

Trouble Ticket

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Introduction

The Trouble Ticket API provides a standardized client interface to Trouble Ticket Management Systems for creating, tracking and managing trouble tickets as a result of an issue or problem identified by a customer or another system. Examples of Trouble Ticket API originators (clients) include CRM applications, network management or fault management systems, or other Trouble Ticket management systems (e.g. B2B). The API supports the ability to send requests to create a new trouble ticket specifying the nature and severity of the trouble or issue as well as all necessary related information. The API also includes mechanisms to search for and update existing trouble tickets. Notifications are defined to provide information when a trouble ticket has been updated, including status changes. A basic set of status of a trouble ticket has been specified (as an example) to handle trouble ticket lifecycle management. Trouble Ticketing API manages trouble ticket resource:

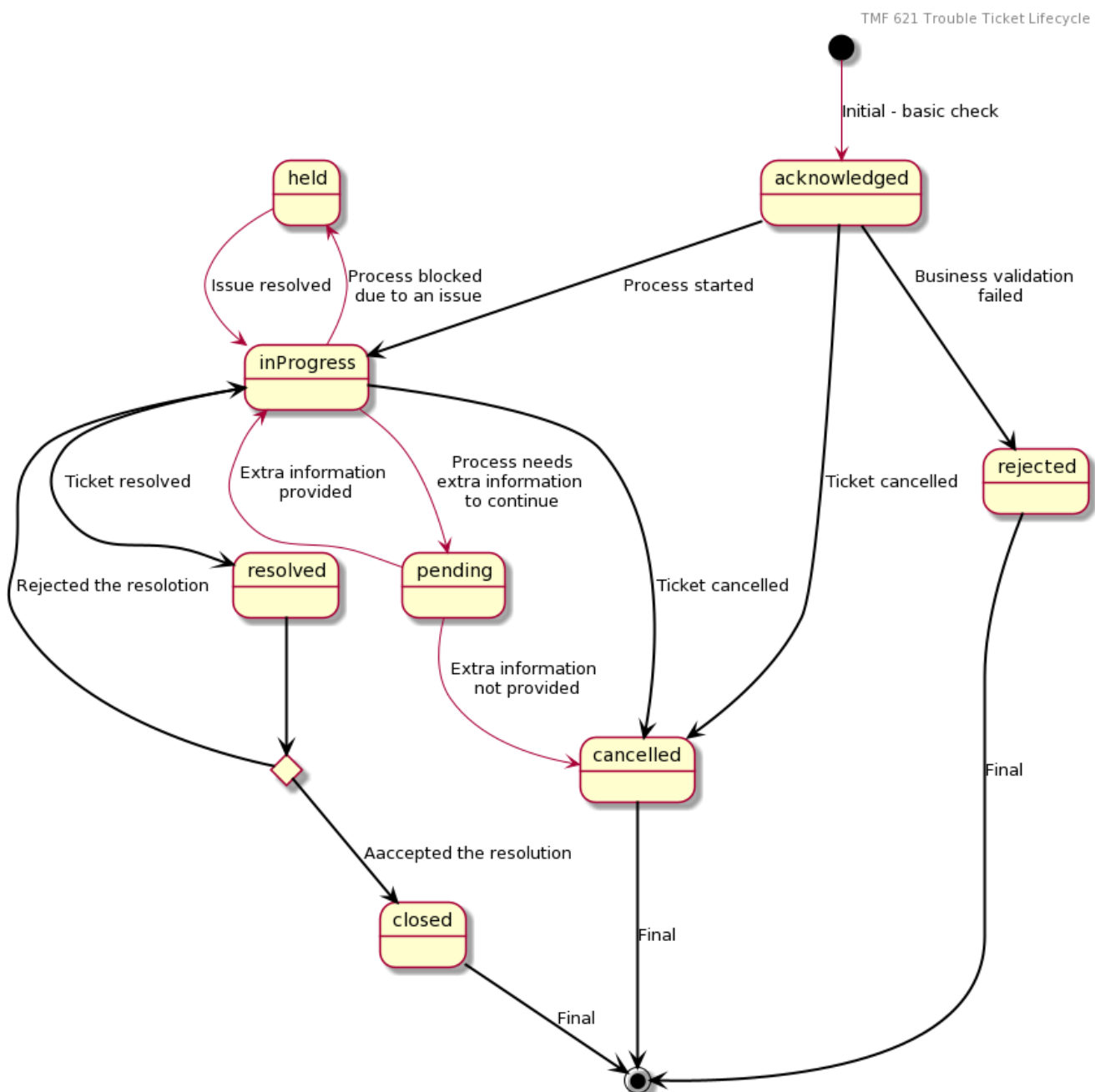
- A trouble ticket represents a record, or an issue raised by requestor that need to be solved, used for reporting and managing the resolution of problems, incidents or request
- Main trouble ticket attributes are its description, severity, type, related dates (creation, expected resolution, resolution), status and related information (change reason and change date), related parties (originator, owner, reviser, etc.), related entities (product, product order, customer bill) and notes Trouble Ticket API performs the following operations on trouble ticket:
 - Retrieval of a trouble ticket or a collection of trouble ticket depending on filter criteria
 - Partial update of a trouble ticket
 - Creation of a trouble ticket Notification of events on trouble ticket:
 - Trouble ticket status change
 - Trouble ticket attribute value change
 - Trouble ticket resolved
 - Trouble ticket delete (typically restricted to admin role)
 - Trouble ticket created
 - Trouble ticket Information required Trouble Ticket API performs the following operations on trouble ticket specification
 - Retrieval of a trouble ticket specification or a collection of trouble ticket specification depending on filter criteria
 - Partial update of a trouble ticket specification
 - Creation of a trouble ticket specification
 - Notification of events on trouble ticket specification:
 - Trouble ticket specification status change
 - Trouble ticket specification attribute value change
 - Trouble ticket specification delete (typically restricted to admin role)
 - Trouble ticket specification created

Sample Use Cases

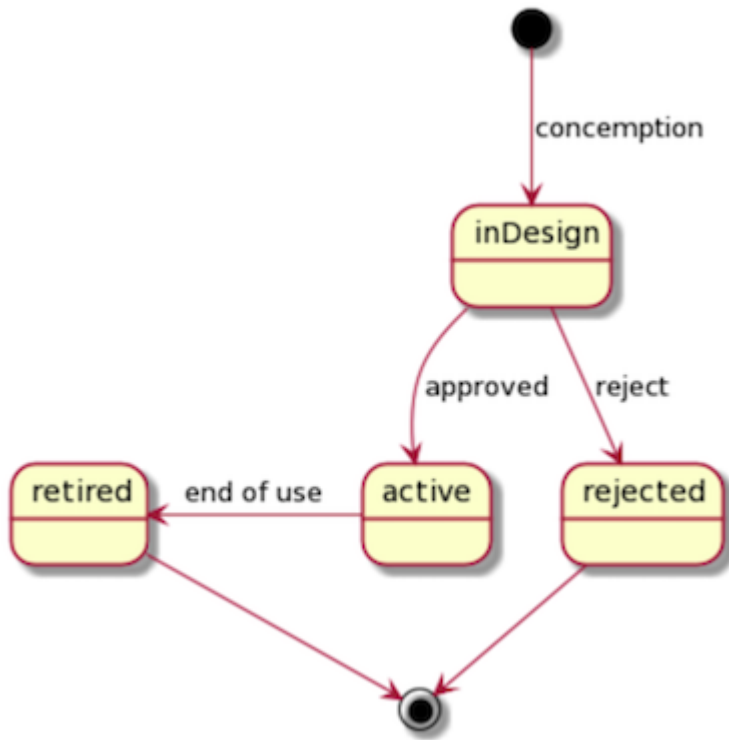
Use Case 1: User Raise Issue With Bill

- The user checks his last bill and he is not convinced that the charged amount is appropriate
- The user wants to dispute the bill and opens an issue (a commercial trouble ticket) to initiate the claim
- The new issue is added to the list of issues already open by the user.
- After some time, the user checks the status of the complaint in the app to understand if it has been resolved and the resolution details.

Trouble Ticket Life Cycle



Trouble Ticket Specification Life Cycle



Support of polymorphism and extension patterns

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

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines, Part 2 (TMF630).

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

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

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

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

RESOURCE MODEL

Managed Entity and Task Resource Models

TroubleTicket resource

A trouble ticket is a record of an issue that is created, tracked, and managed by a trouble ticket management system.

Resource model

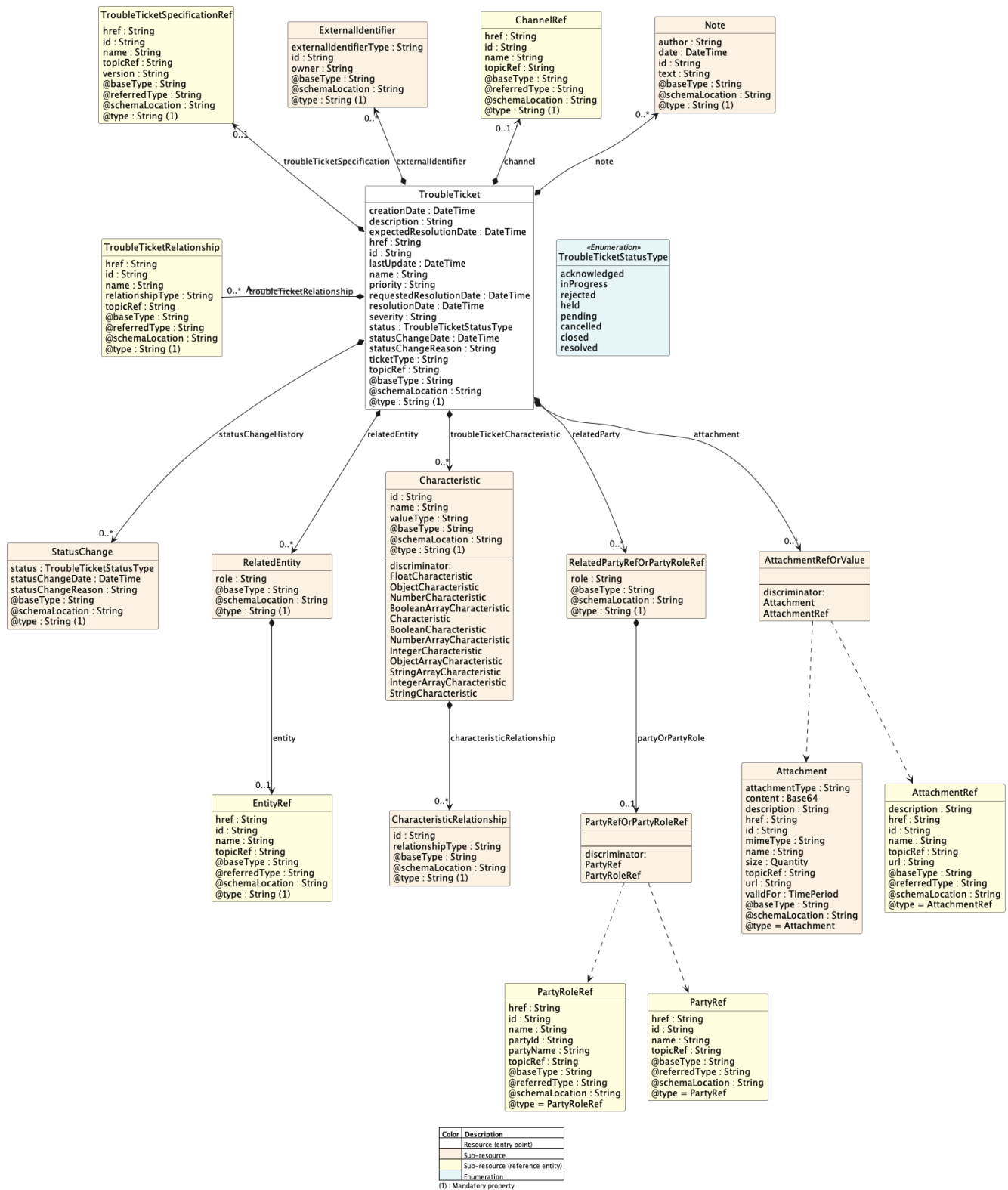


Figure 1 - TroubleTicket

Field descriptions

TroubleTicket fields

attachment

An AttachmentRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Attachment entity and not the AttachmentRefOrValue class itself.

channel	A ChannelRef. The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..
creationDate	A DateTime. The date on which the trouble ticket was created.
description	A String. Description of the trouble or issue.
expectedResolutionDate	A DateTime. The expected resolution date determined by the trouble ticket system.
externalIdentifier	An ExternalIdentifier. An identification of an entity that is owned by or originates in a software system different from the current system, for example a ProductOrder handed off from a commerce platform into an order handling system. The structure identifies the system itself, the nature of the entity within the system (e.g. class name) and the unique ID of the entity within the system. It is anticipated that multiple external IDs can be held for a single entity, e.g. if the entity passed through multiple systems on the way to the current system. In this case the consumer is expected to sequence the IDs in the array in reverse order of provenance, i.e. most recent system first in the list.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
lastUpdate	A DateTime. The date and time that the trouble ticket was last updated.
name	A String. Name of the trouble ticket, typically a short description provided by the user that create the ticket.
note	A Note. Extra information about a given entity.
priority	A String. The priority of the trouble ticket and how quickly the issue should be resolved. Example: Critical, High, Medium, Low. The value is set by the ticket management system considering the severity, ticket type etc...
relatedEntity	A RelatedEntity. A reference to an entity, where the type of the entity is not known in advance.
relatedParty	A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
requestedResolutionDate	A DateTime. The resolution date requested by the user.
resolutionDate	A DateTime. The date and time the trouble ticket was resolved.
severity	A String. The severity of the issue. Indicate the implication of the issue on the expected functionality e.g. of a system, application, service etc.. Severity values can be for example : Critical, Major, Minor.

status	A TroubleTicketStatusType. Possible values for the status of the trouble ticket.
statusChangeDate	A DateTime. The date and time the status changed.
statusChangeHistory	A StatusChange. Holds the status, reasons and associated date the status changed, populated by the server.
statusChangeReason	A String. The reason for changing the status.
ticketType	A String. Represent a business type of the trouble ticket e.g. incident, complain, request.
topicRef	A String. A reference to the topic from which this entity can be fetched.
troubleTicketCharacteristic	A Characteristic. Describes a given characteristic of an object or entity through a name/value pair. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...
troubleTicketRelationship	A TroubleTicketRelationship. Represents a relationship between trouble tickets.
troubleTicketSpecification	A TroubleTicketSpecificationRef. Reference to an TroubleTicketSpecification object.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

Attachment sub-resource fields

attachmentType	A String. A business characterization of the purpose of the attachment, for example logo, instructionManual, contractCopy.
content	A Base64. The actual contents of the attachment object, if embedded, encoded as base64.
description	A String. A narrative text describing the content of the attachment.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
contentType	A String. A technical characterization of the attachment content format using IETF Mime Types.
name	A String. The name of the attachment.

size	A Quantity. An amount in a given unit.
topicRef	A String. A reference to the topic from which this entity can be fetched.
url	A String. Uniform Resource Locator, is a web page address (a subset of URI).
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

AttachmentRef sub-resource fields

description	A String. A narrative text describing the content of the attachment.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
url	A String. Link to the attachment media/content.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

BooleanArrayCharacteristic sub-resource fields

value	A Boolean. A characteristic which value is an array of Boolean(s).
@type	A String. When sub-classing, this defines the sub-class Extensible name.

BooleanCharacteristic sub-resource fields

value	A Boolean. Value of the characteristic.
-------	---

@type	A String. When sub-classing, this defines the sub-class Extensible name.
-------	--

ChannelRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

Characteristic sub-resource fields

characteristicRelationship	A CharacteristicRelationship. Another Characteristic that is related to the current Characteristic;.
id	A String. Unique identifier of the characteristic.
name	A String. Name of the characteristic.
valueType	A String. Data type of the value of the characteristic.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

CharacteristicRelationship sub-resource fields

id	A String. Unique identifier of the characteristic.
relationshipType	A String. The type of relationship.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

EntityRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

ExternalIdentifier sub-resource fields

externalIdentifierType	A String. Type of the identification, typically would be the type of the entity within the external system.
id	A String. Identification of the entity within the external system.
owner	A String. Name of the external system that owns the entity.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

FloatCharacteristic sub-resource fields

value	A Float. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

IntegerArrayCharacteristic sub-resource fields

value	An Integer. A characteristic which value is an array of Integer(s).
@type	A String. When sub-classing, this defines the sub-class Extensible name.

IntegerCharacteristic sub-resource fields

value	An Integer. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

Note sub-resource fields

author	A String. Author of the note.
date	A DateTime. Date of the note.
id	A String. Identifier of the note within its containing entity.
text	A String. Text of the note.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

NumberArrayCharacteristic sub-resource fields

value	A Number. A characteristic which value is an array of Number(s).
@type	A String. When sub-classing, this defines the sub-class Extensible name.

NumberCharacteristic sub-resource fields

value	A Number. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

ObjectArrayCharacteristic sub-resource fields

value	An object. Collection of characteristic values.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

ObjectCharacteristic sub-resource fields

value	An object. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

PartyRef sub-resource fields

href	A String. Hyperlink reference.
------	--------------------------------

id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

PartyRoleRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
partyId	A String. The identifier of the engaged party that is linked to the PartyRole object.
partyName	A String. The name of the engaged party that is linked to the PartyRole object.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

RelatedEntity sub-resource fields

entity	An EntityRef. Entity reference schema to be use for all entityRef class.
role	A String.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.

@type	A String. When sub-classing, this defines the sub-class Extensible name.
-------	--

RelatedPartyRefOrPartyRoleRef sub-resource fields

partyOrPartyRole	A PartyRefOrPartyRoleRef.
role	A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

StatusChange sub-resource fields

status	A TroubleTicketStatusType. Possible values for the status of the trouble ticket.
statusChangeDate	A DateTime. The date and time the status changed.
statusChangeReason	A String. The reason why the status changed.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

StringArrayCharacteristic sub-resource fields

value	A String. Collection of string characteristics.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

StringCharacteristic sub-resource fields

value	A String. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

TroubleTicketRelationship sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.

name	A String. Name of the referred entity.
relationshipType	A String. Type of relationship.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

TroubleTicketSpecificationRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
version	A String. The version of the trouble ticket specification, in case it is desired to maintain multiple versions of trouble ticket specifications.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

Json representation sample(s)

We provide below a JSON representation as example of the 'TroubleTicket' resource object.

```
{
  "id" : "3180",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3180",
  "creationDate" : "2022-05-31T07:34:45.968Z",
  "description" : "I do not accept the last VOD charge, since the movie was constantly interrupted, I had to quick watching the movie in the middle ",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "lastUpdate" : "2022-05-31T07:34:45.968Z",
  "name" : "complaint over last bill",
```

```

"priority" : "High",
"requestedResolutionDate" : "2022-05-31T07:34:45.968Z",
"resolutionDate" : "2022-05-31T07:34:45.968Z",
"severity" : "Minor",
"status" : "resolved",
"statusChangeDate" : "2022-05-31T07:34:45.968Z",
"statusChangeReason" : "Apply full credit",
"ticketType" : "Bill Dispute",
"troubleTicketCharacteristic" : [ {
  "id" : "1",
  "name" : "disputeAmount",
  "valueType" : "number",
  "value" : "40",
  "@type" : "NumberCharacteristic"
}, {
  "id" : "2",
  "name" : "creditAmount",
  "valueType" : "number",
  "value" : "40",
  "characteristicRelationship" : [ {
    "id" : "4",
    "relationshipType" : "dependency",
    "@type" : "CharacteristicRelationship"
  } ],
  "@type" : "NumberCharacteristic"
}, {
  "id" : "3",
  "name" : "currency",
  "valueType" : "string",
  "value" : "USD",
  "@type" : "StringCharacteristic"
}, {
  "id" : "4",
  "name" : "creditReason",
  "valueType" : "string",
  "value" : "Network connectivity issues",
  "@type" : "StringCharacteristic"
} ],
"attachment" : [ {
  "description" : "Scanned disputed bill",
  "attachmentType" : "billCopy",
  "mimeType" : "image/png",
  "name" : "March Bill",
  "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
  "@type" : "AttachmentRef"
} ],
"channel" : {
  "id" : "8774",
  "name" : "self service",
  "@type" : "ChannelRef"
},

```

```

"note" : [ {
  "id" : "77456",
  "author" : "Jack Smith",
  "date" : "2019-05-31T07:34:45.968Z",
  "text" : "This is quite important, please approach me as soon as possible",
  "@type" : "Note"
} ],
"relatedEntity" : [ {
  "role" : "disputedBill",
  "@type" : "RelatedEntity",
  "entity" : {
    "id" : "3472",
    "href" : "https://mycsp.com:8080/tmf-
api/customerBillManagement/v4/customerBill/8297",
    "name" : "March 2019 Bill",
    "@type" : "EntityRef",
    "@referredType" : "CustomerBill",
    "topicRef" : "kafka://broker-address/topic-name"
  }
} ],
"relatedParty" : [ {
  "role" : "member",
  "partyOrPartyRole" : {
    "id" : "9866",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9866",
    "name" : "Sandy Smith",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
}, {
  "role" : "reporter",
  "partyOrPartyRole" : {
    "id" : "9867",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9867",
    "name" : "Jacob Jac Miller",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
}, {
  "role" : "customer",
  "partyOrPartyRole" : {
    "id" : "9176",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v4/customer/9176",
    "name" : "Jack Smith",
    "@type" : "PartyRoleRef",

```

```

    "@referredType" : "Customer",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
} ],
"statusChangeHistory" : [ {
  "statusChangeDate" : "2022-05-28T07:34:45.968Z",
  "statusChangeReason" : "trouble ticket created ",
  "status" : "acknowledged",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-28T08:34:45.968Z",
  "statusChangeReason" : "start process",
  "status" : "inProgress",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-29T07:34:45.968Z",
  "statusChangeReason" : "Need more information from the customer",
  "status" : "pending",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-31T07:34:45.968Z",
  "statusChangeReason" : "Apply full credit",
  "status" : "resolved",
  "@type" : "StatusChange"
} ],
"troubleTicketRelationship" : [ {
  "id" : "567433",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/567433",
  "name" : "Network Coverage",
  "relationshipType" : "dependecy",
  "@type" : "TroubleTicketRelationship",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
} ],
"externalIdentifier" : [ {
  "id" : "3331234",
  "owner" : "BMC Remedy",
  "externalIdentifierType" : "Incident",
  "@type" : "ExternalIdentifier"
} ],
"@schemaLocation" : "https://mycsp.com:8080/tmf-
api/troubleTicket/5/schema/troubleTicket.yaml",
"@type" : "TroubleTicket",
"topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
}

```

TroubleTicketSpecification resource

TroubleTicketSpecification defines the common attributes and relationships of a set of related trouble tickets, while trouble ticket defines a specific instance that is based on a particular trouble ticket specification.

Resource model

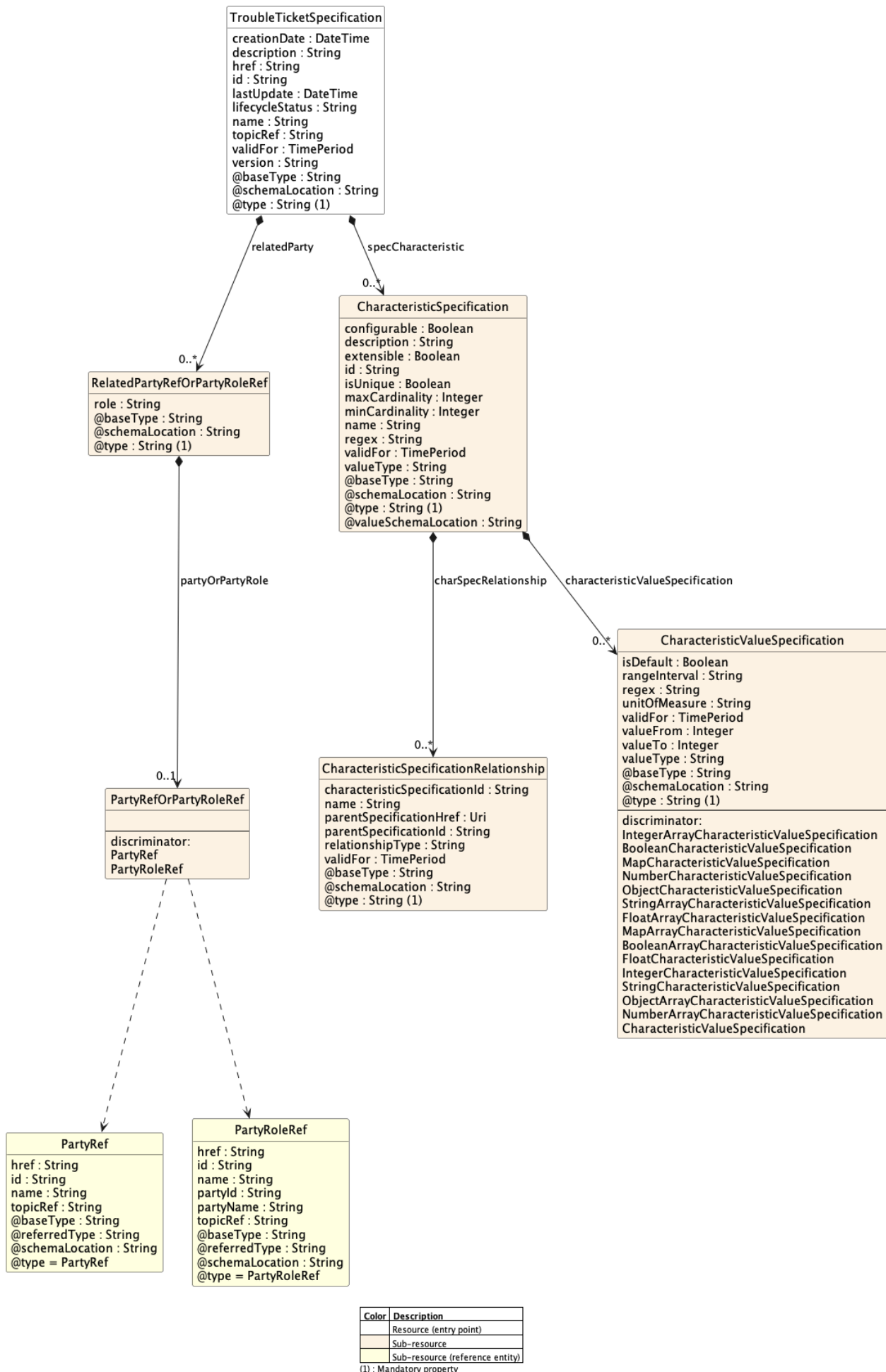


Figure 2 - TroubleTicketSpecification

Field descriptions

TroubleTicketSpecification fields

creationDate	A DateTime. The date on which the trouble ticket specification was created.
description	A String. Description of the specification.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
lastUpdate	A DateTime. Date and time of the last update of the specification.
lifecycleStatus	A String. Used to indicate the current lifecycle status of this specification such as inDesign,active,rejected,retired.
name	A String. Name given to the specification.
relatedParty	A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
specCharacteristic	A CharacteristicSpecification. This class defines a characteristic specification.
topicRef	A String. A reference to the topic from which this entity can be fetched.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
version	A String. The version of the trouble ticket specification, in case it is desired to maintain multiple versions of trouble ticket specifications.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

BooleanArrayCharacteristicValueSpecification sub-resource fields

value	A Boolean.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

BooleanCharacteristicValueSpecification sub-resource fields

value	A Boolean. Value of the characteristic.
-------	---

@type	A String. When sub-classing, this defines the sub-class Extensible name.
-------	--

CharacteristicSpecification sub-resource fields

charSpecRelationship	A CharacteristicSpecificationRelationship. An aggregation, migration, substitution, dependency or exclusivity relationship between/among Characteristic specifications. The specification characteristic is embedded within the specification whose ID and href are in this entity, and identified by its ID.
characteristicValueSpecification	A CharacteristicValueSpecification. Specification of a value (number or text or an object) that can be assigned to a Characteristic. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : BooleanArrayCharacteristicValueSpecification, BooleanCharacteristicValueSpecification, FloatArrayCharacteristicValueSpecification, FloatCharacteristicValueSpecification, IntegerArrayCharacteristicValueSpecification, IntegerCharacteristicValueSpecification, MapArrayCharacteristicValueSpecification, MapCharacteristicValueSpecification, NumberArrayCharacteristicValueSpecification, NumberCharacteristicValueSpecification, ObjectArrayCharacteristicValueSpecification, ObjectCharacteristicValueSpecification, StringArrayCharacteristicValueSpecification, StringCharacteristicValueSpecification...
configurable	A Boolean. If true, the Boolean indicates that the target Characteristic is configurable.
description	A String. A narrative that explains the CharacteristicSpecification.
extensible	A Boolean. An indicator that specifies that the values for the characteristic can be extended by adding new values when instantiating a characteristic for a resource.
id	A String. Unique ID for the characteristic.
isUnique	A Boolean. Specifies if the value of this characteristic is unique across all entities instantiated from the specification that uses this characteristic. For example, consider a ProductSpecification for a set-top box, with a CharacteristicSpecification cardID. Each set-top box must have a different value for cardID, so this isUnique attribute would be set to true for the characteristic.

maxCardinality	An Integer. The maximum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where five is the value for the maxCardinality.
minCardinality	An Integer. The minimum number of instances a CharacteristicValue can take on. For example, zero to five phone numbers in a group calling plan, where zero is the value for the minCardinality.
name	A String. A word, term, or phrase by which this characteristic specification is known and distinguished from other characteristic specifications.
regex	A String. A rule or principle represented in regular expression used to derive the value of a characteristic value.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
valueType	A String. A kind of value that the characteristic can take on, such as numeric, text and so forth.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.
@valueSchemaLocation	A String. This (optional) field provides a link to the schema describing the value type.

CharacteristicSpecificationRelationship sub-resource fields

characteristicSpecificationId	A String. Unique identifier of the characteristic within the specification.
name	A String. Name of the target characteristic within the specification.
parentSpecificationHref	A Uri. Hyperlink reference to the parent specification containing the target characteristic.
parentSpecificationId	A String. Unique identifier of the parent specification containing the target characteristic.
relationshipType	A String. Type of relationship such as aggregation, migration, substitution, dependency, exclusivity.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.
@baseType	A String. When sub-classing, this defines the super-class.

@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

CharacteristicValueSpecification sub-resource fields

isDefault	A Boolean. If true, the Boolean Indicates if the value is the default value for a characteristic.
rangeInterval	A String. An indicator that specifies the inclusion or exclusion of the valueFrom and valueTo attributes. If applicable, possible values are "open", "closed", "closedBottom" and "closedTop".
regex	A String. A regular expression constraint for given value.
unitOfMeasure	A String. A length, surface, volume, dry measure, liquid measure, money, weight, time, and the like. In general, a determinate quantity or magnitude of the kind designated, taken as a standard of comparison for others of the same kind, in assigning to them numerical values, as 1 foot, 1 yard, 1 mile, 1 square foot.
validFor	A TimePeriod. A period of time, either as a deadline (endTime only) a startTime only, or both.
valueFrom	An Integer. The low range value that a characteristic can take on.
valueTo	An Integer. The upper range value that a characteristic can take on.
valueType	A String. A kind of value that the characteristic value can take on, such as numeric, text and so forth.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

FloatArrayCharacteristicValueSpecification sub-resource fields

value	A Float.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

FloatCharacteristicValueSpecification sub-resource fields

value	A Float. Value of the characteristic.
-------	---------------------------------------

@type	A String. When sub-classing, this defines the sub-class Extensible name.
-------	--

IntegerArrayCharacteristicValueSpecification sub-resource fields

value	An Integer.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

IntegerCharacteristicValueSpecification sub-resource fields

value	An Integer. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

MapArrayCharacteristicValueSpecification sub-resource fields

value	An object.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

MapCharacteristicValueSpecification sub-resource fields

value	An object. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

NumberArrayCharacteristicValueSpecification sub-resource fields

value	A Number.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

NumberCharacteristicValueSpecification sub-resource fields

value	A Number. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

ObjectArrayCharacteristicValueSpecification sub-resource fields

value	An object. Collection of characteristic values.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

ObjectCharacteristicValueSpecification sub-resource fields

value	An object. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

PartyRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

PartyRoleRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
partyId	A String. The identifier of the engaged party that is linked to the PartyRole object.
partyName	A String. The name of the engaged party that is linked to the PartyRole object.
topicRef	A String. A reference to the topic from which this entity can be fetched.
@baseType	A String. When sub-classing, this defines the super-class.
@referredType	A String. The actual type of the target instance when needed for disambiguation.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

RelatedPartyRefOrPartyRoleRef sub-resource fields

partyOrPartyRole	A PartyRefOrPartyRoleRef.
role	A String. Role played by the related party or party role in the context of the specific entity it is linked to. Such as 'initiator', 'customer', 'salesAgent', 'user'.
@baseType	A String. When sub-classing, this defines the super-class.
@schemaLocation	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

StringArrayCharacteristicValueSpecification sub-resource fields

value	A String.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

StringCharacteristicValueSpecification sub-resource fields

value	A String. Value of the characteristic.
@type	A String. When sub-classing, this defines the sub-class Extensible name.

Json representation sample(s)

We provide below a JSON representation as example of the 'TroubleTicketSpecification' resource object.

```
{
  "id" : "25632415",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicketSpecification/25632415",
  "name" : "Bill Dispute",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and rules to apply when creating a Trouble Ticket...",
  "creationDate" : "2022-05-22T10:36:30.709Z",
  "lastUpdate" : "2022-06-22T10:36:30.709Z",
  "relatedParty" : [ {
    "role" : "approver",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {
      "id" : "6678",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
      "name" : "Sara Smith",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
```

```

    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
} ],
"lifecycleStatus" : "active",
"specCharacteristic" : [ {
  "id" : "1",
  "name" : "disputeAmount",
  "valueType" : "number",
  "configurable" : true,
  "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "2",
  "name" : "creditAmount",
  "valueType" : "number",
  "configurable" : true,
  "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
no credit is given a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "charSpecRelationship" : [ {
    "@type" : "CharacteristicSpecificationRelationship",
    "characteristicSpecificationId" : "3",
    "name" : "creditReason",
    "relationshipType" : "dependency",
    "parentSpecificationId" : "25632415"
  } ],
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "3",
  "name" : "creditReason",
  "valueType" : "string",
  "configurable" : true,
  "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "4",
  "name" : "rejectReason",
  "valueType" : "string",
  "configurable" : true,
  "description" : "The reason for rejecting the dispute, in case no credit apply.",
  "maxCardinality" : 0,

```



```

    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "5",
    "name" : "currency",
    "valueType" : "string",
    "configurable" : true,
    "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2022-06-22T23:20:50.52Z"
  },
  "version" : "1",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
}

```

Notification Resource Models

10 notifications are defined for this API.

Notifications related to TroubleTicket:

- Trouble Ticket Resolved Event
- Trouble Ticket Create Event
- Trouble Ticket Delete Event
- Trouble Ticket Attribute Value Change Event
- Trouble Ticket Information Required Event
- Trouble Ticket Status Change Event

Notifications related to TroubleTicketSpecification:

- Trouble Ticket Specification Create Event
- Trouble Ticket Specification Delete Event
- Trouble Ticket Specification Attribute Value Change Event
- Trouble Ticket Specification Status Change Event

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

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

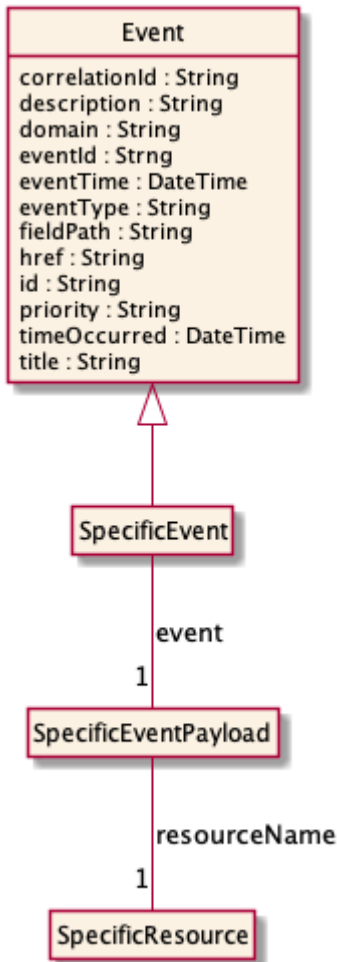


Figure 3 Notification Pattern

Trouble Ticket Resolved Event

Message example for TroubleTicketResolvedEvent event

Content-Type: application/json

```
{
  "correlationId" : "86c9c4c9-b7a5",
  "description" : "TroubleTicketResolvedEvent illustration",
  "domain" : "Commercial",
  "eventId" : "41ad-b3e1-aa39d233a157",
  "eventTime" : "2022-08-25T12:18:12.213Z",
  "eventType" : "TroubleTicketResolvedEvent",
  "priority" : "5",
  "timeOccurred" : "2022-08-25T12:18:10.103Z",
  "title" : "TroubleTicketResolvedEvent",
  "event" : {
    "troubleTicket" : {
      "id" : "3180",
      "href" : "https://host:port/troubleTicket/v5/troubleTicket/3180",
      "@type" : "TroubleTicket",
```

```

    "status" : "resolved",
    "statusChangeDate" : "2019-05-31T07:34:45.968Z",
    "statusChangeReason" : "A refund was issued",
    "statusChangeHistory" : [ {
      "statusChangeDate" : "2019-05-31T07:34:45.968Z",
      "statusChangeReason" : "Need more information from the customer",
      "status" : "pending",
      "@type" : "StatusChange"
    } ],
    "topicRef" :
"kafka://host/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
  },
  "reportingSystem" : {
    "id" : "759",
    "name" : "APP-745",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "705",
    "name" : "APP-317",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "TroubleTicketResolvedEvent"
}

```

Trouble Ticket Create Event

Message example for TroubleTicketCreateEvent event

Content-Type: application/json

```

{
  "correlationId" : "95003dd3-e325",
  "description" : "TroubleTicketCreateEvent illustration",
  "domain" : "Commercial",
  "eventId" : "4010-9b59-509a64cf85a8",
  "eventTime" : "2022-08-25T12:18:12.171Z",
  "eventType" : "TroubleTicketCreateEvent",
  "priority" : "1",
  "timeOccured" : "2022-08-25T12:18:06.252Z",
  "title" : "TroubleTicketCreateEvent",
  "event" : {
    "troubleTicket" : {
      "id" : "3180",
      "href" : "http://servername/troubleTicket/3180",
      "creationDate" : "2019-05-31T07:34:45.968Z",

```

```

    "description" : "I do not accept the last VOD charge, since the movie was
constantly interrupted, I had to quick watching the movie in the middle ",
    "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
    "externalId" : "213-9909",
    "lastUpdate" : "2019-05-31T07:34:45.968Z",
    "name" : "complaint over last bill",
    "priority" : "High",
    "requestedResolutionDate" : "2019-05-31T07:34:45.968Z",
    "severity" : "Urgent",
    "status" : "pending",
    "statusChangeDate" : "2019-05-31T07:34:45.968Z",
    "statusChangeReason" : "Need more information from the customer",
    "ticketType" : "Bill Dispute",
    "attachment" : [ {
        "description" : "Scanned disputed bill",
        "mimeType" : "image/png",
        "name" : "March Bill",
        "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
        "@type" : " AttachmentRef"
    } ],
    "channel" : {
        "id" : "8774",
        "name" : "self service",
        "@type" : "ChannelRef"
    },
    "note" : [ {
        "id" : "77456",
        "author" : "Jack Smith",
        "date" : "2019-05-31T07:34:45.968Z",
        "text" : "This is quite important, please approach me as soon as possible",
        "@type" : "Note"
    } ],
    "relatedEntity" : [ {
        "role" : "disputedBill",
        "@type" : "RelatedEntity",
        "entity" : {
            "id" : "3472",
            "href" : "https://mycsp.com:8080/tmf-
api/customerBillManagement/v5/customerBill/8297",
            "name" : "March 2019 Bill",
            "@type" : "EntityRef",
            "@referredType" : "CustomerBill",
            "topicRef" :
"kafka://mycsp.com/{prefix}.customerBillManagement.v5.retrieveCustomerBill.commandRequ
est"
        }
    } ],
    "relatedParty" : [ {
        "role" : "member",
        "@type" : "RelatedPartyRefOrPartyRoleRef",
        "partyOrPartyRole" : {

```

```

        "id" : "9866",
        "href" : "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/9866",
        "name" : "Sandy Smith",
        "@type" : "PartyRef",
        "@referredType" : "Individual",
        "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }, {
        "role" : "reporter",
        "@type" : "RelatedPartyRefOrPartyRoleRef",
        "partyOrPartyRole" : {
            "id" : "9867",
            "href" : "https://mycsp.com:8080/tmf-
api/partyManagement/v5/individual/9867",
            "name" : "Jacob Jac Miller",
            "@type" : "PartyRef",
            "@referredType" : "Individual",
            "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
        }, {
            "role" : "customer",
            "@type" : "RelatedPartyRefOrPartyRoleRef",
            "partyOrPartyRole" : {
                "id" : "9176",
                "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v4/customer/9176",
                "name" : "Jack Smith",
                "@type" : "PartyRoleRef",
                "@referredType" : "Customer",
                "topicRef" : "kafka://broker-address/topic-name"
            }
        } ],
        "statusChangeHistory" : [ {
            "statusChangeDate" : "2019-05-31T07:34:45.968Z",
            "statusChangeReason" : "Need more information from the customer",
            "status" : "pending",
            "@type" : "StatusChange"
        } ],
        "troubleTicketRelationship" : [ {
            "id" : "567433",
            "href" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v4/troubleTicket/567433",
            "name" : "Network Coverage",
            "relationshipType" : "dependecy",
            "@type" : "TroubleTicketRelationship",
            "topicRef" : "kafka://broker-address/topic-name"
        } ],
        "@type" : "TroubleTicket",
        "topicRef" : "kafka://broker-address/topic-name"

```

```

    }
  },
  "reportingSystem" : {
    "id" : "759",
    "name" : "APP-745",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "705",
    "name" : "APP-317",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "TroubleTicketCreateEvent"
}

```

Trouble Ticket Delete Event

Message example for TroubleTicketDeleteEvent event

Content-Type: application/json

```

{
  "correlationId" : "90cfc73d-deb7",
  "description" : "TroubleTicketDeleteEvent illustration",
  "domain" : "Commercial",
  "eventId" : "47d6-9751-40e4f01440c9",
  "eventTime" : "2022-08-25T12:18:12.202Z",
  "eventType" : "TroubleTicketDeleteEvent",
  "priority" : "4",
  "timeOccured" : "2022-08-25T12:18:07.224Z",
  "title" : "TroubleTicketDeleteEvent",
  "event" : {
    "troubleTicket" : {
      "id" : "3180",
      "href" : "https://host:port/troubleTicket/v5/troubleTicket/3180",
      "@type" : "TroubleTicket",
      "topicRef" :
"kafka://host/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
    }
  },
  "reportingSystem" : {
    "id" : "759",
    "name" : "APP-745",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {

```

```

    "id" : "705",
    "name" : "APP-317",
    "@type" : "ReportingResource",
    "@REFERREDType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "TroubleTicketDeleteEvent"
}

```

Trouble Ticket Attribute Value Change Event

Message example for Trouble Ticket Attribute Value Change Event event

Content-Type: application/json

```

{
  "correlationId" : "d107a5f0-9257",
  "description" : "TroubleTicketAttributeValueChangeEvent illustration",
  "domain" : "Commercial",
  "eventId" : "456b-8663-72338e38d4f0",
  "eventTime" : "2022-08-25T12:18:12.181Z",
  "eventType" : "TroubleTicketAttributeValueChangeEvent",
  "priority" : "1",
  "timeOccured" : "2022-08-25T12:18:11.750Z",
  "title" : "TroubleTicketAttributeValueChangeEvent",
  "event" : {
    "troubleTicket" : {
      "href" : "https://host:port/troubleTicket/v5/troubleTicket/3180",
      "id" : "3180",
      "@type" : "TroubleTicket",
      "attachment" : [ {
        "description" : "Scanned disputed bill",
        "attachmentType" : "billCopy",
        "mimeType" : "image/png",
        "name" : "March Bill",
        "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
        "@type" : "AttachmentRef"
      } ],
      "topicRef" :
        "kafka://host/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
    }
  },
  "reportingSystem" : {
    "id" : "759",
    "name" : "APP-745",
    "@type" : "ReportingResource",
    "@REFERREDType" : "LogicalResource"
  },
  "source" : {
    "id" : "705",

```

```

    "name" : "APP-317",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "TroubleTicketAttributeValueChangeEvent"
}

```

Trouble Ticket Information Required Event

Message example for TroubleTicketInformationRequiredEvent event

Content-Type: application/json

```

{
  "correlationId" : "23ad1947-6b0a",
  "description" : "TroubleTicketInformationRequiredEvent illustration request for attachment",
  "domain" : "Commercial",
  "eventId" : "4655-9378-c6258e688816",
  "eventTime" : "2022-08-25T12:18:12.224Z",
  "eventType" : "TroubleTicketInformationRequiredEvent",
  "priority" : "2",
  "timeOccured" : "2022-08-25T12:18:07.161Z",
  "title" : "TroubleTicketInformationRequiredEvent",
  "event" : {
    "troubleTicket" : {
      "id" : "3180",
      "href" : "https://host:port/troubleTicket/v5/troubleTicket/3180",
      "name" : "complaint over last bill",
      "@type" : "TroubleTicket",
      "topicRef" :
"kafka://host/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
    },
    "informationRequired" : {
      "op" : "add",
      "path" : "/attachment"
    }
  },
  "reportingSystem" : {
    "id" : "759",
    "name" : "APP-745",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "705",
    "name" : "APP-317",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  }
}

```



```

},
"@baseType" : "Event",
"@type" : "TroubleTicketInformationRequiredEvent"
}

```

Trouble Ticket Status Change Event

Message example for TroubleTicketStatusChangeEvent event

Content-Type: application/json

```

{
  "correlationId" : "0f874cb9-c70d",
  "description" : "TroubleTicketStatusChangeEvent illustration",
  "domain" : "Commercial",
  "eventId" : "41cf-ad81-d65ea1c2840c",
  "eventTime" : "2022-08-25T12:18:12.191Z",
  "eventType" : "TroubleTicketStatusChangeEvent",
  "priority" : "5",
  "timeOccurred" : "2022-08-25T12:18:08.202Z",
  "title" : "TroubleTicketStatusChangeEvent",
  "event" : {
    "troubleTicket" : {
      "id" : "3180",
      "href" : "https://host:port/troubleTicket/v5/troubleTicket/3180",
      "@type" : "TroubleTicket",
      "lastUpdate" : "2019-05-31T07:34:45.968Z",
      "priority" : "High",
      "status" : "pending",
      "statusChangeDate" : "2019-05-31T07:34:45.968Z",
      "statusChangeReason" : "Need more information from the customer",
      "statusChangeHistory" : [ {
        "statusChangeDate" : "2019-05-31T07:34:45.968Z",
        "statusChangeReason" : "Need more information from the customer",
        "status" : "pending",
        "@type" : "StatusChange"
      } ],
      "topicRef" :
        "kafka://host/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
    }
  },
  "reportingSystem" : {
    "id" : "759",
    "name" : "APP-745",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "705",
    "name" : "APP-317",

```

```

    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "TroubleTicketStatusChangeEvent"
}

```

Trouble Ticket Specification Create Event

Message example for TroubleTicketSpecificationCreateEvent event

Content-Type: application/json

```

{
  "correlationId" : "95003dd3-e325",
  "description" : "TroubleTicketSpecificationCreateEvent illustration",
  "domain" : "Commercial",
  "eventId" : "4010-9b59-509a64cf85a8",
  "eventTime" : "2022-08-25T12:18:12.171Z",
  "eventType" : "TroubleTicketSpecificationCreateEvent",
  "priority" : "1",
  "timeOccured" : "2022-08-25T12:18:06.252Z",
  "title" : "TroubleTicketSpecificationCreateEvent",
  "event" : {
    "troubleTicketSpecification" : {
      "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicketSpecification/25632415",
      "id" : "25632415",
      "@type" : "TroubleTicketSpecification",
      "description" : "This trouble ticket specification describes the characteristic and rules to apply when creating a Trouble Ticket...",
      "creationDate" : "2022-06-22T10:36:30.709Z",
      "name" : "Bill Dispute",
      "relatedParty" : [ {
        "role" : "approver",
        "@type" : "RelatedPartyOrPartyRole",
        "partyOrPartyRole" : {
          "id" : "6678",
          "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
          "name" : "Sara Smith",
          "@type" : "PartyRef",
          "@referredType" : "Individual",
          "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
        }
      } ],
      "lifecycleStatus" : "inDesign",
      "specCharacteristic" : [ {
        "id" : "1",

```

```

    "name" : "disputeAmount",
    "valueType" : "number",
    "configurable" : true,
    "description" : "The amount that is on dispute, it can be the entire charge
amount or partial amount of the charge",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "2",
    "name" : "creditAmount",
    "valueType" : "number",
    "configurable" : true,
    "description" : "The positive amount to be credit, it can be equal or less
than the dispute amount. In case credit is given a credit reason must be provided. In
case no credit is given a reject reason must be provided",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "charSpecRelationship" : [ {
      "@type" : "CharacteristicSpecificationRelationship",
      "characteristicSpecificationId" : "3",
      "name" : "creditReason",
      "relationshipType" : "dependency"
    } ],
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "3",
    "name" : "creditReason",
    "valueType" : "string",
    "configurable" : true,
    "description" : "The reason for giving the credit, in case credit apply. In
case no credit apply a reject reason must be provided",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "4",
    "name" : "rejectReason",
    "valueType" : "string",
    "configurable" : true,
    "description" : "The reason for rejecting the dispute, in case no credit
apply.",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "5",
    "name" : "currency",
    "valueType" : "string",
    "configurable" : true,
    "description" : "Currency (ISO4217 norm uses 3 letters to define the

```

```

currency)",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2022-06-22T23:20:50.52Z"
  },
  "version" : "1",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
  },
  "reportingSystem" : {
    "id" : "759",
    "name" : "Catalog Publishing",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "source" : {
    "id" : "705",
    "name" : "Catalog Authoring",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  },
  "@baseType" : "Event",
  "@type" : "TroubleTicketSpecificationCreateEvent"
}

```

Trouble Ticket Specification Delete Event

Message example for TroubleTicketSpecificationDeleteEvent event

Content-Type: application/json

```

{
  "correlationId" : "90cfc73d-deb7",
  "description" : "TroubleTicketSpecificationDeleteEvent illustration",
  "domain" : "Commercial",
  "eventId" : "47d6-9751-40e4f01440c9",
  "eventTime" : "2022-08-25T12:18:12.202Z",
  "eventType" : "TroubleTicketSpecificationDeleteEvent",
  "priority" : "4",
  "timeOccured" : "2022-08-25T12:18:07.224Z",
  "title" : "TroubleTicketSpecificationDeleteEvent",
  "event" : {
    "troubleTicketSpecification" : {
      "id" : "3180",
      "href" : "https://host:port/troubleTicket/v5/troubleTicketSpecification/4499",

```

```

    "@type" : "TroubleTicketSpecification",
    "topicRef" :
"kafka://host/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequ
est"
  }
},
"reportingSystem" : {
  "id" : "759",
  "name" : "Catalog Publishing",
  "@type" : "ReportingResource",
  "@referredType" : "LogicalResource"
},
"source" : {
  "id" : "705",
  "name" : "Catalog Authoring",
  "@type" : "ReportingResource",
  "@referredType" : "LogicalResource"
},
"@baseType" : "Event",
"@type" : "TroubleTicketSpecificationDeleteEvent"
}

```

Trouble Ticket Specification Attribute Value Change Event

Message example for TroubleTicketSpecificationAttributeValueChangeEvent event

Content-Type: application/json

```

{
  "correlationId" : "d107a5f0-9257",
  "description" : "TroubleTicketSpecificationAttributeValueChangeEvent illustration",
  "domain" : "Commercial",
  "eventId" : "456b-8663-72338e38d4f0",
  "eventTime" : "2022-08-25T12:18:12.181Z",
  "eventType" : "TroubleTicketSpecificationAttributeValueChangeEvent",
  "priority" : "1",
  "timeOccured" : "2022-08-25T12:18:11.750Z",
  "title" : "TroubleTicketSpecificationAttributeValueChangeEvent",
  "event" : {
    "troubleTicketSpecification" : {
      "href" :
"https://host:port/troubleTicketSpecification/v5/troubleTicketSpecification/3180",
      "id" : "3180",
      "@type" : "TroubleTicketSpecification",
      "lifecycleStatus" : "active",
      "topicRef" :
"kafka://host/{prefix}.troubleTicketSpecification.v5.retrieveTroubleTicketSpecificatio
n.commandRequest"
    }
  },

```

```

"reportingSystem" : {
  "id" : "759",
  "name" : "APP-745",
  "@type" : "ReportingResource",
  "@referredType" : "LogicalResource"
},
"source" : {
  "id" : "705",
  "name" : "APP-317",
  "@type" : "ReportingResource",
  "@referredType" : "LogicalResource"
},
"@baseType" : "Event",
"@type" : "TroubleTicketSpecificationAttributeValueChangeEvent"
}

```

Trouble Ticket Specification Status Change Event

Message example for TroubleTicketSpecificationStatusChangeEvent event

Content-Type: application/json

```

{
  "correlationId" : "95003dd3-e325",
  "description" : "TroubleTicketSpecificationStatusChangeEvent illustration",
  "domain" : "Commercial",
  "eventId" : "4010-9b59-509a64cf85a8",
  "eventTime" : "2022-08-25T12:18:12.171Z",
  "eventType" : "TroubleTicketSpecificationStatusChangeEvent",
  "priority" : "1",
  "timeOccured" : "2022-08-25T12:18:06.252Z",
  "title" : "TroubleTicketSpecificationStatusChangeEvent",
  "event" : {
    "troubleTicketSpecification" : {
      "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicketSpecification/25632415",
      "id" : "25632415",
      "@type" : "TroubleTicketSpecification",
      "lastUpdate" : "2022-06-22T10:36:30.709Z",
      "lifecycleStatus" : "active",
      "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
    }
  },
  "reportingSystem" : {
    "id" : "759",
    "name" : "Catalog Publishing",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
  }
}

```

```
},  
"source" : {  
  "id" : "705",  
  "name" : "Catalog Authoring",  
  "@type" : "ReportingResource",  
  "@referredType" : "LogicalResource"  
},  
"@baseType" : "Event",  
"@type" : "TroubleTicketSpecificationStatusChangeEvent"  
}
```

API OPERATIONS

Every operation consists of two parts:

- REQUEST: Publish a message on a 'commandRequest' channel.
- RESPONSE: Subscribe to the corresponding 'commandReply' channel to receive the response.

Remember the following Async Uniform Contract:

Operation on Entities	Uniform Async API Operation	Description
Query One Entity	retrieveResource	retrieve must be used to retrieve a representation of a resource.
Query Entities	listResource	list must be used to retrieve a list of resources.
Create Entity	createResource	create must be used to create a new resource
Partial Update of an Entity	patchResource	patch must be used to partially update a resource
Remove an Entity	deleteResource	delete must be used to remove a resource

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

Notifications are also described in a subsequent section.

Operations on TroubleTicket

Retrieves a TroubleTicket by ID

Request topic: {prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest

Reply topic: {prefix}.troubleTicket.v5.retrieveTroubleTicket.commandReply

Description

This operation retrieves a TroubleTicket entity. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.retrieveTroubleTicket.commandReply
```



```
Parameters: {
  "id": 3180
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest
```

Response Payload

```
{
  "id" : "3180",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3180",
  "creationDate" : "2022-05-31T07:34:45.968Z",
  "description" : "I do not accept the last VOD charge, since the movie was constantly interrupted, I had to quick watching the movie in the middle ",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "lastUpdate" : "2022-05-31T07:34:45.968Z",
  "name" : "complaint over last bill",
  "priority" : "High",
  "requestedResolutionDate" : "2022-05-31T07:34:45.968Z",
  "resolutionDate" : "2022-05-31T07:34:45.968Z",
  "severity" : "Minor",
  "status" : "resolved",
  "statusChangeDate" : "2022-05-31T07:34:45.968Z",
  "statusChangeReason" : "Apply full credit",
  "ticketType" : "Bill Dispute",
  "troubleTicketCharacteristic" : [ {
    "id" : "1",
    "name" : "disputeAmount",
    "valueType" : "number",
    "value" : "40",
    "@type" : "NumberCharacteristic"
  }, {
    "id" : "2",
    "name" : "creditAmount",
    "valueType" : "number",
    "value" : "40",
    "characteristicRelationship" : [ {
      "id" : "4",
      "relationshipType" : "dependency",
      "@type" : "CharacteristicRelationship"
    } ],
    "@type" : "NubmerCharacteristic"
  }, {
    "id" : "3",
    "name" : "currency",
```

```

    "valueType" : "string",
    "value" : "USD",
    "@type" : "StringCharacteristic"
  }, {
    "id" : "4",
    "name" : "creditReason",
    "valueType" : "string",
    "value" : "Network connectivity issues",
    "@type" : "StringCharacteristic"
  } ],
  "attachment" : [ {
    "description" : "Scanned disputed bill",
    "attachmentType" : "billCopy",
    "mimeType" : "image/png",
    "name" : "March Bill",
    "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
    "@type" : "AttachmentRef"
  } ],
  "channel" : {
    "id" : "8774",
    "name" : "self service",
    "@type" : "ChannelRef"
  },
  "note" : [ {
    "id" : "77456",
    "author" : "Jack Smith",
    "date" : "2019-05-31T07:34:45.968Z",
    "text" : "This is quite important, please approach me as soon as possible",
    "@type" : "Note"
  } ],
  "relatedEntity" : [ {
    "role" : "disputedBill",
    "@type" : "RelatedEntity",
    "entity" : {
      "id" : "3472",
      "href" : "https://mycsp.com:8080/tmf-api/customerBillManagement/v4/customerBill/8297",
      "name" : "March 2019 Bill",
      "@type" : "EntityRef",
      "@referredType" : "CustomerBill",
      "topicRef" : "kafka://broker-address/topic-name"
    }
  } ],
  "relatedParty" : [ {
    "role" : "member",
    "partyOrPartyRole" : {
      "id" : "9866",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9866",
      "name" : "Sandy Smith",
      "@type" : "PartyRef",
      "@referredType" : "Individual",

```

```

    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
}, {
  "role" : "reporter",
  "partyOrPartyRole" : {
    "id" : "9877",
    "name" : "Jacob Jac Miller",
    "@type" : "PartyRef",
    "@referredType" : "Individual"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
}, {
  "role" : "customer",
  "partyOrPartyRole" : {
    "id" : "9176",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v4/customer/9176",
    "name" : "Jack Smith",
    "@type" : "PartyRoleRef",
    "@referredType" : "Customer",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
} ],
"statusChangeHistory" : [ {
  "statusChangeDate" : "2022-05-28T07:34:45.968Z",
  "statusChangeReason" : "trouble ticket created ",
  "status" : "acknowledged",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-28T08:34:45.968Z",
  "statusChangeReason" : "start process",
  "status" : "inProgress",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-29T07:34:45.968Z",
  "statusChangeReason" : "Need more information from the customer",
  "status" : "pending",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-31T07:34:45.968Z",
  "statusChangeReason" : "Apply full credit",
  "status" : "resolved",
  "@type" : "StatusChange"
} ],
"troubleTicketRelationship" : [ {
  "id" : "567433",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/567433",
  "name" : "Network Coverage",
  "relationshipType" : "dependecy",

```

```

    "@type" : "TroubleTicketRelationship",
    "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
  } ],
  "externalIdentifier" : [ {
    "id" : "3331234",
    "owner" : "BMC Remedy",
    "externalIdentifierType" : "Incident",
    "@type" : "ExternalIdentifier"
  } ],
  "@schemaLocation" : "https://mycsp.com:8080/tmf-
api/troubleTicket/5/schema/troubleTicket.yaml",
  "@type" : "TroubleTicket",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
}

```

List or find TroubleTicket objects

Request topic: {prefix}.troubleTicket.v5.listTroubleTicket.commandRequest

Reply topic: {prefix}.troubleTicket.v5.listTroubleTicket.commandReply

Description

This operation list TroubleTicket entities. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a request for retrieving a list of trouble ticket(s). The given filter criteria is priority High and fields id,href,name,@type,priority

Request Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.listTroubleTicket.commandReply

```

Request message header

```

{
  "Parameters": {
    "fields": "id,href,name,@type,priority",
    "filtering": "priority=High"
  }
}

```

Response Headers

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.troubleTicket.v5.listTroubleTicket.commandRequest

Response Payload

```
[ {  
  "id" : "3180",  
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3180",  
  "name" : "complaint over last bill",  
  "priority" : "High",  
  "@type" : "TroubleTicket",  
  "topicRef" :  
  "kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"  
}, {  
  "id" : "3256",  
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3256",  
  "name" : "Commerce problem",  
  "priority" : "High",  
  "@type" : "TroubleTicket",  
  "topicRef" :  
  "kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"  
}, {  
  "id" : "4563",  
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/5/troubleTicket/4563",  
  "name" : "Network latency",  
  "priority" : "High",  
  "@type" : "TroubleTicket",  
  "topicRef" : "kafka://broker-address/topic-name"  
} ]
```

Here's an example of a request for retrieving a list of trouble ticket(s).

Request Headers

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.listTroubleTicket.commandReply

Response Headers

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.troubleTicket.v5.listTroubleTicket.commandRequest

Response Payload

```
[ {
  "id" : "3256",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3256",
  "creationDate" : "2023-05-31T07:34:45.968Z",
  "description" : "I ordered a new mobile line 2 week ago, but the mobile device did
not arrived",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "lastUpdate" : "2023-05-31T07:34:45.968Z",
  "name" : "Commerce problem",
  "priority" : "High",
  "requestedResolutionDate" : "2022-05-31T07:34:45.968Z",
  "resolutionDate" : "2023-05-31T07:34:45.968Z",
  "severity" : "Minor",
  "status" : "resolved",
  "statusChangeDate" : "2023-05-31T07:34:45.968Z",
  "statusChangeReason" : "Apply full credit",
  "ticketType" : "Commerce Issue",
  "troubleTicketCharacteristic" : [ {
    "id" : "1",
    "name" : "orderReferenceNumber",
    "valueType" : "string",
    "value" : "Order_888",
    "@type" : "StringCharacteristic"
  }, {
    "id" : "2",
    "name" : "orderCreationDate",
    "valueType" : "string",
    "value" : "2023-05-31",
    "@type" : "StringCharacteristic"
  } ],
  "attachment" : [ {
    "description" : "Scanned Order",
    "attachmentType" : "orderCopy",
    "mimeType" : "image/png",
    "name" : "New Mobile Order",
    "url" : "https://mycsp.com:7070/docloader?docnum=3534888",
    "@type" : "AttachmentRef"
  } ],
  "channel" : {
    "id" : "8774",
    "name" : "self service",
    "@type" : "ChannelRef"
  },
  "note" : [ {
    "id" : "77458",
    "author" : "Jack Smith",
    "date" : "2023-05-31T07:34:45.968Z",
    "text" : "I did not recived the mobile device",
    "@type" : "Note"
  } ],
}
```

```

"relatedEntity" : [ {
  "role" : "disputedOrder",
  "@type" : "RelatedEntity",
  "entity" : {
    "id" : "Order_888",
    "href" : "https://mycsp.com:8080/tmf-
api/productOrdering/v5/productOrder/Order_888",
    "name" : "New Mobile Order",
    "@type" : "EntityRef",
    "@referredType" : "ProductOrder",
    "topicRef" :
"kafka://mycsp.com/{prefix}.productOrdering.v5.retrieveProductOrder.commandRequest"
  }
} ],
"relatedParty" : [ {
  "role" : "member",
  "partyOrPartyRole" : {
    "id" : "9866",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9866",
    "name" : "Sandy Smith",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
}, {
  "role" : "reporter",
  "partyOrPartyRole" : {
    "id" : "9877",
    "name" : "Jacob Jac Miller",
    "@type" : "PartyRef",
    "@referredType" : "Individual"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
}, {
  "role" : "customer",
  "partyOrPartyRole" : {
    "id" : "9176",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/customer/9176",
    "name" : "Jack Smith",
    "@type" : "PartyRoleRef",
    "@referredType" : "Customer",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveCustomer.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
} ],
"statusChangeHistory" : [ {
  "statusChangeDate" : "2023-05-28T07:34:45.968Z",
  "statusChangeReason" : "trouble ticket created ",

```

```

    "status" : "acknowledged",
    "@type" : "StatusChange"
  }, {
    "statusChangeDate" : "2023-05-28T08:34:45.968Z",
    "statusChangeReason" : "start process",
    "status" : "InProgress",
    "@type" : "StatusChange"
  }, {
    "statusChangeDate" : "2023-05-31T07:34:45.968Z",
    "statusChangeReason" : "Resend new device to the customer",
    "status" : "resolved",
    "@type" : "StatusChange"
  } ],
  "@type" : "TroubleTicket",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
}, {
  "id" : "3180",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3180",
  "creationDate" : "2022-05-31T07:34:45.968Z",
  "description" : "I do not accept the last VOD charge, since the movie was constantly
interrupted, I had to quick watching the movie in the middle ",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "lastUpdate" : "2022-05-31T07:34:45.968Z",
  "name" : "complaint over last bill",
  "priority" : "High",
  "requestedResolutionDate" : "2022-05-31T07:34:45.968Z",
  "resolutionDate" : "2022-05-31T07:34:45.968Z",
  "severity" : "Minor",
  "status" : "resolved",
  "statusChangeDate" : "2022-05-31T07:34:45.968Z",
  "statusChangeReason" : "Apply full credit",
  "ticketType" : "Bill Dispute",
  "troubleTicketCharacteristic" : [ {
    "id" : "1",
    "name" : "disputeAmount",
    "valueType" : "number",
    "value" : "40",
    "@type" : "NumberCharacteristic"
  }, {
    "id" : "2",
    "name" : "creditAmount",
    "valueType" : "number",
    "value" : "40",
    "characteristicRelationship" : [ {
      "id" : "4",
      "relationshipType" : "dependency",
      "@type" : "CharacteristicRelationship"
    } ],
    "@type" : "NubmerCharacteristic"
  }, {

```



```

    "id" : "3",
    "name" : "currency",
    "valueType" : "string",
    "value" : "USD",
    "@type" : "StringCharacteristic"
  }, {
    "id" : "4",
    "name" : "creditReason",
    "valueType" : "string",
    "value" : "Network connectivity issues",
    "@type" : "StringCharacteristic"
  } ],
  "attachment" : [ {
    "description" : "Scanned disputed bill",
    "attachmentType" : "billCopy",
    "mimeType" : "image/png",
    "name" : "March Bill",
    "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
    "@type" : "AttachmentRef"
  } ],
  "channel" : {
    "id" : "8774",
    "name" : "self service",
    "@type" : "ChannelRef"
  },
  "note" : [ {
    "id" : "77456",
    "author" : "Jack Smith",
    "date" : "2019-05-31T07:34:45.968Z",
    "text" : "This is quite important, please approach me as soon as possible",
    "@type" : "Note"
  } ],
  "relatedEntity" : [ {
    "role" : "disputedBill",
    "@type" : "RelatedEntity",
    "entity" : {
      "id" : "3472",
      "href" : "https://mycsp.com:8080/tmf-api/customerBillManagement/v5/customerBill/8297",
      "name" : "March 2019 Bill",
      "@type" : "EntityRef",
      "@referredType" : "CustomerBill",
      "topicRef" :
"kafka://mycsp.com/{prefix}.customerBillManagement.v5.retrieveCustomerBill.commandRequest"
    }
  } ],
  "relatedParty" : [ {
    "role" : "member",
    "partyOrPartyRole" : {
      "id" : "9866",

```

```

    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9866",
    "name" : "Sandy Smith",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
}, {
  "role" : "reporter",
  "partyOrPartyRole" : {
    "id" : "9877",
    "name" : "Jacob Jac Miller",
    "@type" : "PartyRef",
    "@referredType" : "Individual"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
}, {
  "role" : "customer",
  "partyOrPartyRole" : {
    "id" : "9176",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/customer/9176",
    "name" : "Jack Smith",
    "@type" : "PartyRoleRef",
    "@referredType" : "Customer",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveCustomer.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
} ],
"statusChangeHistory" : [ {
  "statusChangeDate" : "2022-05-28T07:34:45.968Z",
  "statusChangeReason" : "trouble ticket created ",
  "status" : "acknowledged",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-28T08:34:45.968Z",
  "statusChangeReason" : "start process",
  "status" : "inProgress",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-29T07:34:45.968Z",
  "statusChangeReason" : "Need more information from the customer",
  "status" : "pending",
  "@type" : "StatusChange"
}, {
  "statusChangeDate" : "2022-05-31T07:34:45.968Z",
  "statusChangeReason" : "Apply full credit",
  "status" : "resolved",
  "@type" : "StatusChange"
} ],

```

```

"troubleTicketRelationship" : [ {
  "id" : "567433",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/567433",
  "name" : "Network Coverage",
  "relationshipType" : "dependecy",
  "@type" : "TroubleTicketRelationship",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
} ],
"externalIdentifier" : [ {
  "id" : "3331234",
  "owner" : "BMC Remedy",
  "externalIdentifierType" : "Incident",
  "@type" : "ExternalIdentifier"
} ],
"@type" : "TroubleTicket",
"topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
} ]

```

Creates a TroubleTicket

Request topic: {prefix}.troubleTicket.v5.createTroubleTicket.commandRequest

Reply topic: {prefix}.troubleTicket.v5.createTroubleTicket.commandReply

Description

This operation creates a TroubleTicket entity.

Mandatory Attributes

Mandatory Attributes	Rule
description	
severity	
ticketType	

Usage samples

Creation of a new trouble ticket with POST operation

Request Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.createTroubleTicket.commandReply

```

Request Payload

```

{
  "name" : "complaint over last bill",
  "description" : "I do not accept the last VOD charge, since the movie was constantly
interrupted, I had to quick watching the movie in the middle ",
  "severity" : "Major",
  "status" : "InProgress",
  "ticketType" : "Bill Dispute",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "requestedResolutionDate" : "2022-05-31T07:34:45.968Z",
  "attachment" : [ {
    "id" : "34345",
    "description" : "Scanned disputed bill",
    "attachmentType" : "billCopy",
    "mimeType" : "image/png",
    "name" : "March Bill",
    "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
    "@type" : "AttachmentRef"
  } ],
  "channel" : {
    "id" : "8774",
    "name" : "self service",
    "@type" : "ChannelRef"
  },
  "note" : [ {
    "id" : "77456",
    "author" : "Jack Smith",
    "date" : "2022-05-31T07:34:45.968Z",
    "text" : "This is quite important, please aproch me as soon as posible",
    "@type" : "Note"
  } ],
  "relatedEntity" : [ {
    "role" : "disputedBill",
    "@type" : "RelatedEntity",
    "entity" : {
      "id" : "3472",
      "href" : "https://mycsp.com:8080/tmf-
api/customerBillManagement/v5/customerBill/8297",
      "name" : "March 2019 Bill",
      "@type" : "EntityRef",
      "@referredType" : "CustomerBill",
      "topicRef" :
"kafka://mycsp.com/{prefix}.customerBillManagement.v5.retrieveCustomerBill.commandRequ
est"
    }
  } ],
  "relatedParty" : [ {
    "role" : "member",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "partyOrPartyRole" : {
      "id" : "9866",

```

```

        "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9866",
        "name" : "Sandy Smith",
        "@type" : "PartyRef",
        "@REFERREDType" : "Individual",
        "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }, {
        "role" : "reporter",
        "@type" : "RelatedPartyRefOrPartyRoleRef",
        "partyOrPartyRole" : {
            "id" : "9867",
            "name" : "Jacob Jac Miller",
            "@type" : "PartyRef",
            "@REFERREDType" : "Individual"
        }
    }, {
        "role" : "customer",
        "@type" : "RelatedPartyRefOrPartyRoleRef",
        "partyOrPartyRole" : {
            "id" : "9176",
            "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v4/customer/9176",
            "name" : "Jack Smith",
            "@type" : "PartyRoleRef",
            "@REFERREDType" : "Customer",
            "topicRef" : "kafka://broker-address/topic-name"
        }
    } ],
    "@type" : "TroubleTicket"
}

```

Response Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 201
X-Request-Channel: {prefix}.troubleTicket.v5.createTroubleTicket.commandRequest

```

Response Payload

```

{
  "id" : "3180",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v4/troubleTicket/3180",
  "creationDate" : "2022-05-31T07:34:45.968Z",
  "description" : "I do not accept the last VOD charge, since the movie was constantly interrupted, I had to quick watching the movie in the middle ",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "lastUpdate" : "2022-05-31T07:34:45.968Z",
  "name" : "complaint over last bill",
  "priority" : "High",

```

```

"requestedResolutionDate" : "2019-05-31T07:34:45.968Z",
"severity" : "Major",
"status" : "pending",
"statusChangeDate" : "2019-05-31T07:34:45.968Z",
"statusChangeReason" : "Need more information from the customer",
"ticketType" : "Bill Dispute",
"attachment" : [ {
  "description" : "Scanned disputed bill",
  "attachmentType" : "billCopy",
  "mimeType" : "image/png",
  "name" : "March Bill",
  "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
  "@type" : "AttachmentRef"
} ],
"channel" : {
  "id" : "8774",
  "name" : "self service",
  "@type" : "ChannelRef"
},
"note" : [ {
  "id" : "77456",
  "author" : "Jack Smith",
  "date" : "2019-05-31T07:34:45.968Z",
  "text" : "This is quite important, please approach me as soon as possible",
  "@type" : "Note"
} ],
"relatedEntity" : [ {
  "role" : "disputedBill",
  "@type" : "RelatedEntity",
  "entity" : {
    "id" : "3472",
    "href" : "https://mycsp.com:8080/tmf-api/customerBillManagement/v5/customerBill/8297",
    "name" : "March 2019 Bill",
    "@type" : "EntityRef",
    "@referredType" : "CustomerBill",
    "topicRef" :
"kafka://mycsp.com/{prefix}.customerBillManagement.v5.retrieveCustomerBill.commandRequest"
  }
} ],
"relatedParty" : [ {
  "role" : "member",
  "partyOrPartyRole" : {
    "id" : "9866",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9866",
    "name" : "Sandy Smith",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  }
} ]

```

```

    },
    "@type" : "RelatedPartyRefOrPartyRoleRef"
  }, {
    "role" : "reporter",
    "partyOrPartyRole" : {
      "id" : "9877",
      "name" : "Jacob Jac Miller",
      "@type" : "PartyRef",
      "@referredType" : "Individual"
    },
    "@type" : "RelatedPartyRefOrPartyRoleRef"
  }, {
    "role" : "customer",
    "partyOrPartyRole" : {
      "id" : "9176",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v4/customer/9176",
      "name" : "Jack Smith",
      "@type" : "PartyRoleRef",
      "@referredType" : "Customer",
      "topicRef" : "kafka://broker-address/topic-name"
    },
    "@type" : "RelatedPartyRefOrPartyRoleRef"
  } ],
  "statusChangeHistory" : [ {
    "statusChangeDate" : "2019-05-31T07:34:45.968Z",
    "statusChangeReason" : "Need more information from the customer",
    "status" : "pending",
    "@type" : "StatusChange"
  } ],
  "troubleTicketRelationship" : [ {
    "id" : "567433",
    "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/567433",
    "name" : "Network Coverage",
    "relationshipType" : "dependecy",
    "@type" : "TroubleTicketRelationship",
    "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
  } ],
  "@schemaLocation" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/schema/troubleTicket.yaml",
  "@type" : "TroubleTicket",
  "topicRef" : "kafka://broker-address/topic-name"
}

```

Updates partially a TroubleTicket

Request topic: {prefix}.troubleTicket.v5.patchTroubleTicket.commandRequest

Reply topic: {prefix}.troubleTicket.v5.patchTroubleTicket.commandReply

Description

This operation allows partial updates of a TroubleTicket entity. Support of json/merge (<https://tools.ietf.org/html/rfc7386>) is mandatory, support of json/patch (<http://tools.ietf.org/html/rfc5789>) is optional. Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the createTroubleTicket operation applies to the patchTroubleTicket operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

Non Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
creationDate	
href	
id	
lastUpdate	
statusChange	
statusChangeDate	

Patchable Attributes	Rule
attachment	
channel	
description	
expectedResolutionDate	
externalIdentifier	
name	
note	
priority	
relatedEntity	
relatedParty	
requestedResolutionDate	
resolutionDate	
severity	
status	
statusChangeHistory	

Patchable Attributes	Rule
statusChangeReason	
ticketType	
troubleTicketCharacteristic	
troubleTicketRelationship	
troubleTicketSpecification	

Usage samples

Here's an example of a request for updating a trouble ticket - set status to resolved. This example illustrating patch using the entity payload.

This example uses the PatchTroubleTicketJsonRequest request message (used for a payload of type application/json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.patchTroubleTicket.commandReply
Parameters: {
  "id": 3180
}
```

Request Payload

```
{
  "@type" : "TroubleTicket",
  "status" : "resolved",
  "statusChangeReason" : "Give credit and resent bill to customer"
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.troubleTicket.v5.patchTroubleTicket.commandRequest
```

Response Payload

```
{
  "id" : "3180",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3180",
  "creationDate" : "2022-05-31T07:34:45.968Z",
  "description" : "I do not accept the last VOD charge, since the movie was constantly
```

```

interrupted, I had to quick watching the movie in the middle ",
"expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
"lastUpdate" : "2022-06-01T07:34:45.968Z",
"name" : "complaint over last bill",
"priority" : "High",
"requestedResDateolutionDate" : "2022-05-31T07:34:45.968Z",
"resolutionDate" : "2022-06-01T07:34:45.968Z",
"severity" : "Major",
"status" : "resolved",
"statusChangeDate" : "2022-06-01T07:34:45.968Z",
"statusChangeReason" : "Give credit and resent bill to customer",
"ticketType" : "Bill Dispute",
"attachment" : [ {
  "description" : "Scanned disputed bill",
  "attachmentType" : "billCopy",
  "mimeType" : "image/png",
  "name" : "March Bill",
  "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
  "@type" : "AttachmentRef"
} ],
"channel" : {
  "id" : "8774",
  "name" : "self service",
  "@type" : "ChannelRef"
},
"note" : [ {
  "id" : "77456",
  "author" : "Jack Smith",
  "date" : "2022-05-31T07:34:45.968Z",
  "text" : "This is quite important, please approach me as soon as possible",
  "@type" : "Note"
} ],
"relatedEntity" : [ {
  "id" : "3472",
  "href" : "https://mycsp.com:8080/tmf-
api/customerBillManagement/v5/customerBill/8297",
  "name" : "March 2022 Bill",
  "role" : "disputedBill",
  "@type" : "RelatedEntity",
  "@referredType" : "CustomerBill",
  "topicRef" :
"kafka://mycsp.com/{prefix}.customerBillManagement.v5.retrieveCustomerBill.commandRequ
est"
} ],
"relatedParty" : [ {
  "id" : "9866",
  "href" : "https://mycsp.com:8080/tmf-api/partyManagement/5/individual/9866",
  "name" : "Sandy Smith",
  "role" : "member",
  "@type" : "PartyRef",
  "@referredType" : "Individual",

```

```

    "topicRef" : "kafka://broker-address/topic-name"
  }, {
    "id" : "9176",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/customer/9176",
    "name" : "Jack Smith",
    "role" : "customer",
    "@type" : "PartyRoleRef",
    "@referredType" : "Customer",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveCustomer.commandRequest"
  } ],
  "statusChangeHistory" : [ {
    "statusChangeDate" : "2022-05-31T07:34:45.968Z",
    "statusChangeReason" : "Need more information from the customer",
    "status" : "pending",
    "@type" : "StatusChange"
  }, {
    "changeDate" : "2022-06-01T07:34:45.968Z",
    "changeReason" : "Give credit and resent bill to customer",
    "status" : "resolved",
    "@type" : "StatusChange"
  } ],
  "troubleTicketRelationship" : [ {
    "id" : "567433",
    "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/567433",
    "name" : "Network Coverage",
    "relationshipType" : "dependecy",
    "@type" : "TroubleTicketRelationship",
    "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
  } ],
  "@schemaLocation" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/schema/troubleTicket.yml",
  "@type" : "TroubleTicket",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
}

```

Here's an example of a request for updating a trouble ticket - set status to resolved. This example illustrating patch merge, When PATCH is implemeted merge syntax is mandatory

This example uses the PatchTroubleTicketMergePatchRequest request message (used for a payload of type application/merge-patch+json).

Request message header

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.patchTroubleTicket.commandReply
Parameters: {
  "id": 3180
}

```

```
}
```

Request Payload

```
{
  "@type" : "TroubleTicket",
  "status" : "resolved",
  "statusChangeReason" : "Give credit and resent bill to customer"
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.troubleTicket.v5.patchTroubleTicket.commandRequest
```

Response Payload

```
{
  "id" : "3180",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3180",
  "creationDate" : "2022-05-31T07:34:45.968Z",
  "description" : "I do not accept the last VOD charge, since the movie was constantly interrupted, I had to quick watching the movie in the middle ",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "lastUpdate" : "2022-06-01T07:34:45.968Z",
  "name" : "complaint over last bill",
  "priority" : "High",
  "requestedResDateolutionDate" : "2022-05-31T07:34:45.968Z",
  "resolutionDate" : "2022-06-01T07:34:45.968Z",
  "severity" : "Major",
  "status" : "resolved",
  "statusChangeDate" : "2022-06-01T07:34:45.968Z",
  "statusChangeReason" : "Give credit and resent bill to customer",
  "ticketType" : "Bill Dispute",
  "attachment" : [ {
    "description" : "Scanned disputed bill",
    "attachmentType" : "billCopy",
    "mimeType" : "image/png",
    "name" : "March Bill",
    "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
    "@type" : "AttachmentRef"
  } ],
  "channel" : {
    "id" : "8774",
    "name" : "self service",
    "@type" : "ChannelRef"
  }
}
```

```

},
"note" : [ {
  "id" : "77456",
  "author" : "Jack Smith",
  "date" : "2022-05-31T07:34:45.968Z",
  "text" : "This is quite important, please approach me as soon as possible",
  "@type" : "Note"
} ],
"relatedEntity" : [ {
  "id" : "3472",
  "href" : "https://mycsp.com:8080/tmf-
api/customerBillManagement/v5/customerBill/8297",
  "name" : "March 2022 Bill",
  "role" : "disputedBill",
  "@type" : "RelatedEntity",
  "@referredType" : "CustomerBill",
  "topicRef" :
"kafka://mycsp.com/{prefix}.customerBillManagement.v5.retrieveCustomerBill.commandRequ
est"
} ],
"relatedParty" : [ {
  "id" : "9866",
  "href" : "https://mycsp.com:8080/tmf-api/partyManagement/5/individual/9866",
  "name" : "Sandy Smith",
  "role" : "member",
  "@type" : "PartyRef",
  "@referredType" : "Individual",
  "topicRef" : "kafka://broker-address/topic-name"
}, {
  "id" : "9176",
  "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/customer/9176",
  "name" : "Jack Smith",
  "role" : "customer",
  "@type" : "PartyRoleRef",
  "@referredType" : "Customer",
  "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveCustomer.commandRequest"
} ],
"statusChangeHistory" : [ {
  "statusChangeDate" : "2022-05-31T07:34:45.968Z",
  "statusChangeReason" : "Need more information from the customer",
  "status" : "pending",
  "@type" : "StatusChange"
}, {
  "changeDate" : "2022-06-01T07:34:45.968Z",
  "changeReason" : "Give credit and resent bill to customer",
  "status" : "resolved",
  "@type" : "StatusChange"
} ],
"troubleTicketRelationship" : [ {
  "id" : "567433",

```

```

    "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/567433",
    "name" : "Network Coverage",
    "relationshipType" : "dependecy",
    "@type" : "TroubleTicketRelationship",
    "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
  } ],
  "@schemaLocation" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/schema/troubleTicket.yml",
  "@type" : "TroubleTicket",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
}

```

Here's an example of a request for updating a trouble ticket - set severity to Minor. and add new Note This example illustrating patch json

This example uses the PatchTroubleTicketJsonPatchRequest request message (used for a payload of type application/json-patch+json).

Request message header

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.patchTroubleTicket.commandReply
Parameters: {
  "id": 3180
}

```

Request Payload

```

[ {
  "op" : "replace",
  "path" : "/severity",
  "value" : "Minor"
}, {
  "op" : "add",
  "path" : "/note",
  "value" : {
    "@type" : "Note",
    "id" : "77456",
    "author" : "Jack Smith",
    "text" : "This is quite important, please approach me as soon as possible"
  }
} ]

```

Response Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169

```

Status-Code: 200

X-Request-Channel: {prefix}.troubleTicket.v5.patchTroubleTicket.commandRequest

Response Payload

```
{
  "id" : "3180",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3180",
  "creationDate" : "2022-05-31T07:34:45.968Z",
  "description" : "I do not accept the last VOD charge, since the movie was constantly interrupted, I had to quick watching the movie in the middle ",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "lastUpdate" : "2022-05-31T07:34:45.968Z",
  "name" : "complaint over last bill",
  "priority" : "Medium",
  "requestedResolutionDate" : "2022-05-31T07:34:45.968Z",
  "severity" : "Minor",
  "status" : "pending",
  "statusChangeDate" : "2022-05-31T07:34:45.968Z",
  "statusChangeReason" : "Need more information from the customer",
  "ticketType" : "Bill Dispute",
  "attachment" : [ {
    "description" : "Scanned disputed bill",
    "attachmentType" : "billCopy",
    "mimeType" : "image/png",
    "name" : "March Bill",
    "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
    "@type" : "AttachmentRef"
  } ],
  "channel" : {
    "id" : "8774",
    "name" : "self service",
    "@type" : "ChannelRef"
  },
  "note" : [ {
    "id" : "77456",
    "author" : "Jack Smith",
    "date" : "2019-05-31T07:34:45.968Z",
    "text" : "This is quite important, please approach me as soon as possible",
    "@type" : "Note"
  } ],
  "relatedEntity" : [ {
    "id" : "3472",
    "href" : "https://mycsp.com:8080/tmf-api/customerBillManagement/v5/customerBill/8297",
    "name" : "March 2019 Bill",
    "role" : "disputedBill",
    "@type" : "RelatedEntity",
    "@referredType" : "CustomerBill",
    "topicRef" :
```

```

"kafka://mycsp.com/{prefix}.customerBillManagement.v5.retrieveCustomerBill.commandRequest"
  } ],
  "relatedParty" : [ {
    "id" : "9866",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9866",
    "name" : "Sandy Smith",
    "role" : "member",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  }, {
    "id" : "9176",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/customer/9176",
    "name" : "Jack Smith",
    "role" : "customer",
    "@type" : "PartyRoleRef",
    "@referredType" : "Customer",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveCustomer.commandRequest"
  } ],
  "statusChangeHistory" : [ {
    "statusChangeDate" : "2019-05-31T07:34:45.968Z",
    "statusChangeReason" : "Need more information from the customer",
    "status" : "pending",
    "@type" : "StatusChange"
  } ],
  "troubleTicketRelationship" : [ {
    "TroubleTicket" : {
      "id" : "567433",
      "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/567433",
      "name" : "Network Coverage",
      "relationshipType" : "dependecy",
      "@type" : "TroubleTicketRelationship",
      "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
    }
  } ],
  "@schemaLocation" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/schema/troubleTicket.yml",
  "@type" : "TroubleTicket",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
}

```

Here's an example of a request for updating a trouble ticket - set severity to Minor and update a specific Note. This example illustrating patch query json

This example uses the PatchTroubleTicketPatchQueryRequest request message (used for a payload

of type application/json-patch-query+json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.patchTroubleTicket.commandReply
Parameters: {
  "id": 3180
}
```

Request Payload

```
[ {
  "op" : "replace",
  "path" : "/sererity",
  "value" : "Minor"
}, {
  "op" : "replace",
  "path" : "/note?id=77456",
  "value" : {
    "author" : "Jack Smith",
    "text" : "Please approach me as soon as possible. Thanks in advance"
  }
} ]
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.troubleTicket.v5.patchTroubleTicket.commandRequest
```

Response Payload

```
{
  "id" : "3180",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/3180",
  "creationDate" : "2022-05-31T07:34:45.968Z",
  "description" : "I do not accept the last VOD charge, since the movie was constantly interrupted, I had to quick watching the movie in the middle ",
  "expectedResolutionDate" : "2019-06-10T07:34:45.968Z",
  "lastUpdate" : "2022-05-31T07:34:45.968Z",
  "name" : "complaint over last bill",
  "priority" : "High",
  "requestedResolutionDate" : "2022-05-31T07:34:45.968Z",
  "severity" : "Minor",
  "status" : "pending",
  "statusChangeDate" : "2022-05-31T07:34:45.968Z",
}
```

```

"statusChangeReason" : "Need more information from the customer",
"ticketType" : "Bill Dispute",
"attachment" : [ {
  "description" : "Scanned disputed bill",
  "attachmentType" : "billCopy",
  "mimeType" : "image/png",
  "name" : "March Bill",
  "url" : "https://mycsp.com:7070/docloader?docnum=3534555",
  "@type" : "AttachmentRef"
} ],
"channel" : {
  "id" : "8774",
  "name" : "self service",
  "@type" : "ChannelRef"
},
"note" : [ {
  "id" : "77456",
  "author" : "Jack Smith",
  "date" : "2022-05-31T07:34:45.968Z",
  "text" : "Please approach me as soon as possible. Thanks in advance",
  "@type" : "Note"
} ],
"relatedEntity" : [ {
  "id" : "3472",
  "href" : "https://mycsp.com:8080/tmf-api/customerBillManagement/v5/customerBill/8297",
  "name" : "March 2022 Bill",
  "role" : "disputedBill",
  "@type" : "RelatedEntity",
  "@referredType" : "CustomerBill",
  "topicRef" :
"kafka://mycsp.com/{prefix}.customerBillManagement.v5.retrieveCustomerBill.commandRequest"
} ],
"relatedParty" : [ {
  "id" : "9866",
  "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/9866",
  "name" : "Sandy Smith",
  "role" : "member",
  "@type" : "PartyRef",
  "@referredType" : "Individual",
  "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
}, {
  "id" : "9176",
  "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/customer/9176",
  "name" : "Jack Smith",
  "role" : "customer",
  "@type" : "PartyRoleRef",
  "@referredType" : "Customer",
  "topicRef" :

```

```

"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveCustomer.commandRequest"
  } ],
  "statusChangeHistory" : [ {
    "statusChangeDate" : "2022-05-31T07:34:45.968Z",
    "statusChangeReason" : "Need more information from the customer",
    "status" : "pending",
    "@type" : "StatusChange"
  } ],
  "troubleTicketRelationship" : [ {
    "TroubleTicket" : {
      "id" : "567433",
      "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicket/567433",
      "name" : "Network Coverage",
      "relationshipType" : "dependecy",
      "@type" : "TroubleTicketRelationship",
      "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
    }
  } ],
  "@schemaLocation" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/schema/troubleTicket.yml",
  "@type" : "TroubleTicket",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicket.commandRequest"
}

```

Deletes a TroubleTicket

Request topic: {prefix}.troubleTicket.v5.deleteTroubleTicket.commandRequest

Reply topic: {prefix}.troubleTicket.v5.deleteTroubleTicket.commandReply

Description

This operation deletes a TroubleTicket entity.

Usage samples

Here's an example of a request for delete a spesific trouble ticket.

Request message header

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.deleteTroubleTicket.commandReply
Parameters: {
  "id": 3180
}

```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 204
X-Request-Channel: {prefix}.troubleTicket.v5.deleteTroubleTicket.commandRequest
```

Operations on TroubleTicketSpecification

Retrieves a TroubleTicketSpecification by ID

Request topic: {prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest

Reply topic: {prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandReply

Description

This operation retrieves a TroubleTicketSpecification entity. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel:
{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandReply
Parameters: {
  "id": 25632415
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest
```

Response Payload

```
{
  "href" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/troubleTicketSpecification/25632415",
  "id" : "25632415",
  "name" : "Bill Dispute",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and
rules to apply when creating a Trouble Ticket...",
}
```

```

"creationDate" : "2022-05-22T10:36:30.709Z",
"lastUpdate" : "2022-06-22T10:36:30.709Z",
"relatedParty" : [ {
  "role" : "approver",
  "@referredType" : "Individual",
  "partyOrPartyRole" : {
    "id" : "6678",
    "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
    "name" : "Sara Smith",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  },
  "@type" : "RelatedPartyRefOrPartyRoleRef"
} ],
"lifecycleStatus" : "active",
"specCharacteristic" : [ {
  "id" : "1",
  "configurable" : true,
  "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "disputeAmount",
  "valueType" : "number",
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "2",
  "configurable" : true,
  "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
no credit is given a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "creditAmount",
  "valueType" : "number",
  "charSpecRelationship" : [ {
    "@type" : "CharacteristicSpecificationRelationship",
    "characteristicSpecificationId" : "3",
    "name" : "creditReason",
    "relationshipType" : "dependency",
    "parentSpecificationId" : "25632415"
  } ],
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "3",
  "configurable" : true,
  "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
  "maxCardinality" : 0,

```

```

    "minCardinality" : 1,
    "name" : "creditReason",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "4",
    "configurable" : true,
    "description" : "The reason for rejecting the dispute, in case no credit apply.",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "rejectReason",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "5",
    "configurable" : true,
    "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "currency",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2022-06-22T23:20:50.52Z"
  },
  "version" : "1",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
}

```

List or find TroubleTicketSpecification objects

Request topic: {prefix}.troubleTicket.v5.listTroubleTicketSpecification.commandRequest

Reply topic: {prefix}.troubleTicket.v5.listTroubleTicketSpecification.commandReply

Description

This operation list TroubleTicketSpecification entities. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a request for retrieving a list of trouble ticket specification(s). The given criteria is lifecycleStatus is active, and fields id,href,name,@type,lifecycleStatus

Request Headers

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.listTroubleTicketSpecification.commandReply

Request message header

```
{
  "Parameters": {
    "fields": "id,href,name,@type,lifecycleStatus",
    "filtering": "lifecycleStatus=active"
  }
}
```

Response Headers

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.troubleTicket.v5.listTroubleTicketSpecification.commandRequest

Response Payload

```
[ {
  "id" : "453180",
  "href" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/troubleTicketSpecification/453180",
  "name" : "Billing Dispute",
  "lifecycleStatus" : "active",
  "@type" : "TroubleTicketSpecification",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.comman
dRequest"
}, {
  "id" : "453256",
  "href" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/troubleTicketSpecification/453256",
  "name" : "Technical TroubleTicket Specification",
  "lifecycleStatus" : "active",
  "@type" : "TroubleTicketSpecification",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.comman
dRequest"
}, {
  "id" : "454563",
  "href" : "https://mycsp.com:8080/tmf-
api/troubleTicket/5/troubleTicketSpecification/454563",
  "name" : "Network and latency TicketSpecification",
  "lifecycleStatus" : "active",
```

```
"@type" : "TroubleTicketSpecification",
"topicRef" : "kafka://broker-address/topic-name"
} ]
```

Here's an example of a request for retrieving a list of trouble ticket specification(s).

Request Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.listTroubleTicketSpecification.commandReply
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.troubleTicket.v5.listTroubleTicketSpecification.commandRequest
```

Response Payload

```
[ {
  "href" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/troubleTicketSpecification/453180",
  "id" : "453180",
  "name" : "Bill Dispute",
  "lifecycleStatus" : "active",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and
rules to apply when creating a Trouble Ticket for Billing issues...",
  "creationDate" : "2022-05-22T10:36:30.709Z",
  "lastUpdate" : "2022-06-22T10:36:30.709Z",
  "relatedParty" : [ {
    "role" : "approver",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {
      "id" : "6678",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
      "name" : "Sara Smith",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    },
    "@type" : "RelatedPartyRefOrPartyRoleRef"
  } ],
  "specCharacteristic" : [ {
    "id" : "1",
    "configurable" : true,
```



```

    "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "disputeAmount",
    "valueType" : "number",
    "@type" : "CharacteristicSpecification"
}, {
    "id" : "2",
    "configurable" : true,
    "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
no credit is given a reject reason must be provided",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "creditAmount",
    "valueType" : "number",
    "charSpecRelationship" : [ {
        "@type" : "CharacteristicSpecificationRelationship",
        "characteristicSpecificationId" : "3",
        "name" : "creditReason",
        "relationshipType" : "dependency",
        "parentSpecificationId" : "25632415"
    } ],
    "@type" : "CharacteristicSpecification"
}, {
    "id" : "3",
    "configurable" : true,
    "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "creditReason",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
}, {
    "id" : "4",
    "configurable" : true,
    "description" : "The reason for rejecting the dispute, in case no credit apply.",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "rejectReason",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
}, {
    "id" : "5",
    "configurable" : true,
    "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "currency",

```

```

    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2023-06-22T23:20:50.52Z"
  },
  "version" : "1",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
}, {
  "id" : "453256",
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicketSpecification/453256",
  "name" : "Commerce Issue",
  "lifecycleStatus" : "active",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and rules to apply when creating a Trouble Ticket for Commerce issues...",
  "creationDate" : "2023-06-22T10:36:30.709Z",
  "lastUpdate" : "2023-06-23T10:36:30.709Z",
  "relatedParty" : [ {
    "role" : "approver",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {
      "id" : "6678",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
      "name" : "Sara Smith",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    },
    "@type" : "RelatedPartyRefOrPartyRoleRef"
  } ],
  "specCharacteristic" : [ {
    "id" : "1",
    "configurable" : true,
    "description" : "The Order reference nubmer that has an issue",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "orderReferenceNumber",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "2",
    "configurable" : true,
    "description" : "The creation date of the order that has an issue.",
    "maxCardinality" : 0,
    "minCardinality" : 0,
    "name" : "orderCreationDate",

```

```

    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2023-06-23T23:20:50.52Z"
  },
  "version" : "1",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
} ]

```

Creates a TroubleTicketSpecification

Request topic: {prefix}.troubleTicket.v5.createTroubleTicketSpecification.commandRequest

Reply topic: {prefix}.troubleTicket.v5.createTroubleTicketSpecification.commandReply

Description

This operation creates a TroubleTicketSpecification entity.

Mandatory Attributes

Mandatory Attributes	Rule
name	

Usage samples

Creation of a new trouble ticket specification with POST operation

Request Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.createTroubleTicketSpecification.commandReply

```

Request Payload

```

{
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and rules to apply when creating a Trouble Ticket...",
  "name" : "Bill Dispute",
  "relatedParty" : [ {
    "role" : "approver",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {

```

```

        "id" : "6678",
        "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
        "name" : "Sara Smith",
        "@type" : "PartyRef",
        "@referredType" : "Individual",
        "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
} ],
"specCharacteristic" : [ {
    "id" : "1",
    "configurable" : true,
    "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "disputeAmount",
    "valueType" : "number",
    "@type" : "CharacteristicSpecification"
}, {
    "id" : "2",
    "configurable" : true,
    "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
no credit is given a reject reason must be provided",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "creditAmount",
    "valueType" : "number",
    "@type" : "CharacteristicSpecification",
    "charSpecRelationship" : [ {
        "@type" : "CharacteristicSpecRelationship",
        "@baseType" : "CharacteristicSpecRelationship",
        "@schemaLocation" : "/someUri",
        "characteristicSpecificationId" : "3",
        "name" : "creditReason",
        "relationshipType" : "dependency",
        "parentSpecificationId" : "25632415"
    } ]
}, {
    "id" : "3",
    "configurable" : true,
    "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "creditReason",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
}, {
    "id" : "4",

```

```

    "configurable" : true,
    "description" : "The reason for rejecting the dispute, in case no credit apply.",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "rejectReason",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "5",
    "configurable" : true,
    "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "currency",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2022-06-22T23:20:50.52Z"
  },
  "version" : "1"
}

```

Response Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 201
X-Request-Channel:
{prefix}.troubleTicket.v5.createTroubleTicketSpecification.commandRequest

```

Response Payload

```

{
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicketSpecification/25632415",
  "id" : "25632415",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and rules to apply when creating a Trouble Ticket...",
  "creationDate" : "2022-05-22T10:36:30.709Z",
  "lastUpdate" : "2022-06-22T10:36:30.709Z",
  "name" : "Bill Dispute",
  "relatedParty" : [ {
    "role" : "approver",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {
      "id" : "6678",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",

```

```

    "name" : "Sara Smith",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  }
} ],
"lifecycleStatus" : "inDesgin",
"specCharacteristic" : [ {
  "id" : "1",
  "configurable" : true,
  "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "disputeAmount",
  "valueType" : "number",
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "2",
  "configurable" : true,
  "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
no credit is given a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "creditAmount",
  "valueType" : "number",
  "@type" : "CharacteristicSpecification",
  "charSpecRelationship" : [ {
    "@type" : "CharacteristicSpecificationRelationship",
    "@schemaLocation" : "string",
    "characteristicSpecificationId" : "3",
    "name" : "creditReason",
    "relationshipType" : "dependency",
    "parentSpecificationId" : "25632415"
  } ]
}, {
  "id" : "3",
  "configurable" : true,
  "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "creditReason",
  "valueType" : "string",
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "4",
  "configurable" : true,
  "description" : "The reason for rejecting the dispute, in case no credit apply.",

```

```

    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "rejectReason",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "5",
    "configurable" : true,
    "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "currency",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2022-06-22T23:20:50.52Z"
  },
  "version" : "1",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
}

```

Updates partially a TroubleTicketSpecification

Request topic: {prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandRequest

Reply topic: {prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandReply

Description

This operation allows partial updates of a TroubleTicketSpecification entity. Support of json/merge (<https://tools.ietf.org/html/rfc7386>) is mandatory, support of json/patch (<http://tools.ietf.org/html/rfc5789>) is optiona. Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the createTroubleTicketSpecification operation applies to the patchTroubleTicketSpecification operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

Non Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
creationDate	
href	

Non Patchable Attributes	Rule
id	
lastUpdate	

Patchable Attributes	Rule
description	
lifecycleStatus	
name	
relatedParty	
specCharacteristic	
validFor	
version	

Usage samples

Here's an example of a request for updating a trouble ticket specification- set status to active and update the description. This example illustrating patch merge, When PATCH is implemented merge syntax is mandatory

This example uses the PatchTroubleTicketSpecificationJsonRequest request message (used for a payload of type application/json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandReply
Parameters: {
  "id": 25632415
}
```

Request Payload

```
{
  "lifecycleStatus" : "active",
  "description" : "Bill Dispute Specification",
  "@type" : "TroubleTicketSpecification"
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
```


Response Payload

```
{
  "href" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/troubleTicketSpecification/25632415",
  "id" : "25632415",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and
rules to apply when creating a Trouble Ticket...",
  "creationDate" : "2022-05-22T10:36:30.709Z",
  "lastUpdate" : "2022-06-22T10:36:30.709Z",
  "name" : "Bill Dispute Specification",
  "relatedParty" : [ {
    "role" : "approver",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {
      "id" : "6678",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
      "name" : "Sara Smith",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "lifecycleStatus" : "active",
  "specCharacteristic" : [ {
    "id" : "1",
    "name" : "disputeAmount",
    "valueType" : "number",
    "configurable" : true,
    "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "2",
    "name" : "creditAmount",
    "valueType" : "number",
    "configurable" : true,
    "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
no credit is given a reject reason must be provided",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "charSpecRelationship" : [ {
```

```

    "@type" : "CharacteristicSpecificationRelationship",
    "@baseType" : "string",
    "@schemaLocation" : "string",
    "characteristicSpecificationId" : "3",
    "name" : "creditReason",
    "relationshipType" : "dependency",
    "parentSpecificationId" : "25632415"
  } ],
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "3",
  "name" : "creditReason",
  "valueType" : "string",
  "configurable" : true,
  "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "4",
  "name" : "rejectReason",
  "valueType" : "string",
  "configurable" : true,
  "description" : "The reason for rejecting the dispute, in case no credit apply.",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "5",
  "name" : "currency",
  "valueType" : "string",
  "configurable" : true,
  "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "@type" : "CharacteristicSpecification"
} ],
"validFor" : {
  "startDateTime" : "2022-06-22T23:20:50.52Z"
},
"version" : "1",
"topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
}

```

Here's an example of a request for updating a trouble ticket specification- set status to active and update the description. This example illustrating patch merge, When PATCH is implemented merge syntax is mandatory

This example uses the PatchTroubleTicketSpecificationMergePatchRequest request message (used for a payload of type application/merge-patch+json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandReply
Parameters: {
  "id": 25632415
}
```

Request Payload

```
{
  "lifecycleStatus" : "active",
  "description" : "Bill Dispute Specification",
  "@type" : "TroubleTicketSpecification"
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandRequest
```

Response Payload

```
{
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicketSpecification/25632415",
  "id" : "25632415",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and rules to apply when creating a Trouble Ticket...",
  "creationDate" : "2022-05-22T10:36:30.709Z",
  "lastUpdate" : "2022-06-22T10:36:30.709Z",
  "name" : "Bill Dispute Specification",
  "relatedParty" : [ {
    "role" : "approver",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {
      "id" : "6678",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
      "name" : "Sara Smith",
      "@type" : "PartyRef",

```

```

    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  }
} ],
"lifecycleStatus" : "active",
"specCharacteristic" : [ {
  "id" : "1",
  "name" : "disputeAmount",
  "valueType" : "number",
  "configurable" : true,
  "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "2",
  "name" : "creditAmount",
  "valueType" : "number",
  "configurable" : true,
  "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
no credit is given a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "charSpecRelationship" : [ {
    "@type" : "CharacteristicSpecificationRelationship",
    "@baseType" : "string",
    "@schemaLocation" : "string",
    "characteristicSpecificationId" : "3",
    "name" : "creditReason",
    "relationshipType" : "dependency",
    "parentSpecificationId" : "25632415"
  } ],
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "3",
  "name" : "creditReason",
  "valueType" : "string",
  "configurable" : true,
  "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "4",
  "name" : "rejectReason",
  "valueType" : "string",
  "configurable" : true,

```

```

    "description" : "The reason for rejecting the dispute, in case no credit apply.",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "5",
    "name" : "currency",
    "valueType" : "string",
    "configurable" : true,
    "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2022-06-22T23:20:50.52Z"
  },
  "version" : "1",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
}

```

Here's an example of a request for updating a trouble ticket specification - set status to active and update the description. This example illustrating patch json

This example uses the PatchTroubleTicketSpecificationJsonPatchRequest request message (used for a payload of type application/json-patch+json).

Request message header

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandReply
Parameters: {
  "id": 25632415
}

```

Request Payload

```

[ {
  "op" : "replace",
  "path" : "/lifecycleStatus",
  "value" : "active"
}, {
  "op" : "replace",
  "path" : "/name",
  "value" : "Bill Dispute Specification"
} ]

```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandRequest
```

Response Payload

```
{
  "href" : "https://mycsp.com:8080/tmf-
api/troubleTicket/v5/troubleTicketSpecification/25632415",
  "id" : "25632415",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and
rules to apply when creating a Trouble Ticket...",
  "creationDate" : "2022-05-22T10:36:30.709Z",
  "lastUpdate" : "2022-06-22T10:36:30.709Z",
  "name" : "Bill Dispute Specification",
  "relatedParty" : [ {
    "role" : "approver",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {
      "id" : "6678",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",
      "name" : "Sara Smith",
      "@type" : "PartyRef",
      "@referredType" : "Individual",
      "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
    }
  } ],
  "lifecycleStatus" : "active",
  "specCharacteristic" : [ {
    "id" : "1",
    "configurable" : true,
    "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "disputeAmount",
    "valueType" : "number",
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "2",
    "configurable" : true,
    "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
```

```

no credit is given a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "creditAmount",
  "valueType" : "number",
  "charSpecRelationship" : [ {
    "@type" : "CharacteristicSpecificationRelationship",
    "@schemaLocation" : "string",
    "characteristicSpecificationId" : "3",
    "name" : "creditReason",
    "relationshipType" : "dependency",
    "parentSpecificationId" : "25632415"
  } ]
}, {
  "id" : "3",
  "configurable" : true,
  "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "creditReason",
  "valueType" : "string"
}, {
  "id" : "4",
  "configurable" : true,
  "description" : "The reason for rejecting the dispute, in case no credit apply.",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "rejectReason",
  "valueType" : "string"
}, {
  "id" : "5",
  "configurable" : true,
  "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "currency",
  "valueType" : "string"
} ],
"validFor" : {
  "startDateTime" : "2022-06-22T23:20:50.52Z"
},
"version" : "1",
"topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
}

```

Here's an example of a request for updating a trouble ticket specification - set characteristic id=5 to readonly. This example illustrating patch query json

This example uses the PatchTroubleTicketSpecificationPatchQueryRequest request message (used for a payload of type application/json-patch-query+json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandReply
Parameters: {
  "id": 25632415
}
```

Request Payload

```
[ {
  "op" : "replace",
  "path" : "/specCharacteristic?id=5",
  "value" : {
    "configurable" : false
  }
} ]
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.troubleTicket.v5.patchTroubleTicketSpecification.commandRequest
```

Response Payload

```
{
  "href" : "https://mycsp.com:8080/tmf-api/troubleTicket/v5/troubleTicketSpecification/25632415",
  "id" : "25632415",
  "@type" : "TroubleTicketSpecification",
  "description" : "This trouble ticket specification describes the characteristic and rules to apply when creating a Trouble Ticket...",
  "creationDate" : "2022-05-22T10:36:30.709Z",
  "lastUpdate" : "2022-06-22T10:36:30.709Z",
  "name" : "Bill Dispute Specification",
  "relatedParty" : [ {
    "role" : "approver",
    "@type" : "RelatedPartyRefOrPartyRoleRef",
    "@referredType" : "Individual",
    "partyOrPartyRole" : {
      "id" : "6678",
      "href" : "https://mycsp.com:8080/tmf-api/partyManagement/v5/individual/6678",

```



```

    "name" : "Sara Smith",
    "@type" : "PartyRef",
    "@referredType" : "Individual",
    "topicRef" :
"kafka://mycsp.com/{prefix}.partyManagement.v5.retrieveIndividual.commandRequest"
  }
} ],
"lifecycleStatus" : "active",
"specCharacteristic" : [ {
  "id" : "1",
  "configurable" : true,
  "description" : "The amount that is on dispute, it can be the entire charge amount
or partial amount of the charge",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "disputeAmount",
  "valueType" : "number",
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "2",
  "configurable" : true,
  "description" : "The positive amount to be credit, it can be equal or less than
the dispute amount. In case credit is given a credit reason must be provided. In case
no credit is given a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "creditAmount",
  "valueType" : "number",
  "charSpecRelationship" : [ {
    "@type" : "string",
    "@baseType" : "string",
    "@schemaLocation" : "string",
    "characteristicSpecificationId" : "3",
    "name" : "creditReason",
    "relationshipType" : "dependency",
    "parentSpecificationId" : "25632415"
  } ],
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "3",
  "configurable" : true,
  "description" : "The reason for giving the credit, in case credit apply. In case
no credit apply a reject reason must be provided",
  "maxCardinality" : 0,
  "minCardinality" : 1,
  "name" : "creditReason",
  "valueType" : "string",
  "@type" : "CharacteristicSpecification"
}, {
  "id" : "4",
  "configurable" : true,

```

```

    "description" : "The reason for rejecting the dispute, in case no credit apply.",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "rejectReason",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  }, {
    "id" : "5",
    "configurable" : false,
    "description" : "Currency (ISO4217 norm uses 3 letters to define the currency)",
    "maxCardinality" : 0,
    "minCardinality" : 1,
    "name" : "currency",
    "valueType" : "string",
    "@type" : "CharacteristicSpecification"
  } ],
  "validFor" : {
    "startDateTime" : "2022-06-22T23:20:50.52Z"
  },
  "version" : "1",
  "topicRef" :
"kafka://mycsp.com/{prefix}.troubleTicket.v5.retrieveTroubleTicketSpecification.commandRequest"
}

```

Deletes a TroubleTicketSpecification

Request topic: {prefix}.troubleTicket.v5.deleteTroubleTicketSpecification.commandRequest

Reply topic: {prefix}.troubleTicket.v5.deleteTroubleTicketSpecification.commandReply

Description

This operation deletes a TroubleTicketSpecification entity.

Usage samples

Here's an example of a request for delete a specific trouble ticket specification.

Request message header

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.troubleTicket.v5.deleteTroubleTicketSpecification.commandReply
Parameters: {
  "id": 25632415
}

```

Response Headers

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169

Status-Code: 204

X-Request-Channel:

{prefix}.troubleTicket.v5.deleteTroubleTicketSpecification.commandRequest

NOTIFICATIONS

Topic for TroubleTicket entity: {prefix}.troubleTicket.v5.troubleTicket.notificationEvent

Topic for TroubleTicketSpecification entity:

{prefix}.troubleTicket.v5.troubleTicketSpecification.notificationEvent

For every single of operation on the entities use the following templates and provide sample notification message payloads.

It is assumed that consumers will subscribe to the notificationEvent channel to receive notifications, and that the server component will post notifications to that channel.

Publish Event to listener

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

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

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

Acknowledgements

Release History

Release 1.0	04/15/2017	Pierre Gauthier TM Forum pgauthier@tmforum.org Mariano Belaunde Orange Labs	First Release of the Document.
Release 2.0	11/06/2018	Mariano Belaunde Orange Labs	Alignment with Guidelines 3.0
Release 4.0	31/05/2019	Jacob Avraham Amdocs jacoba@amdocs.com	New version based on new schema aligned with V4
Release 5.0	26/03/2023	Jacob Avraham Amdocs jacoba@amdocs.com	<ul style="list-style-type: none">• Add new resource TroubleTicketSpecification• Convert to V5 guideline
Release 6.0	Jun/27/2024	Jio Platforms <ul style="list-style-type: none">• Naresh Jain• HariKrishnan• Joel Rosario TMForum <ul style="list-style-type: none">• Pierre Gauthier pgauthier@tmforum.org	Implemented AsyncAPI userguide

Contributors to Document
