

TM Forum Specification

Party Role Management API REST Specification

TMF669 Release 19.0 May 2019

Latest Update: TM Forum Release 19.0	Member Evaluation
Version 4.0.0	IPR Mode: RAND



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Direct inquiries to the TM Forum office:

4 Century Drive, Suite 100 Parsippany, NJ 07054, USA Tel No. +1 973 944 5100 Fax No. +1 973 944 5110

TM Forum Web Page: www.tmforum.org



TABLE OF CONTENTS

NOTICE 2	
Table of Contents 3	
List of Tables 5	
Introduction 6	
SAMPLE USE CASES 7	
Support of polymorphism and extension patterns 8	
RESOURCE MODEL 9	
Managed Entity and Task Resource Models	9
Party Role resource	9
Notification Resource Models	15
Party Role Create Event	16
Party Role Attribute Value Change Event	17
Party Role State Change Event	17
Party Role Delete Event	17
API OPERATIONS 19	
Operations on Party Role	19
List party roles	20
Retrieve party role	21
Create party role	23
Patch party role	25
Delete party role	27
API NOTIFICATIONS 28	
Register listener	28
Unregister listener	29
Publish Event to listener	29
Acknowledgements 31	
Release History	31



Contributors to Document 31



LIST OF TABLES

N/A



INTRODUCTION

The following document is the specification of the REST API for Party Role management. This API can be seen as a generalization of Customer management API where Party Roles may be any – not only a Customer. It shares in fact the same data structure than the Customer API but its use is intended in more general case, for instance within a partnership where the defined roles depend on the partnership kind (see Partnership management API).

This API defines a unique root resource named Party Role. It assumes the use of the following APIs:

- the Party Management API for access to parties
- the Account Management API for definition of accounts
- the Agreement API for agreement definition



SAMPLE USE CASES

Relevant examples of use cases of for API can be found in the Partnership Management API, since in this context the roles to be played by the partners cannot be hard-coded: they depend on each partnership specification.



SUPPORT OF POLYMORPHISM AND EXTENSION PATTERNS

Support of polymorphic collections and types and schema based extension is provided by means of a list of generic meta-attributes that we describe below. Polymorphism in collections occurs when entities inherit from base entities, for instance a BillingAccount and SettlementAccount inheriting properties from the abstract Account entity.

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines v3.0 Part 2 document.

The @type attribute provides a way to represent the actual class type of an entity. For example, within a list of Account instances some may be instances of BillingAccount where other could be instances of SettlementAccount. The @type gives this information. All resources and sub-resources of this API have a @type attributes that can be provided when this is useful.

The @referredType can be used within reference entities (like for instance an AccountRef object) to explicitly denote the actual entity type of the referred class. Notice that in reference entities the @type, when used, denotes the class type of the reference itself, such as BillingAccountRef or SettlementAccountRef, and not the class type of the referred object. However since reference classes are rarely sub-classed, @type is generally not useful in reference objects.

The @schemaLocation property can be used in resources to allow specifying user-defined properties of an Entity or to specify the expected *characteristics* of an entity.

The @baseType attribute gives a way to provide explicitly the base of class of a given resource that has been extended.



RESOURCE MODEL

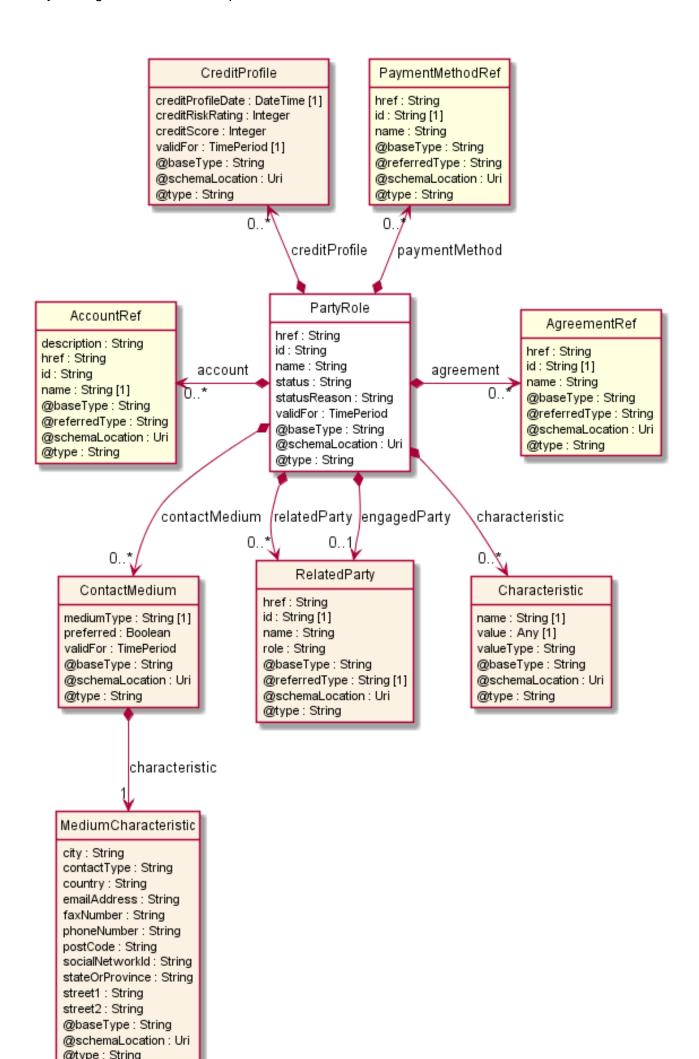
Managed Entity and Task Resource Models

PARTY ROLE RESOURCE

The part played by a party in a given context.

Resource model







Field descriptions

PartyRole fields

account A list of account references (AccountRef [*]). A account may be a party account

or a financial account.

agreement A list of agreement references (AgreementRef [*]). An agreement represents a

contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products,

services, and resources and/or their specifications.

characteristic A list of characteristics (Characteristic [*]). Describes the characteristic of a

party role.

contactMedium A list of contact mediums (ContactMedium [*]). Indicates the contact medium

that could be used to contact the party.

creditProfile A list of credit profiles (CreditProfile [*]). Credit profile for the party (containing

credit scoring, ...). By default only the current credit profile is retrieved. It can be used as a list to give the party credit profiles history, the first one in the list

will be the current one.

engagedParty A related party (RelatedParty). Related Entity reference. A related party defines

party or party role linked to a specific entity.

href A string. Url used to reference the party role.

id A string. Unique identifier for PartyRoles.

name A string. A word, term, or phrase by which the PartyRole is known and

distinguished from other PartyRoles.

paymentMethod A list of payment method references (PaymentMethodRef [*]). A payment

method defines a specific mean of payment (e.g direct debit).

relatedParty A list of related parties (RelatedParty [*]). Related Entity reference. A related

party defines party or party role linked to a specific entity.

status A string. Used to track the lifecycle status of the party role.

statusReason A string. A string providing an explanation on the value of the status lifecycle.

For instance if the status is Rejected, statusReason will provide the reason for

rejection.

validFor A time period. The time period that the PartyRole is valid for.

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.



name A string. Name of the characteristic.

value An any (Any). The value of the characteristic.

valueType A string. Data type of the value of the characteristic.

ContactMedium sub-resource

Indicates the contact medium that could be used to contact the party.

characteristic A medium characteristic (MediumCharacteristic). Any additional

characteristic(s) of this contact medium.

mediumType A string. Type of the contact medium, such as: email address, telephone

number, postal address.

preferred A boolean. If true, indicates that is the preferred contact medium.

validFor A time period. The time period that the contact medium is valid for.

CreditProfile sub-resource

Credit profile for the party (containing credit scoring, ...). By default only the current credit profile is retrieved. It can be used as a list to give the party credit profiles history, the first one in the list will be the current one.

creditProfileDate A date time (DateTime). The date the profile was established.

creditRiskRating An integer. This is an integer whose value is used to rate the risk.

creditScore An integer. A measure of a person or organizations creditworthiness calculated

on the basis of a combination of factors such as their income and credit history.

validFor A time period. The period for which the profile is valid.

MediumCharacteristic sub-resource

Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

city A string. The city.

contactType A string. The type of contact, for example: phone number such as mobile, fixed

home, fixed office. postal address such as shipping instalation....

country A string. The country.

emailAddress A string. Full email address in standard format.

faxNumber A string. The fax number of the contact.

phoneNumber A string. The primary phone number of the contact.



postCode A string. Postcode.

socialNetworkId A string. Identifier as a member of a social network.

stateOrProvince A string. State or province.

street1 A string. Describes the street.

street2 A string. Complementary street description.

RelatedParty sub-resource

Related Entity reference. A related party defines party or party role linked to a specific entity.

@referredType A string. The actual type of the target instance when needed for

disambiguation.

href A string. Reference of the related entity.

id A string. Unique identifier of a related entity.

name A string. Name of the related entity.

role A string. Role played by the related party.

AccountRef relationship

Account reference. A account may be a party account or a financial account.

@referredType A string. The actual type of the target instance when needed for

disambiguation.

description A string. Detailed description of the account.

href A string. Reference of the account.

id A string. Unique identifier of the account.

name A string. Name of the account.

AgreementRef relationship

Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

@referredType A string. The actual type of the target instance when needed for

disambiguation.

href A string. Reference of the related entity.

id A string. Unique identifier of a related entity.



name A string. Name of the agreement.

PaymentMethodRef relationship

PaymentMethod reference. A payment method defines a specific mean of payment (e.g direct debit).

@referredType A string. The actual type of the target instance when needed for

disambiguation.

href A string. Reference of the payment mean.

id A string. Unique identifier of the payment mean.

name A string. Name of the payment mean.

Json representation sample

We provide below the json representation of an example of a 'PartyRole' resource object

```
"@type": "PartyRole",
"href": "https:/host:port/tmf-api/partyRoleManagement/v4/partyRole/4079",
"id": "4079",
"name": "Global Pirates",
"status": "Approved",
"statusReason": "NDA has been signed",
"validFor": {
  "startDateTime": "2018-06-16T00:00Z",
  "endDateTime": "2019-01-13T00:00Z"
},
"engagedParty": {
  "@referredType": "Organization",
  "href": "https:/host:port/tmf-api/partyManagement/v2/organization/99",
  "id": "99",
  "name": "Global Pirates",
  "role": "Provider"
},
"account": [
    "@referredType": "SettlementAccount",
    "description": "This account ...",
    "href": "https:/host:port/tmf-api/accountManagement/v4/account/5713",
    "id": "5713",
    "name": "Paradise Account"
  }
],
"paymentMethod": [
    "@referredType": "CreditCardPayment",
    "href": "https:/host:port/tmf-api/paymentMethods/v1/paymentMethod/9206",
    "id": "9206",
    "name": "family payment"
  }
"characteristic": [
```



```
"name": "mainSkill",
    "value": "analytics",
    "valueType": "string"
],
"creditProfile": [
    "creditProfileDate": "2018-06-17T00:00Z",
    "creditRiskRating": 4,
    "creditScore": 1,
    "validFor": {
      "startDateTime": "2018-06-14T00:00Z",
      "endDateTime": "2019-01-13T00:00Z"
    }
  }
],
"agreement": [
    "@referredType": "Agreement",
    "href": "https:/host:port/tmf-api/agreementManagement/v4/agreement/5091",
    "id": "5091",
    "name": "Winter Contract Agreement"
  }
],
"relatedParty": [
  {
    "@referredType": "Organization",
    "href": "https:/host:port/tmf-api/partyManagement/v4/organization/3658",
    "id": "3658",
    "name": "Gustave Flaubert",
    "role": "customer"
]
```

Notification Resource Models

4 notifications are defined for this API

Notifications related to PartyRole:

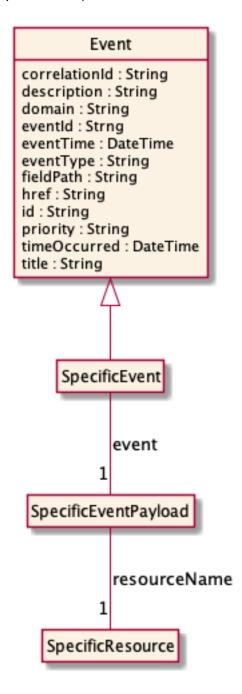
- PartyRoleCreateEvent
- PartyRoleAttributeValueChangeEvent
- PartyRoleStateChangeEvent
- PartyRoleDeleteEvent

The notification structure for all notifications in this API follow the pattern depicted by the figure below. A notification event resource (depicted by "SpecificEvent" placeholder) is a sub class of a generic Event structure containing at least an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the resource (eventType).

This notification structure owns an event payload structure ("SpecificEventPayload" placeholder) linked to



the resource concerned by the notification using the resource name as access field ("resourceName" placeholder).



PARTY ROLE CREATE EVENT

Notification PartyRoleCreateEvent case for resource PartyRole

Json representation sample

We provide below the json representation of an example of a 'PartyRoleCreateEvent' notification event object



PARTY ROLE ATTRIBUTE VALUE CHANGE EVENT

Notification PartyRoleAttributeValueChangeEvent case for resource PartyRole

Json representation sample

We provide below the json representation of an example of a 'PartyRoleAttributeValueChangeEvent' notification event object

PARTY ROLE STATE CHANGE EVENT

Notification PartyRoleStateChangeEvent case for resource PartyRole

Json representation sample

We provide below the json representation of an example of a 'PartyRoleStateChangeEvent' notification event object

PARTY ROLE DELETE EVENT



Notification PartyRoleDeleteEvent case for resource PartyRole

Json representation sample

We provide below the json representation of an example of a 'PartyRoleDeleteEvent' notification event object



API OPERATIONS

Remember the following Uniform Contract:

Operation on Entities	Uniform API Operation	Description
Query Entities	GET Resource	GET must be used to retrieve a representation of a resource.
Create Entity	POST Resource	POST must be used to create a new resource
Partial Update of an Entity	PATCH Resource	PATCH must be used to partially update a resource
Complete Update of an Entity	PUT Resource	PUT must be used to completely update a resource identified by its resource URI
Remove an Entity	DELETE Resource	DELETE must be used to remove a resource
Execute an Action on an Entity	POST on TASK Resource	POST must be used to execute Task Resources
Other Request Methods	POST on TASK Resource	GET and POST must not be used to tunnel other request methods.

Filtering and attribute selection rules are described in the TMF REST Design Guidelines.

Notifications are also described in a subsequent section.

OPERATIONS ON PARTY ROLE



LIST PARTY ROLES

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

Description

This operation list party role entities.

Attribute selection is enabled for all first level attributes.

Filtering may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a request for retrieving PartyRole resources.

Request

GET /tmf-

api/partyRoleManagement/v4/partyRole? fields=id, name, engagedParty.name & engagedParty.name = GrooveDotComAccept: application/json

Response

```
200
    "@type": "PartyRole",
    "href": "https:/host:port/tmf-api/partyRoleManagement/v4/partyRole/4079",
    "id": "4079",
    "name": "Global Pirates",
    "status": "Approved",
    "statusReason": "NDA has been signed",
    "validFor": {
      "startDateTime": "2018-06-16T00:00Z",
      "endDateTime": "2019-01-13T00:00Z"
    "engagedParty": {
      "@referredType": "Organization",
      "href": "https:/host:port/tmf-api/partyManagement/v2/organization/99",
      "id": "99",
      "name": "Global Pirates",
      "role": "Provider"
    },
    "account": [
        "@referredType": "SettlementAccount",
        "description": "This account ...",
        "href": "https:/host:port/tmf-api/accountManagement/v4/account/5713",
        "id": "5713",
```



```
"name": "Paradise Account"
    }
  ],
  "paymentMethod": [
      "@referredType": "CreditCardPayment",
      "href": "https:/host:port/tmf-api/paymentMethods/v1/paymentMethod/9206",
      "id": "9206",
      "name": "family payment"
    }
  ],
  "characteristic": [
      "name": "mainSkill",
      "value": "analytics",
      "valueType": "string"
    }
  ],
  "creditProfile": [
      "creditProfileDate": "2018-06-17T00:00Z",
      "creditRiskRating": 4,
      "creditScore": 1,
      "validFor": {
         "startDateTime": "2018-06-14T00:00Z",
         "endDateTime": "2019-01-13T00:00Z"
    }
  ],
  "agreement": [
      "@referredType": "Agreement",
      "href": "https:/host:port/tmf-api/agreementManagement/v4/agreement/5091",
      "id": "5091",
      "name": "Winter Contract Agreement"
    }
  ],
  "relatedParty": [
      "@referredType": "Organization",
      "href": "https:/host:port/tmf-api/partyManagement/v4/organization/3658",
      "id": "3658",
      "name": "Gustave Flaubert",
      "role": "customer"
  ]
}
```

RETRIEVE PARTY ROLE

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

Description



This operation retrieves a party role entity.

Attribute selection is enabled for all first level attributes.

Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a request for retrieving a PartyRole resource

Request

GET /tmf-api/partyRoleManagement/v4/partyRole/4079 Accept: application/json

Response

```
200
  "@type": "PartyRole",
  "href": "https:/host:port/tmf-api/partyRoleManagement/v4/partyRole/4079",
  "id": "4079",
  "name": "Global Pirates",
  "status": "Approved",
  "statusReason": "NDA has been signed",
  "validFor": {
    "startDateTime": "2018-06-16T00:00Z",
    "endDateTime": "2019-01-13T00:00Z"
  "engagedParty": {
    "@referredType": "Organization",
    "href": "https:/host:port/tmf-api/partyManagement/v2/organization/99",
    "name": "Global Pirates",
    "role": "Provider"
  },
  "account": [
    {
      "@referredType": "SettlementAccount",
      "description": "This account ...",
      "href": "https:/host:port/tmf-api/accountManagement/v4/account/5713",
      "id": "5713",
      "name": "Paradise Account"
    }
  ],
  "paymentMethod": [
      "@referredType": "CreditCardPayment",
      "href": "https:/host:port/tmf-api/paymentMethods/v1/paymentMethod/9206",
      "id": "9206",
```



```
"name": "family payment"
  }
],
"characteristic": [
    "name": "mainSkill",
    "value": "analytics",
    "valueType": "string"
  }
],
"creditProfile": [
    "creditProfileDate": "2018-06-17T00:00Z",
    "creditRiskRating": 4,
    "creditScore": 1,
    "validFor": {
      "startDateTime": "2018-06-14T00:00Z",
      "endDateTime": "2019-01-13T00:00Z"
    }
  }
],
"agreement": [
    "@referredType": "Agreement",
    "href": "https:/host:port/tmf-api/agreementManagement/v4/agreement/5091",
    "id": "5091",
    "name": "Winter Contract Agreement"
  }
],
"relatedParty": [
    "@referredType": "Organization",
    "href": "https:/host:port/tmf-api/partyManagement/v4/organization/3658",
    "id": "3658",
    "name": "Gustave Flaubert",
    "role": "customer"
```

CREATE PARTY ROLE

POST /partyRole

Description

This operation creates a party role entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a PartyRole, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.



Mandatory Attributes	Rule
name	
roleType	

Non Mandatory Attributes	Rule
account	
agreement	
characteristic	
contactMedium	
creditProfile	
engagedParty	
paymentMethod	
relatedParty	
status	
statusReason	
validFor	

Additional Rules

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

Context	Mandatory Sub-Attributes
characteristic	name, value
contactMedium	mediumType, characteristic
account	name
creditProfile	creditProfileDate, validFor

Default Values

When creating the resource, the following table provides the default values applicable to optional attributes of the resource (or sub-resources).

Attributes	Default Value
engagedParty	Automatically generated

Usage Samples

Here's an example of a request for creating a PartyRole resource. In this example the request only passes mandatory attributes.

```
Request

POST /tmf-api/partyRoleManagement/v4/partyRole
Content-Type: application/json

{
    "name": "Global Pirates",
```



```
"engagedParty": {
    "href": "https:/host:port/tmf-api/partyManagement/v2/organization/99",
    "name": "Global Pirates",
    "role": "Provider"
}
Response
201
  "href": "https:/host:port/tmf-api/partyRoleManagement/v2/partyRole/4079",
  "id": "4079",
  "name": "Global Pirates",
  "engagedParty": {
    "@referredType": "Organization",
    "href": "https:/host:port/tmf-api/partyManagement/v2/organization/99",
    "id": "99",
    "name": "Global Pirates",
    "role": "Provider"
  }
}
```

PATCH PARTY ROLE

PATCH /partyRole/{id}

Description

This operation allows partial updates of a party role entity. Support of json/merge (https://tools.ietf.org/html/rfc7386) is mandatory, support of json/patch (http://tools.ietf.org/html/rfc5789) is optional.

Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

The tables below provide the list of patchable and non patchable attributes, including constraint rules on their usage.

Patchable Attributes	Rule	
account		
agreement		
characteristic		
contactMedium		
creditProfile		



engagedParty	
name	
paymentMethod	
relatedParty	
status	
statusReason	
validFor	

Non Patchable Attributes	Rule
href	
id	

Usage Samples

Here's an example of a request for patching a PartyRole resource. Changing the status to 'prospective' (using json-merge).

```
Request

PATCH /tmf-api/partyRoleManagement/v4/partyRole/42
Content-Type: application/merge-patch+json

{
    "status": "prospective"
}

Response

200

{ Similar JSON as in GET response with status added or changed }
```

Here's an example of a request for patching a PartyRole resource. Changing the status to 'prospective' (using json-patch).

```
Request

PATCH /tmf-api/partyRoleManagement/v4/partyRole/42

Content-Type: application/json-patch+json

{
    "path": "/status",
    "value": "prospective",
    "op": "replace"
}
```



Response
200
{ Similar JSON as in GET response with status added or changed }

DELETE PARTY ROLE

DELETE /partyRole/{id}

Description

This operation deletes a party role entity.

Usage Samples

This operation deletes a PartyRole resource.

Request
DELETE /tmf-api/partyRoleManagement/v4/partyRole/42
Response
204



API NOTIFICATIONS

For every single of operation on the entities use the following templates and provide sample REST notification POST calls.

It is assumed that the Pub/Sub uses the Register and UnRegister mechanisms described in the REST Guidelines reproduced below.

REGISTER LISTENER

POST /hub

Description

Sets the communication endpoint address the service instance must use to deliver information about its health state, execution state, failures and metrics. Subsequent POST calls will be rejected by the service if it does not support multiple listeners. In this case DELETE /api/hub/{id} must be called before an endpoint can be created again.

Behavior

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 409 if request is not successful.

Usage Samples

Here's an example of a request for registering a listener.

Request

POST /api/hub

Accept: application/json

{"callback": "http://in.listener.com"}

Response

201

Content-Type: application/json

Location: /api/hub/42

{"id":"42","callback":"http://in.listener.com","query":null}



UNREGISTER LISTENER

DELETE /hub/{id}

Description

Clears the communication endpoint address that was set by creating the Hub...

Behavior

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 404 if the resource is not found.

Usage Samples

Here's an example of a request for un-registering a listener.

Request
DELETE /api/hub/42
Accept: application/json
Response
204

PUBLISH EVENT TO LISTENER

POST /client/listener

Description

Clears the communication endpoint address that was set by creating the Hub.

Provides to a registered listener the description of the event that was raised. The /client/listener url is the callback url passed when registering the listener.

Behavior

Returns HTTP/1.1 status code 201 if the service is able to set the configuration.

Usage Samples

Here's an example of a notification received by the listener. In this example "EVENT TYPE" should be replaced by one of the notification types supported by this API (see Notification resources Models section) and EVENT BODY refers to the data structure of the given notification type.



```
Request

POST /client/listener
Accept: application/json

{
    "event": {
        EVENT BODY
        },
        "eventType": "EVENT_TYPE"
    }

Response
```

For detailed examples on the general TM Forum notification mechanism, see the TMF REST Design Guidelines.



ACKNOWLEDGEMENTS

RELEASE HISTORY

Release Number	Date	Release led by:	Description
Release 1.0	01/03/2017	Pierre Gauthier (TM Forum) Mariano Belaunde (Orange) Jean Luc Tymen (Orange) Veronique Moineau (Orange)	Retrieved from Onboarding specification so that it becomes a standalone API. The document is generated from the latest version of API Data Model.
Release 2.0	11/06/2018	Mariano Belaunde Orange Labs	Alignment with Guidelines 3.0
Release 4.0	30/06/2019	Mariano Belaunde Orange Labs	Regeneration after schematization

CONTRIBUTORS TO DOCUMENT

Veronique Mauneau	Orange
Jean-Luc Tymen	Orange
Mariano Belaunde	Orange
Pierre Gauthier	TM Forum