

TM Forum Specification

Change Management API User Guide

TMF655

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Introduction

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

SAMPLE USE CASES

CHANGE MANAGEMENT GOVERNANCE IN FOR PLANNED SERVICE OUTAGE

To decrease Customers impact at Construction work and Request for Changes (RFCs), NW Service Provider changes routes with planned service outage. The schedule is adjusted based on customer’s impact. Customer can query for checking the outage schedule and status.

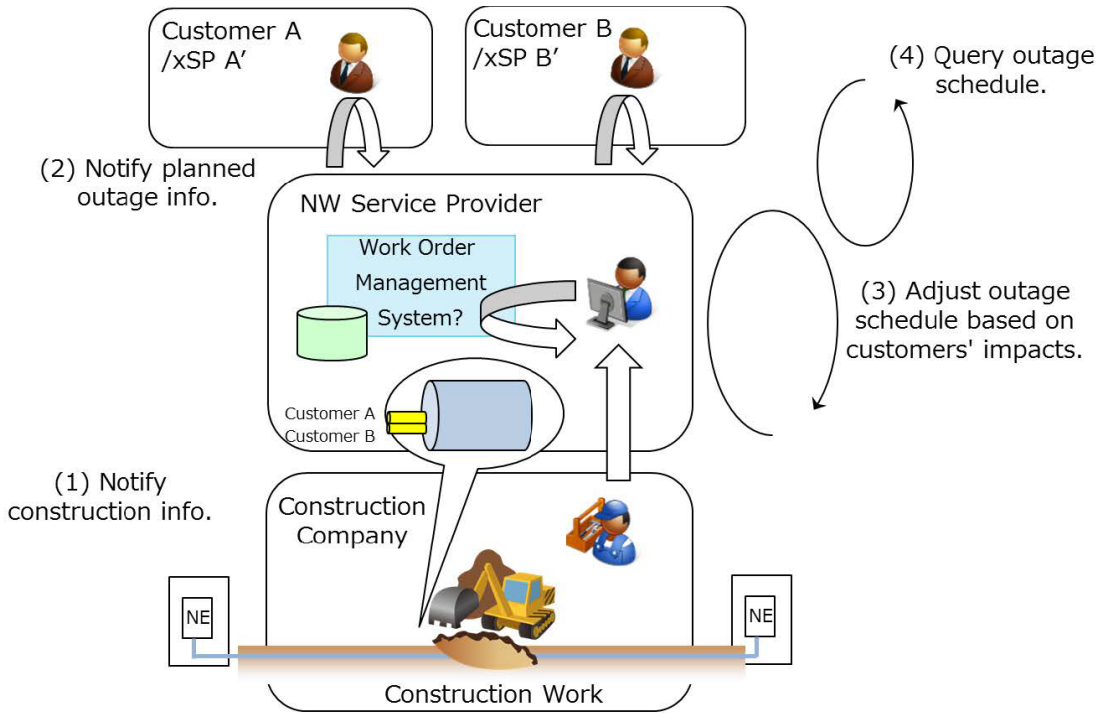
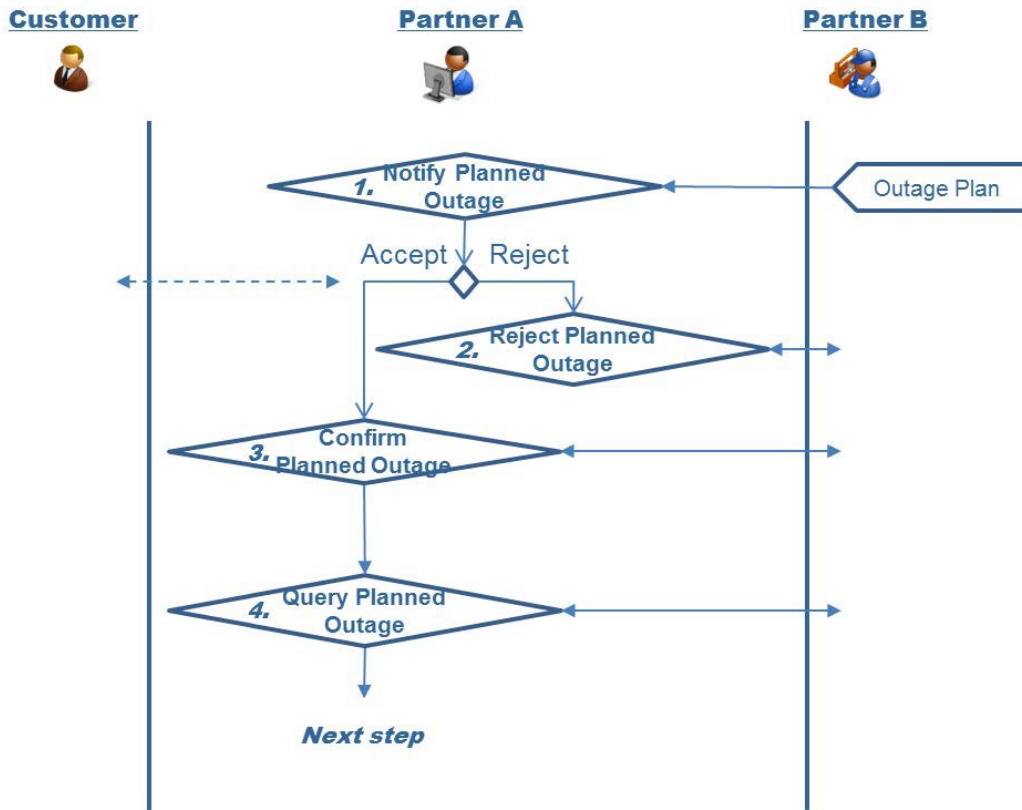


Figure 1. Example of planned service outage scenario

The Supplier has identified that the PR resolution will require disruption to common infrastructure /equipment serving other services owned by that Buyer. Other Buyers’ services are not affected. The Supplier requests permission to disrupt those services at a specified date/time, which the Buyer authorizes or rejects.



Support of polymorphism and extension patterns

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

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines v3.0 Part 2 document.

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

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

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

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

RESOURCE MODEL

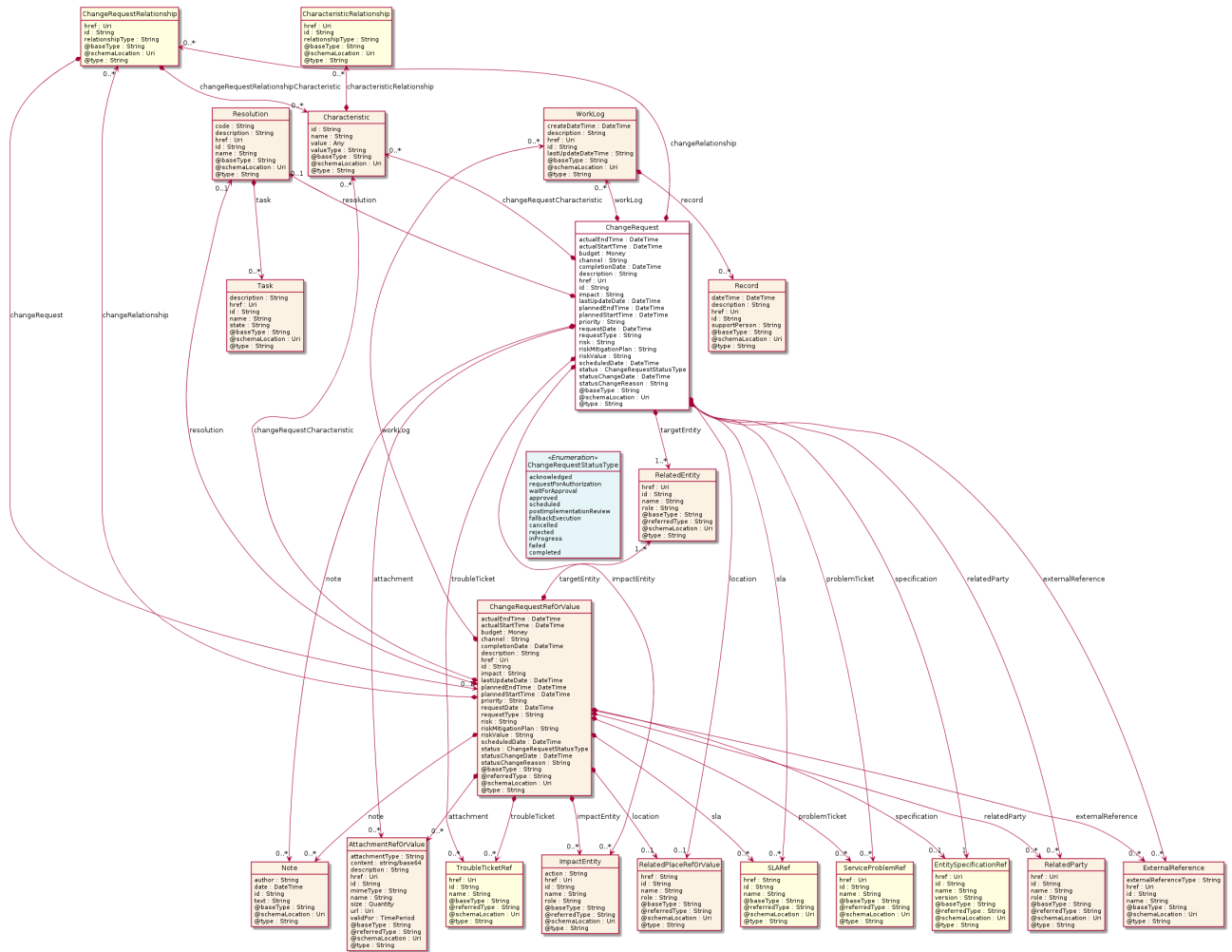
Managed Entity and Task Resource Models

Change Request resource

Change Request is a type of request which can be used for the management and control of Change Management process

- within a service provider organisation or
- between a customer and a service provider or
- between a service provider and a partner and vice versa.

Resource model



Field descriptionsChangeRequest fields

href	An uri (Uri). Hyperlink to access a change request.
id	A string. Identifier of a Change Request. It is created on repository side (a Change Management system).
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
actualEndTime	A date time (DateTime). Date and time when the change implementation actually finished.
actualStartTime	A date time (DateTime). Date and time when the change implementation actually started.
attachment	A list of attachment ref or values (AttachmentRefOrValue [*]). The attachments of the communication message (when it is email type).
budget	A money (Money). A base / value business entity used to represent money.
changeRelationship	A list of change request relationships (ChangeRequestRelationship [*]).
changeRequestCharacteristic	A list of characteristics (Characteristic [*]). Describes a given characteristic of an object or entity through a name/value pair.
channel	A string. A channel represents the way the Change Request was created.
completionDate	A date time (DateTime). Date and time when the change request is confirmed to be completed.
description	A string. Description of the change request.
externalReference	A list of external references (ExternalReference [*]). External reference of the individual or reference in other system.

href	An uri (Uri). Hyperlink to access a change request.
id	A string. Identifier of a Change Request. It is created on repository side (a Change Management system).
impact	A string. Indicates the impact of this change.
impactEntity	A list of impact entities (ImpactEntity [*]). A reference to an impacted entity.
lastUpdateDate	A date time (DateTime). Date and time when the change request was updated.
location	A related place ref or value (RelatedPlaceRefOrValue). A list of places (Place [*]). Used to define a place useful for the service (for example a geographical place where the service is installed).
note	A list of notes (Note [*]). Extra information about a given entity.
plannedEndTime	A date time (DateTime). Date and time when the change implementation is planned to be finished.
plannedStartTime	A date time (DateTime). Date and time when the change implementation is planned to be started.
priority	A string. Used by consumers to prioritize a change request in Change Management system.
problemTicket	A list of service problem references (ServiceProblemRef [*]).
relatedParty	A list of related parties (RelatedParty [*]). The parties involved in the change request.
requestDate	A date time (DateTime). Date and time when the change request is raised.
requestType	A string. Indicates the type of the change request.
resolution	A resolution (Resolution). The way one or more change request has been implementation through a direct remedy or task.
risk	A string. The risk to implement this change request.
riskMitigationPlan	A string. The risk mitigation plan.
riskValue	A string. The additional cost if the risk will happen.
scheduledDate	A date time (DateTime). Date and time that the schedule is made.
sla	A list of sla references (SLARef [*]). ServiceLevelAgreement reference: A service level agreement (SLA) is a type of agreement that represents a formal negotiated agreement between two parties designed to create a common understanding

about products, services, priorities, responsibilities, and so forth. The SLA is a set of appropriate procedures and targets formally or informally agreed between parties in order to achieve and maintain specified Quality of Service.

specification	An entity specification reference (EntitySpecificationRef). reference to an EntitySpecification object.
status	A change request status type (ChangeRequestStatusType). Possible values for the state of the change request.
statusChangeDate	A date time (DateTime). Date and time when the change request status was changed.
statusChangeReason	A string. Reason of the status change.
targetEntity	A list of related entities (RelatedEntity [1..*]). A reference to an entity, where the type of the entity is not known in advance.
troubleTicket	A list of trouble ticket references (TroubleTicketRef [*]). for when a Trouble Ticket is used by other entities.
workLog	A list of work logs (WorkLog [*]). A record of the work performed on the change request during the investigation and resolution process.

AttachmentRefOrValue sub-resource

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

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

content	A base 64 (Base64). The actual contents of the attachment object, if embedded, encoded as base64.
contentType	A string. Attachment mime type such as extension file for video, picture and document.
size	A quantity (Quantity). The size of the attachment.
validFor	A time period. The period of time for which the attachment is valid.

ChangeRequestRefOrValue sub-resource

A Service to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Service entity and not the RelatedServiceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
href	An uri (Uri). Hyperlink to access a change request.
id	A string. Identifier of a Change Request. It is created on repository side (a Change Management system).
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
actualEndTime	A date time (DateTime). Date and time when the change implementation actually finished.
actualStartTime	A date time (DateTime). Date and time when the change implementation actually started.
channel	A string. A channel represents the way the Change Request was created.
completionDate	A date time (DateTime). Date and time when the change request is confirmed to be completed.
description	A string. Description of the change request.
impact	A string. Indicates the impact of this change.
lastUpdateDate	A date time (DateTime). Date and time when the change request was updated.
plannedEndTime	A date time (DateTime). Date and time when the change implementation is planned to be finished.

plannedStartTime	A date time (DateTime). Date and time when the change implementation is planned to be started.
priority	A string. Used by consumers to prioritize a change request in Change Management system.
requestDate	A date time (DateTime). Date and time when the change request is raised.
requestType	A string. Indicates the type of the change request.
risk	A string. The risk to implement this change request.
riskMitigationPlan	A string. The risk mitigation plan.
riskValue	A string. The additional cost if the risk will happen.
scheduledDate	A date time (DateTime). Date and time that the schedule is made.
statusChangeDate	A date time (DateTime). Date and time when the change request status was changed.
statusChangeReason	A string. Reason of the status change.
attachment	A list of attachment ref or values (AttachmentRefOrValue [*]). The attachments of the communication message (when it is email type).
budget	A money (Money). A base / value business entity used to represent money.
changeRelationship	A list of change request relationships (ChangeRequestRelationship [*]).
changeRequestCharacteristic	A list of characteristics (Characteristic [*]). Describes a given characteristic of an object or entity through a name/value pair.
externalReference	A list of external references (ExternalReference [*]). External reference of the individual or reference in other system.
impactEntity	A list of impact entities (ImpactEntity [*]). A reference to an impacted entity.
location	A related place ref or value (RelatedPlaceRefOrValue). A list of places (Place [*]). Used to define a place useful for the service (for example a geographical place where the service is installed).
note	A list of notes (Note [*]). Extra information about a given entity.
problemTicket	A list of service problem references (ServiceProblemRef [*]).
relatedParty	A list of related parties (RelatedParty [*]). The parties involved in the change request.

resolution	A resolution (Resolution). The way one or more change request has been implementation through a direct remedy or task.
sla	A list of sla references (SLARef [*]). ServiceLevelAgreement reference: A service level agreement (SLA) is a type of agreement that represents a formal negotiated agreement between two parties designed to create a common understanding about products, services, priorities, responsibilities, and so forth. The SLA is a set of appropriate procedures and targets formally or informally agreed between parties in order to achieve and maintain specified Quality of Service.
specification	An entity specification reference (EntitySpecificationRef). reference to an EntitySpecification object.
status	A change request status type (ChangeRequestStatusType). Possible values for the state of the change request.
targetEntity	A list of related entities (RelatedEntity [1..*]). A reference to an entity, where the type of the entity is not known in advance.
troubleTicket	A list of trouble ticket references (TroubleTicketRef [*]). for when a Trouble Ticket is used by other entities.
workLog	A list of work logs (WorkLog [*]). A record of the work performed on the change request during the investigation and resolution process.

ChangeRequestRelationship sub-resource

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
changeRequest	A change request ref or value (ChangeRequestRefOrValue). A Service to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Service entity and not the RelatedServiceRefOrValue class itself.

changeRequestRelationshipCharacteristic	A list of characteristics (Characteristic [*]). Describes a given characteristic of an object or entity through a name/value pair.
relationshipType	A string.

Characteristic sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
characteristicRelationship	A list of characteristic relationships (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.
value	An any (Any). The value of the characteristic.
valueType	A string. Data type of the value of the characteristic.

CharacteristicRelationship sub-resource

Another Characteristic that is related to the current Characteristic;.

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

ExternalReference sub-resource

External reference of the individual or reference in other system.

href	An uri (Uri). Hyperlink reference.
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id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
externalReferenceType	A string. Type of the external reference.
name	A string. External reference name.

ImpactEntity sub-resource

A reference to an impacted entity.

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

Money sub-resource

A base / value business entity used to represent money.

unit	A string. Currency (ISO4217 norm uses 3 letters to define the currency).
value	A float. A signed floating point number, the meaning of the sign is according to the context of the API that uses this Data type.

Note sub-resource

Extra information about a given entity.

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

Quantity sub-resource

An amount in a given unit.

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

Record sub-resource

A record in a worklog.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
dateTime	A date time (DateTime). The date time that a record is generated.
description	A string. The detail description in a record.
supportPerson	A string. The person who logged that record.

RelatedEntity sub-resource

A reference to an entity, where the type of the entity is not known in advance.

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

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

RelatedParty sub-resource

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

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

RelatedPlaceRefOrValue sub-resource

Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. A user-friendly name for the place, such as [Paris Store], [London Store], [Main Home].
href	A string. Unique reference of the place.
id	A string. Unique identifier of the place.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
role	A string.

Resolution sub-resource

The way one or more change request has been implementation through a direct remedy or task.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
code	A string. The resolutions code, it can be configured as a multiple level hierarchy.
description	A string. The description of the resolution.
name	A string. The name of the resolution.
task	A list of tasks (Task [*]). A step or task along in the process of implementation a Change Request.

Task sub-resource

A step or task along in the process of implementation a Change Request.

href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
description	A string. The description of the task.
name	A string. The name of the task.

state A string. The state of the task.

WorkLog sub-resource

A record of the work performed on the change request during the investigation and resolution process.

href An uri (Uri). Hyperlink reference.

id A string. unique identifier.

@baseType A string. When sub-classing, this defines the super-class.

@schemaLocation An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

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

createDateTime A date time (DateTime). Date and time of worklog generated.

description A string. The description of the worklog.

lastUpdateDateTime A string. Date and time when the worklog updated.

record A list of records (Record [*]). A record in a worklog.

EntitySpecificationRef relationship

reference to an EntitySpecification object.

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

name A string. Name of the related entity.

href An uri (Uri). Hyperlink reference.

id A string. unique identifier.

@baseType A string. When sub-classing, this defines the super-class.

@schemaLocation An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.

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

version A string. EntitySpecification version.

SLARef relationship

ServiceLevelAgreement reference: A service level agreement (SLA) is a type of agreement that represents a formal negotiated agreement between two parties designed to create a common understanding about products, services,

priorities, responsibilities, and so forth. The SLA is a set of appropriate procedures and targets formally or informally agreed between parties in order to achieve and maintain specified Quality of Service.

href	A string. Reference of the service level agreement.
id	A string. Unique identifier of service level agreement.
@baseType	A string. When sub-classing, this defines the super-class.
@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.
@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the service level agreement.

ServiceProblemRef relationship

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

TroubleTicketRef relationship

TroubleTicket reference, for when a Trouble Ticket is used by other entities.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
name	A string. Name of the related entity.
href	An uri (Uri). Hyperlink reference.
id	A string. unique identifier.
@baseType	A string. When sub-classing, this defines the super-class.

@schemaLocation	An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships.
@type	A string. When sub-classing, this defines the sub-class Extensible name.

Json representation sample

Provided below is the json representation of an example of a 'ChangeRequest' resource object

```
{
  "id": "changexxxx0000",
  "href": "http://serverlocation:port/changeManagement/v4/changeRequest/changexxxx0000",
  "channel": "web",
  "description": "The description of change request",
  "impact": "No outage",
  "plannedStartTime": "2021-09-09T06:23:42.451Z",
  "plannedEndTime": "2021-09-09T08:23:42.451Z",
  "priority": "Low",
  "requestDate": "2021-09-07T06:23:42.451Z",
  "requestType": "Non-Standard",
  "scheduledDate": "2021-09-09T06:23:42.451Z",
  "actualStartTime": "2021-09-09T06:43:42.451Z",
  "actualEndTime": "2021-09-09T08:43:42.451Z",
  "completionDate": "2021-09-10T03:41:05.585Z",
  "lastUpdateDate": "2021-09-10T03:41:05.585Z",
  "risk": "only 2 engineers have the knowledge to execute the task",
  "riskMitigationPlan": "document encoding with base64",
  "riskValue": "500AUD",
  "status": "completed",
  "statusChangeDate": "2021-09-10T03:41:05.585Z",
  "statusChangeReason": "Change completed",
  "budget": {
    "unit": "USD",
    "value": 1000,
    "@type": "Money",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Money.schema.json",
    "@baseType": "Money"
  },
  "changeRelationship": [
    {
      "id": "21",
      "href": "http://serverlocation:port/changeManagement/v4/changeRequest/21",
      "relationshipType": "dependant",
      "@type": "ChangeRequestRelationship",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ChangeRequestRelationship.schema.json",
      "@baseType": "ChangeRequestRelationship"
    }
  ],
  "changeRequestCharacteristic": [
    {
      "id": "1",
      "name": "additionalRequest",
```

```
    "value": "text",
    "valueType": "string",
    "@type": "Characteristic",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Characteristic.schema.json",
    "@baseType": "Characteristic"
  }
],
"externalReference": [
  {
    "id": "11",
    "externalReferenceType": "Changelid",
    "name": "saledForcelid",
    "@type": "ExternalReference",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ExternalReference.schema.json",
    "@baseType": "ExternalReference"
  }
],
"targetEntity": [
  {
    "id": "11",
    "href": "http://serverlocation:port/serviceInventory/v4/service/11",
    "name": "This is the target",
    "role": "target",
    "@referredType": "Service",
    "@type": "RelatedEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedEntity.schema.json",
    "@baseType": "RelatedEntity"
  }
],
"impactEntity": [
  {
    "id": "12",
    "href": "http://serverlocation:port/serviceInventory/v4/service/12",
    "name": "This is an impacted entity",
    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  },
  {
    "id": "13",
    "href": "http://serverlocation:port/serviceInventory/v4/service/13",
    "name": "This is an impacted entity",
    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  }
],
"note": [
  {
    "id": "19",
```

```

    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important",
    "@type": "Note",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Note.schema.json",
    "@baseType": "Note"
  }
],
"problemTicket": [
  {
    "id": "41",
    "href": "https://mycsp.com:8080/tmf-api/serviceProblemManagement/v4/serviceProblem/41",
    "name": "serviceProblem",
    "@referredType": "ServiceProblem",
    "@type": "ServiceProblem",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceProblem.schema.json",
    "@baseType": "ServiceProblem"
  }
],
"specification": {
  "id": "11",
  "href": "https://mycsp.com:8080/tmf-api/entityCatalogManagement/v4/entitySpecification/11",
  "name": "Change",
  "version": "1.0",
  "@referredType": "ChangeManagementSpecification",
  "@type": "EntitySpecification",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecification.schema.json",
  "@baseType": "EntitySpecification"
},
"relatedParty": [
  {
    "id": "78",
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/78",
    "name": "TMF Telco",
    "role": "Service Provider",
    "@referredType": "Organization",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
    "@baseType": "RelatedParty"
  },
  {
    "role": "requestor",
    "id": "100",
    "href": "http://serverlocation:port/partyManagement/customer/100",
    "name": "John Doe",
    "@referredType": "ChangeRequestor",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
    "@baseType": "RelatedParty"
  }
],
"location": {
  "id": "Loc000000",
  "href": "https://mycsp.com:8080/tmf-api/geographicAddressManagement/v4/geographicAddress/Loc000000",

```

```

"name": "144 Main Street Tokyo 51663556",
"role": "VPN Endpoint",
"@referredType": "GeographicAddress",
"@type": "RelatedPlaceRefOrValue",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedPlaceRefOrValue.schema.json",
"@baseType": "RelatedPlaceRefOrValue"
},
"resolution": {
"code": "223-112-21-23",
"description": "need to pause the network",
"name": "pause network",
"task": [
{
"description": "pause the network",
"name": "pause",
"state": "plan to do",
"@type": "Task",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Task.schema.json",
"@baseType": "Task"
}
],
"@type": "Resolution",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Resolution.schema.json",
"@baseType": "Resolution"
},
"workLog": [
{
"description": "approved by email from Jack",
"createDateTime": "2021-09-07T06:23:42.451Z",
"record": [
{
"dateTime": "2021-09-07T06:23:42.451Z",
"description": "receive the change request",
"supportPerson": "Bob",
"@type": "Record",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
"@baseType": "Record"
},
{
"dateTime": "2021-09-08T06:23:42.451Z",
"description": "Scheduled for Approval",
"supportPerson": "Bob",
"@type": "Record",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
"@baseType": "Record"
},
{
"dateTime": "2021-09-10T03:41:05.585Z",
"description": "Change completed",
"supportPerson": "Alice",
"@type": "Record",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
"@baseType": "Record"
}
]
}
]
}

```

```

    ],
    "@type": "WorkLog",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/WorkLog.schema.json",
    "@baseType": "WorkLog"
  }
],
"sla": [
  {
    "id": "8082",
    "href": "https://mycsp.com:8080/tmf-api/slaManagement/v4/sla/8082",
    "name": "Gold SLA for Business",
    "@referredType": "BusinessSLA",
    "@type": "SLA",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/SLA.schema.json",
    "@baseType": "SLA"
  }
],
"troubleTicket": [
  {
    "id": "NP1_TT_0000000",
    "href": "https://mycsp.com:8080/tmf-api/troubleTicket/v4/troubleTicket/NP1_TT_0000000",
    "name": "TroubleTicket",
    "@type": "TroubleTicketRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/TroubleTicketRef.schema.json",
    "@baseType": "TroubleTicketRef"
  }
],
"@type": "ChangeRequest",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ChangeRequest.schema.json",
"@baseType": "ChangeRequest"
}

```

Notification Resource Models

5 notifications are defined for this API

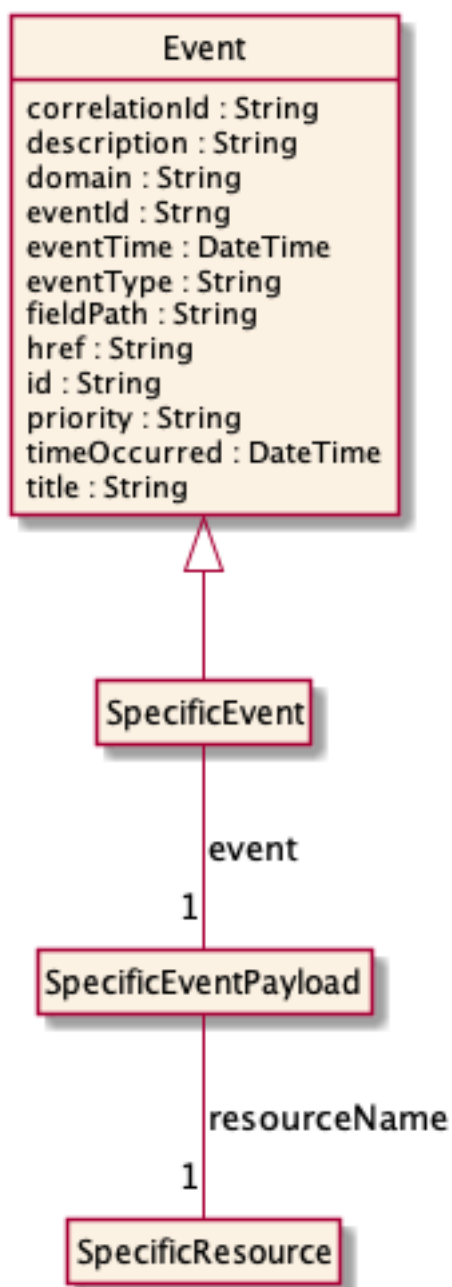
Notifications related to ChangeRequest:

- ChangeRequestCreateEvent
- ChangeRequestStatusChangeEvent
- ChangeRequestDeleteEvent
- ChangeRequestAttributeValueChangeEvent
- ChangeRequestApprovalRequiredEvent

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).



Change Request Create Event

Notification ChangeRequestCreateEvent case for resource ChangeRequest

Json representation sample

Provided below is the json representation of an example of a 'ChangeRequestCreateEvent' notification event object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ChangeRequestCreateEvent",
  "event": {
    "changeRequest" :
      {-- SEE ChangeRequest RESOURCE SAMPLE --}
  }
}
```

Change Request Status Change Event

Notification ChangeRequestStatusChangeEvent case for resource ChangeRequest

Json representation sample

Provided below is the json representation of an example of a 'ChangeRequestStatusChangeEvent' notification event object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ChangeRequestStatusChangeEvent",
  "event": {
    "changeRequest" :
      {-- SEE ChangeRequest RESOURCE SAMPLE --}
  }
}
```

Change Request Delete Event

Notification ChangeRequestDeleteEvent case for resource ChangeRequest

Json representation sample

Provided below is the json representation of an example of a 'ChangeRequestDeleteEvent' notification event object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ChangeRequestDeleteEvent",
  "event": {
    "changeRequest" :
      {-- SEE ChangeRequest RESOURCE SAMPLE --}
  }
}
```

```
}
```

Change Request Attribute Value Change Event

Notification ChangeRequestAttributeValueChangeEvent case for resource ChangeRequest

Json representation sample

Provided below is the json representation of an example of a 'ChangeRequestAttributeValueChangeEvent' notification event object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ChangeRequestAttributeValueChangeEvent",
  "event": {
    "changeRequest" :
      {-- SEE ChangeRequest RESOURCE SAMPLE --}
  }
}
```

Change Request Approval Required Event

Notification ChangeRequestApprovalRequiredEvent case for resource ChangeRequest

Json representation sample

Provided below is the json representation of an example of a 'ChangeRequestApprovalRequiredEvent' notification event object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"ChangeRequestApprovalRequiredEvent",
  "event": {
    "changeRequest" :
      {-- SEE ChangeRequest RESOURCE SAMPLE --}
  }
}
```

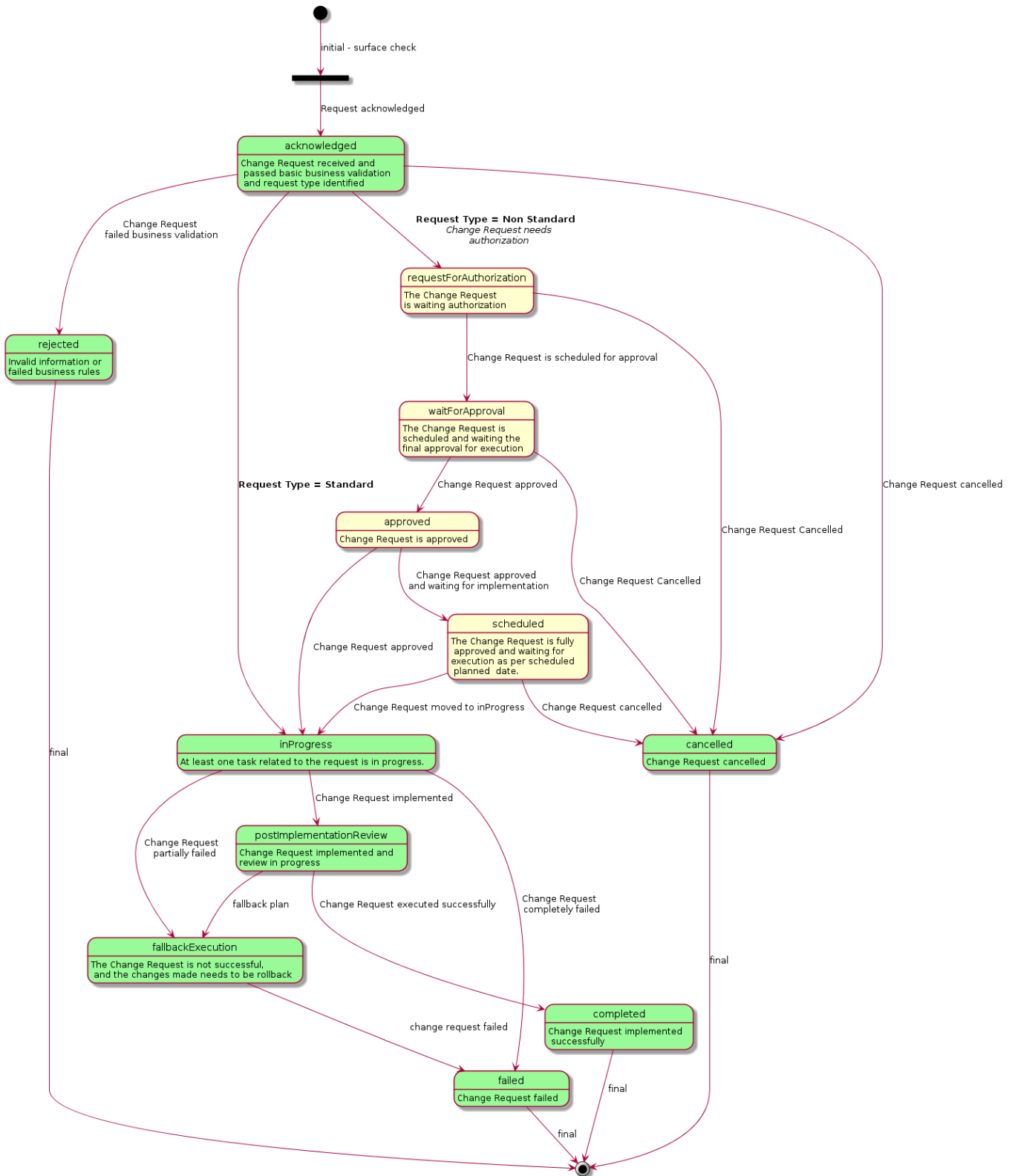
ChangeRequest status Lifecycle

Following are the available status values for a Change Request. The state graphic gives an overview of the allowed status changes

- acknowledged
- rejected

- requestForAuthorization
- scheduledForApproval
- approved
- pending
- inProgress
- postImplementationReview
- fallbackExecution
- cancelled
- failed
- completed

State	Definition
acknowledged	The Change Request received and passed basic business level validation and the request type identified
rejected	The Change request has invalid information or failed business rules
requestForAuthorization	The Change Request is waiting for authorization
waitForApproval	The Change Request is scheduled and waiting for the final approval for execution
approved	The Change Request is approved. Note: The Change management system may choose to automatically move the "approved" Change Request to "pending".
inProgress	At least one task related to the request is in progress.
scheduled	The Change Request is fully approved and waiting for execution as per scheduled planned date. Note: The Change management system may choose to automatically move the "pending" Change Request to "inProgress" if the Change Request scheduled planned start date is in near future (or has elapsed).
postImplementationReview	The Change Request is implemented and Change review in Progress
fallbackExecution	The Change Request is not successful, and the changes made needs to be rollback
cancelled	The Change Request is cancelled
failed	The Change Request failed completely
completed	The Change Request is closed successfully after review



API OPERATIONS

Remember the following Uniform Contract:

Operation on Entities	Uniform API Operation	Description
Query Entities	GET Resource	GET must be used to retrieve a representation of a resource.
Create Entity	POST Resource	POST must be used to create a new resource
Partial Update of an Entity	PATCH Resource	PATCH must be used to partially update a resource
Complete Update of an Entity	PUT Resource	PUT must be used to completely update a resource identified by its resource URI
Remove an Entity	DELETE Resource	DELETE must be used to remove a resource
Execute an Action on an Entity	POST on TASK Resource	POST must be used to execute Task Resources
Other Request Methods	POST on TASK Resource	GET and POST must not be used to tunnel other request methods.

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

Notifications are also described in a subsequent section.

Operations on Change Request

List change requests

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

Description

This operation list change request 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 multiple change requests, in this example closed items first reported from a specific service

Request
GET /tmf-api/ChangeManagement/v4/changeRequest?fields=id,href&status=closed Accept: application/json
Response
200 [{ "id": "cr_001", "href": "https://mycsp.com:8080/tmf-api/changeManagement/v4/changeRequest/cr_001" }, { "id": "cr_002", "href": "https://mycsp.com:8080/tmf-api/changeManagement/v4/changeRequest/cr_002" }]

Retrieve change request

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

Description

This operation retrieves a change request entity.

Attribute selection is enabled for all first level attributes.

Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

Usage Samples

Here's an example of a request for retrieving a specific change request.

Request
GET /tmf-api/ChangeManagement/v4/changeRequest/changexxxx0000 Accept: application/json
Response
200 { "id": "changexxxx0000", "href": "http://serverlocation:port/changeManagement/v4/changeRequest/changexxxx0000", "channel": "web", "description": "The description of change request", "impact": "No outage", "plannedStartTime": "2021-09-09T06:23:42.451Z", "plannedEndTime": "2021-09-09T08:23:42.451Z", "priority": "Low", "requestDate": "2021-09-07T06:23:42.451Z", "requestType": "Standard", "scheduledDate": "2021-09-09T06:23:42.451Z", "actualStartTime": "2021-09-09T06:43:42.451Z", "actualEndTime": "2021-09-09T08:43:42.451Z", "completionDate": "2021-09-10T03:41:05.585Z", "lastUpdateDate": "2021-09-10T03:41:05.585Z", "risk": "only 2 engineers have the knowledge to execute the task", "riskMitigationPlan": "document encoding with base64", "riskValue": "500AUD", "status": "completed", "statusChangeDate": "2021-09-10T03:41:05.585Z", "statusChangeReason": "Change completed", "budget": { "unit": "USD",

```

"value": 1000,
"@type": "Money",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Money.schema.json",
"@baseType": "Money"
},
"changeRelationship": [
{
  "id": "21",
  "href": "http://serverlocation:port/changeManagement/v4/changeRequest/21",
  "relationshipType": "dependant",
  "@type": "ChangeRequestRelationship",
  "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ChangeRequestRelationship.schema.json",
  "@baseType": "ChangeRequestRelationship"
}
],
"changeRequestCharacteristic": [
{
  "id": "1",
  "name": "additionalRequest",
  "value": "text",
  "valueType": "string",
  "@type": "Characteristic",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Characteristic.schema.json",
  "@baseType": "Characteristic"
}
],
"externalReference": [
{
  "id": "11",
  "externalReferenceType": "ChangeId",
  "name": "salesForceId",
  "@type": "ExternalReference",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ExternalReference.schema.json",
  "@baseType": "ExternalReference"
}
],
"targetEntity": [
{
  "id": "11",
  "href": "http://serverlocation:port/serviceInventory/v4/service/11",
  "name": "This is the target",
  "role": "target",
  "@referredType": "Service",
  "@type": "RelatedEntity",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedEntity.schema.json",
  "@baseType": "RelatedEntity"
}
],
"impactEntity": [
{
  "id": "12",
  "href": "http://serverlocation:port/serviceInventory/v4/service/12",
  "name": "This is an impacted entity",

```

```

    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  },
  {
    "id": "13",
    "href": "http://serverlocation:port/serviceInventory/v4/service/13",
    "name": "This is an impacted entity",
    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  }
],
"note": [
  {
    "id": "19",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important",
    "@type": "Note",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Note.schema.json",
    "@baseType": "Note"
  }
],
"problemTicket": [
  {
    "id": "41",
    "href": "https://mycsp.com:8080/tmf-api/serviceProblemManagement/v4/serviceProblem/41",
    "name": "serviceProblem",
    "@referredType": "ServiceProblem",
    "@type": "ServiceProblem",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceProblem.schema.json",
    "@baseType": "ServiceProblem"
  }
],
"specification": {
  "id": "11",
  "href": "https://mycsp.com:8080/tmf-api/entityCatalogManagement/v4/entitySpecification/11",
  "name": "Change",
  "version": "1.0",
  "@referredType": "ChangeManagementSpecification",
  "@type": "EntitySpecification",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecification.schema.json",
  "@baseType": "EntitySpecification"
},
"relatedParty": [
  {
    "id": "78",
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/78",
    "name": "TMF Telco",

```

```

    "role": "Service Provider",
    "@referredType": "Organization",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
    "@baseType": "RelatedParty"
  },
  {
    "role": "requestor",
    "id": "100",
    "href": "http://serverlocation:port/partyManagement/customer/100",
    "name": "John Doe",
    "@referredType": "ChangeRequestor",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
    "@baseType": "RelatedParty"
  }
],
"location": {
  "id": "Loc000000",
  "href": "https://mycsp.com:8080/tmf-api/geographicAddressManagement/v4/geographicAddress/Loc000000",
  "name": "144 Main Street Tokyo 51663556",
  "role": "VPN Endpoint",
  "@referredType": "GeographicAddress",
  "@type": "RelatedPlaceRefOrValue",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedPlaceRefOrValue.schema.json",
  "@baseType": "RelatedPlaceRefOrValue"
},
"resolution": {
  "code": "223-112-21-23",
  "description": "need to pause the network",
  "name": "pause network",
  "task": [
    {
      "description": "pause the network",
      "name": "pause",
      "state": "plan to do",
      "@type": "Task",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Task.schema.json",
      "@baseType": "Task"
    }
  ],
  "@type": "Resolution",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Resolution.schema.json",
  "@baseType": "Resolution"
},
"workLog": [
  {
    "description": "approved by email from Jack",
    "createDateTime": "2021-09-07T06:23:42.451Z",
    "record": [
      {
        "dateTime": "2021-09-07T06:23:42.451Z",
        "description": "receive the change request",
        "supportPerson": "Bob",

```

```

    "@type": "Record",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
    "@baseType": "Record"
  },
  {
    "dateTime": "2021-09-08T06:23:42.451Z",
    "description": "Scheduled for Approval",
    "supportPerson": "Bob",
    "@type": "Record",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
    "@baseType": "Record"
  },
  {
    "dateTime": "2021-09-10T03:41:05.585Z",
    "description": "Change completed",
    "supportPerson": "Alice",
    "@type": "Record",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
    "@baseType": "Record"
  }
],
"@type": "WorkLog",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/WorkLog.schema.json",
"@baseType": "WorkLog"
}
],
"sla": [
  {
    "id": "8082",
    "href": "https://mycsp.com:8080/tmf-api/slaManagement/v4/sla/8082",
    "name": "Gold SLA for Business",
    "@referredType": "BusinessSLA",
    "@type": "SLA",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/SLA.schema.json",
    "@baseType": "SLA"
  }
],
"troubleTicket": [
  {
    "id": "NP1_TT_0000000",
    "href": "https://mycsp.com:8080/tmf-api/troubleTicket/v4/troubleTicket/NP1_TT_0000000",
    "name": "TroubleTicket",
    "@type": "TroubleTicketRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/TroubleTicketRef.schema.json",
    "@baseType": "TroubleTicketRef"
  }
],
"@type": "ChangeRequest",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ChangeRequest.schema.json",
"@baseType": "ChangeRequest"
}

```

Create change request

POST /changeRequest

Description

This operation creates a change request entity.

Mandatory and Non Mandatory Attributes

The following tables provide the list of mandatory and non mandatory attributes when creating a ChangeRequest, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.

Mandatory Attributes	Rule
priority	
targetEntity	
specification	
plannedStartTime	
plannedEndTime	
requestType	

Non Mandatory Attributes	Rule
@baseType	
@schemaLocation	
@type	
@baseType	
@schemaLocation	
@type	
actualEndTime	
actualStartTime	
attachment	
budget	
changeRelationship	
changeRequestCharacteristic	
channel	
completionDate	
description	
externalReference	
impact	
impactEntity	
lastUpdateDate	
location	
note	
problemTicket	
relatedParty	
requestDate	

Non Mandatory Attributes	Rule
resolution	
risk	
riskMitigationPlan	
riskValue	
scheduledDate	
sla	
status	
statusChangeDate	
statusChangeReason	
troubleTicket	
workLog	

Usage Samples

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

Request
POST /tmf-api/ChangeManagement/v4/changeRequest Content-Type: application/json <pre>{ "priority": "Low", "targetEntity": [{ "id": "11", "href": "https://mycsp.com:8080/tmf-api/serviceInventoryManagement/v4/service/11", "name": "This is the target", "role": "target", "@referredType": "Service", "@type": "RelatedEntity", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedEntity.schema.json", "@baseType": "RelatedEntity" }], "specification": { "id": "11", "href": "https://mycsp.com:8080/tmf-api/entityCatalogManagement/v4/entitySpecification/11", "name": "Change", "version": "1.0", "@referredType": "ChangeManagementSpecification", "@type": "EntitySpecification", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecification.schema.json", "@baseType": "EntitySpecification" }, "plannedStartTime": "2021-09-09T06:23:42.451Z", "plannedEndTime": "2021-09-09T08:23:42.451Z", }</pre>

<pre>"requestType": "Standard" }</pre>
<p>Response</p>
<pre>201 { "id": "changexxxx0000", "href": "http://serverlocation:port/changeManagement/v4/changeRequest/changexxxx0000", "channel": "web", "description": "The description of change request", "impact": "No outage", "plannedStartTime": "2021-09-09T06:23:42.451Z", "plannedEndTime": "2021-09-09T08:23:42.451Z", "priority": "Low", "requestDate": "2021-09-07T06:23:42.451Z", "requestType": "Standard", "scheduledDate": "2021-09-09T06:23:42.451Z", "actualStartTime": "2021-09-09T06:43:42.451Z", "actualEndTime": "2021-09-09T08:43:42.451Z", "completionDate": "2021-09-10T03:41:05.585Z", "lastUpdateDate": "2021-09-10T03:41:05.585Z", "risk": "only 2 engineers have the knowledge to execute the task", "riskMitigationPlan": "document encoding with base64", "riskValue": "500AUD", "status": "completed", "statusChangeDate": "2021-09-10T03:41:05.585Z", "statusChangeReason": "Change completed", "budget": { "unit": "USD", "value": 1000, "@type": "Money", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Money.schema.json", "@baseType": "Money" }, "changeRelationship": [{ "id": "21", "href": "http://serverlocation:port/changeManagement/v4/changeRequest/21", "relationshipType": "dependant", "@type": "ChangeRequestRelationship", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ChangeRequestRelationship.schema.json", "@baseType": "ChangeRequestRelationship" }], "changeRequestCharacteristic": [{ "id": "1", "name": "additionalRequest",</pre>

```

    "value": "text",
    "valueType": "string",
    "@type": "Characteristic",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Characteristic.schema.json",
    "@baseType": "Characteristic"
  }
],
"externalReference": [
  {
    "id": "11",
    "externalReferenceType": "ChangeId",
    "name": "salesForceId",
    "@type": "ExternalReference",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ExternalReference.schema.json",
    "@baseType": "ExternalReference"
  }
],
"targetEntity": [
  {
    "id": "11",
    "href": "http://serverlocation:port/serviceInventory/v4/service/11",
    "name": "This is the target",
    "role": "target",
    "@referredType": "Service",
    "@type": "RelatedEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedEntity.schema.json",
    "@baseType": "RelatedEntity"
  }
],
"impactEntity": [
  {
    "id": "12",
    "href": "http://serverlocation:port/serviceInventory/v4/service/12",
    "name": "This is an impacted entity",
    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  },
  {
    "id": "13",
    "href": "http://serverlocation:port/serviceInventory/v4/service/13",
    "name": "This is an impacted entity",
    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  }
],
"note": [
  {
    "id": "19",

```

```

    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important",
    "@type": "Note",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Note.schema.json",
    "@baseType": "Note"
  }
],
"problemTicket": [
  {
    "id": "41",
    "href": "https://mycsp.com:8080/tmf-api/serviceProblemManagement/v4/serviceProblem/41",
    "name": "serviceProblem",
    "@referredType": "ServiceProblem",
    "@type": "ServiceProblem",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceProblem.schema.json",
    "@baseType": "ServiceProblem"
  }
],
"specification": {
  "id": "11",
  "href": "https://mycsp.com:8080/tmf-api/entityCatalogManagement/v4/entitySpecification/11",
  "name": "Change",
  "version": "1.0",
  "@referredType": "ChangeManagementSpecification",
  "@type": "EntitySpecification",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecification.schema.json",
  "@baseType": "EntitySpecification"
},
"relatedParty": [
  {
    "id": "78",
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/78",
    "name": "TMF Telco",
    "role": "Service Provider",
    "@referredType": "Organization",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
    "@baseType": "RelatedParty"
  },
  {
    "role": "requestor",
    "id": "100",
    "href": "http://serverlocation:port/partyManagement/customer/100",
    "name": "John Doe",
    "@referredType": "ChangeRequestor",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
    "@baseType": "RelatedParty"
  }
],
"location": {
  "id": "Loc000000",
  "href": "https://mycsp.com:8080/tmf-api/geographicAddressManagement/v4/geographicAddress/Loc000000",

```

```

"name": "144 Main Street Tokyo 51663556",
"role": "VPN Endpoint",
"@referredType": "GeographicAddress",
"@type": "RelatedPlaceRefOrValue",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedPlaceRefOrValue.schema.json",
"@baseType": "RelatedPlaceRefOrValue"
},
"resolution": {
"code": "223-112-21-23",
"description": "need to pause the network",
"name": "pause network",
"task": [
{
"description": "pause the network",
"name": "pause",
"state": "plan to do",
"@type": "Task",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Task.schema.json",
"@baseType": "Task"
}
],
"@type": "Resolution",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Resolution.schema.json",
"@baseType": "Resolution"
},
"workLog": [
{
"description": "approved by email from Jack",
"createDateTime": "2021-09-07T06:23:42.451Z",
"record": [
{
"dateTime": "2021-09-07T06:23:42.451Z",
"description": "receive the change request",
"supportPerson": "Bob",
"@type": "Record",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
"@baseType": "Record"
},
{
"dateTime": "2021-09-08T06:23:42.451Z",
"description": "Scheduled for Approval",
"supportPerson": "Bob",
"@type": "Record",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
"@baseType": "Record"
},
{
"dateTime": "2021-09-10T03:41:05.585Z",
"description": "Change completed",
"supportPerson": "Alice",
"@type": "Record",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
"@baseType": "Record"
}
]
}
]
}

```

```

    },
    "@type": "WorkLog",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/WorkLog.schema.json",
    "@baseType": "WorkLog"
  }
],
"sla": [
  {
    "id": "8082",
    "href": "https://mycsp.com:8080/tmf-api/slaManagement/v4/sla/8082",
    "name": "Gold SLA for Business",
    "@referredType": "BusinessSLA",
    "@type": "SLA",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/SLA.schema.json",
    "@baseType": "SLA"
  }
],
"troubleTicket": [
  {
    "id": "NP1_TT_0000000",
    "href": "https://mycsp.com:8080/tmf-api/troubleTicket/v4/troubleTicket/NP1_TT_0000000",
    "name": "TroubleTicket",
    "@type": "TroubleTicketRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/TroubleTicketRef.schema.json",
    "@baseType": "TroubleTicketRef"
  }
],
"@type": "ChangeRequest",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ChangeRequest.schema.json",
"@baseType": "ChangeRequest"
}

```

Patch change request

PATCH /changeRequest/{id}

Description

This operation allows partial updates of a change request entity. Support of json/merge (<https://tools.ietf.org/html/rfc7386>) is mandatory, support of json/patch (<http://tools.ietf.org/html/rfc5789>) is optional.

Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

The tables below provide the list of patchable and non patchable attributes, including constraint rules on their usage.

Patchable Attributes	Rule
actualEndTime	
actualStartTime	
attachment	
budget	
changeRelationship	
changeRequestCharacteristic	
channel	
completionDate	
description	
externalReference	
impact	
impactEntity	
lastUpdateDate	
location	
note	
plannedEndTime	
plannedStartTime	
priority	
problemTicket	
relatedParty	
requestDate	
requestType	
resolution	
risk	
riskMitigationPlan	
riskValue	
scheduledDate	
sla	
specification	
status	
statusChangeDate	
statusChangeReason	
targetEntity	
troubleTicket	
workLog	

Non Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
href	

Non Patchable Attributes	Rule
id	

Usage Samples

Here's an example of a request for patching a change request. In this example, a new priority is set.

Request
PATCH /tmf-api/ChangeManagement/v4/changeRequest/changexxxx0000 Content-Type: application/merge-patch+json <pre>{ "priority": "Medium" }</pre>
Response
200 <pre>{ "id": "changexxxx0000", "href": "http://serverlocation:port/changeManagement/v4/changeRequest/changexxxx0000", "channel": "web", "description": "The description of change request", "impact": "No outage", "plannedStartTime": "2021-09-09T06:23:42.451Z", "plannedEndTime": "2021-09-09T08:23:42.451Z", "priority": "Medium", "requestDate": "2021-09-07T06:23:42.451Z", "requestType": "Standard", "scheduledDate": "2021-09-09T06:23:42.451Z", "actualStartTime": "2021-09-09T06:43:42.451Z", "actualEndTime": "2021-09-09T08:43:42.451Z", "completionDate": "2021-09-10T03:41:05.585Z", "lastUpdateDate": "2021-09-10T03:41:05.585Z", "risk": "only 2 engineers have the knowledge to execute the task", "riskMitigationPlan": "document encoding with base64", "riskValue": "500AUD", "status": "completed", "statusChangeDate": "2021-09-10T03:41:05.585Z", "statusChangeReason": "Change completed", "budget": { "unit": "USD", "value": 1000, "@type": "Money", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Money.schema.json", "@baseType": "Money" } }</pre>

```

"changeRelationship": [
  {
    "id": "21",
    "href": "http://serverlocation:port/changeManagement/v4/changeRequest/21",
    "relationshipType": "dependant",
    "@type": "ChangeRequestRelationship",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ChangeRequestRelationship.schema.json",
    "@baseType": "ChangeRequestRelationship"
  }
],
"changeRequestCharacteristic": [
  {
    "id": "1",
    "name": "additionalRequest",
    "value": "text",
    "valueType": "string",
    "@type": "Characteristic",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Characteristic.schema.json",
    "@baseType": "Characteristic"
  }
],
"externalReference": [
  {
    "id": "11",
    "externalReferenceType": "Changeld",
    "name": "salesForceld",
    "@type": "ExternalReference",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ExternalReference.schema.json",
    "@baseType": "ExternalReference"
  }
],
"targetEntity": [
  {
    "id": "11",
    "href": "http://serverlocation:port/serviceInventory/v4/service/11",
    "name": "This is the target",
    "role": "target",
    "@referredType": "Service",
    "@type": "RelatedEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedEntity.schema.json",
    "@baseType": "RelatedEntity"
  }
],
"impactEntity": [
  {
    "id": "12",
    "href": "http://serverlocation:port/serviceInventory/v4/service/12",
    "name": "This is an impacted entity",
    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  }
]

```

```

    },
    {
      "id": "13",
      "href": "http://serverlocation:port/serviceInventory/v4/service/13",
      "name": "This is an impacted entity",
      "role": "affected",
      "@referredType": "Service",
      "@type": "ImpactEntity",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
      "@baseType": "ImpactEntity"
    }
  ],
  "note": [
    {
      "id": "19",
      "author": "Mr. N. Bene",
      "date": "2020-11-20T08:00:00Z",
      "text": "This is important",
      "@type": "Note",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Note.schema.json",
      "@baseType": "Note"
    }
  ],
  "problemTicket": [
    {
      "id": "41",
      "href": "https://mycsp.com:8080/tmf-api/serviceProblemManagement/v4/serviceProblem/41",
      "name": "serviceProblem",
      "@referredType": "ServiceProblem",
      "@type": "ServiceProblem",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceProblem.schema.json",
      "@baseType": "ServiceProblem"
    }
  ],
  "specification": {
    "id": "11",
    "href": "https://mycsp.com:8080/tmf-api/entityCatalogManagement/v4/entitySpecification/11",
    "name": "Change",
    "version": "1.0",
    "@referredType": "ChangeManagementSpecification",
    "@type": "EntitySpecification",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecification.schema.json",
    "@baseType": "EntitySpecification"
  },
  "relatedParty": [
    {
      "id": "78",
      "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/78",
      "name": "TMF Telco",
      "role": "Service Provider",
      "@referredType": "Organization",
      "@type": "RelatedParty",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
      "@baseType": "RelatedParty"
    }
  ]
}

```

```
    },
    {
      "role": "requestor",
      "id": "100",
      "href": "http://serverlocation:port/partyManagement/customer/100",
      "name": "John Doe",
      "@referredType": "ChangeRequestor",
      "@type": "RelatedParty",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
      "@baseType": "RelatedParty"
    }
  ],
  "location": {
    "id": "Loc000000",
    "href": "https://mycsp.com:8080/tmf-api/geographicAddressManagement/v4/geographicAddress/Loc000000",
    "name": "144 Main Street Tokyo 51663556",
    "role": "VPN Endpoint",
    "@referredType": "GeographicAddress",
    "@type": "RelatedPlaceRefOrValue",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedPlaceRefOrValue.schema.json",
    "@baseType": "RelatedPlaceRefOrValue"
  },
  "resolution": {
    "code": "223-112-21-23",
    "description": "need to pause the network",
    "name": "pause network",
    "task": [
      {
        "description": "pause the network",
        "name": "pause",
        "state": "plan to do",
        "@type": "Task",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Task.schema.json",
        "@baseType": "Task"
      }
    ],
    "@type": "Resolution",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Resolution.schema.json",
    "@baseType": "Resolution"
  },
  "workLog": [
    {
      "description": "approved by email from Jack",
      "createDateTime": "2021-09-07T06:23:42.451Z",
      "record": [
        {
          "dateTime": "2021-09-07T06:23:42.451Z",
          "description": "receive the change request",
          "supportPerson": "Bob",
          "@type": "Record",
          "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
          "@baseType": "Record"
        }
      ]
    }
  ]
}
```

```

    "dateTime": "2021-09-08T06:23:42.451Z",
    "description": "Scheduled for Approval",
    "supportPerson": "Bob",
    "@type": "Record",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
    "@baseType": "Record"
  },
  {
    "dateTime": "2021-09-10T03:41:05.585Z",
    "description": "Change completed",
    "supportPerson": "Alice",
    "@type": "Record",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
    "@baseType": "Record"
  }
],
"@type": "WorkLog",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/WorkLog.schema.json",
"@baseType": "WorkLog"
}
],
"sla": [
  {
    "id": "8082",
    "href": "https://mycsp.com:8080/tmf-api/slaManagement/v4/sla/8082",
    "name": "Gold SLA for Business",
    "@referredType": "BusinessSLA",
    "@type": "SLA",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/SLA.schema.json",
    "@baseType": "SLA"
  }
],
"troubleTicket": [
  {
    "id": "NP1_TT_0000000",
    "href": "https://mycsp.com:8080/tmf-api/troubleTicket/v4/troubleTicket/NP1_TT_0000000",
    "name": "TroubleTicket",
    "@type": "TroubleTicketRef",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/TroubleTicketRef.schema.json",
    "@baseType": "TroubleTicketRef"
  }
],
"@type": "ChangeRequest",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ChangeRequest.schema.json",
"@baseType": "ChangeRequest"
}

```

Here's an example of a request for patching a change request. In this example, a targetEntity service is added.

Request
<pre> PATCH /tmf-api/ChangeManagement/v4/changeRequest/changexxx0000 Content-Type: application//json-patch+json [{ "op": "add", "path": "/targetEntity", "value": { "id": "14", "href": "https://mycsp.com:8080/tmf-api/serviceInventoryManagement/v4/service/14", "name": "This is the target", "role": "target", "@referredType": "Service", "@type": "RelatedEntity", "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedEntity.schema.json", "@baseType": "RelatedEntity" } }] </pre>
Response
<pre> 200 { "id": "changexxx0000", "href": "http://serverlocation:port/changeManagement/v4/changeRequest/changexxx0000", "channel": "web", "description": "The description of change request", "impact": "No outage", "plannedStartTime": "2021-09-09T06:23:42.451Z", "plannedEndTime": "2021-09-09T08:23:42.451Z", "priority": "Low", "requestDate": "2021-09-07T06:23:42.451Z", "requestType": "Standard", "scheduledDate": "2021-09-09T06:23:42.451Z", "actualStartTime": "2021-09-09T06:43:42.451Z", "actualEndTime": "2021-09-09T08:43:42.451Z", "completionDate": "2021-09-10T03:41:05.585Z", "lastUpdateDate": "2021-09-10T03:41:05.585Z", "risk": "only 2 engineers have the knowledge to execute the task", "riskMitigationPlan": "document encoding with base64", "riskValue": "500AUD", "status": "completed", "statusChangeDate": "2021-09-10T03:41:05.585Z", "statusChangeReason": "Change completed", </pre>

```

"budget": {
  "unit": "USD",
  "value": 1000,
  "@type": "Money",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Money.schema.json",
  "@baseType": "Money"
},
"changeRelationship": [
  {
    "id": "21",
    "href": "http://serverlocation:port/changeManagement/v4/changeRequest/21",
    "relationshipType": "dependant",
    "@type": "ChangeRequestRelationship",
    "@schemaLocation": "https://mycsp.com:8080/tmf-
api/schema/Common/ChangeRequestRelationship.schema.json",
    "@baseType": "ChangeRequestRelationship"
  }
],
"changeRequestCharacteristic": [
  {
    "id": "1",
    "name": "additionalRequest",
    "value": "text",
    "valueType": "string",
    "@type": "Characteristic",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Characteristic.schema.json",
    "@baseType": "Characteristic"
  }
],
"externalReference": [
  {
    "id": "11",
    "externalReferenceType": "Changeld",
    "name": "salesForceId",
    "@type": "ExternalReference",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ExternalReference.schema.json",
    "@baseType": "ExternalReference"
  }
],
"targetEntity": [
  {
    "id": "11",
    "href": "http://serverlocation:port/serviceInventory/v4/service/11",
    "name": "This is the target",
    "role": "target",
    "@referredType": "Service",
    "@type": "RelatedEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedEntity.schema.json",
    "@baseType": "RelatedEntity"
  },
  {
    "id": "14",
    "href": "http://serverlocation:port/serviceInventory/v4/service/14",
    "name": "This is the target",
  }
]

```

```

    "role": "target",
    "@referredType": "Service",
    "@type": "RelatedEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedEntity.schema.json",
    "@baseType": "RelatedEntity"
  }
],
"impactEntity": [
  {
    "id": "12",
    "href": "http://serverlocation:port/serviceInventory/v4/service/12",
    "name": "This is an impacted entity",
    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  },
  {
    "id": "13",
    "href": "http://serverlocation:port/serviceInventory/v4/service/13",
    "name": "This is an impacted entity",
    "role": "affected",
    "@referredType": "Service",
    "@type": "ImpactEntity",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ImpactEntity.schema.json",
    "@baseType": "ImpactEntity"
  }
],
"note": [
  {
    "id": "19",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important",
    "@type": "Note",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Note.schema.json",
    "@baseType": "Note"
  }
],
"problemTicket": [
  {
    "id": "41",
    "href": "https://mycsp.com:8080/tmf-api/serviceProblemManagement/v4/serviceProblem/41",
    "name": "serviceProblem",
    "@referredType": "ServiceProblem",
    "@type": "ServiceProblem",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Service/ServiceProblem.schema.json",
    "@baseType": "ServiceProblem"
  }
],
"specification": {
  "id": "11",
  "href": "https://mycsp.com:8080/tmf-api/entityCatalogManagement/v4/entitySpecification/11",

```

```

"name": "Change",
"version": "1.0",
"@referredType": "ChangeManagementSpecification",
"@type": "EntitySpecification",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/EntitySpecification.schema.json",
"@baseType": "EntitySpecification"
},
"relatedParty": [
  {
    "id": "78",
    "href": "https://mycsp.com:8080/tmf-api/partyManagement/v4/organization/78",
    "name": "TMF Telco",
    "role": "Service Provider",
    "@referredType": "Organization",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
    "@baseType": "RelatedParty"
  },
  {
    "role": "requestor",
    "id": "100",
    "href": "http://serverlocation:port/partyManagement/customer/100",
    "name": "John Doe",
    "@referredType": "ChangeRequestor",
    "@type": "RelatedParty",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/RelatedParty.schema.json",
    "@baseType": "RelatedParty"
  }
],
"location": {
  "id": "Loc000000",
  "href": "https://mycsp.com:8080/tmf-api/geographicAddressManagement/v4/geographicAddress/Loc000000",
  "name": "144 Main Street Tokyo 51663556",
  "role": "VPN Endpoint",
  "@referredType": "GeographicAddress",
  "@type": "RelatedPlaceRefOrValue",
  "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/RelatedPlaceRefOrValue.schema.json",
  "@baseType": "RelatedPlaceRefOrValue"
},
"resolution": {
  "code": "223-112-21-23",
  "description": "need to pause the network",
  "name": "pause network",
  "task": [
    {
      "description": "pause the network",
      "name": "pause",
      "state": "plan to do",
      "@type": "Task",
      "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Task.schema.json",
      "@baseType": "Task"
    }
  ]
},
"@type": "Resolution",

```

```

"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Resolution.schema.json",
"@baseType": "Resolution"
},
"workLog": [
  {
    "description": "approved by email from Jack",
    "createDateTime": "2021-09-07T06:23:42.451Z",
    "record": [
      {
        "dateTime": "2021-09-07T06:23:42.451Z",
        "description": "receive the change request",
        "supportPerson": "Bob",
        "@type": "Record",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
        "@baseType": "Record"
      },
      {
        "dateTime": "2021-09-08T06:23:42.451Z",
        "description": "Scheduled for Approval",
        "supportPerson": "Bob",
        "@type": "Record",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
        "@baseType": "Record"
      },
      {
        "dateTime": "2021-09-10T03:41:05.585Z",
        "description": "Change completed",
        "supportPerson": "Alice",
        "@type": "Record",
        "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/Record.schema.json",
        "@baseType": "Record"
      }
    ],
    "@type": "WorkLog",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/WorkLog.schema.json",
    "@baseType": "WorkLog"
  }
],
"sla": [
  {
    "id": "8082",
    "href": "https://mycsp.com:8080/tmf-api/slaManagement/v4/sla/8082",
    "name": "Gold SLA for Business",
    "@referredType": "BusinessSLA",
    "@type": "SLA",
    "@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/EngagedParty/SLA.schema.json",
    "@baseType": "SLA"
  }
],
"troubleTicket": [
  {
    "id": "NP1_TT_0000000",
    "href": "https://mycsp.com:8080/tmf-api/troubleTicket/v4/troubleTicket/NP1_TT_0000000",
    "name": "TroubleTicket",

```

```
"@type": "TroubleTicketRef",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/TroubleTicketRef.schema.json",
"@baseType": "TroubleTicketRef"
},
"@type": "ChangeRequest",
"@schemaLocation": "https://mycsp.com:8080/tmf-api/schema/Common/ChangeRequest.schema.json",
"@baseType": "ChangeRequest"
}
```

Delete change request

DELETE /changeRequest/{id}

Description

This operation deletes a change request entity.

Usage Samples

Here's an example of a request for deleting a change request.

Request
DELETE /tmf-api/ChangeManagement/v4/changeRequest/changeRequestxxxx0000
Response
204

API NOTIFICATIONS

For every single of operation on the entities use the following templates and provide sample REST notification POST calls.

It is assumed that the Pub/Sub uses the Register and UnRegister mechanisms described in the REST Guidelines reproduced below.

Register listener

POST /hub

Description

Sets the communication endpoint address the service instance must use to deliver information about its health state, execution state, failures and metrics. Subsequent POST calls will be rejected by the service if it does not support multiple listeners. In this case DELETE /api/hub/{id} must be called before an endpoint can be created again.

Behavior

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 409 if request is not successful.

Usage Samples

Here's an example of a request for registering a listener.

Request
<pre>POST /api/hub Accept: application/json {"callback": "http://in.listener.com"}</pre>
Response
<pre>201 Content-Type: application/json Location: /api/hub/42 {"id": "42", "callback": "http://in.listener.com", "query": null}</pre>

Unregister listener

DELETE /hub/{id}

Description

Clears the communication endpoint address that was set by creating the Hub..

Behavior

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 404 if the resource is not found.

Usage Samples

Here's an example of a request for un-registering a listener.

Request
DELETE /api/hub/42 Accept: application/json
Response
204

Publish Event to listener

POST /client/listener

Description

Clears the communication endpoint address that was set by creating the Hub.

Provides to a registered listener the description of the event that was raised. The /client/listener url is the callback url passed when registering the listener.

Behavior

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

Usage Samples

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

Request
POST /client/listener Accept: application/json { "event": { EVENT BODY }, "eventType": "EVENT_TYPE" }
Response
201

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

Acknowledgements

Document History

Version History

Release Number	Date	Release led by:	Description
Release 1.0	15-Apr-2017	Pierre Gauthier, TM Forum Mariano Belaunde, Orange Labs	First Release of the Document.
Release 2.0	06-Nov-2018	Mariano Belaunde	Alignment with Guidelines 3.0
Release 2.0	09-Sep-2021	Abdul Majid Hussain Rati Rani Mehrotra Uma Lakshman	V4 Schema alignment

Release History

Release Number	Date	Release led by:	Description
Pre-production	09-Sep-2021	Abdul Majid Hussain Rati Rani Mehrotra Uma Lakshman	V4 Schema alignment
Production	21-Jan-2022	Adrienne Walcott	Updated to reflect TM Forum Approved Status

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