TM Forum Specification

Party Role Management API REST Specification

TMF669
Release 18.0.0
June 2018

Latest Update: TM Forum Release 18.0.0	Member Evaluation
Version 2.0.1	IPR Mode: RAND

NOTICE

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

LIST OF TABLES

N/A

INTRODUCTION

The following document is the specification of the REST API for Party Role Management. It includes the model definition as well as all available operations.

SAMPLE USE CASES

Reader will find example of use cases using Usage API in “Open Digital Business Scenarios and Use Cases” document.

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.

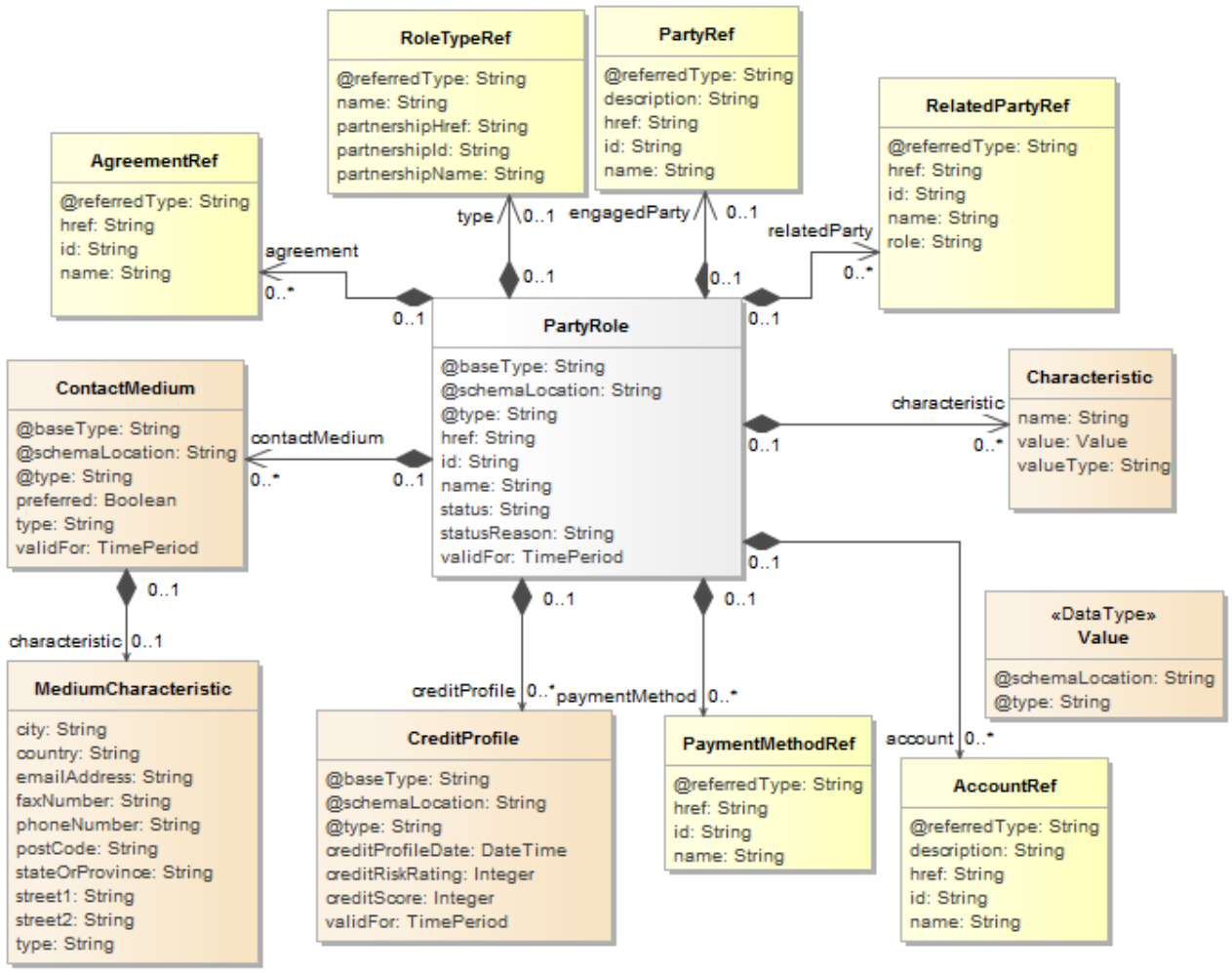
RESOURCE MODEL

Managed Entity and Task Resource Models

PARTY ROLE RESOURCE

The part played by a party in a given context.

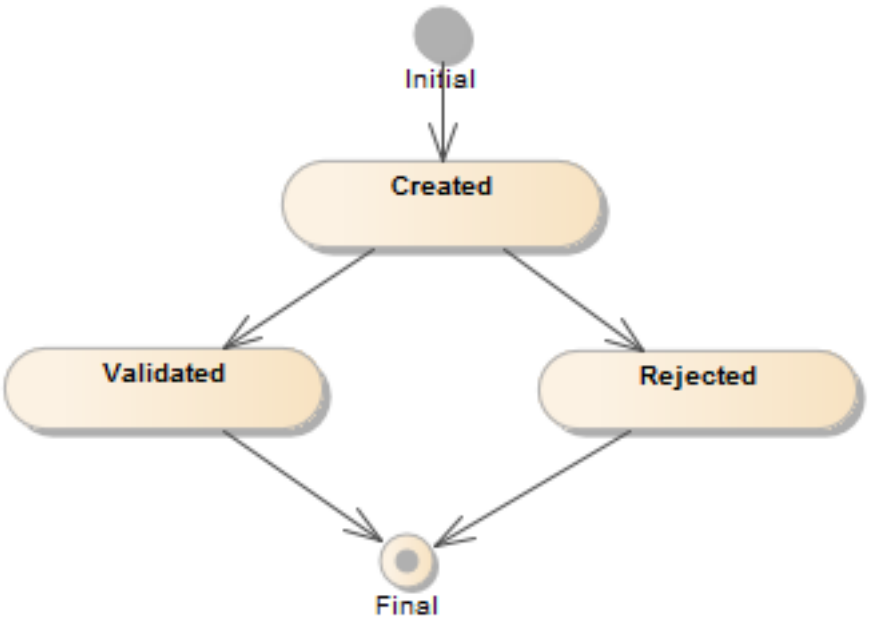
Resource model



Lifecycle

The lifecycle of a party role is tracked by its status field. Typical values are Created, Validated and Rejected. Validated status occurs when a potential/prospective partner accepts to follow the party role suggested to him, whereas Rejected status occurs when the prospective partner rejects the assigned party role.

Note that an implementation of the specification may enrich the list of states depicted in the diagram. The state machine specifying the typical state change transitions is provided below.



Field descriptions

PartyRole fields

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
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.
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.
engagedParty	A party reference (PartyRef). A party represents an organization or an individual.
type	A role type reference (RoleTypeRef). The role type - useful only in the context of a partnership defining more than one role type.
account	A list of account references (AccountRef [*]). An account may be a party account or a financial account.
paymentMethod	A list of payment method references (PaymentMethodRef [*]). A payment method defines a specific mean of payment (e.g. direct debit).
contactMedium	A list of contact mediums (ContactMedium [*]). Indicates the contact medium that could be used to contact the party.
characteristic	A list of characteristics (Characteristic [*]). Describes the characteristic of a party role.
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.
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.
relatedParty	A list of related party references (RelatedPartyRef [*]). A related party defines party or party role linked to a specific entity.

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	A string.

ContactMedium sub-resource

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

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
preferred	A boolean. If true, indicates that is the preferred contact medium.
type	A string. Type of the contact medium, such as: email address, telephone number, postal address.
validFor	A time period. The time period that the contact medium is valid for.
characteristic	A medium characteristic (MediumCharacteristic). Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

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.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
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's or an organization's 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.
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.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.
type	A string. Type of medium (fax, mobile phone...).

AccountRef relationship

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

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
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. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the agreement.
id	A string. Identifier of the agreement.
name	A string. Name of the agreement.

PartyRef relationship

Party reference. A party represents an organization or an individual.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
description	A string. Text describing the referred party.
href	A string. Reference of the referred party (such as a partner or any other party role).
id	A string. Unique identifier of the referred party.
name	A string. Name of the referred party (such as a partner or any other party role).

PaymentMethodRef relationship

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

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the payment means.
id	A string. Unique identifier of the payment means.
name	A string. Name of the payment means.

RelatedPartyRef relationship

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

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the related party, could be a party reference or a party role reference.
id	A string. Unique identifier of a related party.
name	A string. Name of the related party.
role	A string. Role of the related party.

RoleTypeRef relationship

RoleType reference.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
name	A string. The name of the role type. It uniquely identifies the role type within the partnership type.
partnershipHref	A string. Reference url of the partnership type containing the role type.
partnershipId	A string. The identifier of the partnership type containing the role type.
partnershipName	A string. The name of the partnership type defining this role type.

Json representation sample

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


```
{
  "href": "https:/host:port/tmf-api/partyRoleManagement/v2/partyRole/4079",
  "id": "4079",
  "name": "Global Pirates",
  "status": "Approved",
  "statusReason": "NDA has been signed",
  "validFor": {
    "startDateTime": "2018-06-16T00:00",
    "endDateTime": "2019-01-13T00:00"
  },
  "engagedParty": {
    "description": "This  party ...",
    "href": "https:/host:port/tmf-api/partyManagement/v2/organization/1674",
    "id": "1674",
    "name": "Mobility Assistant Corp"
```

```
  },
  "type": {
    "name": "Provider"
  },
  "account": [
    {
      "description": "This  account ...",
      "href": "https:/host:port/tmf-api/accountManagement/v2/settlementAccount/5713",
      "id": "5713",
      "name": "Paradise Account"
    }
  ],
  "paymentMethod": [
    {
      "href": "https:/host:port/tmf-api/paymentMethods/v1/paymentMethod/9206",
      "id": "9206",
      "name": "family payment"
    }
  ],
  "contactMedium": [
    {
      "preferred": true,
      "type": "TelephoneNumber",
      "validFor": {
        "startDateTime": "2018-06-20T00:00",
        "endDateTime": "2019-01-13T00:00"
      },
      "characteristic": {
        "city": "Lannion",
        "street1": "10 Rue de l'impasse",
        "emailAddress": "nathalie.natalassian@badmington.fr",
        "postCode": "22300",
        "country": "France",
        "type": "business"
      }
    }
  ],
  "characteristic": [
    {
      "name": "mainSkill",
      "value": "analytics"
    }
  ],
  "creditProfile": [
    {
      "creditProfileDate": "2018-06-17T00:00",
      "creditRiskRating": 4,
      "creditScore": 1,
      "validFor": {
        "startDateTime": "2018-06-14T00:00",
        "endDateTime": "2019-01-13T00:00"
      }
    }
```

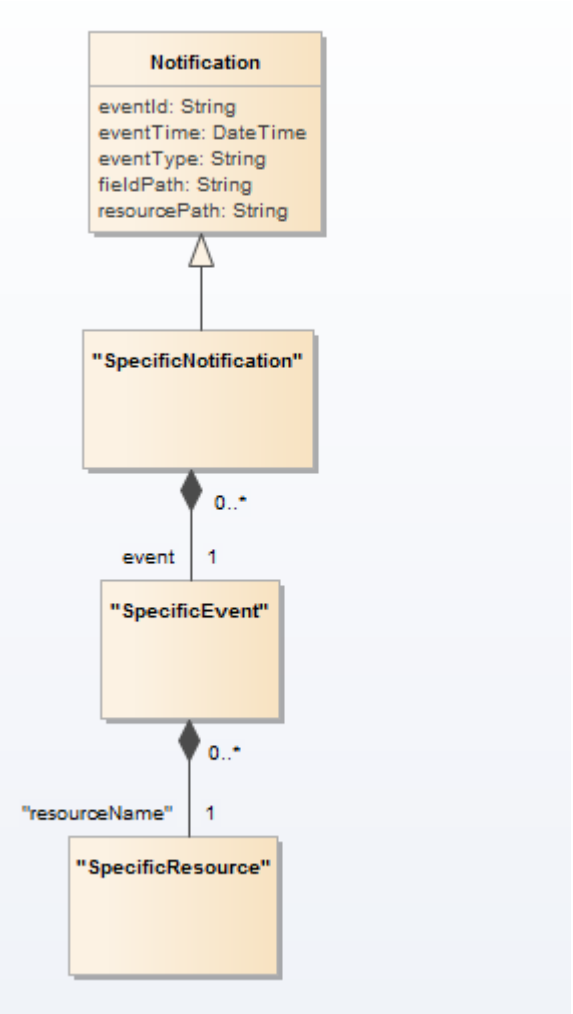
```
  ],
  "agreement": [
    {
      "href": "https:/host:port/tmf-api/agreementManagement/v2/agreement/5091",
      "id": "5091",
      "name": "Winter Contract Agreement"
    }
  ],
  "relatedParty": [
    {
      "href": "https:/host:port/tmf-api/partyManagement/v2/organization/3658",
      "id": "3658",
      "name": "Gustave Flaubert",
      "role": "customer"
    }
  ]
}
```


Notification Resource Models

4 notifications are defined for this API

Notifications related to PartyRole:
- PartyRoleCreationNotification
- PartyRoleAttributeValueChangeNotification
- PartyRoleStateChangeNotification
- PartyRoleRemoveNotification

The notification structure for all notifications in this API follow the pattern depicted by the figure below.
A notification resource (depicted by "SpecificNotification" placeholder) is a sub class of a generic Notification structure containing an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the notification resource (eventType).
This notification structure owns an event structure ("SpecificEvent" placeholder) linked to the resource concerned by the notification using the resource name as access field ("resourceName" placeholder).



PARTY ROLE CREATION NOTIFICATION

Notification sent when a new PartyRole resource is created.

Json representation sample

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

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"PartyRoleCreationNotification",
    "event": {
      "partyRole" :
         {-- SEE PartyRole RESOURCE SAMPLE --}
   }
}
```

PARTY ROLE ATTRIBUTE VALUE CHANGE NOTIFICATION

Notification sent when changing an attribute of a PartyRole resource.

Json representation sample

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

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"PartyRoleAttributeValueChangeNotification",
    "event": {
      "partyRole" :
         {-- SEE PartyRole RESOURCE SAMPLE --}
   }
}
```

PARTY ROLE STATE CHANGE NOTIFICATION

Notification sent when changing the state of a PartyRole resource.

Json representation sample

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

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"PartyRoleStateChangeNotification",
    "event": {
      "partyRole" :
         {-- SEE PartyRole RESOURCE SAMPLE --}
   }
}
```

PARTY ROLE REMOVE NOTIFICATION

Notification sent when removing a PartyRole resource.

Json representation sample

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

```
{
   "eventId":"00001",
   "eventTime":"2015-11-16T16:42:25-04:00",
   "eventType":"PartyRoleRemoveNotification",
    "event": {
      "partyRole" :
        {-- SEE PartyRole RESOURCE SAMPLE --}
   }
}
```

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.

Retrieving all party roles linked to a given engaged party (named 'GrooveDotCom'). The result items are shrinked to show only the id and the name (fields=id,name)

Request

```
GET {apiRoot}/partyRole?fields=id,name,engagedParty.name&engagedParty.name="GrooveDotCom"
Accept: application/json
```

Response

200

```
[
  {
    "engagedParty": {
      "name": "GrooveDotCom"
    },
    "id": "6756",
    "name": "Music Seller"
  },
  {
    "engagedParty": {
      "name": "GrooveDotCom"
    },
    "id": "4231",
    "name": "Software Provider"
  }
```

```
]
```

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 {apiRoot}/partyRole/4079
Accept: application/json
```

Response

```
200

{
   "href": "https:/host:port/tmf-api/partyRoleManagement/v2/partyRole/4079",
   "id": "4079",
   "name": "Global Pirates",
   "status": "Approved",
   "statusReason": "NDA has been signed",
   "validFor": {
      "startDateTime": "2018-06-16T00:00",
      "endDateTime": "2019-01-13T00:00"
   },
   "engagedParty": {
      "description": "This  party ...",
      "href": "https:/host:port/tmf-api/partyManagement/v2/organization/1674",
      "id": "1674",
      "name": "Mobility Assistant Corp"
   },
   "type": {
      "name": "Provider"
```

```
  },
  "account": [
    {
      "description": "This  account ...",
      "href": "https:/host:port/tmf-api/accountManagement/v2/settlementAccount/5713",
      "id": "5713",
      "name": "Paradise Account"
    }
  ],
  "paymentMethod": [
    {
      "href": "https:/host:port/tmf-api/paymentMethods/v1/paymentMethod/9206",
      "id": "9206",
      "name": "family payment"
    }
  ],
  "contactMedium": [
    {
      "preferred": true,
      "type": "TelephoneNumber",
      "validFor": {
        "startDateTime": "2018-06-20T00:00",
        "endDateTime": "2019-01-13T00:00"
      },
      "characteristic": {
        "city": "Lannion",
        "country": "France",
        "emailAddress": "nathalie.natalassian@badmington.fr",
        "postCode": "22300",
        "street1": "10 Rue de l'impasse",
        "type": "business"
      }
    }
  ],
  "characteristic": [
    {
      "name": "mainSkill",
      "value": "analytics"
    }
  ],
  "creditProfile": [
    {
      "creditProfileDate": "2018-06-17T00:00",
      "creditRiskRating": 4,
      "creditScore": 1,
      "validFor": {
        "startDateTime": "2018-06-14T00:00",
        "endDateTime": "2019-01-13T00:00"
      }
    }
  ],
  "agreement": [
    {
```

```
        "href": "https:/host:port/tmf-api/agreementManagement/v2/agreement/5091",
        "id": "5091",
        "name": "Winter Contract Agreement"
      }
   ],
   "relatedParty": [
      {
        "href": "https:/host:port/tmf-api/partyManagement/v2/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 provides 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	
type	

Non Mandatory Attributes	Default Value	Rule
@baseType		
@schemaLocation		
@type		
status		
statusReason		
validFor		
engagedParty		
account		
paymentMethod		
contactMedium		
characteristic		
creditProfile		

Non Mandatory Attributes	Default Value	Rule
agreement		
relatedParty		

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
engagedParty	id, href
characteristic	name, value
contactMedium	type, characteristic
account	id, href, name
creditProfile	creditProfileDate, validFor
paymentMethod	id, href
type	name

Default Values Summary

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

Attributes	Default Value
id	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 {apiRoot}/partyRole
Content-Type: application/json

{
   "name": "Global Pirates",
   "type": {
      "name": "Provider"
   }
}
```

Response

201
 	
{
"href": "https:/host:port/tmf-api/partyRoleManagement/v2/partyRole/4079",
"id": "4079",
"name": "Global Pirates",
"type": {
"name": "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
@baseType	
@schemaLocation	
@type	
name	
status	
statusReason	
validFor	
engagedParty	
type	
account	
paymentMethod	
contactMedium	

Patchable Attributes	Rule
characteristic	
creditProfile	
agreement	
relatedParty	

Non Patchable Attributes	Rule
id	
href	

Usage Samples

Here's an example of requests for patching a PartyRole resource.

Changing the status to 'prospective' (using json-merge)

Request

```
PATCH {apiRoot}/partyRole/42
Content-Type: application/merge-patch+json

{
   "status": "prospective"
}
```

Response

201

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

Changing the status to 'prospective' (using json-patch)

Request

```
PATCH {apiRoot}/partyRole/42
Content-Type: application/json-patch+json

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

Response
201 { Similar JSON response 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

Here's an example of a request for deleting a PartyRole resource.

Request
DELETE {apiRoot}/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
201

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

ACKNOWLEDGEMENTS

DOCUMENT HISTORY

VERSION HISTORY

Version Number	Date	Release led by:	Description
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.
1.0.1	21-Nov-2017	Adrienne Walcott	Updated to reflect TM Forum Approved Status
Release 2.0	11-Jun-2018	Mariano Belaunde Orange Labs	Alignment with Guidelines 3.0
Release 2.0.1	28-Jun-2018	Adrienne Walcott	Formatting/style edits prior to R18 publishing

RELEASE HISTORY

Release Number	Date	Release led by:	Description
Release 17.0.1	21-Nov-2017	Adrienne Walcott	Updated to reflect TM Forum Approved Status
Release 18.0.0	25-Jun-2018	Pierre Gauthier Mariano Belaunde Jean Luc Tymen Veronique Moineau	

CONTRIBUTORS TO DOCUMENT

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