Frameworx Specification

Quote API REST Specification

TMF622
Release 14.5.0
November 2014

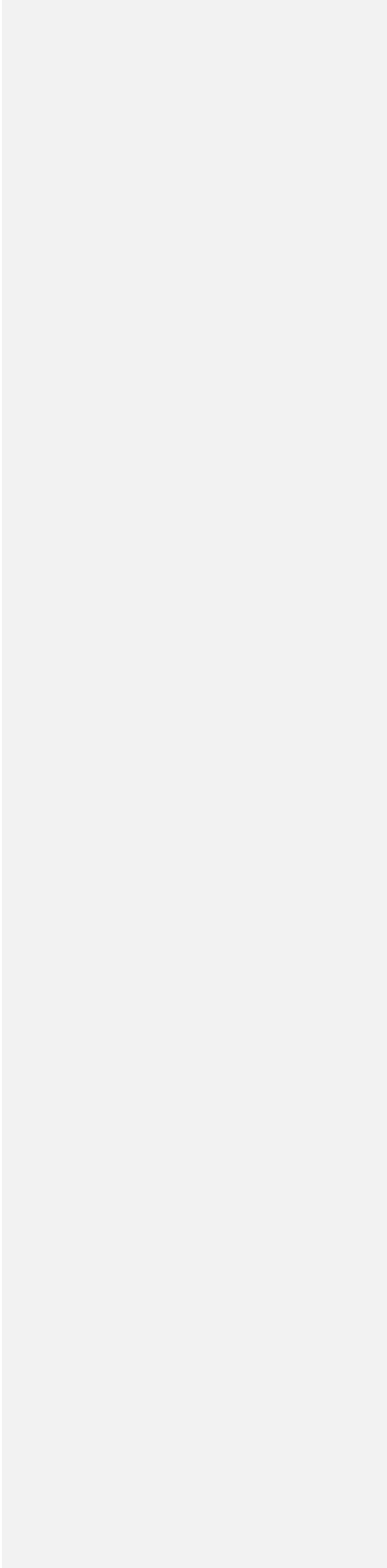| Latest Update: Frameworx Release 14.5	Member Evaluation
Version 2.0.0	IPR Mode: RAND

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NOTICE

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N/A

INTRODUCTION

The following document is the specification of the REST API for customer quote management. It includes the model definition as well as all available operations. Possible actions are creating, updating and retrieving customer quotes.

The customer Quote API provides a standardized mechanism for placing a customer quote with all of the necessary quote parameters. The API consists of a simple set of operations that interact with CRM/Order Negotiation systems in a consistent manner. A customer quote is created based on a product offer that is defined in a catalog. The quote identifies the product or set of products that are available to a customer, and includes characteristics such as pricing (eventually special pricing for the customer described in the quote), product options and agreement.

Supplier Quote is not managed in the scope of this document.

Quote API performs the following operations on customer quote:

- Retrieval of a customer quote or a collection of customer quote depending on filter criteria
- Partial update of a customer quote (including updating rules)
- Creation of a customer quote (including versioning, default values and creation rules)
- Deletion of customer quote (for administration purposes)
- Notification of events on quote
    o Quote creation
    o Quote removal
    o Quote state change
    o Quote value change used to notify that any data in an quote has just changed
    o Quote information required used to notify that some data in the quote need to be filled / are missing
    o Quote is a pending state waiting approval (for the whole quote or only for quote item)
    o quote is accepted by the customer but there is a least one agreement to be signed

ROBERT Ludovic I…, 2015-9-18 1:19 PM
Comment [1]: These 2 notifications have been discussed during the workshop but not completely finalized and agreed

The following Assumptions were considered in the development of this document:

- The customer quote management system has access to the commercial catalog system.

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SAMPLE USE CASES

The following table maps out the UC case with Internal/External actors. an internal actor is a representative of the ISP – a external is typically a representative of the prospect/customer.

UC	Actor	Rule
A new quote or a new version of a quote is created	Internal	
An existing quote should be updated or validated before to be send to the customer	Internal	Quote in status *In Progress* or *Pending*
An existing quote should be updated after submission to the customer	Internal External	Only status could be updated
a quote or a collection of quotes should be retrieved	Internal External (customer)	For an external access special checks and conditions are required (quote status, fields retrieved)
For technical reason a quote should be remove	Internal	

RESOURCE MODEL

Managed Entity and Task Resource Models

QUOTE LIFECYCLE

Here is the state machine diagram for a Quote and for Quote item. Each quote states are described in the tab below.
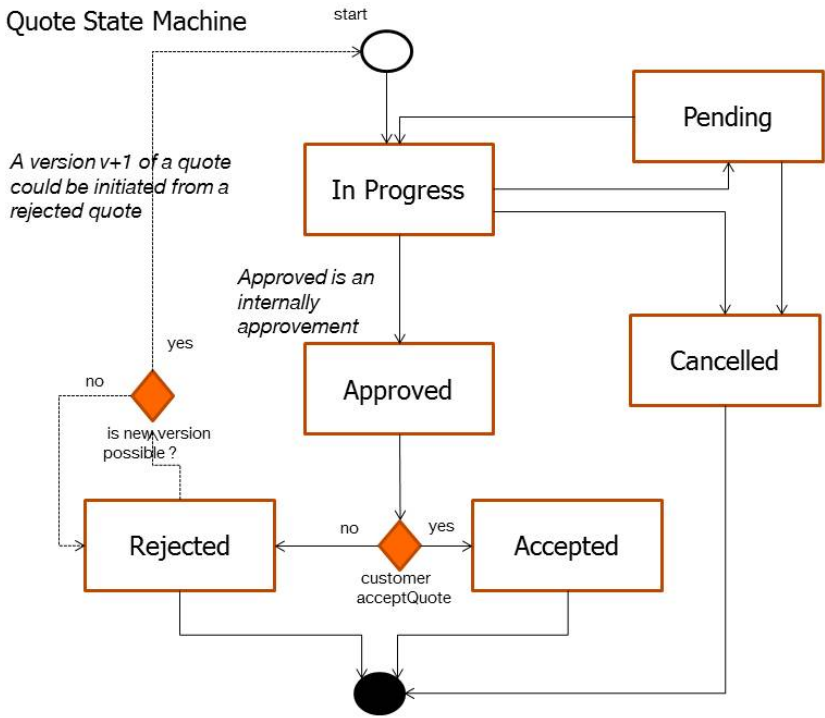
Quote Item State Machine
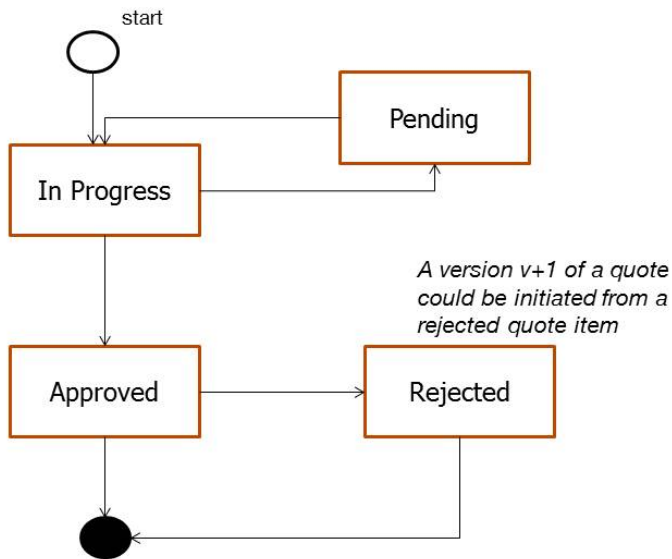
Note that the quote and quote item states are tightly linked and need to be consistent:

Quote status	Quote item status eligible
In Progress	In Progress
Pending	Pending In Progress
Validated	Validated
Cancelled	Pending In Progress

Accepted	Validated
Rejected	Validated Rejected

Quote State	Significance
In Progress	The *In Progress* state is when the quote is currently in the hands of the SP sales team to build it regarding customer requirements. The quote is under construction and needs more information. Everything should be updatable in this state
Pending	The *Pending* state is used when a quote needs to be validated from the SP perspective for tariff validation or to capture detailed information. The *Pending* state could be only for some quote items.
Approved	The *Approved* state is where the quote has been internally approved and sent to the customer. The quote is no longer updatable.
Cancelled	The *Cancelled* state is when the quote process is stopped from a SP decision. A *cancelled* quote has never been send to the customer.
Accepted	The *Accepted* state is used when the customer agreed to commit to the order and signed the quote.
Rejected	The *Rejected* state is used when the customer does not wish to progress with the quotation. It could his final decision and no other quote will be initiated from this quote or it could be during negotiation phase and a new quote version is triggered from this quote. This new version of the quote is created with the *in Progress* state.

Quote Item State	Significance
In Progress	The *In Progress* state is when the quote item is currently in the hands of the SP sales team to build it regarding customer requirements. The quote item is under construction and should need more information. Everything should be updatable in this state
Pending	The *Pending* state is used when a quote item needs to be validated from the SP perspective for tariff validation or to capture detailed information.
Approved	The *Approved* state is where the quote has been internally approved and sent to the customer. When the quote is shifted to the Approved state, all quote item are marked as Approved
Rejected	The *Rejected* state is used when the customer does not wish to progress with the quotation. It could be for the whole quote or for only some quote item. If at least one quote item is rejected the quote is rejected. At the quote level it could his final decision and no other quote will be initiated from this quote or it could be during negotiation phase and a new quote version is triggered from this quote. All quote item will be set as *In Progress* in this new version.

QUOTE

Here under a quote composed of 4 quote lines (quoteItems):

The quote is valid for one week from now.

- Line "1": quoting of a 'TMF Voice Extra' mobile plans – Catalog price ($35.00 per month)
- Line "2": quoting of a mobile SamPhone i5s terminal – a specific discount to this customer is awarded (-10% of the handset catalog price) . The phone will be for Samantha, Bill's wife.
- Line "3": a 'TMF Fiber+' leased line from customer Site A to Site B (based on the speed and the length) – Catalog price
- Line "4": quoting of a "TM TV+" bundled product composed of two atomic products (Movie and Sport channel) – Price is override (instead of $29.99 per month it will $23.87) for the bundle

Additionally a 5% discount is awarded globally on this quote for all recurring charges.

Customer is Joe Doe. The sale representative in charge of the quote is Bill Dupont. Bill needs Shinoju White approval for the global discount as well for the handset discount.
A standard disclaimer agreement is added for the leased line. It is attached to the quote.

RAF: Pour mise en forme et éventuelle relecture – j'ai parcouru le message et fait quelques mineures corrections.

ROBERT Ludovic …, 2015-9-18 11:40 AM
Comment [3]: Action Pierre

```json
{
  "id":"42",
  "href":"http://serverlocation:port/quoteManagement/Quote/42",
  "externalId":"QuoteForTheConsumer_42",
  "description":"A wonderful 42 quote for brand new products",
  "category":"corporate",
  "state":"Approved",
  "version":"1.0",
  "quoteDate":"2013-04-12T16:42:23-04:00",
  "effectiveQuoteCompletionDate":"",
  "quoteCompletionDate":"2013-04-19T16:42:23-04:00",
  "notificationContact":"bill.dupont@hotmail.com",
  "validFor":{
    "startDateTime":"2013-04-12T16:42:23-04:00",
    "endDateTime":"2013-04-19T00:00:00-04:00"
  },
  "billingAccount":[
    {
      "id":"123456",
      "href":"http://serverlocation:port/billingManagement/billingAccount/123456"
    }
```

```
  ],
  "note":[
    {
      "text":"Quote following opportunity #2345",
      "date":"2013-04-12T16:42:23-04:00",
      "author":"Bill Dupont"
    }
  ],
  "characteristic":[
    {
      "name":"Business Unit",
      "value":"London South West Cor^porate"
    }
  ],
  "customer":{
    "id":"345221",
    "href":"http://serverlocation:port/customerManagement/customer/345221",
    "name":"John Doe"
  },
  "relatedParty":[
    {
      "role":"authorizer",
      "id":"57",
      "href":"http://serverlocation:port/partyManagement/partner/57",
      "name":"Shinoju White"
    },
    {
      "role":"seller",
      "id":"4563",
      "href":"http://serverlocation:port/partnerManagement/partner/4563",
      "name":"Bill Dupont"
    }
  ],
  "agreement":[
    {
      "id":"45",
      "href":"http://serverlocation:port/engagedPartyManagement/agreement/45",
      "name":" standard disclaimer"
    }
  ],
  "quoteAuthorization":[
    {
      "authorizationDate":"2013-04-12T16:42:23-04:00",
      "authorizationState":"approved",
```

```
          "authorizationSignatureRepresentation":"digital",
          "attachment":{
            "id":"22",
            "href":"http://serverlocation:port/documentManagement/attachment/22",
            "type":"pdf"
          },
          "quoteProductOfferingPrice":[
            {
              "quotePriceAlteration":{
                "name":"Global Discount",
                "description":"5% for all recurring charge",
                "validFor":"",
                "startDateTime":"2013-04-19T16:42:23.0Z"
              },
              "priceType":"recurrent",
              "unitOfMeasure":"",
              "price":{
                "percentage":5
              },
              "recurringChargePeriod":"",
              "priceCondition":"applied if all quote items are purchased"
            }
          ]
        }
      ],
      "quoteItem":[
        {
          "id":"1",
          "state":"Approved",
          "attachment":{
            "id":"22",

"href":"http://serverlocation:port/documentManagement/attachment/TMFVoiceEXtraRationale.pdf",
            "type":"pdf"
          },
          "relatedParty":[
            {
              "role":"customer",
              "id":"345221",
              "href":"http://serverlocation:port/partyManagement/customer/345221",
              "name":"John Doe"
            },
            {
              "role":"seller",
```

```
        "id":"4563",
        "href":"http://serverlocation:port/partnerManagement/partner/4563",
        "name":"Bill Dupont"
      }
    ],
    "productOffering":{
     "id":"198",
     "href":"http: //serverlocation: port/catalogManagement/productOffering/198"
    },
    "product":{

    }
  },
  {
    "id":"2",
    "state":"Approved",
    "note":[
      {
        "text":"xxxx",
        "date":"2013-04-12T16:42:23-04:00",
        "author":"Bill Dupont"
      }
    ],
    "itemQuoteAuthorization":[
      {
        "authorizationDate":"2013-04-12T18:42:23-04:00",
        "authorizationState":"approved",
        "authorizationSignatureRepresentation":"digital ",
        "attachment":{
          "id":"22",
          "href":"http://serverlocation:port/documentManagement/attachment/22",
          "type":"JPG"
        },
        "relatedParty":[
          {
            "role":"authorizer",
            "id":"242",
            "href":"http://serverlocation:port/partyManagement/partner/242",
            "name":"Shinoju White"
          }
        ]
      }
    ],
    "productOffering":{
```

```json
    "id":" SamPhone i5s ",
    "href":"http: //serverlocation: port/catalogManagement/productOffering/SamPhonei5s "
  },
  "product":{
    "productCharacteristic":[
      {
        "name":"color",
        "value":"pink"
      }
    ],
    "relatedParty":[
      {
        "role":"user",
        "id":"5667443",
        "href":"http://serverlocation:port/partyManagement/user/5667443",
        "name":"Samantha Doe"
      }
    ]
  }
},
{
  "id":"3",
  "state":"Approved",
  "note":[
    {
      "text":"The leased line should be directly plugged from Joe's Office",
      "date":"2013-04-12T16:42:23-04:00",
      "author":"Bill Dupont"
    }
  ],
  "productOffering":{
    "id":" TMF Fiber+",
    "href":"http: //serverlocation: port/catalogManagement/productOffering/TMFFiber+"
  },
  "product":{
    "productCharacteristic":[
      {
        "name":"Speed",
        "value":"100 Mo/s"
      },
      {
        "name":"Site A",
        "value":"12 Dupont Circle, 34511 Washington DC"
      },
```

```
        {
          "name":"Site B",
          "value":"436 25th Avenue, 34507 Washington DC"
        }
      ]
    }
  },
  {
    "id":"4",
    "state":"Approved",
    "itemQuoteProductOfferingPrice":[
      {
        "itemQuotePriceAlteration":{
          "name":"Discount on Bundle TV channel",
          "description":"Movie + sport is so fun",
          "validFor":{
            "startDateTime":"2013-04-19T16:42:23.0Z"
          },
          "priceType":"recurrent",
          "unitOfMeasure":"",
          "price":{
            "override":23.87
          },
          "recurringChargePeriod":"monthly",
          "priceCondition":""
        }
      }
    ],
    "productOffering":{
      "id":"TM TV+",
      "href":"http://serverlocation:port/catalogManagement/productOffering/BundleTMTV+",
      "bundledProductOffering":[
        {
          "id":" Sport TV Channel",
          "href":"http://serverlocation:port/catalogManagement/productOffering/SportChannel"
        },
        {
          "id":" Movie TV channel",
          "href":"http://serverlocation:port/catalogManagement/productOffering/MovieChannel"
        }
      ]
    }
  }
]
```

```
}
```

Field Descriptions:

Quote: is a quote which can be used to negotiate service and product acquisition or modification between a customer and a service provider.

Field	Description
id	ID attributed by quoting system
href	Hyperlink to access the quote
externalId	ID given by the consumer and only understandable by him (to facilitate his searches afterwards)
description	Description of the quote
category	Used to categorize the quote from a business perspective that can be useful for the CRM system (e.g. "enterprise", "residential", ...)
state	State of the quote : described in the state-machine diagram above
version	Quote version because if the customer rejected the quote but negociations still open a new version of the quote is managed
quoteDate	Date when the quote was created
effectiveQuoteCompletionDate	Date when the quoted was Cancelled or Rejected or Accepted
fulfillmentStartDate	
quoteCompletionDate	initial quote required by date from the requestor perspective
notificationContact	Contact attached to the quote to send back information regarding this quote
validFor.startDateTime	valid from
validFor.endDateTime	valid until

BillingAccount: is the tentative billingAccount to use to bill the future products once ordered

Field	Description
id	Unique identifier of the billing account
href	Reference of the billing account

Note: Extra information about the quote (e.g. useful to add extra information that could be useful for a quote human process).

Field	Description
date	Date of the note
author	Author of the note
text	Text of the note

Characteristic: Characteristics of the quote to capture specific information (Business Unit, Business sector, etc.)

ROBERT Ludovic I…, 2015-9-17 2:53 PM
Comment [4]: We did not add there an appointment which will bet at the quote level. It could be a good idea for commercial appointment

ROBERT Ludovic …, 2015-9-18 11:39 AM
Comment [5]: Field copied from the order structure – meaningless for a quote. Proposition to remove it

Field	Description
name	Name of the characteristic
value	Value of the characteristic

Customer: define the party for whom the quote is made

Field	Description
id	Unique identifier of related party identified as customer
href	Reference of the relatedParty identified as customer, could be a party reference or a partyRole reference
name	Name of the related party identified as customer

RelatedParty: Defines parties which are involved in the quote and the role they are playing. It may be the ISP sale representative managing the quote, sales manager in charge of discount approval.

Field	Description
id	Unique identifier of related party
href	Reference of the relatedParty, could be a party reference or a partyRole reference
role	Role of the related party
name	Name of the related party

Agreement: If special condition or disclaimer should be communicated to the customer they are managed as Agreement (example for a leased line building where some tariff update could be done only after the quote - once the delivery in progress).

> ROBERT Ludovic …, 2015-9-24 11:44 AM
> **Comment [6]:** Not sure to have captured there the last and exact meaning of our discussin – please review.

Field	Description
id	Unique identifier of the agreement
href	Reference of the agreement
name	Name of the agreement

QuoteAuthorization: If special discount or special product or service tariff need an approval for ISP Sales representative n+1 or n+2 – these approvals are described there. This is approval at the whole quote level.

Field	Description
authorizationDate	date of the authorization
authorizationState	authorization state (approved or declined)
authorizationSignatureRepresentation	to specific a digital or manual signature
attachement.id	Id of the attachment describing the authorization
attachement.href	Reference of the attachment describing the authorization
attachement.type	Type of the attachment describing the authorization (ex: pdf)

> ROBERT Ludovic …, 2015-9-24 11:44 AM
> **Comment [7]:** Status name to be checked

quoteProductOfferingPrice: if a special price or discount is awarding for the whole quote (not linked to a particular quote item) this offering price is described here. It could be a discount (net or %), it could be a price override.

Field	Description
quotePricealteration.name	Name of the price modification
quotePricealteration.description	Description of the price modification
quotePricealteration.validFor.startDateTime	Date when the price modification will be applied
priceType	indicate if the price modification is for recurrent or no-recurrent charge
unitOfMeasure	
price	price value
price.percentage	if the price alteration is a discount percentage
recurringChargePeriod	period if the price modification is recurrent
priceCondition	condition of application for the price alteration

> ROBERT Ludovic …, 2015-9-24 11:44 AM
> **Comment [8]:** I'm a little bit surprised to have an unit of measure there without quantity associated. How this field is managed and for what usage ?
> My proposition is to remove it

QuoteItem: quote items that have to be treated

Field	Description
id	Identifier of the quote item (generally it is a sequence number 01, 02, 03, …)
state	State of the quote item : described in the state machine diagram
appointment	Used to precise that an appointment was set up with a related party for this quote item

Attachment: attachment linked to the quote item.

Field	Description
id	Identifier of the quote item attachment
href	reference of the quote item attachment
type	type of the quote item attachment

RelatedParty: Defines parties which are involved in the quote item and the role they are playing.

Field	Description
id	Unique identifier of related party
href	Reference of the relatedParty, could be a party reference or a partyRole reference
role	Role of the related party
name	Name of the related party

ProductOffering: quoted offering. May be a bundle ProductOffering, in this case, it will contain the list of bundled offers that are quoted

Field	Description
id	Unique identifier of the product offering
href	Reference of the product offering

Product: Configure the product characteristics (only configurable characteristics and necessary only if a non-default value is selected).

ProductCharacteristic: Characteristics of the product to instantiate or to modify

Field	Description
name	Name of the characteristic
value	Value of the characteristic

May be a bundle product instantiation, in this case, it will contain the list of bundled product to instantiate

Field	Description
id	Unique identifier of the bundled product
href	Reference of the bundled product

Note: Extra information about the quote item (e.g. useful to add extra information that could be useful for a quote item human process).

Field	Description
text	Text of the note
date	Date of the note
author	Author of the note

ItemQuoteAuthorization: If special discount or special product or service tariff need an approval for ISP Sales representative n+1 or n+2 – these approvals are described there. This is approval at the quote item level.

Field	Description
authorizationDate	date of the authorization
authorizationState	authorization state (approved or declined)
authorizationSignatureRepresentation	to specific a digital or manual signature
attachement.id	Id of the attachment describing the authorization
attachement.href	Reference of the attachment describing the authorization
attachement.type	Type of the attachment describing the authorization (ex: pdf)

itemQuoteProductOfferingPrice: if a special price or discount is awarding for a quote item this offering price is described here. It could be a discount (net or %), it could be a price override.

Field	Description

ROBERT Ludovic l…, 2015-9-17 4:00 PM
Comment [9]: Proposition to rename this structure itemQuoteAuthorization instead of QuoteAuthorization.

ROBERT Ludovic …, 2015-9-24 11:44 AM
Comment [10]: Status name to be checked

itemQuotePricealteration.name	Name of the price modification
itemQuotePricealteration.description	Description of the price modification
itemQuotePricealteration.validFor.startDateTime	Date when the price modification will be applied
priceType	indicate if the price modification is for recurrent or no-recurrent charge
unitOfMeasure	
price	price value
price.percentage	if the price alteration is a discount percentage
recurringChargePeriod	period if the price modification is recurrent
priceCondition	condition of application for the price alteration

ROBERT Ludovic …, 2015-9-24 11:44 AM

Comment [11]: I'm a little bit surprised to have an unit of measure there without quantity associated. How this field is managed and for what usage?
My proposition is to remove it

UML model:
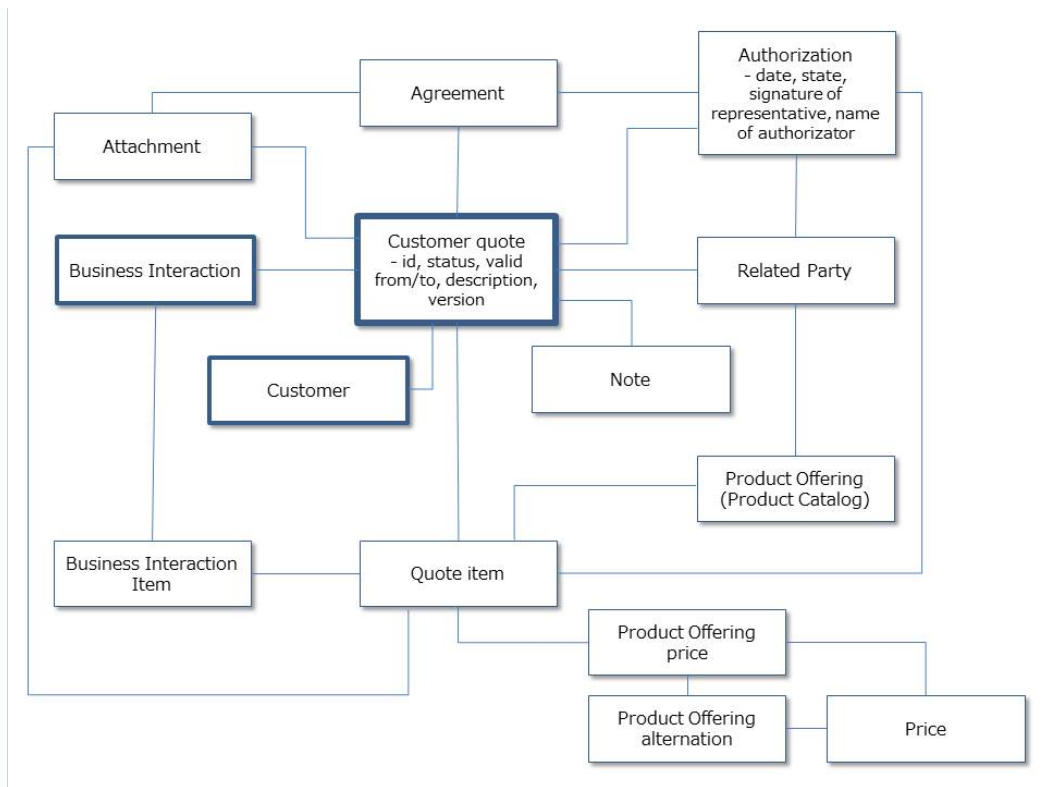
ROBERT Ludovic l…, 2015-9-17 2:56 PM

Comment [12]: I used version sent by Taka – 15/9 16:08
I hope it's the last and complete version.

Notification Resource Models

Five notification types are defined :

- quoteCreationNotification
- quoteRemoveNotification
- quoteStateChangeNotification
- quoteValueChangeNotification
- quoteInformationRequiredNotification

UML model:
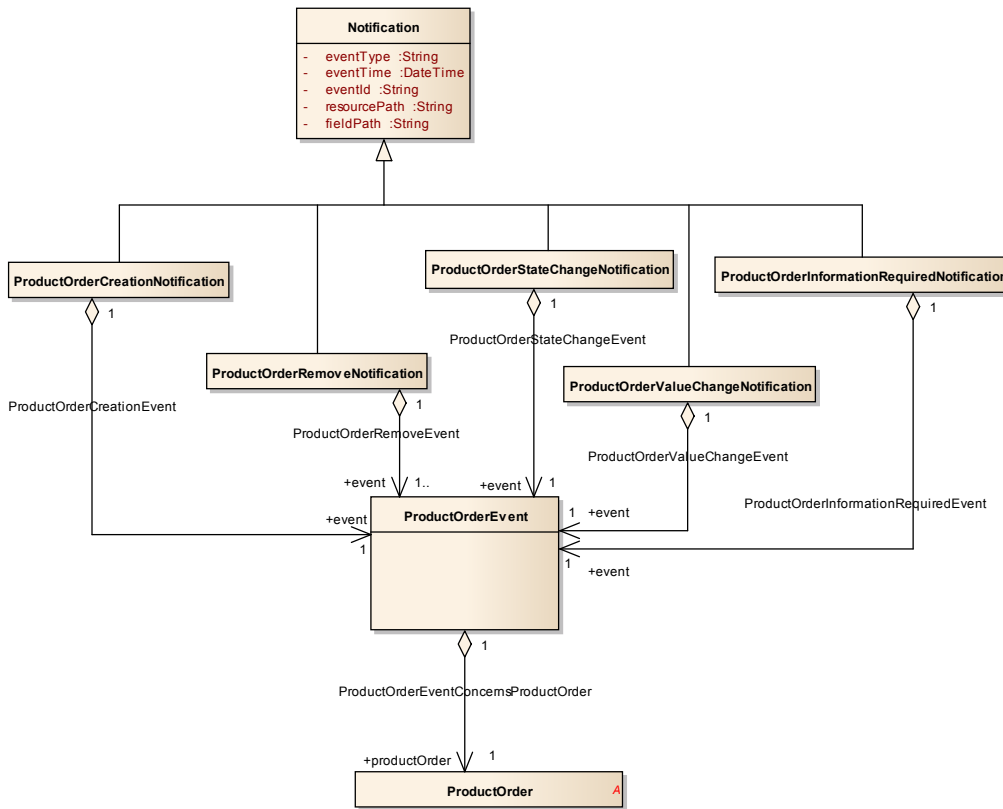
QUOTE CREATION NOTIFICATION

Notification used to notify that a new quote (or a new version of a quote) has just been created.

ROBERT Ludovic ..., 2015-9-21 10:41 AM
Comment [13]: Version fieldadded in the JSON

```
{
    "eventId":"00001",
    "eventTime":"2013-04-19T16:42:25-04:00",
    "eventType":"quoteCreationNotification",
    "event":{
    "quote":{
        "id":"42",
        "href":"http://serverlocation:port/quoteManagement/quote/42",
        "externalId":"QuoteForTheConsumer_42",
        "description":"A wonderful 42 quote for brand new products",
        "category":"corporate",
        "state":"Approved",
        "version":"1.0",
        "quoteDate":"2013-04-12T16:42:23-04:00",
        "effectiveQuoteCompletionDate":"",
        "quoteCompletionDate":"2013-04-19T16:42:23-04:00",
        "notificationContact":"bill.dupont@hotmail.com",
        "validFor":{
          "startDateTime":"2013-04-12T16:42:23-04:00",
          "endDateTime":"2013-04-19T00:00:00-04:00"
        },
        "billingAccount":[
          {
            "id":"123456",
            "href":"http://serverlocation:port/billingManagement/billingAccount/123456"
          }
        ],
        "note":[
          {
            "text":"Quote following opportunity #2345",
            "date":"2013-04-12T16:42:23-04:00",
            "author":"Bill Dupont"
          }
        ],
        "characteristic":[
          {
            "name":"Business Unit",
            "value":"London South West Cor^porate"
          }
        ],
        "customer":{
          "id":"345221",
          "href":"http://serverlocation:port/customerManagement/customer/345221",
          "name":"John Doe"
        },
        "relatedParty":[
          {
```

```
        "role":"authorizer",
        "id":"57",
        "href":"http://serverlocation:port/partyManagement/partner/57",
        "name":"Shinoju White"
      },
      {
        "role":"seller",
        "id":"4563",
        "href":"http://serverlocation:port/partnerManagement/partner/4563",
        "name":"Bill Dupont"
      }
    ],
    "agreement":[
      {
        "id":"45",
        "href":"http://serverlocation:port/engagedPartyManagement/agreement/45",
        "name":" standard disclaimer"
      }
    ],
    "quoteAuthorization":[
      {
        "authorizationDate":"2013-04-12T16:42:23-04:00",
        "authorizationState":"approved",
        "authorizationSignatureRepresentation":"digital",
        "attachment":{
          "id":"22",
          "href":"http://serverlocation:port/documentManagement/attachment/22",
          "type":"pdf"
        },
        "quoteProductOfferingPrice":[
          {
            "quotePriceAlteration":{
              "name":"Global Discount",
              "description":"5% for all recurring charge",
              "validFor":"",
              "startDateTime":"2013-04-19T16:42:23.0Z"
            },
            "priceType":"recurrent",
            "price":{
              "percentage":5
            },
            "recurringChargePeriod":"",
            "priceCondition":"applied if all quote items are purchased"
          }
        ]
      }
    ],
    "quoteItem":[
      {
```

```
        "id":"1",
        "state":"Approved",
        "attachment":{
          "id":"22",

"href":"http://serverlocation:port/documentManagement/attachment/TMFVoiceEXtraRationale.pdf",
          "type":"pdf"
        },
        "relatedParty":[
          {
            "role":"customer",
            "id":"345221",
            "href":"http://serverlocation:port/partyManagement/customer/345221",
            "name":"John Doe"
          },
          {
            "role":"seller",
            "id":"4563",
            "href":"http://serverlocation:port/partnerManagement/partner/4563",
            "name":"Bill Dupont"
          }
        ],
        "productOffering":{
          "id":"198",
          "href":"http: //serverlocation: port/catalogManagement/productOffering/198"
        },
        "product":{

        }
      },
      {
        "id":"2",
        "state":"Approved",
        "note":[
          {
            "text":"xxxx",
            "date":"2013-04-12T16:42:23-04:00",
            "author":"Bill Dupont"
          }
        ],
        "itemQuoteAuthorization":[
          {
            "authorizationDate":"2013-04-12T18:42:23-04:00",
            "authorizationState":"approved",
            "authorizationSignatureRepresentation":"digital ",
            "attachment":{
              "id":"22",
              "href":"http://serverlocation:port/documentManagement/attachment/22",
              "type":"JPG"
```

```
        },
        "relatedParty":[
          {
            "role":"authorizer",
            "id":"242",
            "href":"http://serverlocation:port/partyManagement/partner/242",
            "name":"Shinoju White"
          }
        ]
      }
    ],
    "productOffering":{
      "id":" SamPhone i5s ",
      "href":"http: //serverlocation: port/catalogManagement/productOffering/SamPhonei5s "
    },
    "product":{
      "productCharacteristic":[
        {
          "name":"color",
          "value":"pink"
        }
      ],
      "relatedParty":[
        {
          "role":"user",
          "id":"5667443",
          "href":"http://serverlocation:port/partyManagement/user/5667443",
          "name":"Samantha Doe"
        }
      ]
    }
  },
  {
    "id":"3",
    "state":"Approved",
    "note":[
      {
        "text":"The leased line should be directly plugged from Joe's Office",
        "date":"2013-04-12T16:42:23-04:00",
        "author":"Bill Dupont"
      }
    ],
    "productOffering":{
      "id":" TMF Fiber+",
      "href":"http: //serverlocation: port/catalogManagement/productOffering/TMFFiber+"
    },
    "product":{
      "productCharacteristic":[
        {
```

```
            "name":"Speed",
            "value":"100 Mo/s"
          },
          {
            "name":"Site A",
            "value":"12 Dupont Circle, 34511 Washington DC"
          },
          {
            "name":"Site B",
            "value":"436 25th Avenue, 34507 Washington DC"
          }
        ]
      }
    },
    {
      "id":"4",
      "state":"Approved",
      "itemQuoteProductOfferingPrice":[
        {
          "itemQuotePriceAlteration":{
            "name":"Discount on Bundle TV channel",
            "description":"Movie + sport is so fun",
            "validFor":{
              "startDateTime":"2013-04-19T16:42:23.0Z"
            },
            "priceType":"recurrent",
            "price":{
              "override":23.87
            },
            "recurringChargePeriod":"monthly",
            "priceCondition":""
          }
        }
      ],
      "productOffering":{
        "id":"TM TV+",
        "href":"http://serverlocation:port/catalogManagement/productOffering/BundleTMTV+",
        "bundledProductOffering":[
          {
            "id":" Sport TV Channel",
            "href":"http://serverlocation:port/catalogManagement/productOffering/SportChannel"
          },
          {
            "id":" Movie TV channel",
            "href":"http://serverlocation:port/catalogManagement/productOffering/MovieChannel"
          }
        ]
      }
    }
```

tmforum

```
        ]
    }
}
```

QUOTE REMOVE NOTIFICATION

This notification is used to notify that a versioned quote has been deleted.

```
{
    "eventId":"00002",
    "eventTime":"2013-04-19T16:42:25-30:00",
    "eventType":"quoteRemoveNotification",
    "quote":{
      "id":" 42",
      "href":"http://serverlocation:port/quoteManagement/Quote/42",
      "externalID":"NiceNameForTheConsumer_42",
      "version": "1.0"
    }
}
```

QUOTE STATE CHANGE NOTIFICATION

Used to notify that a versioned quote state is evolving.

```
{
    "eventId":"00003",
    "eventTime":"2013-04-19T16:42:25-30:00",
    "eventType":"quoteStateChangeNotification",
    "quote":{
      "id":" 42",
      "href":"http://serverlocation:port/quoteManagement/Quote/42",
      "externalID":"NiceNameForTheConsumer_42",
      "state":"Completed",
      "version": "1.0"
    }
}
```

QUOTE VALUE NOTIFICATION

Used to notify that any data in a versioned quote has just changed.

```
{
```

```
    "eventId":"00004",
    "eventTime":"2013-04-19T16:42:25-30:00",
    "eventType":"quoteValueChangeNotification",
    "quote":{
      "id":" 42",
      "href":"http://serverlocation:port/quoteManagement/Quote/42",
      "externalID":"NiceNameForTheConsumer_42",
      "version": "1.0",
      "quoteItem":[
        {
          "id":"1",
          "product":{
            "productCharacteristic":[
              {
                "name":"Colour",
                "value":"Black"
              }
            ]
          }
        }
      ]
    }
}
```

QUOTE INFORMATION REQUIRED NOTIFICATION

Used to notify that some data in the quote needs to be filled / is missing.

- "resourcePath" allows to precise if it is a data at quote level or at quote Item level (and which one of them) that is missing
- "fieldPath" details which field is missing, its structure is quite similar to GET filter criteria
    - o "missing=" points at the missing field
    - o "&<criteria>" can be used to identify a specific element in lists

Simple example : product characteristic is missing

```
{
  "eventId":"00005",
  "eventTime":"2013-04-19T16:42:25-30:00",
  "eventType":"quoteInformationRequiredNotification",
  "resourcePath":"/quote/42/quoteItem/3 ",
  "fieldPath":"missing=product.characteristic/?name = "Speed",
  "quote":{
    "id":" 42",
    "href":"http://serverlocation:port/quoteManagement/Quote/42",
    "externalID":"NiceNameForTheConsumer_42",
```

```
    "version": "1.0"
  }
}
```

Complex example: for a quote we looking for the price for a quote item level

```
{
  "eventId":"00006",
  "eventTime":"2013-04-19T16:42:25-30:00",
  "eventType":"quoteInformationRequiredNotification",
  "resourcePath":"/quote/42/quoteItem/1",
  "fieldPath":"missing= itemQuoteProductOfferingPrice ",
  "quote":{
    "id":" 42",
    "href":"http://serverlocation:port/quoteManagement/Quote/42",
    "externalID":"NiceNameForTheConsumer_42",
    "version": "1.0"
  }
}
```

Complex example: for a quote item we looking for the price modification approval

Other notifications to be defined:

ApprovalRequireNotification: An approval item could be for a quote or a quote item.

AgreementSignUpRequired:

Patch state to Accepted but there is still some contract/agreement to be signed the system has to shoot Notifications

ROBERT Ludovic I…, 2015-9-17 3:12 PM
Comment [17]: These notification need to be discussed together to define field and expected behavior.

API OPERATION TEMPLATES

The following table collects the usual 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.

GET /quoteManagement/quote/{ID}

Note that collections can be retrieved via GET /quoteManagement/Quote with no {ID}

Description:

This operation is used to retrieve quote information using the ID. If the version is not filled, by default only the most current version is returned. To get a specific version of an entity the (Version=X) directive is added to the ID – example to get the Quote versioned 1.1 we could use /quoteManagement/Quote/id=42:(Version=1.1)

Note that the resources in this case may have the same ID but may be distinguished by the inclusion of the version number in their ID i.e /42:(version=1.0), /42:(version=2.0).

Attribute selection is enabled on all first level attributes but not on inner classes.

Attribute selection may optionally be enabled on all attributes and inner classes.

Behavior:

- Return status codes
    - 200 OK - the request was successful
    - 404 Not found - the supplied ID does not match a known Quote

Use case: Get a specific quote based on its ID

Special conditions apply if the API consumer is an external system or actor – in this case:

- only *Approved*, *Accepted* and *Rejected* quote should be retrieved.
- only quote last version should be retrieved.
- a filter should be applied on the response to remove fields with only internal use as for example all information related to the authorization or the ISP parties linked to the quote.

If the API is an internal system or actor:

- If the quote ID is filled but without version – all quote versions are retrieved in the response.

REQUEST
GET /quoteManagement/Quote/42 Accept: application/json
RESPONSE
200

```
Content-Type: application/json

{
  "id":"42",
  "href":"http://serverlocation:port/quoteManagement/Quote/42",
  "externalId":"QuoteForTheConsumer_42",
  "description":"A wonderful 42 quote for brand new products",
  "category":"corporate",
  "state":"Approved",
  "version":"1.0",
  "quoteDate":"2013-04-12T16:42:23-04:00",
  "effectiveQuoteCompletionDate":"",
  "quoteCompletionDate":"2013-04-19T16:42:23-04:00",
  "notificationContact":"bill.dupont@hotmail.com",
  "validFor":{
    "startDateTime":"2013-04-12T16:42:23-04:00",
    "endDateTime":"2013-04-19T00:00:00-04:00"
  },
  "billingAccount":[
    {
      "id":"123456",
      "href":"http://serverlocation:port/billingManagement/billingAccount/123456"
    }
  ],
  "note":[
    {
      "text":"Quote following opportunity #2345",
      "date":"2013-04-12T16:42:23-04:00",
      "author":"Bill Dupont"
    }
  ],
  "characteristic":[
    {
      "name":"Business Unit",
```

```
      "value":"London South West Cor^porate"
    }
  ],
  "customer":{
    "id":"345221",
    "href":"http://serverlocation:port/customerManagement/customer/345221",
    "name":"John Doe"
  },
  "relatedParty":[
    {
      "role":"authorizer",
      "id":"57",
      "href":"http://serverlocation:port/partyManagement/partner/57",
      "name":"Shinoju White"
    },
    {
      "role":"seller",
      "id":"4563",
      "href":"http://serverlocation:port/partnerManagement/partner/4563",
      "name":"Bill Dupont"
    }
  ],
  "agreement":[
    {
      "id":"45",
      "href":"http://serverlocation:port/engagedPartyManagement/agreement/45",
      "name":" standard disclaimer"
    }
  ],
  "quoteAuthorization":[
    {
      "authorizationDate":"2013-04-12T16:42:23-04:00",
      "authorizationState":"approved",
      "authorizationSignatureRepresentation":"digital",
```

```
      "attachment":{
        "id":"22",
        "href":"http://serverlocation:port/documentManagement/attachment/22",
        "type":"pdf"
      },
      "quoteProductOfferingPrice":[
        {
          "quotePriceAlteration":{
            "name":"Global Discount",
            "description":"5% for all recurring charge",
            "validFor":"",
            "startDateTime":"2013-04-19T16:42:23.0Z"
          },
          "priceType":"recurrent",
          "unitOfMeasure":"",
          "price":{
            "percentage":5
          },
          "recurringChargePeriod":"",
          "priceCondition":"applied if all quote items are purchased"
        }
      ]
    }
  ],
  "quoteItem":[
    {
      "id":"1",
      "state":"Approved",
      "attachment":{
        "id":"22",

"href":"http://serverlocation:port/documentManagement/attachment/TMFVoiceEXtraRationale.pdf",
        "type":"pdf"
      },
```

```
    "relatedParty":[
      {
        "role":"customer",
        "id":"345221",
        "href":"http://serverlocation:port/partyManagement/customer/345221",
        "name":"John Doe"
      },
      {
        "role":"seller",
        "id":"4563",
        "href":"http://serverlocation:port/partnerManagement/partner/4563",
        "name":"Bill Dupont"
      }
    ],
    "productOffering":{
      "id":"198",
      "href":"http: //serverlocation: port/catalogManagement/productOffering/198"
    },
    "product":{

    }
  },
  {
    "id":"2",
    "state":"Approved",
    "note":[
      {
        "text":"xxxx",
        "date":"2013-04-12T16:42:23-04:00",
        "author":"Bill Dupont"
      }
    ],
    "itemQuoteAuthorization":[
      {
```

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```
      "authorizationDate":"2013-04-12T18:42:23-04:00",
      "authorizationState":"approved",
      "authorizationSignatureRepresentation":"digital ",
      "attachment":{
        "id":"22",
        "href":"http://serverlocation:port/documentManagement/attachment/22",
        "type":"JPG"
      },
      "relatedParty":[
        {
          "role":"authorizer",
          "id":"242",
          "href":"http://serverlocation:port/partyManagement/partner/242",
          "name":"Shinoju White"
        }
      ]
    }
  ],
  "productOffering":{
    "id":" SamPhone i5s ",
    "href":"http: //serverlocation: port/catalogManagement/productOffering/SamPhonei5s "
  },
  "product":{
    "productCharacteristic":[
      {
        "name":"color",
        "value":"pink"
      }
    ],
    "relatedParty":[
      {
        "role":"user",
        "id":"5667443",
        "href":"http://serverlocation:port/partyManagement/user/5667443",
```

```
        "name":"Samantha Doe"
      }
    ]
  }
},
{
  "id":"3",
  "state":"Approved",
  "note":[
    {
      "text":"The leased line should be directly plugged from Joe's Office",
      "date":"2013-04-12T16:42:23-04:00",
      "author":"Bill Dupont"
    }
  ],
  "productOffering":{
    "id":" TMF Fiber+",
    "href":"http: //serverlocation: port/catalogManagement/productOffering/TMFFiber+"
  },
  "product":{
    "productCharacteristic":[
      {
        "name":"Speed",
        "value":"100 Mo/s"
      },
      {
        "name":"Site A",
        "value":"12 Dupont Circle, 34511 Washington DC"
      },
      {
        "name":"Site B",
        "value":"436 25th Avenue, 34507 Washington DC"
      }
    ]
```

```
    }
  },
  {
    "id":"4",
    "state":"Approved",
    "itemQuoteProductOfferingPrice":[
      {
        "itemQuotePriceAlteration":{
          "name":"Discount on Bundle TV channel",
          "description":"Movie + sport is so fun",
          "validFor":{
            "startDateTime":"2013-04-19T16:42:23.0Z"
          },
          "priceType":"recurrent",
          "unitOfMeasure":"",
          "price":{
            "override":23.87
          },
          "recurringChargePeriod":"monthly",
          "priceCondition":""
        }
      }
    ],
    "productOffering":{
      "id":"TM TV+",
      "href":"http://serverlocation:port/catalogManagement/productOffering/BundleTMTV+",
      "bundledProductOffering":[
        {
          "id":" Sport TV Channel",
          "href":"http://serverlocation:port/catalogManagement/productOffering/SportChannel"
        },
        {
          "id":" Movie TV channel",
          "href":"http://serverlocation:port/catalogManagement/productOffering/MovieChannel"
```

```
         }
       ]
     }
   }
 ]
}
```

GET /quoteManagement/quote?{field selector}&{filtering expression}

Description:

This operation is used to retrieve quote information using filter criteria.

If the version is not filled, by default only the most current version is returned.

Filtering selection is enabled on all first level attributes but not on inner classes with the exception of relatedParties.

Filtering may optionally be enabled on all attributes and inner classes.

Attribute selection is enabled on all first level attributes but not on inner classes.

Attribute selection may optionally be enabled on all attributes and inner classes.

Behavior:

- Return status codes
    - 200 OK - the request was successful (includes situation in which no quote matched supplied criteria)
    - 400 Bad Request - error

Use case: Get all the quote for a given customer that were completed before a specified date

Special conditions apply if the API consumer is an external system or actor – in this case:

- only *Approved*, *Accepted* and *Rejected* quote should be retrieved.
- only quote last version should be retrieved.
- a filter should be applied on the response to remove fields with only internal use as for example all information related to the authorization or the ISP parties linked to the quote.

If the API is an internal system or actor:

- If the quote ID is filled but without version – all quote versions are retrieved in the response.

REQUEST

GET /quoteManagement/quote?relatedParty.role=customer&
relatedParty.id=345221&completionDate.lt=2013-09-10T00:00:00-04:00

Accept: application/json

RESPONSE

```
200
Content-Type: application/json

[
{
  "id":"42",
  "href":"http://serverlocation:port/quoteManagement/Quote/42",
  "externalId":"QuoteForTheConsumer_42",
  "description":"A wonderful 42 quote for brand new products",
  "category":"corporate",
  "state":"Approved",
  "version":"1.0",
  "quoteDate":"2013-04-12T16:42:23-04:00",
  "effectiveQuoteCompletionDate":"",
  "quoteCompletionDate":"2013-04-19T16:42:23-04:00",
  "notificationContact":"bill.dupont@hotmail.com",
  "validFor":{
    "startDateTime":"2013-04-12T16:42:23-04:00",
    "endDateTime":"2013-04-19T00:00:00-04:00"
  },
  "billingAccount":[
    {
      "id":"123456",
      "href":"http://serverlocation:port/billingManagement/billingAccount/123456"
    }
  ],
  "note":[
    {
      "text":"Quote following opportunity #2345",
      "date":"2013-04-12T16:42:23-04:00",
      "author":"Bill Dupont"
```

```
      }
   ],
   "characteristic":[
      {
         "name":"Business Unit",
         "value":"London South West Cor^porate"
      }
   ],
   "customer":{
      "id":"345221",
      "href":"http://serverlocation:port/customerManagement/customer/345221",
      "name":"John Doe"
   },
   "relatedParty":[
      {
         "role":"authorizer",
         "id":"57",
         "href":"http://serverlocation:port/partyManagement/partner/57",
         "name":"Shinoju White"
      },
      {
         "role":"seller",
         "id":"4563",
         "href":"http://serverlocation:port/partnerManagement/partner/4563",
         "name":"Bill Dupont"
      }
   ],
   "agreement":[
      {
         "id":"45",
         "href":"http://serverlocation:port/engagedPartyManagement/agreement/45",
         "name":" standard disclaimer"
      }
   ],
   "quoteAuthorization":[
      {
         "authorizationDate":"2013-04-12T16:42:23-04:00",
         "authorizationState":"approved",
         "authorizationSignatureRepresentation":"digital",
         "attachment":{
            "id":"22",
            "href":"http://serverlocation:port/documentManagement/attachment/22",
            "type":"pdf"
         },
```

```json
      "quoteProductOfferingPrice":[
        {
          "quotePriceAlteration":{
            "name":"Global Discount",
            "description":"5% for all recurring charge",
            "validFor":"",
            "startDateTime":"2013-04-19T16:42:23.0Z"
          },
          "priceType":"recurrent",
          "unitOfMeasure":"",
          "price":{
            "percentage":5
          },
          "recurringChargePeriod":"",
          "priceCondition":"applied if all quote items are purchased"
        }
      ]
    }
  ],
  "quoteItem":[
    {
      "id":"1",
      "state":"Approved",
      "attachment":{
        "id":"22",

"href":"http://serverlocation:port/documentManagement/attachment/TMFVoiceEXtraRationale.pdf",
        "type":"pdf"
      },
      "relatedParty":[
        {
          "role":"customer",
          "id":"345221",
          "href":"http://serverlocation:port/partyManagement/customer/345221",
          "name":"John Doe"
        },
        {
          "role":"seller",
          "id":"4563",
          "href":"http://serverlocation:port/partnerManagement/partner/4563",
          "name":"Bill Dupont"
        }
      ],
      "productOffering":{
```

```
    "id":"198",
    "href":"http: //serverlocation: port/catalogManagement/productOffering/198"
  },
  "product":{

  }
},
{
  "id":"2",
  "state":"Approved",
  "note":[
   {
     "text":"xxxx",
     "date":"2013-04-12T16:42:23-04:00",
     "author":"Bill Dupont"
   }
  ],
  "itemQuoteAuthorization":[
   {
     "authorizationDate":"2013-04-12T18:42:23-04:00",
     "authorizationState":"approved",
     "authorizationSignatureRepresentation":"digital ",
     "attachment":{
       "id":"22",
       "href":"http://serverlocation:port/documentManagement/attachment/22",
       "type":"JPG"
     },
     "relatedParty":[
      {
        "role":"authorizer",
        "id":"242",
        "href":"http://serverlocation:port/partyManagement/partner/242",
        "name":"Shinoju White"
      }
     ]
   }
  ],
  "productOffering":{
    "id":" SamPhone i5s ",
    "href":"http: //serverlocation: port/catalogManagement/productOffering/SamPhonei5s "
  },
  "product":{
    "productCharacteristic":[
     {
```

```
          "name":"color",
          "value":"pink"
        }
      ],
      "relatedParty":[
        {
          "role":"user",
          "id":"5667443",
          "href":"http://serverlocation:port/partyManagement/user/5667443",
          "name":"Samantha Doe"
        }
      ]
    }
  },
  {
    "id":"3",
    "state":"Approved",
    "note":[
      {
        "text":"The leased line should be directly plugged from Joe's Office",
        "date":"2013-04-12T16:42:23-04:00",
        "author":"Bill Dupont"
      }
    ],
    "productOffering":{
      "id":" TMF Fiber+",
      "href":"http: //serverlocation: port/catalogManagement/productOffering/TMFFiber+"
    },
    "product":{
      "productCharacteristic":[
        {
          "name":"Speed",
          "value":"100 Mo/s"
        },
        {
          "name":"Site A",
          "value":"12 Dupont Circle, 34511 Washington DC"
        },
        {
          "name":"Site B",
          "value":"436 25th Avenue, 34507 Washington DC"
        }
      ]
    }
```

tmforum

```json
    },
    {
      "id":"4",
      "state":"Approved",
      "itemQuoteProductOfferingPrice":[
        {
          "itemQuotePriceAlteration":{
            "name":"Discount on Bundle TV channel",
            "description":"Movie + sport is so fun",
            "validFor":{
              "startDateTime":"2013-04-19T16:42:23.0Z"
            },
            "priceType":"recurrent",
            "unitOfMeasure":"",
            "price":{
              "override":23.87
            },
            "recurringChargePeriod":"monthly",
            "priceCondition":""
          }
        }
      ],
      "productOffering":{
        "id":"TM TV+",
        "href":"http://serverlocation:port/catalogManagement/productOffering/BundleTMTV+",
        "bundledProductOffering":[
          {
            "id":" Sport TV Channel",
            "href":"http://serverlocation:port/catalogManagement/productOffering/SportChannel"
          },
          {
            "id":" Movie TV channel",
            "href":"http://serverlocation:port/catalogManagement/productOffering/MovieChannel"
          }
        ]
      }
    }
  ]
}

]
```

PATCH /quoteManagement/quote/{ID}

Description :

This operation is used to modify quote and/or their items.

By default PATCH will be acting only on the latest version of the Resource.

To update a specific version of an entity the (Version=X) directive is added to the ID (i.e /id:(version=x). Note that this capability is only available to API users having the proper authorizations to change the catalog entities with specific version numbers.

Behavior:

- Return status codes
  - 200 OK - the request was successful
  - 400 Bad Request - error

Attribute name	Patchable	Rule
id	No	
href	No	
externalID	No	
description	Yes	Only when quote is *In Progress* or *Pending* state
category	Yes	Only when quote is *In Progress* or *Pending* state
state	Yes	To manage the quote lifecycle: in progress, pending, approved, rejected, accepted, cancelled. Influence the quoteItem state – see following consistency table
version	No	
quoteDate	No	This date should be automatically filled and not modifiable
effectiveQuoteCompletionDate	No	This date should be automatically filled and not modifiable
quoteCompletionDate	Yes	Only when quote is *In Progress* or *Pending* state
notificationContact	Yes	

validFor.startDateTime	Yes	Only when quote is *In Progress* or *Pending* state
validFor.endDateTime	Yes	Only when quote is *In Progress* or *Pending* state
billingAccount	Yes	Only when quote is *In Progress* or *Pending* state
note	Yes	Only when quote is *In Progress* or *Pending* state
characteristic	Yes	Only when quote is *In Progress* or *Pending* state
customer	No	
relatedParty	Yes	Only when quote is *In Progress* or *Pending* state
agreement	Yes	Only when quote is *In Progress* or *Pending* state
quoteAuthorization	Yes	Only when quote is in *Pending* state
quoteAuthorization.attachment	Yes	Only when quote is in *Pending* state
quoteProductOfferingPrice.quotePriceAlteration	Yes	Only when quote is *In Progress* or *Pending* state
quoteItem.id	No	
quoteItem.state	Yes	To manage the quote item process : in Progress, pending, approved, rejected see table for consistence with quote state
quoteItem.appointment	Yes	
quoteItem.attachment	Yes	Only when quote is *In Progress* or *Pending* state
quoteItem.relatedParty	Yes	Only when quote is *In Progress* or *Pending* state
quoteItem.productOffering	Yes	Only when quote is *In Progress* or *Pending* state
quoteItem.ProductCharacteristic.name	Yes	Only when quote is *In Progress* or *Pending* state
quoteItem.ProductCharacteristic.value	Yes	Only when quote is *In Progress* or *Pending* state
quoteItem.Bundledproduct.id	Yes	Only when quote is *In Progress* or *Pending* state

quoteItem.Bundledproduct.href	Yes	Only when quote is *In Progress* or *Pending* state
note	Yes	Only when quote is *In Progress* or *Pending* state
itemQuoteAuthorization	Yes	Only when quote is *Pending* state and quote item also in *Pending* state
itemQuoteProductOfferingPrice	Yes	Only when quote is *In Progress* or *Pending* state

Further document any rules that must be implemented when patching attributes.

Rule name	Rule/Pre Condition/Side Effects/Post Conditons
Quote State patches	When patching an quote state to : - "In Progress": all quote items should be set to "InProgress" - "Approved": all quote items should be set to "Approved" When patching an quote item state to : - "Pending": the quote state itself should be set to "Pending" - "Rejected": the quote state itself should be set to "Rejected" Patch API is not allowed to set quote item state to *Approved* (only a state quote could be patched to *Approved*)

REQUEST

PATCH quoteManagement/quote/42

Content-type: application/json

```
{
  "description": "A new description…"
}
```

RESPONSE

201
Content-Type: application/json

```
{
  "id":"42",
  "href":"http://serverlocation:port/quoteManagement/Quote/42",
  "externalId":"QuoteForTheConsumer_42",
  "description": "A new description…",
  "category":"corporate",
  "state":"Approved",
  "version":"1.0",
  "quoteDate":"2013-04-12T16:42:23-04:00",
  "effectiveQuoteCompletionDate":"",
  "quoteCompletionDate":"2013-04-19T16:42:23-04:00",
  "notificationContact":"bill.dupont@hotmail.com",
  "validFor":{
    "startDateTime":"2013-04-12T16:42:23-04:00",
    "endDateTime":"2013-04-19T00:00:00-04:00"
  },
  "billingAccount":[
    {
      "id":"123456",
      "href":"http://serverlocation:port/billingManagement/billingAccount/123456"
    }
  ],
  "note":[
    {
      "text":"Quote following opportunity #2345",
```

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```
      "date":"2013-04-12T16:42:23-04:00",
      "author":"Bill Dupont"
   }
],
"characteristic":[
   {
      "name":"Business Unit",
      "value":"London South West Cor^porate"
   }
],
"customer":{
   "id":"345221",
   "href":"http://serverlocation:port/customerManagement/customer/345221",
   "name":"John Doe"
},
"relatedParty":[
   {
      "role":"authorizer",
      "id":"57",
      "href":"http://serverlocation:port/partyManagement/partner/57",
      "name":"Shinoju White"
   },
   {
      "role":"seller",
      "id":"4563",
      "href":"http://serverlocation:port/partnerManagement/partner/4563",
      "name":"Bill Dupont"
   }
],
"agreement":[
   {
      "id":"45",
      "href":"http://serverlocation:port/engagedPartyManagement/agreement/45",
      "name":" standard disclaimer"
```

```
      }
   ],
   "quoteAuthorization":[
     {
        "authorizationDate":"2013-04-12T16:42:23-04:00",
        "authorizationState":"approved",
        "authorizationSignatureRepresentation":"digital",
        "attachment":{
          "id":"22",
          "href":"http://serverlocation:port/documentManagement/attachment/22",
          "type":"pdf"
        },
        "quoteProductOfferingPrice":[
          {
             "quotePriceAlteration":{
               "name":"Global Discount",
               "description":"5% for all recurring charge",
               "validFor":"",
               "startDateTime":"2013-04-19T16:42:23.0Z"
             },
             "priceType":"recurrent",
             "unitOfMeasure":"",
             "price":{
               "percentage":5
             },
             "recurringChargePeriod":"",
             "priceCondition":"applied if all quote items are purchased"
          }
        ]
     }
   ],
   "quoteItem":[
     {
        "id":"1",
```

```json
      "state":"Approved",
      "attachment":{
        "id":"22",
        "href":"http://serverlocation:port/documentManagement/attachment/TMFVoiceEXtraRationale.pdf",
        "type":"pdf"
      },
      "relatedParty":[
        {
          "role":"customer",
          "id":"345221",
          "href":"http://serverlocation:port/partyManagement/customer/345221",
          "name":"John Doe"
        },
        {
          "role":"seller",
          "id":"4563",
          "href":"http://serverlocation:port/partnerManagement/partner/4563",
          "name":"Bill Dupont"
        }
      ],
      "productOffering":{
        "id":"198",
        "href":"http: //serverlocation: port/catalogManagement/productOffering/198"
      },
      "product":{

      }
    },
    {
      "id":"2",
      "state":"Approved",
      "note":[
        {
          "text":"xxxx",
```

```
      "date":"2013-04-12T16:42:23-04:00",
      "author":"Bill Dupont"
    }
  ],
  "itemQuoteAuthorization":[
    {
      "authorizationDate":"2013-04-12T18:42:23-04:00",
      "authorizationState":"approved",
      "authorizationSignatureRepresentation":"digital ",
      "attachment":{
        "id":"22",
        "href":"http://serverlocation:port/documentManagement/attachment/22",
        "type":"JPG"
      },
      "relatedParty":[
        {
          "role":"authorizer",
          "id":"242",
          "href":"http://serverlocation:port/partyManagement/partner/242",
          "name":"Shinoju White"
        }
      ]
    }
  ],
  "productOffering":{
    "id":" SamPhone i5s ",
    "href":"http: //serverlocation: port/catalogManagement/productOffering/SamPhonei5s "
  },
  "product":{
    "productCharacteristic":[
      {
        "name":"color",
        "value":"pink"
      }
```

```
    ],
    "relatedParty":[
      {
        "role":"user",
        "id":"5667443",
        "href":"http://serverlocation:port/partyManagement/user/5667443",
        "name":"Samantha Doe"
      }
    ]
  }
},
{
  "id":"3",
  "state":"Approved",
  "note":[
    {
      "text":"The leased line should be directly plugged from Joe's Office",
      "date":"2013-04-12T16:42:23-04:00",
      "author":"Bill Dupont"
    }
  ],
  "productOffering":{
    "id":" TMF Fiber+",
    "href":"http: //serverlocation: port/catalogManagement/productOffering/TMFFiber+"
  },
  "product":{
    "productCharacteristic":[
      {
        "name":"Speed",
        "value":"100 Mo/s"
      },
      {
        "name":"Site A",
        "value":"12 Dupont Circle, 34511 Washington DC"
```

```
          },
          {
            "name":"Site B",
            "value":"436 25th Avenue, 34507 Washington DC"
          }
        ]
      }
    },
    {
      "id":"4",
      "state":"Approved",
      "itemQuoteProductOfferingPrice":[
        {
          "itemQuotePriceAlteration":{
            "name":"Discount on Bundle TV channel",
            "description":"Movie + sport is so fun",
            "validFor":{
              "startDateTime":"2013-04-19T16:42:23.0Z"
            },
            "priceType":"recurrent",
            "unitOfMeasure":"",
            "price":{
              "override":23.87
            },
            "recurringChargePeriod":"monthly",
            "priceCondition":""
          }
        }
      ],
      "productOffering":{
        "id":"TM TV+",
        "href":"http://serverlocation:port/catalogManagement/productOffering/BundleTMTV+",
        "bundledProductOffering":[
          {
```

```
        "id":" Sport TV Channel",
        "href":"http://serverlocation:port/catalogManagement/productOffering/SportChannel"
      },
      {
        "id":" Movie TV channel",
        "href":"http://serverlocation:port/catalogManagement/productOffering/MovieChannel"
      }
    ]
  }
 }
 ]
}
```

POST /quoteManagement/quote

Description:

This operation is used to create a new quote (V1.0) or a new version of an existing quote (Vn.n n=> 1)

Behavior :

- Return status codes
  - o 201 Created - the request was successful
  - o 400 Bad Request – error

ID Management :

For a quote in V1.0 POST should be used without specifying the id, the quote system is in charge of generating the id.
For a quote creation in other version than V1.0, the id should be specified.

In all case the href should not be filled because , the quote system is in charge of generating href for the new version of the Quote

When performing a POST, these are the allowed attributes:

ROBERT Ludovic …, 2015-9-18 10:38 AM
Comment [18]: Important rule to be shared and validated

ROBERT Ludovic …, 2015-9-18 10:12 AM
Comment [19]: To be validated in particular with Pierre

Attribute name	Mandatory	Default	Rule
id	Y/N*	N/A	*See specific rule above
href			
externalID	N	N/A	
description	N	N/A	
category	N	"uncategorized"	
state	N	*in Progress*	
version	Y	N/A	See specific rule above. + version should be consistent with previous version in
quoteDate			
effectiveQuoteCompletionDate			
quoteCompletionDate	N	No specified default value	
notificationContact	N	No specified default value	
validFor.startDateTime	N		
validFor.endDateTime	N		endDateTime should be later than startDateTime
billingAccount	N	No specified default value	
note	N	No specified default value	
characteristic	N		
customer	Y		
relatedParty	N		
agreement	N		
quoteAuthorization	N		
quoteAuthorization.attachment	N		
quoteProductOfferingPrice.quotePriceAlteration	N		

Attribute name	Mandatory	Default	Rule
quoteItem.id	Y		A quote should I havet least one quote item
quoteItem.state	N	"In Progress"	
quoteItem.appointment	N		
quoteItem.attachment	N		
quoteItem.relatedParty	N		
quoteItem.productOffering	Y		
quoteItem.ProductCharacteristic.name	N		
quoteItem.ProductCharacteristic.value	N		
quoteItem.Bundledproduct.id	N		
quoteItem.Bundledproduct.href	N		
note	N		
itemQuoteAuthorization	N		
itemQuoteProductOfferingPrice			

- Further specify any rules on the creation of the entity

Rule name	Rule
Customer and related party	Customer should mandatory specified in the quote header through a specific customer data and not with the relatedParty structure. For the quote item there is no specific customer structure.

REQUEST

POST /quoteManagement/quote
Content-type: application/json

{
  "note":[
    {

```
      "text":"A free text detailing the note"
    }
  ],
  "relatedParty":[
    {
      "role":"customer",
      "id":"345221",
      "href":"http://serverlocation:port/partyManagement/customer/345221",
      "name":"John Doe"
    },
    {
      "role":"seller",
      "id":"4563",
      "href":"http://serverlocation:port/partnerManagement/partner/4563"
    }
  ],
  "quoteItem":[
    {
      "id":"1",
      "action":"add",
      "billingAccount":[
        {
          "id":"1789",
          "href":"http://serverlocation:port/billingManagement/billingAccount/1789"
        }
      ],
      "productOffering":{
        "id":"42",
        "href":"http: //serverlocation: port/catalogManagement/productOffering/42"
      },
      "product":{
        "productCharacteristic":[
          {
            "name":"Colour",
            "value":"White"
          },
          {
            "name":"Memory",
            "value":"16"
          }
        ]
      }
    },
```

```
     {
        "id":"2",
        "action":"modify",
        "product":{
           "id":"456",
           "href":"http: //serverlocation: port/inventoryManagement/product/456",
           "relatedParty":[
              {
                 "role":"user",
                 "id":"5667443",
                 "href":"http://serverlocation:port/partyManagement/user/5667443",
                 "name":"Jimmy Doe"
              }
           ]
        }
     },
     {
        "id":"3",
        "action":"delete",
        "product":{
           "id":"456",
           "href":"http: //serverlocation: port/inventoryManagement/product/456"
        }
     }
  ]
}
```

RESPONSE

```
201
Content-Type: application/json

{
   "note":[
      {
         "text":"A free text detailing the note"
      }
   ],
   "relatedParty":[
      {
         "role":"customer",
         "id":"345221",
         "href":"http://serverlocation:port/partyManagement/customer/345221",
         "name":"John Doe"
      },
```

```
      {
        "role":"seller",
        "id":"4563",
        "href":"http://serverlocation:port/partnerManagement/partner/4563"
      }
  ],
  "quoteItem":[
      {
        "id":"1",
        "action":"add",
        "billingAccount":[
            {
              "id":"1789",
              "href":"http://serverlocation:port/billingManagement/billingAccount/1789"
            }
        ],
        "productOffering":{
          "id":"42",
          "href":"http: //serverlocation: port/catalogManagement/productOffering/42"
        },
        "product":{
          "productCharacteristic":[
              {
                "name":"Colour",
                "value":"White"
              },
              {
                "name":"Memory",
                "value":"16"
              }
          ]
        }
      },
      {
        "id":"2",
        "action":"modify",
        "product":{
          "id":"456",
          "href":"http: //serverlocation: port/inventoryManagement/product/456",
          "relatedParty":[
              {
                "role":"user",
                "id":"5667443",
                "href":"http://serverlocation:port/partyManagement/user/5667443",
                "name":"Jimmy Doe"
              }
          ]
        }
      },
```

```
    {
      "id":"3",
      "action":"delete",
      "product":{
        "id":"456",
        "href":"http: //serverlocation: port/inventoryManagement/product/456"
      }
    }
  ]
}
```

DELETE QUOTEMANAGEMENT/QUOTE/{ID}

This operation is used to delete a managed entity or a quote entirely.

Warning: it should only be used for administration matters

Description:

This operation is used to delete a quote.

The only usable and also mandatory attributes for the deletion are id AND/OR href.

If the id+version are specified only the versioned quote is deleted.

If only id is specified all quote with this id are deleted (all versions are deleted)

Behavior :

- • Returns HTTP/1.1 status code 200 if the request was successful.
- • 404 if the quote does not exist
- • 403 if the operation is forbidden

REQUEST
DELETE /quoteManagement/quote/5868839

RESPONSE
200

ROBERT Ludovic l…, 2015-9-17 6:24 PM
Comment [20]: This is a rule that need to be reviewed

API NOTIFICATION TEMPLATES

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.

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}

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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.

REQUEST
DELETE /api/hub/{id} Accept: application/json
RESPONSE
204

PUBLISH {EVENTTYPE} POST /LISTENER

Description :

Provide the Event description

Behavior :

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

REQUEST
POST /client/listener Accept: application/json {

```
   "event": {

   EVENT BODY
        },
   "eventType": "eventType"
}
```

RESPONSE

201
Content-Type: application/json

Example see TMF REST Design Guidelines.

RELEASE HISTORY

Release Number	Date	Release led by:	Description
Release 1.0	04/15/2013	Pierre Gauthier TM Forum pgauthier@tmforum.org	First Release of Draft Version of the Document.
Release 1.1			Updated for use in the Paris Spec Jam – and rebranded,.