

TM Forum Specification

Party Interaction API User Guide

TMF683

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N/A

Introduction

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

Users are communicating constantly with our enterprises either calling, entering our stores or using our websites and apps. Our companies are also communicating with them proactively by sending them new offers and providing support through different channels. Sometimes it is difficult to keep track of all those actions throughout all channels. A **Party Interaction** captures information about past interactions in-order to re-use it in future ones. This allows agents to serve users better by knowing the steps they went through. It also allows customers to see better, the actions they have performed and how they interacted with us.

The Party Interaction Management API provides a mechanism to manage party interactions. Creation, update and retrieval.

SAMPLE USE CASES

Use Case Id	UC_TMF_PartyInteractionManagement_0001
Use Case Name	Agent checks previous user interactions
Summary	This case an agent, either from a store or call center, checks the previous interactions a user had with the company.
Actor(s)	<ol style="list-style-type: none"> 1. User (person, may or may not be a customer) 2. Agent (with a dashboard connected to the systems exposing the APIs)
Pre-Conditions	<ol style="list-style-type: none"> 1. The identity of the user is known (his details were requested in the store or his phone number identified when he called).
Begins When	When all pre-conditions have been met and the user begins speaking with an agent. The agent requests using the dashboard the user's interactions info.
Description	<ol style="list-style-type: none"> 1. The agent requests the last user's interactions. 2. His dashboard shows a timeline with all the user interactions of the user. 3. The agent clicks in one to see its details. 4. The detailed interaction appears on screen.

Use Case Id	UC_TMF_PartyInteractionManagement_0002
Use Case Name	User checks previous interactions in app
Summary	This case describes how an app might show the user a list of his last interactions with the company.
Actor(s)	<ol style="list-style-type: none"> 1. User (person) 2. Mobile App (system)
Pre-Conditions	<ol style="list-style-type: none"> 1. App back-end is available. 2. User has logged into the mobile app.

Use Case Id	UC_TMF_PartyInteractionManagement_0002
Begins When	When all pre-conditions have been met the app may prompt a timeline with the user's last interactions as a consequence-of a user action within the app.
Description	<ol style="list-style-type: none"> 1. The user logs in the app. 2. In-order to check when he visited a certain store, he clicks on the timeline button. 3. The user sees when he last went there.

Use Case Id	UC_TMF_PartyInteractionManagement_0003
Use Case Name	Customer calls to call center and complain about his bill
Summary	This case an agent, either from a store or call center, start a new interaction
Actor(s)	<ol style="list-style-type: none"> 1. User (person, a customer) 2. Agent (with a dashboard connected to the systems exposing the APIs)
Pre-Conditions	1. The identity of the user is known (his details were requested in the store or his phone number identified when he called).
Begins When	When all pre-conditions have been met and the user begins speaking with an agent. The agent requests using the dashboard the user's interactions info.
Description	<ol style="list-style-type: none"> 1. A customer calls the Customer Service for a bill dispute. 2. The Agent checks the customer bill and realizes that there is indeed a problem with this customer. He performs the following actions : <ul style="list-style-type: none"> · Previous bill adjustment · A goodwill (discount) will be given to the customer for loyalty and retention reasons 3. As the customer seems to be happy with the solution, the Agent uses the interaction to present a new offer to the customer (cf. cross-sell activity) 4. The customer accepts this new offer 5. Agent sends additional commercial information about the new offer <p>This is described as below with one single partyInteraction which contains one item (RelatedEntityRefOrValue) per InteractionItem :</p> <p>partyInteraction#1 (description : "call from Mr. Doe complaining about his bill")</p>

Use Case Id	UC_TMF_PartyInteractionManagement_0003
	<p>InteractionItem#1.1 : reason : creation of a troubleTicket (TT) to adjust the previous bill. The items (RelatedEntityRefOrValue) is a link to this TT.</p> <p>InteractionItem#1.2 : reason : creation of a productOrder (PO) to give the discount to the customer. The items (RelatedEntityRefOrValue) is a link to this PO.</p> <p>InteractionItem#1.3 : reason : creation of a quote to represent the proposal made to the customer in the cross-sell context. The items (RelatedEntityRefOrValue) is a link to this quote (or no item is no quote is done).</p> <p>InteractionItem#1.4 : reason : creation of a productOrder (PO) to add the new offer to the customer’s inventory. The items (RelatedEntityRefOrValue) is a link to this PO.</p> <p>InteractionItem#1.5 : reason : Commercial information and documentation is sent to the customer. These documents are described here as attachments (AttachmentRefOrValue).</p>

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.

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 `PartyInteraction` instances some may be instances of `PartyInteraction` where other could be instances of `StoreVisitPartyInteraction`. 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 a `PartyInteraction Ref` 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 `StoreVisitPartyInteractionRef`, 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.

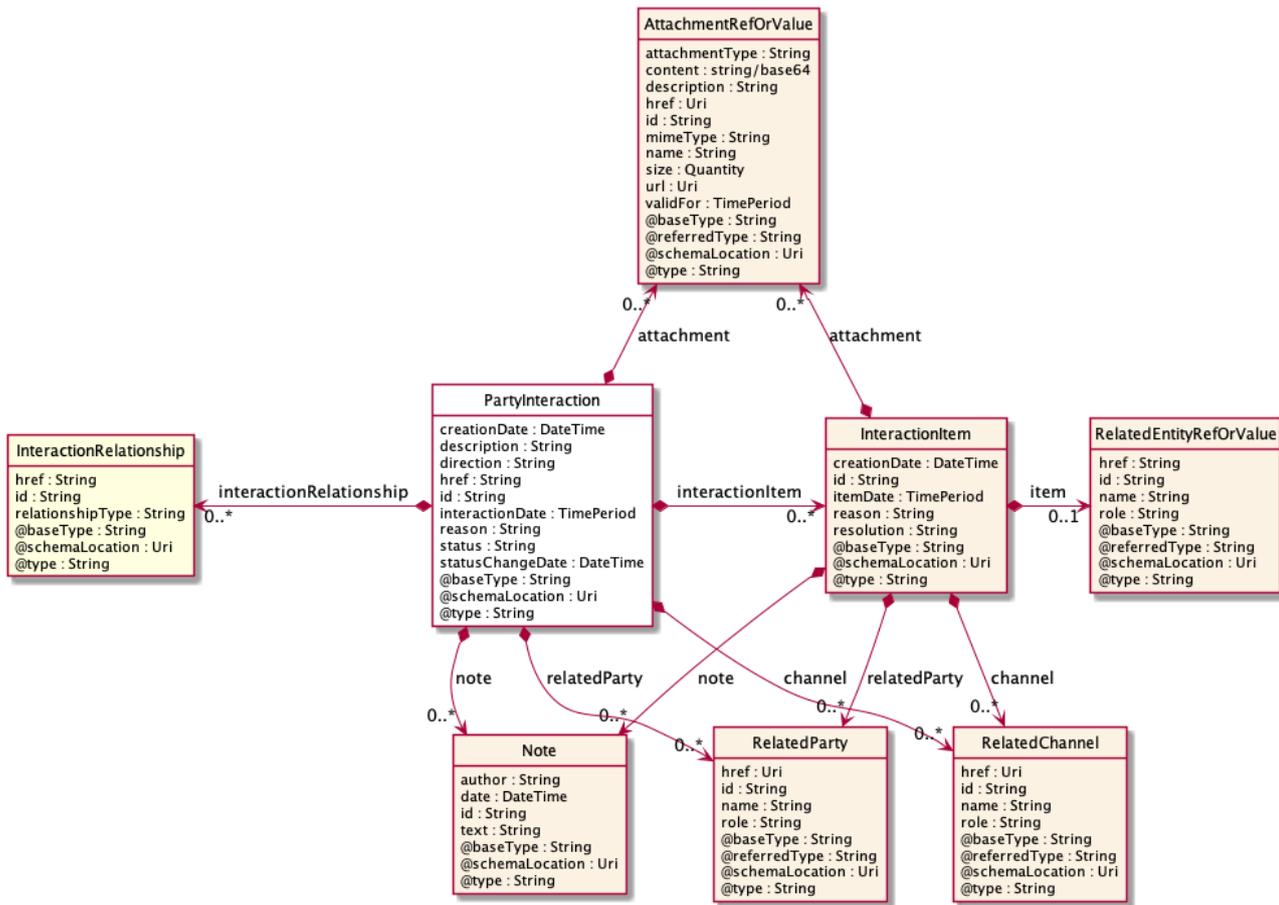
The `@baseType` attribute gives a way to provide explicitly the base of class of a given resource that has been extended.

RESOURCE MODEL

Managed Entity and Task Resource Models

Party Interaction resource

Resource model



Field descriptions

PartyInteraction fields

- attachment A list of attachment ref or values (AttachmentRefOrValue [*]). An attachment by value or by reference. An attachment complements the description of an element, for example through a document, a video, a picture.
- channel A list of related channels (RelatedChannel [*]). Where the interaction took place (e.g. web, mobile app, store, kiosk, etc.).
- creationDate A date time (DateTime). Date when the interaction is created in the system.

description	A string. Description of the interaction.
direction	A string. Specifies who started the interaction. It might be the party or the enterprise exposing this API. Possible values are “inbound” and “outbound”.
href	A string. Hyperlink to access the party interaction.
id	A string. Unique identifier of the party interaction.
interactionDate	A time period. The period during which the interaction took place. Start and end will be different in case of a call or a store visit. They will be the same (or only one will appear) in case of a message or other momentary interactions.
interactionItem	A list of interaction items (InteractionItem [*]).
interactionRelationship	A list of interaction relationships (InteractionRelationship [*]).
note	A list of notes (Note [*]). Extra information about a given entity.
reason	A string. Reason why the interaction happened.
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. Status of the interaction (opened, inProgress, completed).
statusChangeDate	A date time (DateTime). Last time the status changed.

AttachmentRefOrValue sub-resource

An attachment by value or by reference. An attachment complements the description of an element, for example through a document, a video, a picture.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
description	A string. A narrative text describing the content of the attachment.
href	An uri (Uri). URI for this Attachment.
id	A string. Unique identifier for this particular attachment.
url	An uri (Uri). Uniform Resource Locator, is a web page address (a subset of URI).
name	A string. The name of the attachment.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

attachmentType	A string. Attachment type such as video, picture.
content	A base 6 4 (Base64). The actual contents of the attachment object, if embedded, encoded as base64.
contentType	A string. Attachment mime type such as extension file for video, picture and document.
size	A quantity (Quantity). The size of the attachment.
validFor	A time period. The period of time for which the attachment is valid.

InteractionItem sub-resource

attachment	A list of attachment ref or values (AttachmentRefOrValue [*]). An attachment by value or by reference. An attachment complements the description of an element, for example through a document, a video, a picture.
channel	A list of related channels (RelatedChannel [*]). Where the interaction took place (e.g.: web, mobile app, store, kiosk, etc.).
creationDate	A date time (DateTime). Date when the interaction item is created in the system.
id	A string. Unique identifier of the interaction item.
item	A related entity ref or value (RelatedEntityRefOrValue). RelatedEntity defines a reference to any entity. It uses polymorphism in order to let the API client know how to treat the element, as the entity type is not known beforehand.
itemDate	A time period. Moment this item is referred.
note	A list of notes (Note [*]). Extra information about a given entity.
reason	A string. Reason why this item is referred.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. A related party defines party or party role linked to a specific entity.
resolution	A string. Resolution of the interaction item.

InteractionRelationship sub-resource

href	A string. Hyperlink to access the referenced party interaction.
id	A string. Unique identifier of the referenced party interaction.
relationshipType	A string. Type of the interaction relationship.

Note sub-resource

Extra information about a given entity.

author	A string. Author of the note.
date	A date time (DateTime). Date of the note.
id	A string. Identifier of the note within its containing entity (may or may not be globally unique, depending on provider implementation).
text	A string. Text of the note.

Quantity sub-resource

An amount in a given unit.

amount	A float. Numeric value in a given unit.
units	A string. Unit.

RelatedChannel sub-resource

Related channel to another entity. May be online web, mobile app, social ,etc.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the channel.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string. Role playing by the channel.

RelatedEntityRefOrValue sub-resource

A reference to an entity, where the type of the entity is not known in advance. A related entity defines a entity described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Entity and not the RelatedEntityRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.

href	A string. Reference of the related entity.
id	A string. Unique identifier of a related entity.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string.

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.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string. Role played by the related party.

Json representation sample

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

```
{
  "id": "123",
  "href": "https://host:port/partyInteraction/v4/partyInteraction/123",
  "@type": "storeVisit",
  "interactionDate": {
    "startDateTime": "2019-10-02T11:36:18.758Z",
    "endDateTime": "2019-10-02T11:53:21.789Z"
  },
  "description": "Visit to store",
  "reason": "The user wanted to query about new TV tariffs ",
  "status": "completed",
  "statusChangeDate": "2019-10-02T11:53:21.789Z",
  "direction": "inbounds",
  "creationDate": "2019-10-02T11:37:08.013Z",
  "relatedParty": [
    {
```

```

    "id": "999",
    "href": "https://host:port/partyManagement/v4/individual/999",
    "@referredType": "individual",
    "role": "user",
    "name": "John Doe"
  },
  {
    "id": "888",
    "href": "https://host:port/partyManagement/v4/individual/888",
    "@referredType": "individual",
    "role": "clerk",
    "name": "Jane Doe"
  }
],
"interactionItem": [
  {
    "id": "5678",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/5678",
    "reason": "The user signed up to new TV bundle and paid the decoder",
    "itemDate": "2019-10-02T11:50:01.333Z",
    "resolution": "Product order is created",
    "creationDate": "2019-10-02T11:50:01.895Z",
    "item": {
      "id": "30001",
      "href": "https://host:port/productOrderingManagement/v4/productOrder/30001",
      "@referredType": "ProductOrder",
      "@type": "EntityRef",
      "role": "interaction",
      "name": "Product Order illustration sample by reference"
    }
  },
  {
    "id": "1212",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/1212",
    "reason": "The user signed up to new Cloud bundle",
    "itemDate": "2019-10-02T11:50:01.333Z",
    "resolution": "Product order is created",
    "creationDate": "2019-10-02T11:50:01.895Z",
    "item": {
      "id": "88",
      "href": "https://host:port/productOrderingManagement/v4/productOrder/88",
      "@type": "ProductOrder",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Resource/ProductOrder.schema.json",
      "role": "interaction",
      "name": "Product Order illustration sample by value",
      "orderItem": [
        {
          "id": "1",
          "action": "add"
        }
      ]
    }
  }
],
{
  "id": "9999",
  "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/9999",

```

```
"reason": "The user paid the decoder in the store with credit card",
"itemDate": "2019-10-02T11:50:01.333Z",
"resolution": "TODO",
"creationDate": "2019-10-02T11:50:01.895Z",
"item": {
  "id": "666",
  "href": "https://host:port/paymentManagement/v4/payment/666",
  "@referredType": "payment",
  "name": "TV bundle plus decoder payment"
}
],
"channel": [
  {
    "id": "555",
    "name": "Madrid Gran V\u00eda Store",
    "role": "interaction creation",
    "@type": "store"
  }
],
"attachment": [
  {
    "id": "111222444",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/123/attachment/111222444",
    "name": "Some cool attachment",
    "description": "blahblahblah",
    "type": "receipt",
    "mimeType": "application/pdf",
    "size": 321321,
    "sizeUnit": "KB",
    "URL": "https://whereverthpdfis.com",
    "interactionDate": {
      "startDateTime": "2019-10-02T11:36:18.758Z",
      "endDateTime": "2019-10-02T11:53:21.789Z"
    }
  }
],
"note": [
  {
    "id": "121",
    "text": "loren ipsum dolor sit amet\u2026",
    "author": "John Doe",
    "date": "2019-10-02T11:36:18.758Z"
  }
],
"interactionRelationship": [
  {
    "id": "1034",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/1034",
    "relationshipType": "parent"
  }
]
}
```

Party Interaction Status Example Type resource

Possible values for the status of party interaction.

Json representation sample

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

```
{
  "status": "completed"
}
```

Notification Resource Models

4 notifications are defined for this API

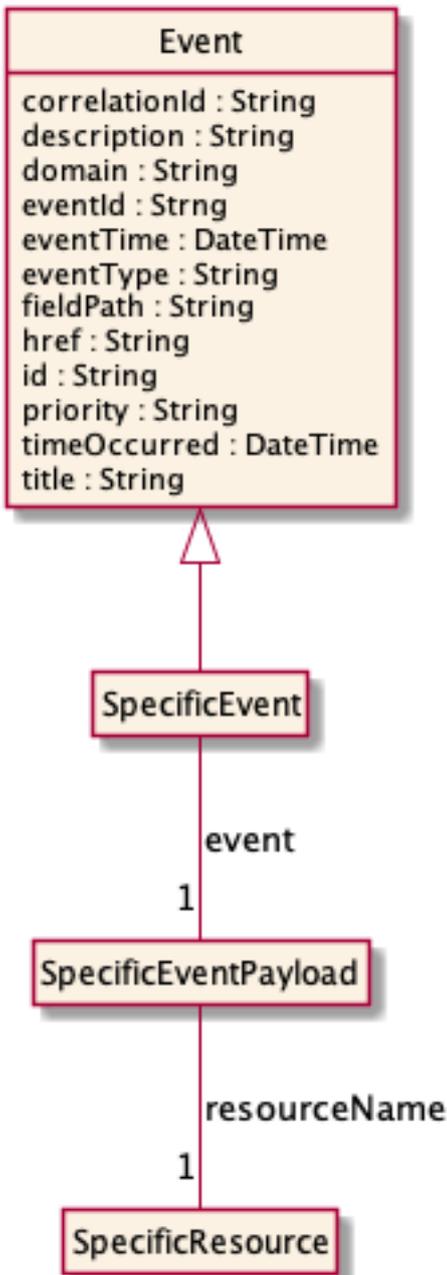
Notifications related to PartyInteraction:

- PartyInteractionCreateEvent
- PartyInteractionAttributeValueChangeEvent
- PartyInteractionDeleteEvent
- PartyInteractionStatusChangeEvent

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 Interaction Create Event

Notification PartyInteractionCreateEvent case for resource PartyInteraction

Json representation sample

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

```

{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "PartyInteractionCreateEvent",

```

```

"event": {
  "partyInteraction" :
    [-- SEE PartyInteraction RESOURCE SAMPLE --]
}
}

```

Party Interaction Attribute Value Change Event

Notification PartyInteractionAttributeValueChangeEvent case for resource PartyInteraction

Json representation sample

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

```

{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"PartyInteractionAttributeValueChangeEvent",
  "event": {
    "partyInteraction" :
      [-- SEE PartyInteraction RESOURCE SAMPLE --]
  }
}

```

Party Interaction Delete Event

Notification PartyInteractionDeleteEvent case for resource PartyInteraction

Json representation sample

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

```

{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"PartyInteractionDeleteEvent",
  "event": {
    "partyInteraction" :
      [-- SEE PartyInteraction RESOURCE SAMPLE --]
  }
}

```

Party Interaction Status Change Event

Notification PartyInteractionStatusChangeEvent case for resource PartyInteraction

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"PartyInteractionStatusChangeEvent",
  "event": {
    "partyInteraction" :
      {-- SEE PartyInteraction 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
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 Interaction

List party interactions

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

Description

This operation list party interaction 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 PartyInteraction resources.

Request
GET /tmf-api/partyInteraction/v4/partyInteraction Accept: application/json
Response
200 <pre>[{ "id": "123", "href": "https://host:port/partyInteraction/v4/partyInteraction/123", "@type": "storeVisit", "interactionDate": { "startDateTime": "2019-10-02T11:36:18.758Z", "endDateTime": "2019-10-02T11:53:21.789Z" }, "description": "Visit to store", "reason": "The user wanted to query about new TV tariffs ", "status": "completed", "statusChangeDate": "2019-10-02T11:53:21.789Z", "direction": "inbounds", "creationDate": "2019-10-02T11:37:08.013Z", "relatedParty": [{ "id": "999", "href": "https://host:port/partyManagement/v4/individual/999", "@referredType": "individual", "role": "user", "name": "John Doe" }, { "id": "888", "href": "https://host:port/partyManagement/v4/individual/888", "@referredType": "individual", "role": "clerk", "name": "Jane Doe" }] }, { "interactionItem": [{ "id": "5678", "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/5678", "reason": "The user signed up to new TV bundle and paid the decoder", "itemDate": "2019-10-02T11:50:01.333Z",</pre>

```

"resolution": "Product order is created",
"creationDate": "2019-10-02T11:50:01.895Z",
"item": {
  "id": "30001",
  "href": "https://host:port/productOrderingManagement/v4/productOrder/30001",
  "@referredType": "ProductOrder",
  "@type": "EntityRef",
  "role": "interaction",
  "name": "Product Order illustration sample by reference"
}
},
{
  "id": "1212",
  "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/1212",
  "reason": "The user signed up to new Cloud bundle",
  "itemDate": "2019-10-02T11:50:01.333Z",
  "resolution": "Product order is created",
  "creationDate": "2019-10-02T11:50:01.895Z",
  "item": {
    "id": "88",
    "href": "https://host:port/productOrderingManagement/v4/productOrder/88",
    "@type": "ProductOrder",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Resource/ProductOrder.schema.json",
    "role": "interaction",
    "name": "Product Order illustration sample by value",
    "orderItem": [
      {
        "id": "1",
        "action": "add"
      }
    ]
  }
}
},
{
  "id": "9999",
  "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/9999",
  "reason": "The user paid the decoder in the store with credit card",
  "itemDate": "2019-10-02T11:50:01.333Z",
  "resolution": "TODO",
  "creationDate": "2019-10-02T11:50:01.895Z",
  "item": {
    "id": "666",
    "href": "https://host:port/paymentManagement/v4/payment/666",
    "@referredType": "payment",
    "name": "TV bundle plus decoder payment"
  }
}
],
"channel": [
  {
    "id": "555",
    "name": "Madrid Gran V\u00e9da Store",
    "role": "interaction creation",
    "@type": "store"
  }
]
],

```

```
"attachment": [
  {
    "id": "111222444",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/123/attachment/111222444",
    "name": "Some cool attachment",
    "description": "blahblahblah",
    "type": "receipt",
    "mimeType": "application/pdf",
    "size": 321321,
    "sizeUnit": "KB",
    "URL": "https://whereverthpdfis.com",
    "interactionDate": {
      "startDateTime": "2019-10-02T11:36:18.758Z",
      "endDateTime": "2019-10-02T11:53:21.789Z"
    }
  }
],
"note": [
  {
    "id": "121",
    "text": "loren ipsum dolor sit amet\u2026",
    "author": "John Doe",
    "date": "2019-10-02T11:36:18.758Z"
  }
],
"interactionRelationship": [
  {
    "id": "1034",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/1034",
    "relationshipType": "parent"
  }
]
}
```

Retrieve party interaction

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

Description

This operation retrieves a party interaction 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 PartyInteraction resource.

Request
GET /tmf-api/partyInteraction/v4/partyInteraction/123 Accept: application/json
Response
<pre> 200 { "id": "123", "href": "https://host:port/partyInteraction/v4/partyInteraction/123", "@type": "storeVisit", "interactionDate": { "startDateTime": "2019-10-02T11:36:18.758Z", "endDateTime": "2019-10-02T11:53:21.789Z" }, "description": "Visit to store", "reason": "The user wanted to query about new TV tariffs ", "status": "completed", "statusChangeDate": "2019-10-02T11:53:21.789Z", "direction": "inbounds", "creationDate": "2019-10-02T11:37:08.013Z", "relatedParty": [{ "id": "999", "href": "https://host:port/partyManagement/v4/individual/999", "@referredType": "individual", "role": "user", "name": "John Doe" }, { "id": "888", "href": "https://host:port/partyManagement/v4/individual/888", "@referredType": "individual", "role": "clerk", "name": "Jane Doe" }], "interactionItem": [{ "id": "5678", "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/5678", "reason": "The user signed up to new TV bundle and paid the decoder", "itemDate": "2019-10-02T11:50:01.333Z", "resolution": "Product order is created", "creationDate": "2019-10-02T11:50:01.895Z", "item": { "id": "30001", "href": "https://host:port/productOrderingManagement/v4/productOrder/30001", "@referredType": "ProductOrder", "@type": "EntityRef", </pre>

```

    "role": "interaction",
    "name": "Product Order illustration sample by reference"
  }
},
{
  "id": "1212",
  "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/1212",
  "reason": "The user signed up to new Cloud bundle",
  "itemDate": "2019-10-02T11:50:01.333Z",
  "resolution": "Product order is created",
  "creationDate": "2019-10-02T11:50:01.895Z",
  "item": {
    "id": "88",
    "href": "https://host:port/productOrderingManagement/v4/productOrder/88",
    "@type": "ProductOrder",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Resource/ProductOrder.schema.json",
    "role": "interaction",
    "name": "Product Order illustration sample by value",
    "orderItem": [
      {
        "id": "1",
        "action": "add"
      }
    ]
  }
},
{
  "id": "9999",
  "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/9999",
  "reason": "The user paid the decoder in the store with credit card",
  "itemDate": "2019-10-02T11:50:01.333Z",
  "resolution": "TODO",
  "creationDate": "2019-10-02T11:50:01.895Z",
  "item": {
    "id": "666",
    "href": "https://host:port/paymentManagement/v4/payment/666",
    "@referredType": "payment",
    "name": "TV bundle plus decoder payment"
  }
},
"channel": [
  {
    "id": "555",
    "name": "Madrid Gran V\u00e9da Store",
    "role": "interaction creation",
    "@type": "store"
  }
],
"attachment": [
  {
    "id": "111222444",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/123/attachment/111222444",
    "name": "Some cool attachment",
    "description": "blahblahblah",
    "type": "receipt",

```

```

    "mimeType": "application/pdf",
    "size": 321321,
    "sizeUnit": "KB",
    "URL": "https://whereverthpdfis.com",
    "interactionDate": {
      "startDateTime": "2019-10-02T11:36:18.758Z",
      "endDateTime": "2019-10-02T11:53:21.789Z"
    }
  },
  "note": [
    {
      "id": "121",
      "text": "loren ipsum dolor sit amet\u2026",
      "author": "John Doe",
      "date": "2019-10-02T11:36:18.758Z"
    }
  ],
  "interactionRelationship": [
    {
      "id": "1034",
      "href": "https://host:port/partyInteraction/v4/partyInteraction/1034",
      "relationshipType": "parent"
    }
  ]
}

```

Create party interaction

POST /partyInteraction

Description

This operation creates a party interaction entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a PartyInteraction, 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
interactionDate	
reason	
status	
direction	
channel	

Non Mandatory Attributes	Rule
attachment	
creationDate	

Non Mandatory Attributes	Rule
description	
interactionItem	
interactionRelationship	
note	
relatedParty	
statusChangeDate	

Additional Rules

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

Context	Mandatory Sub-Attributes
relatedParty	id
channel	id

Usage Samples

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

Request
POST /tmf-api/partyInteraction/v4/partyInteraction Content-Type: application/json <pre>{ "interactionDate": { "startDateTime": "2019-10-02T11:36:18.758Z", "endDateTime": "2019-10-02T11:53:21.789Z" }, "reason": "The user wanted to query about new TV tariffs ", "status": "completed", "direction": "inbounds", "channel": [{ "id": "555", "name": "Madrid Gran V\u00eda Store", "role": "interaction creation", "@type": "store" }] }</pre>
Response

```

201
{
  "id": "123",
  "href": "https://host:port/partyInteraction/v4/partyInteraction/123",
  "interactionDate": {
    "startDateTime": "2019-10-02T11:36:18.758Z",
    "endDateTime": "2019-10-02T11:53:21.789Z"
  },
  "reason": "The user wanted to query about new TV tariffs ",
  "status": "completed",
  "direction": "inbounds",
  "channel": [
    {
      "id": "555",
      "name": "Madrid Gran V\u00eda Store",
      "role": "interaction creation",
      "@type": "store"
    }
  ]
}

```

Patch party interaction

PATCH /partyInteraction/{id}

Description

This operation allows partial updates of a party interaction 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
attachment	
channel	
creationDate	
description	
interactionDate	
interactionItem	
interactionRelationship	
note	

Patchable Attributes	Rule
reason	
relatedParty	
status	
statusChangeDate	

Non Patchable Attributes	Rule
id	
href	
direction	

Usage Samples

Here's an example of a request for patching a PartyInteraction resource.

Request
PATCH /tmf-api/partyInteraction/v4/partyInteraction/123 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response
200 <pre>{ "id": "123", "href": "https://host:port/partyInteraction/v4/partyInteraction/123", "@type": "storeVisit", "interactionDate": { "startDateTime": "2019-10-02T11:36:18.758Z", "endDateTime": "2019-10-02T11:53:21.789Z" }, "description": "Visit to store", "reason": "The user wanted to query about new TV tariffs ", "status": "completed", "statusChangeDate": "2019-10-02T11:53:21.789Z", "direction": "inbounds", "creationDate": "2019-10-02T11:37:08.013Z", "relatedParty": [{ "id": "999", "href": "https://host:port/partyManagement/v4/individual/999", "@referredType": "individual", "role": "user", }] }</pre>

```

    "name": "John Doe"
  },
  {
    "id": "888",
    "href": "https://host:port/partyManagement/v4/individual/888",
    "@referredType": "individual",
    "role": "clerk",
    "name": "Jane Doe"
  }
],
"interactionItem": [
  {
    "id": "5678",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/5678",
    "reason": "The user signed up to new TV bundle and paid the decoder",
    "itemDate": "2019-10-02T11:50:01.333Z",
    "resolution": "Product order is created",
    "creationDate": "2019-10-02T11:50:01.895Z",
    "item": {
      "id": "30001",
      "href": "https://host:port/productOrderingManagement/v4/productOrder/30001",
      "@referredType": "ProductOrder",
      "@type": "EntityRef",
      "role": "interaction",
      "name": "Product Order illustration sample by reference"
    }
  },
  {
    "id": "1212",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/1212",
    "reason": "The user signed up to new Cloud bundle",
    "itemDate": "2019-10-02T11:50:01.333Z",
    "resolution": "Product order is created",
    "creationDate": "2019-10-02T11:50:01.895Z",
    "item": {
      "id": "88",
      "href": "https://host:port/productOrderingManagement/v4/productOrder/88",
      "@type": "ProductOrder",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Resource/ProductOrder.schema.json",
      "role": "interaction",
      "name": "Product Order illustration sample by value",
      "orderItem": [
        {
          "id": "1",
          "action": "add"
        }
      ]
    }
  }
],
  {
    "id": "9999",
    "href": "https://host:port/partyInteraction/v4/partyInteraction/123/interactionItem/9999",
    "reason": "The user paid the decoder in the store with credit card",
    "itemDate": "2019-10-02T11:50:01.333Z",
    "resolution": "TODO",
    "creationDate": "2019-10-02T11:50:01.895Z",

```

```
    "item": {
      "id": "666",
      "href": "https://host:port/paymentManagement/v4/payment/666",
      "@REFERREDType": "payment",
      "name": "TV bundle plus decoder payment"
    }
  ],
  "channel": [
    {
      "id": "555",
      "name": "Madrid Gran V\u00e9da Store",
      "role": "interaction creation",
      "@type": "store"
    }
  ],
  "attachment": [
    {
      "id": "111222444",
      "href": "https://host:port/partyInteraction/v4/partyInteraction/123/attachment/111222444",
      "name": "Some cool attachment",
      "description": "blahblahblah",
      "type": "receipt",
      "mimeType": "application/pdf",
      "size": 321321,
      "sizeUnit": "KB",
      "URL": "https://whereverthpdfis.com",
      "interactionDate": {
        "startDateTime": "2019-10-02T11:36:18.758Z",
        "endDateTime": "2019-10-02T11:53:21.789Z"
      }
    }
  ],
  "note": [
    {
      "id": "121",
      "text": "loren ipsum dolor sit amet\u2026",
      "author": "John Doe",
      "date": "2019-10-02T11:36:18.758Z"
    }
  ],
  "interactionRelationship": [
    {
      "id": "1034",
      "href": "https://host:port/partyInteraction/v4/partyInteraction/1034",
      "relationshipType": "parent"
    }
  ],
  "name": "new name"
}
```

Delete party interaction

DELETE /partyInteraction/{id}

Description

This operation deletes a party interaction entity.

Usage Samples

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

Request
DELETE /tmf-api/partyInteraction/v4/partyInteraction/42
Response
204

Operations on Party Interaction Status Example Type

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

Version History

Version Number	Date	Release led by:	Description
1.0	11/10/2017	Guillermo Martínez del Camino Telefónica guillermo.martinezdelcamino@telefonica.com	First Release of Draft Version of the Document.
2.0	24-Apr-2018	Guillermo Martínez del Camino	Renamed UserInteraction to PartyInteraction and added multiple modifications
2.0.1	29-Jun-2018	Adrienne Walcott	Formatting/style edits prior to R18 publishing.
2.0.2	10-Sep-2018	Adrienne Walcott	Updated to reflect TM Forum Approved Status
4.0.0	28-May-2020	Jacob Avraham	Update version to reflect schema-driven api

Release History

Release Number	Date	Release led by:	Description
18.0.0	25-Jun-2018	Guillermo Martínez del Camino	Initial Release
18.0.1	10-Sep-2018	Adrienne Walcott	Updated to reflect TM Forum Approved Status
Pre-production	28-May-2020	Jacob Avraham	Version 4.0 of the api REST

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