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Quote Management API Conformance Profile

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Direct inquiries to the TM Forum office:

4 Century Drive, Suite 100

Parsippany, NJ 07054, USA

Tel No. +1 973 944 5100

Fax No. +1 973 944 5110

TM Forum Web Page: www.tmforum.org

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N/A

INTRODUCTION

The following document is the REST API Conformance for the Quote API (TMF 648).

API DESCRIPTION

The customer Quote API provides a standardized mechanism for placing a customer quote with all 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.

RESOURCE MODEL CONFORMANCE

Quote API MANDATORY AND OPTIONAL RESOURCES

Resource Name	Mandatory or Optional	Comments
Quote	M	

Quote MANDATORY AND OPTIONAL ATTRIBUTES

Attribute Name	Mandatory or Optional	Comments
id	M (in response messages) M (for quote new version) O (otherwise)	Initially generated by the server and provided in the response upon resource creation. Accepted in entity-creation requests if the server supports the incoming identifier as the reference to create new resources When client create a new quote version id must be provided.
href	M (in response messages) O (otherwise)	Value in response must be the same as the one set in Location header provided upon entity creation For quote new version POST operation the href must not be provided (always generated on

Attribute Name	Mandatory or Optional	Comments
		server side)
externalId	O	
version	M	
description	M	
category	O	
state	O/M	Only required in response messages from the server when providing the Quote entity contents (responses to create-POST and read-GET the entity)
quoteDate	M/O	Refers to the date when the quote entity was created in the server. Only required in response messages from the server when providing the quote entity contents (responses to create-POST and read-GET the entity)
expectedQuoteCompletionDate	O	
expectedFulfillmentStartDate	O	
effectiveQuoteCompletionDate	M/O	This date must be filled if the quote is in State: Approved, Rejected or Accepted.
validFor	M/O	This date must be filled if the quote is in State: Approved, Rejected or

Attribute Name		Mandatory or Optional	Comments
			Accepted.
relatedParty		O	Array of structures
id		M (if relatedParty included) O (otherwise)	
href		M (if relatedParty included) O (otherwise)	
role		O	
name		O	
billingAccount		O	Array of billing Account
id		M (if billingAccount included) O (otherwise)	
href		M (if billingAccount included) O (otherwise)	
name		O	
note		O	Array of structures
date		M (in response messages and if note included) O (otherwise)	Only required in response messages from the server
author		M (if note included)	

Attribute Name		Mandatory or Optional	Comments
		O (otherwise)	
	text	M (if note included) O (otherwise)	
contactMedium			
	preferred	O	
	type	M (if contactMedium included) O (otherwise)	
	validFor	O	
mediumCharacteristic			
	city	M if medium type is postal address	
	country	M if medium type is postal address	
	emailAddress	M if medium type is email	
	type	M (if mediumCharacteristic included) O (otherwise)	
	postcode	M if medium type is postal address	
	stateOrProvince	O	

Attribute Name		Mandatory or Optional	Comments
	street1	M if medium type is postal address	
	street2	O	
	faxNumber	M if medium type is fax	
	phonenumber	M if medium type is telephone	
Agreement			Array of Agreements
	id	M (if agreement included) O (otherwise)	
	href	M (if agreement included) O (otherwise)	
	name	O	
authorization			Array of authorizations
	authorizationName	O	
	authorizationState	M	
	authorizationRequestedDate	O	
	authorizationGivenDate	M if authorization state is approved or declined	
	authorizationSignature Representation	M if authorization state is approved or declined	
attachment			Array of Attachment linked

Attribute Name		Mandatory or Optional	Comments
			to an authorization
	description	O	
	href	M if attachment is provided	
quotePrice			Array of quote price – could be at quote level or quote item level QuotePrice are only provided by the server side
	priceType	M if quotePrice is provided and in response message	
	recurringChargePeriod	M if quotePrice is provided and in response message and priceType is recurrent	
	unitOfMeasure	O	
	name	O	
	description	O	
priceAlteration			Array of quote price alteration – could be at quote price level or quote price item level QuotePrice are only provided by the server side
	name	O	
	description	O	

Attribute Name		Mandatory or Optional	Comments
	priceType	M if priceAlteration is provided and in response message	
	unitOfMeasure	O	
	recurringChargePeriod	M if PriceAlteration is provided and in response message and priceType is recurrent	
	applicationDuration	O	
	priority	M if priceAlteration is provided and in response message	
	priceCondition	O	
	validFor	O	
price			
	taxIncludedAmount	M if price is provided and in response message and dutyFreeAmount not provided	
	dutyFreeAmount	M if price is provided and in response message and taxIncludedAmount not provided	
	taxRate	O	
	percentage	O	

Attribute Name		Mandatory or Optional	Comments
quoteItem		M	Array of quoteItem. A quote must have at least one item.
	id	M	
	state	O/M	Only required in response messages from the server when providing the Quote entity contents (responses to create-POST and read-GET the entity)
	quantity	O	If not filled, 1 is considered by default
	action	M	
productOffering		M if product.id is not provided	
	id	M (if productOffering included) O (otherwise)	
	href	M (if productOffering included) O (otherwise)	
	name	O	
appointment			Array of appointment(s) for a quote item
	id	M (if appointment included)	

Attribute Name		Mandatory or Optional	Comments
		O (otherwise)	
	href	M (if appointment included) O (otherwise)	
quoteItemRelationship			Array of quote item relationship(s) for a quote item
	id	M (if quote item relationship included) O (otherwise)	
	type	M (if quote item relationship included) O (otherwise)	
product			
	id	O	must be provided if quoteItem concerns a product in the inventory
	href	O	same above
	name	O	
productRelationship			
	id	M (if product relationship included) O (otherwise)	
	type	M (if product relationship	

Attribute Name		Mandatory or Optional	Comments
		included) O (otherwise)	
productCharacteristic			
	name	M (if product characteristic included) O (otherwise)	
	value	M (if product characteristic included) O (otherwise)	
productSpecification			
	id	M (if product specification included) O (otherwise)	
	href	M (if product specification included) O (otherwise)	
	version	O	
	name	O	

API OPERATIONS CONFORMANCE

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

QUOTE MANDATORY AND OPTIONAL OPERATIONS

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

API GET FILTERING OPERATION CONFORMANCE

Definitions

Filtered Search: A filtered search can be applied using query parameters in order to obtain only the resource entities that meet the criteria defined by the filtering parameters included in the query request. Several elements can be applied to the filtered search. In that case logic, a logical AND is applied to combine the criteria (e.g.:?severity=<value> &status=<value>)

Filtered Data (Attribute selection): In order to apply a filter and limit the number of attributes included in the response, the GET request can include the “?fields=” query parameter. Several elements can be applied to the filter. In that case, a logical AND is applied to combine the values (e.g.:?fields=category,state) will provide in the response only the values assigned to attributes category and state. Attribute selection capabilities are the same for collections retrieval and individual resource queries

Filtering in Quote resource

Attribute name	Filtered search	Filtered search	Attribute Selection	Attribute Selection
	First Level	N Level	First Level	N Level
id	NA	NA	M	NA
href	NA	NA	M	NA
externalId	O	NA	M	NA
version	O	NA	M	NA
description	O	NA	M	NA
category	O	NA	O	NA
state	O	NA	M	NA
quoteDate	O	NA	M	NA
expectedQuoteCompletionDate	O	NA	O	NA

Attribute name	Filtered search	Filtered search	Attribute Selection	Attribute Selection
	First Level	N Level	First Level	N Level
expectedFullfilmentstartDate	O	NA	O	NA
effectiveQuoteCompletionDate	O	NA	O	NA
validFor	O	NA	O	NA
relatedParty	NA	O	O	O
note	NA	O	O	O
contactMedium	NA	NA	O	O
mediumCharacteristic	NA	NA	O	O
billingAccount	NA	O	O	O
agreement	NA	NA	O	O
quotePrice	NA	NA	NA	O
price	NA	NA	NA	O
priceAlteration	NA	NA	NA	O
authorization	NA	O	NA	O
quoteItem	NA	O	O	O
productOffering	NA	O	O	O
appointment	NA	O	O	O
attachment	NA	NA	O	O

Attribute name	Filtered search	Filtered search	Attribute Selection	Attribute Selection
	First Level	N Level	First Level	N Level
product	NA	O	O	O
productRelationship	NA	NA	NA	NA
itemRelationship	NA	NA	NA	NA
productCharacteristic	NA	NA	NA	NA

GET /quoteManagement /quote/

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

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

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

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

GET /quoteManagement /quote /{ID}

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

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

API POST OPERATION CONFORMANCE

POST /quoteManagement /quote /

This Uniform Contract operation is used to create a Quote resource in the server.

The response to this operation must include a Location header set to /quoteManagement /quote /{ID} where {ID} indicates the identifier assigned by the server to the new Quote resource created

POST	M	
Response Status Code 201	M	
Other Status Codes	NA	

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

Attribute name	Mandatory	Default	Rule
id	Y/N		Accepted in entity-creation requests if the POST is concerning a new quote version creation
externalId	N		
version	N		If no id is provided, server will create a quote version 1. if id is provided, server will retrieve current quote (based on id) and version (v) and will create quote version v+1
description	N		
category	N		

Attribute name	Mandatory	Default	Rule
expectedQuoteCompletionDate	N		
expectedFullfilmentStartDate	N		
BillingAccount.id	N		Mandatory if billingAccount included
BillingAccount.href	N		Mandatory if billingAccount included
contactMedium.preferred	N		
contactMedium.type	N		Mandatory if contactMedium included
contactMedium.validFor	N		
mediumCharacteristic fields	N		Mandatory accordingly to type –see above
relatedParty.id, href and role	N		Mandatory if relatedParty included The consumer must indicate the identifier for every relatedParty assigned to the quote
note.author	N		Mandatory for each note entity included
note.text	N		Mandatory for each note entity included
quoteItem.id	Y		
quoteItem.quantity	N	1	
quoteItem.action	Y		

Attribute name	Mandatory	Default	Rule
quoteItem/productOffering. Id, href	N		Mandatory if productOffering included
quoteItem.itemRelationship. id, type	N		Mandatory if quote item relationship included
quoteItem.product.href, id	N		Mandatory is quote is on existing product
quoteItem.product.productRelationship.type	N		Mandatory if product relationship included
quoteItem.product.productSpecification.id, href	N		Mandatory if productSpecification is required
quoteItem.product.productCharacteristic.name, value	N		Mandatory if product characteristic included

The response from the server must include a BODY with the contents of the new resource created, filled with at least the same information elements that were included in the request and are supported by the server. Notice that the value stored by the server may be different than the one set in the request (e.g.: NA)

If the POST request includes optional parameters (as per the model resource definition) that are not supported by the server, then the server must reject the request (replying with a 4xx error response) indicating the parameter not supported.

The following parameters must be supported by the server when included in the request to create a new resource

- description
- category
- expectedQuoteCompletionDate
- expectedFullfilmentStartDate
- externalId
- note
- note.author
- note.text
- billingAccount.id

- billingAccount.href
- contactMedium (all attributes)
- mediumCharacteristic (all attributes)
- quoteItem.id
- quoteItem.action
- quoteItem.quantity
- relatedParty (all attributes)
- quoteItem.productOffering (all attributes)
- quoteItem.quoteItemRelationship (all attributes)
- quoteItem.product (all attributes)
- quoteItem.product.productSpecification.id
- quoteItem.product.productSpecification.href
- quoteItem.product.productRelationship (all attributes)
- quoteItem.product.productCharacteristic (all attributes)

The BODY of the response from the server must include attribute “href” set to the same value as the one in the Location header.

The server must include in the BODY of the response, even if they are not included in the request, the following attributes that are mandatory in the definition of a Quote as per the resource model defined

- id
- href
- state
- quoteDate

The BODY of the response from the server must include attribute “href” (or “reference”) under each one of the entities within the quote model that can be addressed individually and were included in the response. This applies to any of the following entities

- relatedParty
- agreement
- billingAccount
- productOffering
- productSpecification
- attachment

API PATCH OPERATION CONFORMANCE

This section defines which attributes are patchable.

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

API DELETE OPERATION CONFORMANCE

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

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

API CONFORMANCE TEST SCENARIOS

This section describes the test scenarios required for the basic CONNECT certification of Quote API.

Test Cases must be executed in the order defined for each resource because the result from one of the scenarios will be input for the next one.

Requests must be addressed to the endpoint provided for certification, specifically they must be addressed to the URI defined by the concatenation of the {apiRoot} and the specific resource, where the {apiRoot} is defined as {serverRoot}/quoteManagement/v1, being {serverRoot} defines the certification endpoint

Quote resource TEST CASES

Nominal Scenarios

TC_Quote_N1 – Create new Quote with minimum required information

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

```
{
  "version": "1.0",
  "description": "This is the quote",
  "category": "Broadband",
  "expectedQuoteCompletionDate": "2017-09-21",
  "expectedFulfillmentStartDate": "2017-10-01",
  "@baseType": "Quote",
  "@base": "Quote",
  "@schemaLocation": "www.quote.quote.json",
  "note": [
    {
      "date": "2017-09-22T00:00",
      "author": "Mr Hide",
      "text": "Quote following serviceability #2345"
    }
  ],
  "relatedParty": [
    {
      "id": "11",
      "href": "https://host:port/partyManagement/individual/11",
      "role": "Quote contact",
      "name": "Jean Pontus",
      "@type": "IndividualParty"
    }
  ],
  "contactMedium": [
    {
      "preferred": true,
      "type": "TelephoneNumber",
      "characteristic": [
```

```

        {
            "phoneNumber": "04569885552"
        }
    ]
},
"quoteItem": [
    {
        "id": "1",
        "action": "add",
        "quantity": "10",
        "productOffering": {
            "id": "5295",
            "name": "TMF Tariff plan "
        },
        "product": {
            "name": "TMF Tariff plan",
            "productSpecification": {
                "id": "2489",
                "version": "1.0"
            }
        }
    }
]

```

- }Wait for a response from the server with the following characteristics
 - Response Code 201-Created
 - Include a location header in the body set to `/{apiRoot}/quote/{IDQ1}` where `{IDQ1}` indicates the identifier assigned by the server to the new quote resource
 - The response message includes all mandatory parameters (including `id`, `state` and `quoteDate` that were not sent in the original request)
 - The body of the response matches the values set in the original request
- Send a GET message to `/{apiRoot}/quote/`
- Wait for a response from the server with the following characteristics
 - Response Code 200-OK
 - The body of the response includes one Quote resource with ID set to `{IDQ1}`, the same identifier as assigned by the server to the new resource created
 - The response message includes all mandatory parameters

- The body of the response for the resource with identifier {IDQ1} matches the values set in the original request
- Send a GET message to `{apiRoot}/quote/{IDQ1}`
- Wait for a response from the server with the following characteristics
 - Response Code 200-OK
 - The response message includes all mandatory parameters
 - The body of the response includes a Quote resource structure that matches the values in the original request

TC_Quote_N2 – Create new Quote with minimum set of parameters supported by server

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

```

{
  "externalId":"AZE789",
  "version":"1.0",
  "description":"This is the quote",
  "category":"Telco Quote",
  "expectedQuoteCompletionDate":"2017-09-21",
  "expectedFulfillmentStartDate":"2017-10-01",
  "@baseType":"Quote",
  "@base":"Quote",
  "@schemaLocation":"www.quote.quote.json",
  "note":[
    {
      "date":"2017-09-22T00:00",
      "author":"Mr Hide",
      "text":"Quote following serviceability #2345"
    }
  ],
  "relatedParty":[
    {
      "id":"7737",
      "href":"https://host:port/partyManagement/individual/7737",
      "role":"Quote contact",
      "name":"Jimmy Doe",
      "@type":" IndividualParty"
    }
  ],
  "contactMedium":[
    {
      "preferred":true,
      "type":" TelephoneNumber "
    }
  ]
}

```

```

        "characteristic":[
            {
                "phoneNumber":"04569885552"
            }
        ]
    },
    "quoteItem":[
        {
            "id":"1",
            "action":"add",
            "quantity":"10",
            "productOffering":{
                "id":"5295",
                "name":"TMF Tariff plan "
            },
            "product":{
                "name":"TMF Tariff plan",
                "productSpecification":{
                    "id":"2489",
                    "version":"1.0"
                }
            }
        },
        {
            "id":"2",
            "action":"add",
            "quantity":"10",
            "productOffering":{
                "id":"63",
                "name":"Nice Handset"
            },
            "product":{
                "name":"Nice Phone",
                "productSpecification":{
                    "id":"9",
                    "name":"NicePhone"
                }
            }
        }
    ]
}

```

- **Wait for a response from the server with the following characteristics**
 - **Response Code 201-Created**
 - **Include a location header in the body set to `/{apiRoot}/quote/{IDQ2}` where `{IDQ2}` indicates the identifier assigned by the server to the new Quote resource**

- The response message includes all mandatory parameters (including quoteDate and state that were not sent in the original request)
- The body of the response matches the values set in the original request
- Send a GET message to `/{apiRoot}/quote/`
- Wait for a response from the server with the following characteristics
 - Response Code 200-OK
 - The body of the response includes one Quote resource with ID set to `{IDQ2}`, the same identifier as assigned by the server to the new resource created
 - The response message includes all mandatory parameters
 - The body of the response for the resource with identifier `{IDQ2}` matches the values set in the original request
- Send a GET message to `/{apiRoot}/quote/{IDQ2}`
- Wait for a response from the server with the following characteristics
 - Response Code 200-OK
 - The response message includes all mandatory parameters
 - The body of the response includes a Quote resource structure that matches the values in the original request

TC_Quote_N3 – Search for Quotes with specific characteristics

- Send a GET message to `/{apiRoot}/quote`
- Wait for a response from the server with the following characteristics
 - Response Code 200-OK
 - The body of the response includes at least two Quote resources referring to `{IDQ1}` and `{IDQ2}`
 - The body of the response for the resource with each identifier matches the values in the corresponding original request

- **Send a GET message to `/{apiRoot}/ quote?category=Broadband`**
- **Wait for a response from the server with the following characteristics**
 - **Response Code 200-OK**
 - **The body of the response includes one Quote resource referring to `{IDQ1}` and there is no reference to Quote resource `{IDQ2}`**
 - **The response message includes all mandatory parameters**
 - **The body of the response for the resource with identifier `{IDQ1}` matches the values in the original request**
- **Send a GET message to `/{apiRoot}/quote?externalId=AZE789`**
- **Wait for a response from the server with the following characteristics**
 - **Response Code 200-OK**
 - **The body of the response includes one Quote resource referring to `{IDQ2}` and there is no reference to Quote resource `{IDQ1}`**
 - **The response message includes all mandatory parameters**
 - **The body of the response for the resource with identifier `{IDQ2}` matches the values in the original request**

TC_Quote_N4 – Filtered retrieval of Quotes

- **Send a GET message to `/{apiRoot}/quote/{IDQ1}?fields=externalId, state`**
- **Wait for a response from the server with the following characteristics**
 - **Response Code 200-OK**
 - **The body of the response includes one Quote resource referring to `{IDQ1}` and including only attributes `externalId` and `state`, matching the values in the original request**
- **Send a GET message to `/{apiRoot}/ quote /{IDQ2}?fields=quoteDate,id`**
- **Wait for a response from the server with the following characteristics**
 - **Response Code 200-OK**

- The body of the response includes one Quote resource referring to {IDQ2} and including only attributes quote date and id, matching the values in the original request

Notice that this test case is using parameters "state", "quoteDate", "id" and "externalId" to filter the data included in the response but any other parameter could be used

TC_Quote_N5 – Filtered Search and Filtered data response

- Send a GET message to `/{apiRoot}/quote?category=Broadband&fields=state`
- Wait for a response from the server with the following characteristics
 - Response Code 200-OK
 - The body of the response includes one Quote resource referring to {IDQ1} and there is no reference to Quote resource {IDQ2}
 - The body of the response for the resource with each identifier includes only attribute state, matching the values in the corresponding original request

Notice that this test case is using the parameter "category" to filter the data included in the response but any other parameter could be used

Error Scenarios

TC_Quote_E1 – Unknown Trouble Quote identifier

- Send a GET message to `/{apiRoot}/quote/{IDQ3}`, where {IDQ3} does not match any of the identifiers previously created in the server
- Wait for a response from the server with the following characteristics
 - Response Code 404-Not Found

TC_Quote_E2 – Invalid Request – Missing mandatory parameter

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

```
{
  "externalId": "742",
  "version": "1.0",
  "description": "This is the quote",
  "category": "Telco Quote",
}
```

```

"expectedQuoteCompletionDate": "2017-09-21",
"expectedFulfillmentStartDate": "2017-10-01",
"@baseType": "Quote",
"@base": "Quote",
"@schemaLocation": "www.quote.quote.json",
"note": [
  {
    "date": "2017-09-22T00:00",
    "author": "Mr Hide",
    "text": " Quote following serviceability #2345"
  }
],
"billingAccount": [
  {
    "id": "4850",
    "href":
"https://host:port/onboardingManagement/billingAccount/4850",
    "name": "Horizon Account",
    "@type": "BillingAccount"
  }
],
"relatedParty": [
  {
    "id": "7737",
    "href":
"https://host:port/partyManagement/individual/7737",
    "role": "Quote contact",
    "name": "Jimmy Doe",
    "@type": " IndividualParty"
  }
]
}

```

Notice that this request is missing mandatory parameter orderItem but any other mandatory parameter could be used

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

TC_Quote_E3 – Invalid Request – Missing parameter mandatory in context

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

```

{
  "externalId": "742",
  "version": "1.0",
  "description": "This is the quote",
  "category": "Telco Quote",
  "expectedQuoteCompletionDate": "2017-09-21",
  "expectedFulfillmentStartDate": "2017-10-01",

```

```
"@baseType": "Quote",
"@base": "Quote",
"@schemaLocation": "www.quote.quote.json",
"note": [
  {
    "date": "2017-09-22T00:00",
    "author": "Mr Hide",
    "text": "Quote following serviceability #2345"
  }
],
"billingAccount": [
  {
    "name": "Horizon Account",
    "@type": "BillingAccount"
  }
]
}
```

Notice that this request is missing mandatory parameter `id` and `href` in the `BillingAccount` but any other mandatory parameter could be used

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



RELEASE HISTORY

Release Number	Date	Modified by:	Description
Release 17.5.0 Version 2.0.1	18-Jan-2018	Adrienne Walcott	Formatting/style edits prior to publishing

CONTRIBUTORS TO DOCUMENT

Mariano Belaunde	Orange
Ludovic Robert	Orange
Guillermo Martinez	Telefonica
Pierre Gauthier	TM Forum