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Resource Pool Management API Conformance Profile

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INTRODUCTION

The following document is the REST API Conformance for the Resource Pool Management API (TMF 685).

API DESCRIPTION

The Resource Pool Management API is to reserve and un-reserve the resource which is required by the sales or service action.

RESOURCE MODEL CONFORMANCE

Resource Pool Management API MANDATORY AND OPTIONAL RESOURCES

API Resource Name	Mandatory or Optional	Comments
Reservation	M	
Resource Pool	M	
Availability Check	O	
Push	O	
Extract	O	

Reservation API resource MANDATORY AND OPTIONAL ATTRIBUTES

Attribute Name	Mandatory or Optional	Comments
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)	Value in response must be the same as the one set in Location header provided upon entity

Attribute Name	Mandatory or Optional	Comments
	O (otherwise)	creation
description	O	
valid for	O	
reservationState	M/O	Only required in response messages from the server when providing the Reservation entity contents
@type	M/O	Only required in response messages from the server when providing the Reservation entity contents
relatedParty	O	Array of structures
href	M (if relatedParty included)	
role	O	
name	O	
validFor	O	
requestedPeriod	O	Array of structures
reference	M (if requestedPeriod included)	
involvement	O	
channel	O	Array of structures

Attribute Name		Mandatory or Optional	Comments
	id	M (if channel included)	
	href	M (if channel included)	
	name	M (if channel included)	
productOffering		O	Array of structures
	id	M (if productOffering included)	
	href	M (if productOffering included)	
	name	M (if productOffering included)	
reservationItem		M	A list of reservation
	quantity	M	
resourceCapacityDemand		M	Array of structures
	capacityDemandAmount	M	
	@type	O	
	Place	O	Array of structures

Attribute Name				Mandatory or Optional	Comments
			href	O	
			id	O	
			name	O	
		applicableTimePeriod		O	Array of structures
			dayOfWeek	O	
			fromToDateTime	O	
			rangeInterval	O	
			validFor	O	
		resourcePool		O	Array of structures
			id	O	
			href	O	
			description	O	
			relatedParty	O	
			resourceCollection	O	Array of structures
			href	O	

Attribute Name						Mandatory or Optional	Comments
					name	O	
					objectId	O	
	appliedCapacityAmount					O	Array of structures
		appliedDemandAmount				O	
		resource				O	Array of structures
			id			O	
			href			O	
			description			O	
			name			O	
			@type			O	
			resourceCharacteristic			O	

Resource Pool API resource MANDATORY AND OPTIONAL ATTRIBUTES

Attribute Name		Mandatory or Optional	Comments
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
description		M	
relatedParty		O	Array of structures
	href	M (if relatedParty included) O (otherwise)	
	role	O	
	name	O	
	validFor	O	
resourceCollection		O	Array of structures
	Name	M (if resourceCollection)	

Attribute Name		Mandatory or Optional	Comments
		included) O (otherwise)	
	href	O	
	objectId	O	
capacity		O	Array of structures
	applicableTimePeriod	O	Array of structures
	dayOfWeek	O	
	fromToDateTime	O	
	rangeInterval	O	
	validFor	O	
	capacityAmount	O	Array of structures
	capacityAmount	O	
	capacityAmountFrom	O	
	capacityAmountTo	O	
	rangeInterval	O	
	appliedCapacityAmount	O	Array of structures
	appliedDemandAmount	O	
	resourceCapacityDemand	O	Array of structures

Attribute Name					Mandatory or Optional	Comments
				@type	O	
				capacityDemandAmount	O	
				place	O	Array of structures
				id	O	
				name	O	
				href	O	
				relatedCapacity	O	
				capacitySpecification	O	
				geographicPlace	O	

API OPERATIONS CONFORMANCE

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

Reservation MANDATORY AND OPTIONAL OPERATIONS

Uniform API Operation	Mandatory/Optional	Comments
GET	M	GET must be used to retrieve a representation of a resource
POST	M	POST must be used to create a new resource
PATCH (JSON-MERGE)	M	PATCH must be used to partially update a resource
DELETE	O	DELETE must be used to remove a resource

Resource Pool MANDATORY AND OPTIONAL OPERATIONS

Uniform API Operation	Mandatory/Optional	Comments
POST	O	POST must be used to create a new resource
PATCH (JSON-MERGE)	O	PATCH must be used to partially update a resource
DELETE	O	DELETE must be used to remove a resource

API GET FILTERING OPERATION CONFORMANCE

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>)

Filtered Data (Attribute selection): 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

Filtering in Reservation resource

Attribute name	Filtered search First Level	Filtered search N Level	Attribute Selection First Level	Attribute Selection N Level
id	NA	NA	M	NA
href	NA	NA	M	NA
description	O	NA	M	NA
@type	O	NA	M	NA
relatedParty	NA	O	M	O
reservationState	O	NA	M	NA
valid_for	O	NA	M	NA
channel	O	NA	O	O

Attribute name	Filtered search First Level	Filtered search N Level	Attribute Selection First Level	Attribute Selection N Level
productOffering	O	NA	O	O
requestedPeriod	O	NA	M	O
reservationItem	O	O	M	O

GET /resourcePoolManagement/reservation/

Filtered Search: A filtered search can be applied using the following filtering criteria

- status: To obtain the list of reservation that are in a given status
- other optional attributes as defined in the table above

Filtered Data: A filtered response can be requested for the following attributes using the “?fields=” query parameter

- Any of the attributes in the first level of reservation API resource definition

GET /resourcePoolManagement/reservation/{ID}

Filtered Search: A filtered response can be requested for the following attributes using the “?fields=” query parameter

- Any of the attributes in the first level of Customer resource definition

API POST OPERATION CONFORMANCE

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

POST	Mandatory	
Response Status Code 201	M	
Other Status Codes	NA	

POST /resourcePoolManagement/reservation/

The following table indicates attributes that are required to be sent when creating a new reservation API resource as well as attributes with special considerations. All other attributes defining the API resource are not required to be sent as apart of the BODY of the POST request message:

Attribute name	Mandatory	Default	Rule
id	N		Accepted in entity-creation requests if the server supports the incoming identifier as the reference to create new resources
description	N	“ ”	
@type	Y		
relatedParty.href	Y		Mandatory if relatedParty included The consumer must indicate the identifier for every relatedParty assigned to the reservation
reservationItem.resourceCapacityDemand	Y		

POST /resourcePoolManagement/resourcePool/

The following table indicates attributes that are required to be sent when creating a new resourcePool API resource as well as attributes with special considerations. All other attributes defining the API resource are not required to be sent as part of the BODY of the POST request message:

Attribute name	Mandatory	Default	Rule
id	N		Accepted in entity-creation requests if the server supports the incoming identifier as the reference to create new resources

API PATCH OPERATION CONFORMANCE

This section defines which attributes are patchable.

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

PATCH	Mandatory	
Response Status Code 200	M	
Other Status Codes	NA	

PATCH /RESOURCEPOOLMANAGEMENT/RESERVATION/{ID}

Attribute name	Patchable	Comment
id	N	
href	N	
description	Y	
valid for	N	
reservationState	N	
@type	N	
relatedParty	Y	
requestedPeriod	Y	
channel	N	
productOffering	N	
reservationItem	Y	

	resourceCapacityDemand	Y	
	resourceCapacityDemand.@type	Y	In case of Changes to resources belonging to the same category
	appliedCapacityAmount	N	

PATCH /RESOURCEPOOLMANAGEMENT/RESOURCEPOOL/{ID}

Since PATCH operation is optional and not included in the basic CONNECT certification this is not applicable in this conformance document.

API DELETE OPERATION CONFORMANCE

This section defines what operations can be used to delete a ResourcePool resource.

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

DELETE	Mandatory	
Response Status Code 204	M	
Other Status Codes	NA	

DELETE /RESOURCEPOOL/{ID}

Since DELETE operation is optional and not included in the basic CONNECT certification this is not applicable in this conformance document

API CONFORMANCE TEST SCENARIOS

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

Test Cases must be executed in the order defined for each API 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}/ResourcePoolManagement/v1, being {serverRoot} defines the certification endpoint

Reservation resource TEST CASES

Nominal Scenarios

TC_RPM_N1 – Create new Reservation with minimum required information

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

```
{
  "@type" : "resourceItemReservation",
  "resourceReservationItem" : {
    "quantity" : "1",
    [{
      "resourceCapacityDemand" : {
        "resourceCapacityDemandAmount" : "1",
        "@type" : "phone number"
      }
    }],
  }
}
```

- Wait for a response from the server with the following characteristics
 - Response Code 201-Created
 - The response message includes all mandatory parameters (including resourceReservationItem, type and reservationState that were not sent in the original request)
 - The body of the response matches the values set in the original request
- Send a GET message to /{apiRoot}/Reservation/

- Wait for a response from the server with the following characteristics
 - Response Code 200-OK
 - The body of the response includes one Reservation resource with ID set to {IDrsv1}, 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 {IDrsv1} matches the values set in the original request

TC_RPM_N2 – Update reservation State

- Send a PATCH message to `/{apiRoot}/reservation/{IDrsv1}` with the following contents in the BODY

```
{
  "path" : "/reservationState",
  "value" : "Cancel",
  "op" : "replace"
}
```

- Wait for a response from the server with the following characteristics
 - Response Code 200-OK
 - The body of the response includes one Reservation resource referring to {IDrsv1}
 - The response message includes all parameters (including reservationState that were sent in the original PATCH request)

Error Scenarios

TC_RPM_E1 – Unknown Reservation identifier

- Send a GET message to `/{apiRoot}/reservation/{IDrsv3}`, where {IDrsv3} does not match any of the identifiers previously created in the server
- Wait for a response from the server with the following characteristics

- Response Code 404-Not Found

TC_RPM_E2 – Invalid parameter

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

```
{
  "@type" : "resourceItemReservation",
  "resourceReservationItem" : {
    [{
      "resourceCapacityDemand" : {
        "resourceCapacityDemandAmount" : "1",
        "@type" : "phone number"
      }
    }],
  }
}
```

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

ACKNOWLEDGEMENTS**VERSION HISTORY**

Version Number	Date	Release led by:	Description
1.0	June 2018	sousuke izumida (izumida.sousuke@nttcom.co.jp)	First Release of Draft Version of the Document.
1.0.1	29-Jun-2018	Adrienne Walcott	Formatting/style edits prior to R18 publishing.

RELEASE HISTORY

Release Number	Date	Release led by:	Description
18.0.0	25-Jun-2018	sousuke izumida	Initial Release