    - The body of the response includes one Promotion resource referring to {ID1} and including only attributes name, matching the values in the original request

- Send a GET message to /{apiRoot}/promotion/{ID2}?fields= name,pattern

- Wait for a response from the server with the following characteristics

    - Response Code 200-OK

    - The body of the response includes one Promotion resource referring to {ID2} and including only attributes name and pattern, matching the values in the original request

Notice that this test case is using parameters " name" and " pattern" to filter the data included in the response but any other parameter could be used

TC_Promotion_N5 – Filtered Search and Filtered data response

- Send a GET message to /{apiRoot}/promotion?name=promotion201804& pattern.name=des

- Wait for a response from the server with the following characteristics

- Response Code 200-OK

- The body of the response includes one Promotion resource referring to {ID2} and there is no reference to promotion resource {ID1}

- The body of the response for the resource with each identifier includes only attribute description, matching the values in the corresponding original request

Notice that this test case is using the parameter "name" and "pattern.name" to filter the data included in the response but any other parameter could be used

Error Scenarios

TC_Promotion_E1 – Unknown Promotion identifier

- Send a GET message to /{apiRoot}/promotion/{ID3}, where {ID3} does not match any of the identifiers previously creted in the server

- Wait for a response from the server with the following characteristics

  o Response Code 404-Not Found

TC_Promotion_E2 – Invalid Request – Missing mandatory parameter

- Send a POST message to {apiRoot}/promotion with the following contents in the BODY.

  ```
  {
     "description": "one promotion"
  }
  ```

  Notice that this request is missing mandatory parameter "name", but any other mandatory parameter could be used

- Wait for an error response from the server indicating the mandatory parameter is missing in the request

TC_Promotion_E3 – Invalid Request – Missing parameter mandatory in sender

- Send a POST message to {apiRoot}/promotion/ with the following contents in the BODY.

```
{
  "name": "testpromotion",
  "pattern":
    [{
      "description": "des",
      "id": "des"
    }]
}
```

Notice that this request is missing mandatory parameters "name" when information element "pattern" is included in the request, but any other parameter that becomes mandatory based on the context could be used

- Wait for an error response from the server indicating the mandatory parameter is missing in the request

Note: Not all the test cases are included in this document. There are more test cases in CTK file which is coming soon.

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RELEASE HISTORY

Release Number	Date	Release led by:	Description
17.0.0	July 2017	Ma Xu Maxu@huawei.com Hongxia Hao haohongxia@huawei.com	Initial Release
18.0.0	June 2018	Hongxia Hao	Second Release

VERSION HISTORY

Version Number	Date	Modified by	Description
1.0.0	8/05/2017	Ma Xu, Hongxia Hao	Initial Release
	6/14/2017	Hongxia Hao	Updated version
2.0.0	20-Mar-2018	Hongxia Hao	Align with the new swagger. And let @attributes to be optional in one sentence
2.1	12-Jun-2018	Hongxia Hao	Updated to TM Forum new brand guidelines.
2.1.1	28-Jun-2018	Adrienne Walcott	Formatting/style edits prior to R18 publishing.