

TM Forum Specification

Work Order Management

TMF697

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Introduction

The following document is the specification of the REST API for Work Order Management. It includes the model definition as well as all available operations. Possible actions are creating, updating and retrieving work orders as well as the task operation to cancel an in-flight work order.

The Work Order API enables communication service providers (CSPs) to manage work orders for their engineering workforce, streamlining network operations. It serves as a standardized mechanism for managing work orders with all the necessary details required by the engineering force to complete the tasks.

A work order is a document or electronic form that details a specific task or set of tasks to be completed by a person or team within an organization. It serves as an official instruction or directive for carrying out work, typically within a specific timeframe and according to predefined specifications or requirements.

The demand for an engineer's work to be completed is captured as part of the work order and includes all the details of the engineer's task. Work orders may also include information about the following:

- * Details of the task(s) to be completed
- * Information about the companies involved, including engineers
- * Job location
- * Skill, tool, and material requirements
- * Any party part of the work order process (e.g., authorizing party)
- * Assigned technician or service provider
- * Estimated and actual completion dates
- * Priority level
- * Engineer whereabouts (travel details)

The primary purpose of a work order is to keep all parties within the maintenance operation abreast of the workflow. When used effectively, work orders help an organization efficiently organize, communicate, and track maintenance work within a department or organization.

The API consists of a simple set of operations that interact with Workforce Management systems in a consistent manner. Workforce Management applications manage field forces to make optimum use of manpower and other resources such as vehicles. They are used to schedule resources, provide a map of field skill sets and provide forecasting and load balancing capabilities.

Workforce Management API can be used to manage both internal and external resources in areas of service assurance, provisioning, routine work, and preventive maintenance.

- Workforce Schedule Management
- Work Order Analysis
- Work Order Assignment & Dispatch
- Work Order Tracking & Management
- Workforce Management Reporting
- Workforce Configuration and Setup

Work Order Management API performs the following operations on Work Order:

- Creation of a work order
- Partial update of a work order

- Retrieval of a work order or a collection of work orders depending on filter criteria
- Notification of events on work order
 - Work Order creation
 - Work Order state change
 - Work Order value change used to notify that any data in an order has just changed

Work Order Management API performs the following operations on CancelWorkOrder:

- Creation of a work order cancel request
- Retrieval of a work order cancellation request or a collection of work order cancellation requests depending on filter criteria
- Notification of events on work order
 - Cancel Work Order creation
 - Cancel Work Order state change
 - Order information required used to notify that some data in the cancel work order need to be filled / are missing

Sample Use Cases

Creating a New Work Order

The service manager uses the API to create a new work order for a scheduled maintenance task. They provide details such as the location, assigned technician, and priority level. Upon submission, the API generates a unique identifier for the new work order and notifies relevant parties.

Updating an Existing Work Order:

A field technician uses a mobile application integrated with the Work Order API to update the status of an existing work order. They may add notes, update completion status, or modify task details as necessary. The API records the changes and notifies the service manager of any updates.

Retrieving Work Orders for Inspection

The quality assurance team utilizes the API to retrieve a list of work orders that have been completed recently. They review the details of each work order, including tasks performed, completion dates, and any reported issues. This helps ensure that maintenance tasks are carried out to the required standards.

Cancelling a Work Order

In case of unforeseen circumstances or changes in priorities, the operations manager initiates a request to cancel a scheduled work order using the API. They provide a valid reason for cancellation and specify any associated costs or implications. The API processes the cancellation request and updates the status of the work order accordingly.

Analyzing Work Order Trends

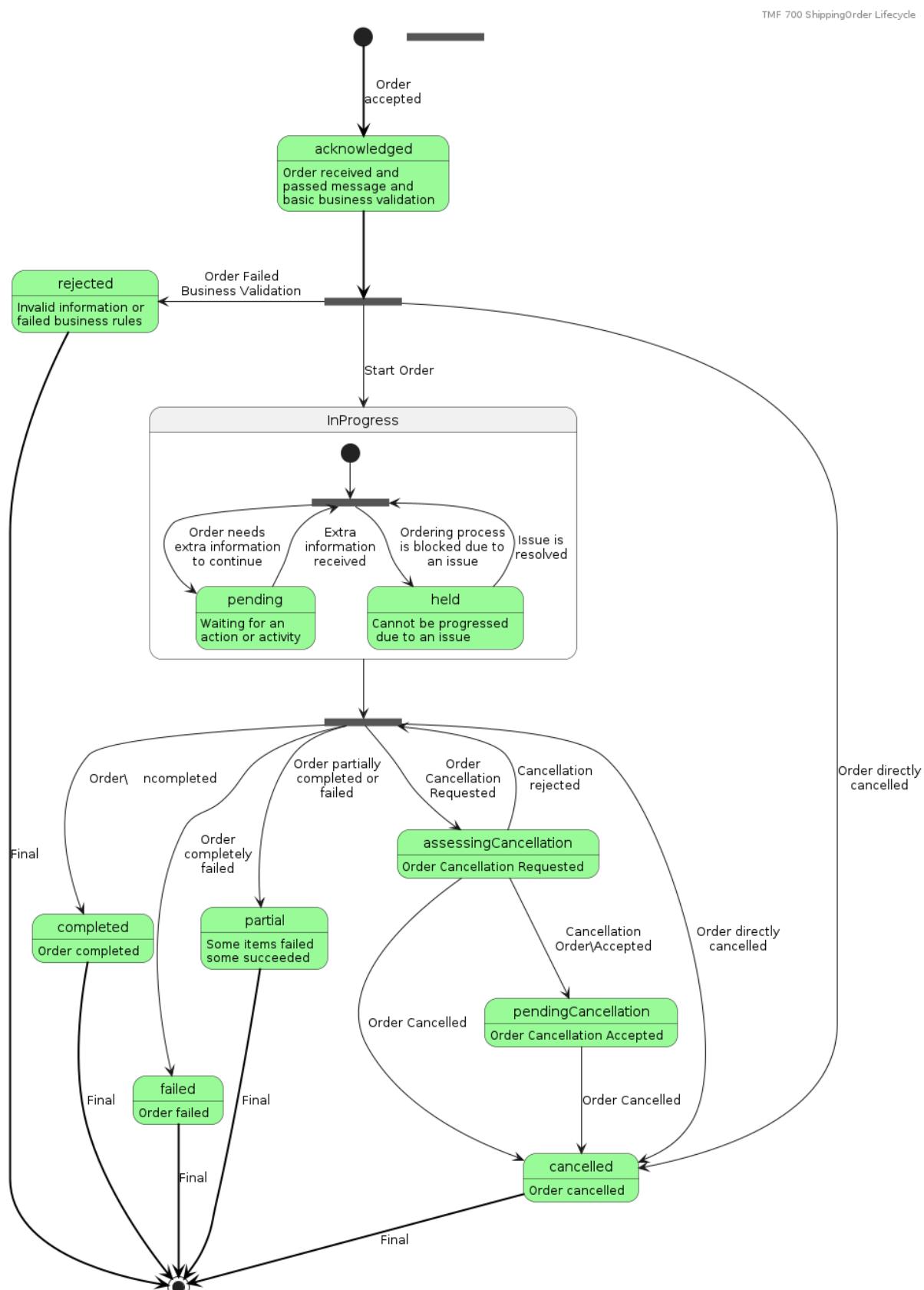
The business analyst accesses historical data from the Work Order API to analyze trends in work order completion rates, resource utilization, and maintenance costs. They use this information to identify areas for improvement, optimize scheduling, and make data-driven decisions to enhance operational efficiency.

Managing Workforce Assignments

The resource manager uses the Work Order API to assign available technicians to pending work orders based on their skills, availability, and geographic location. They leverage the API's scheduling and dispatching capabilities to ensure optimal allocation of resources and timely completion of tasks.

These use cases demonstrate some of the capabilities of the Work Order API in facilitating various aspects of work order management, from creation and updating to analysis and workforce coordination.

Work Order 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 TroubleTicketCount 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 others could be instances of NetworkTroubleTicket. The @type gives this information. All resources and sub-resources of this API have a @type attribute 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

WorkOrder resource

Resource model

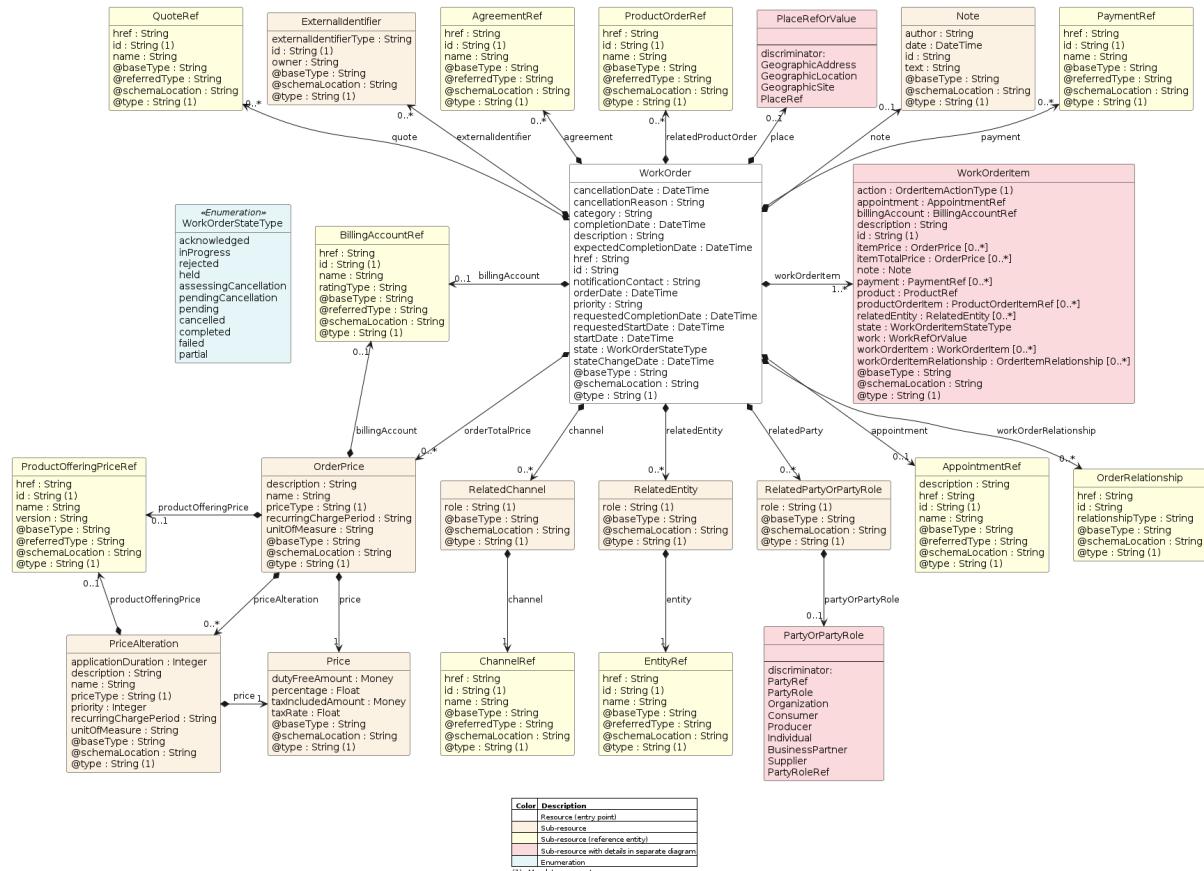


Figure 1 - WorkOrder

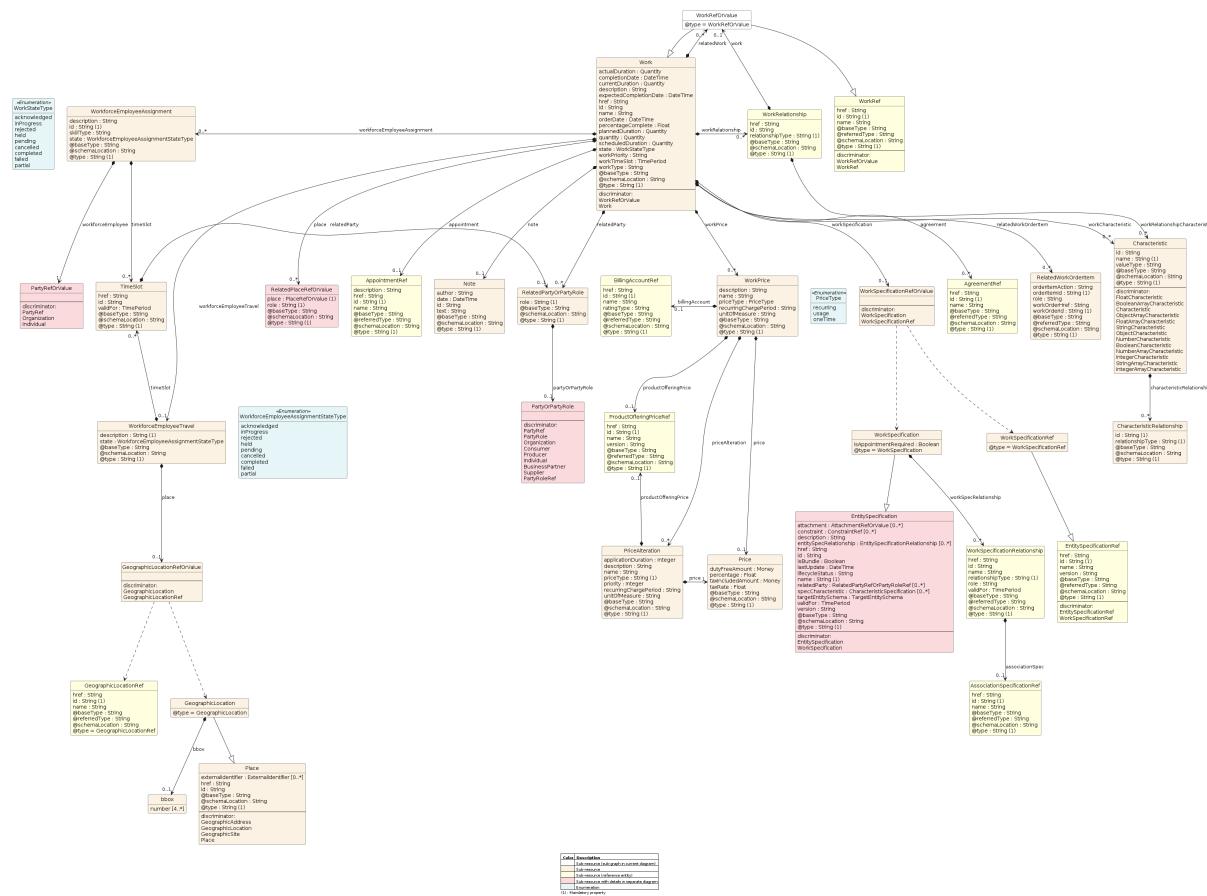


Figure 2 - WorkRefOrValue

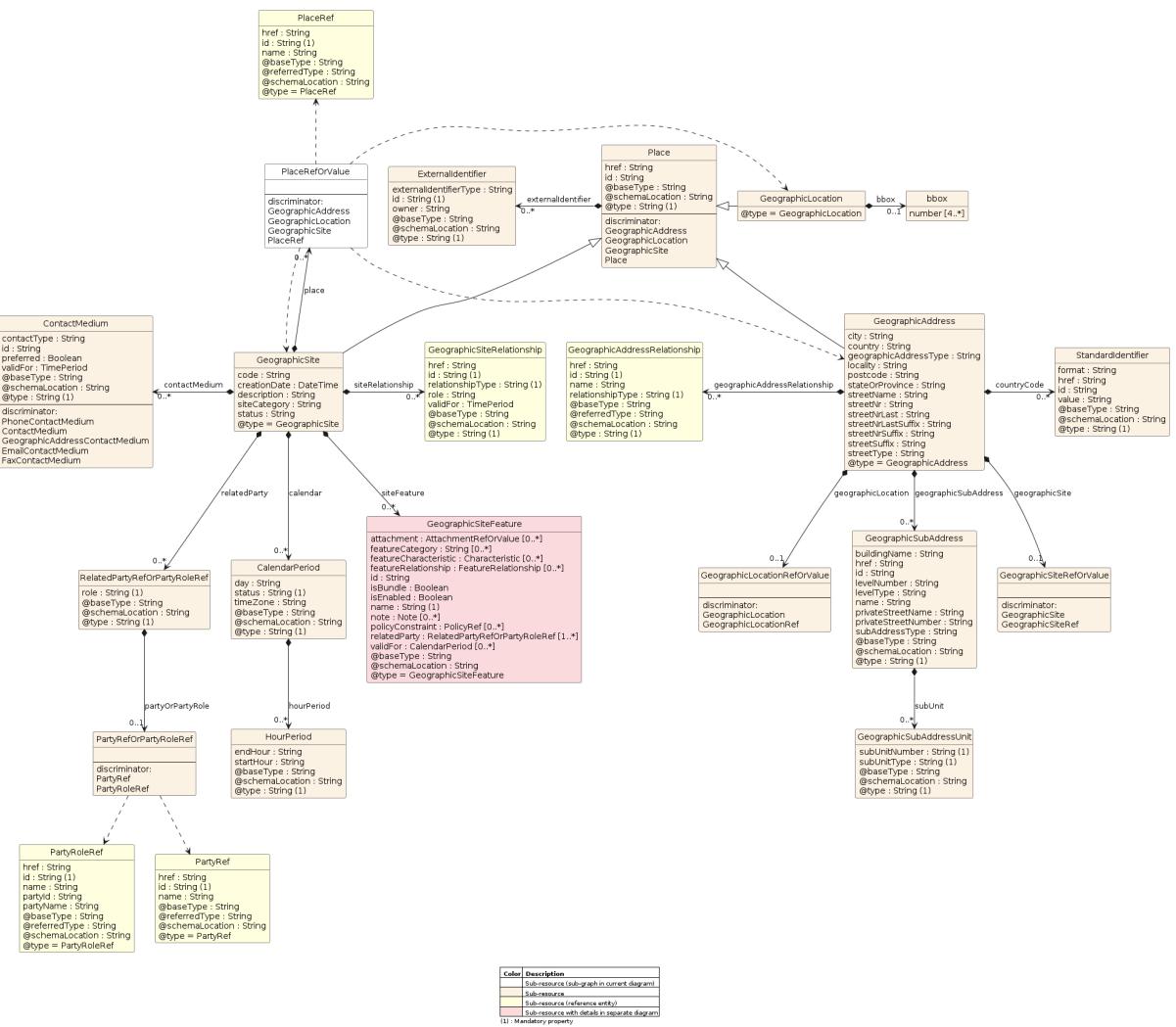
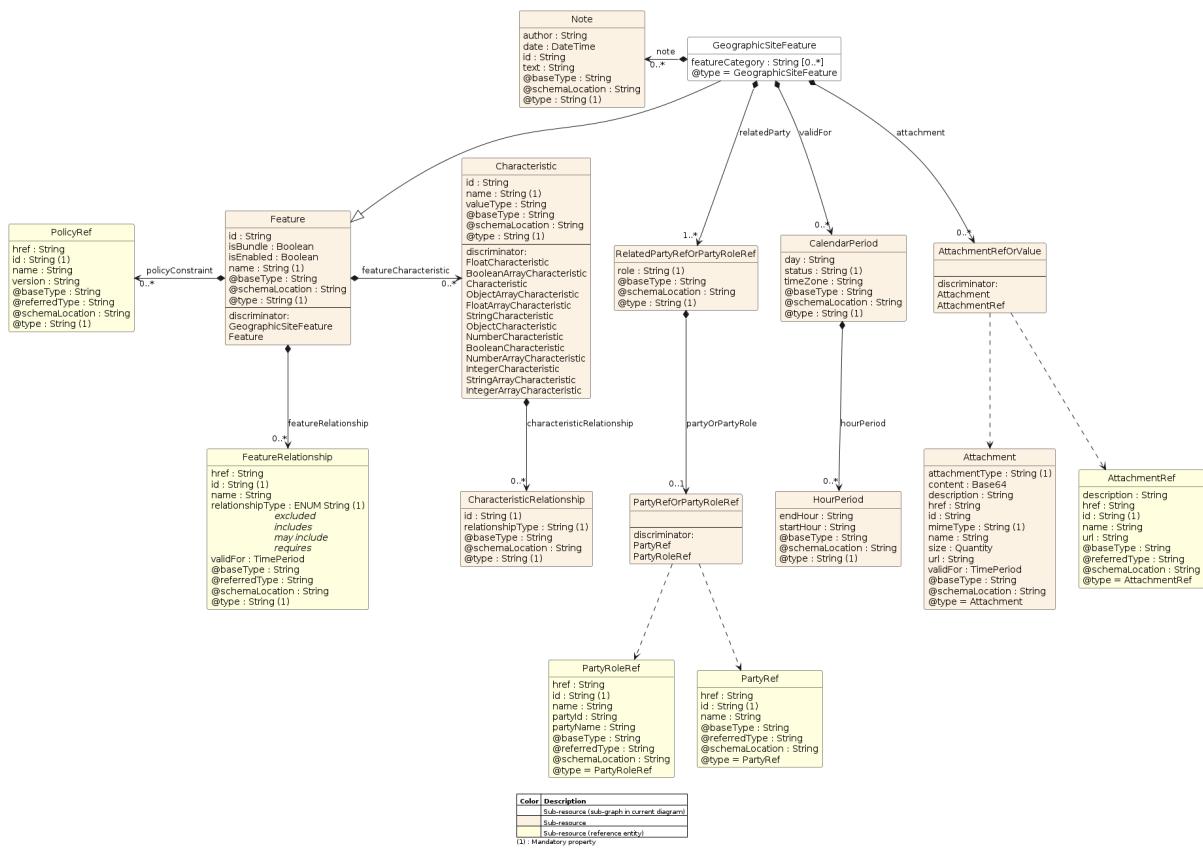


Figure 3 - PlaceRefOrValue

Figure 4 - `GeographicSiteFeature`

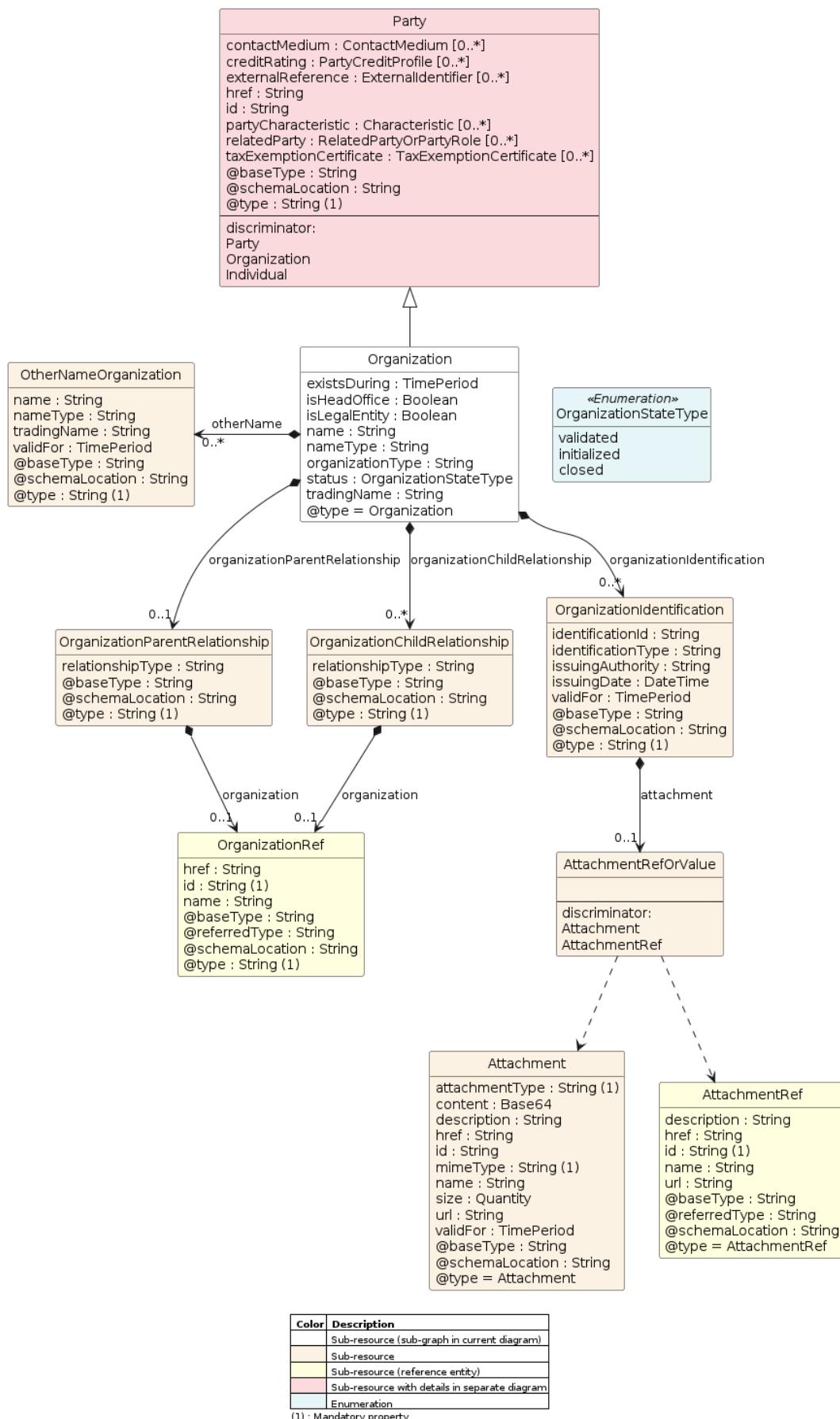


Figure 5 - Organization

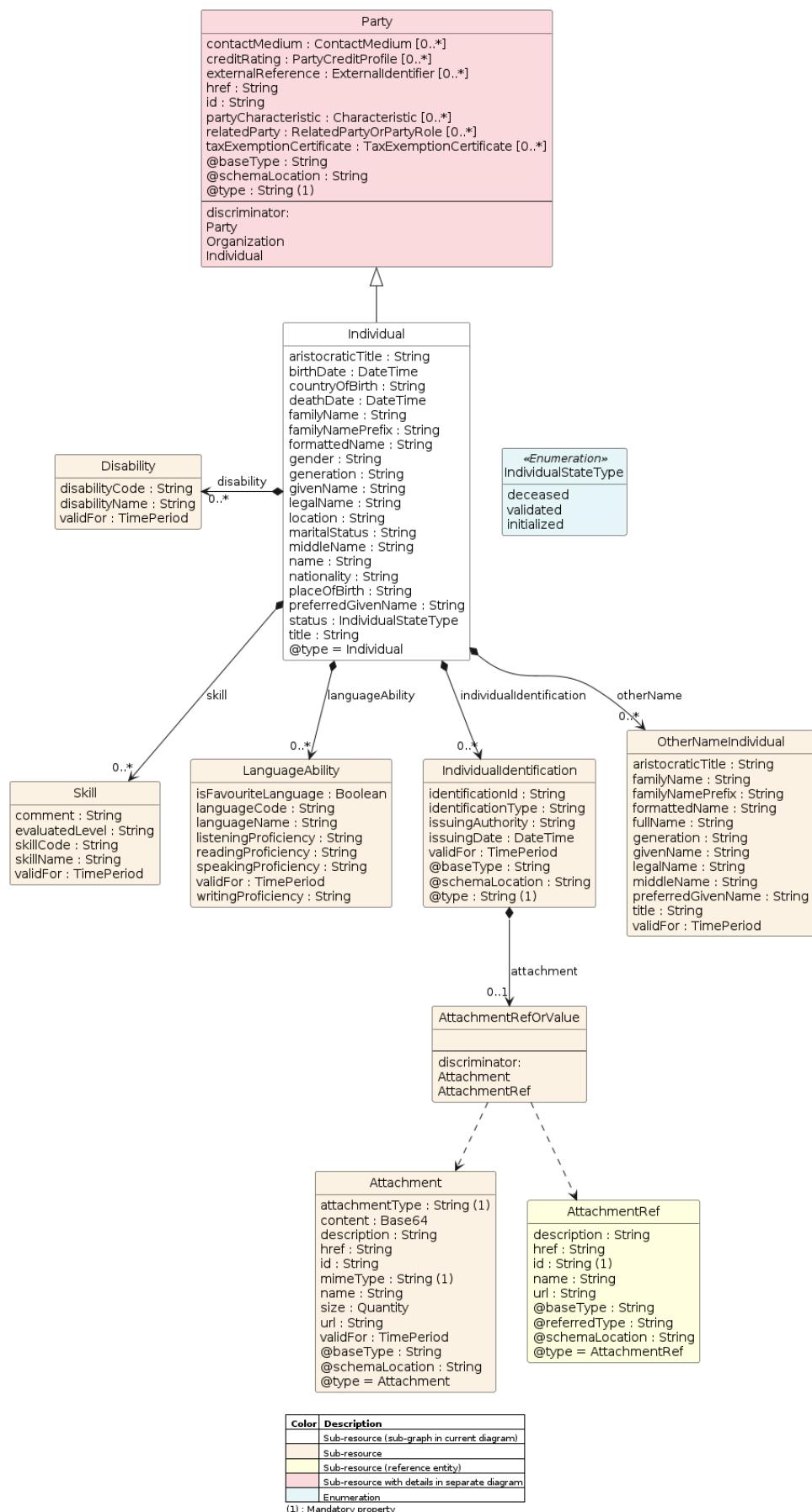


Figure 6 - Individual

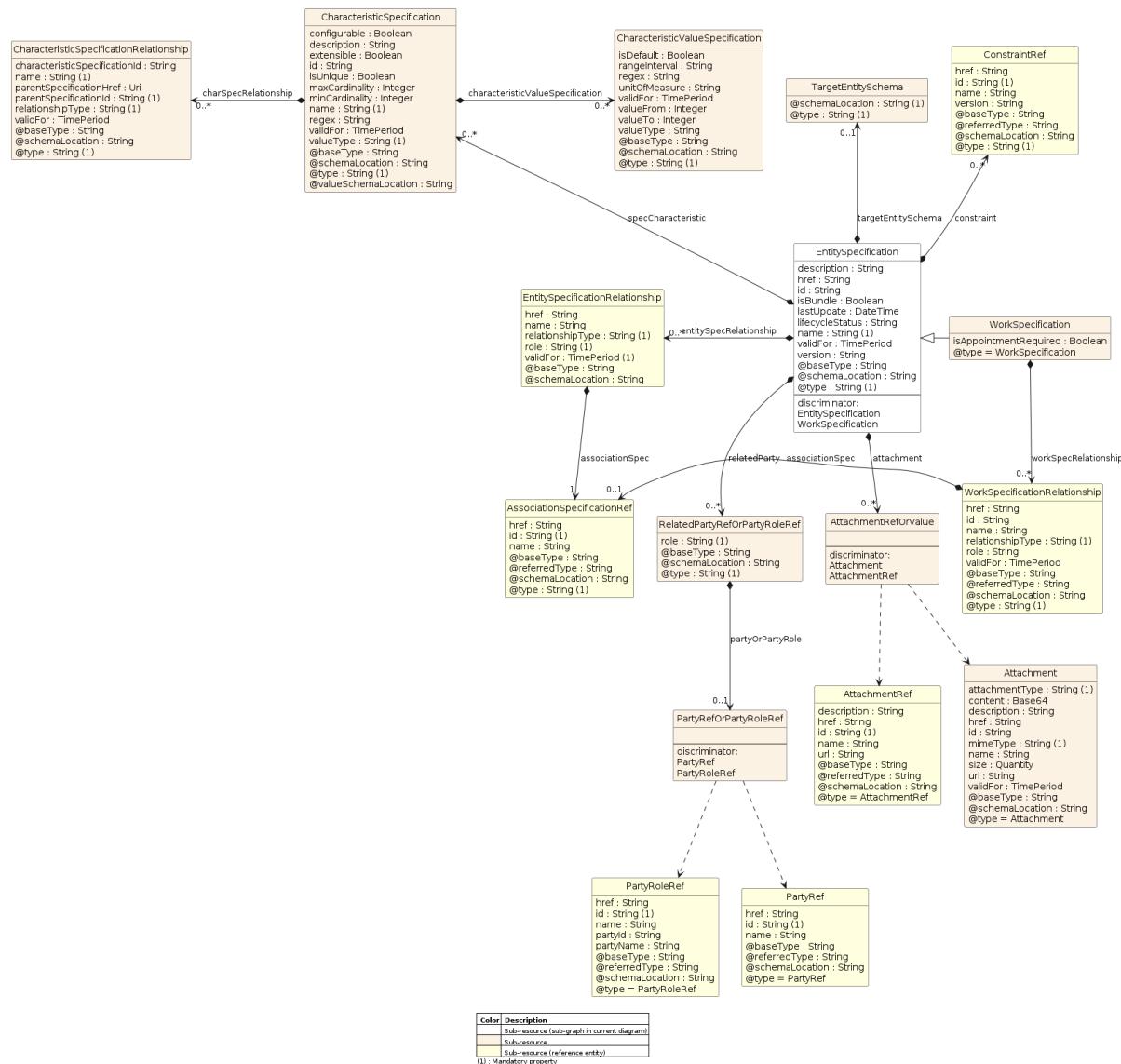


Figure 7 - EntitySpecification

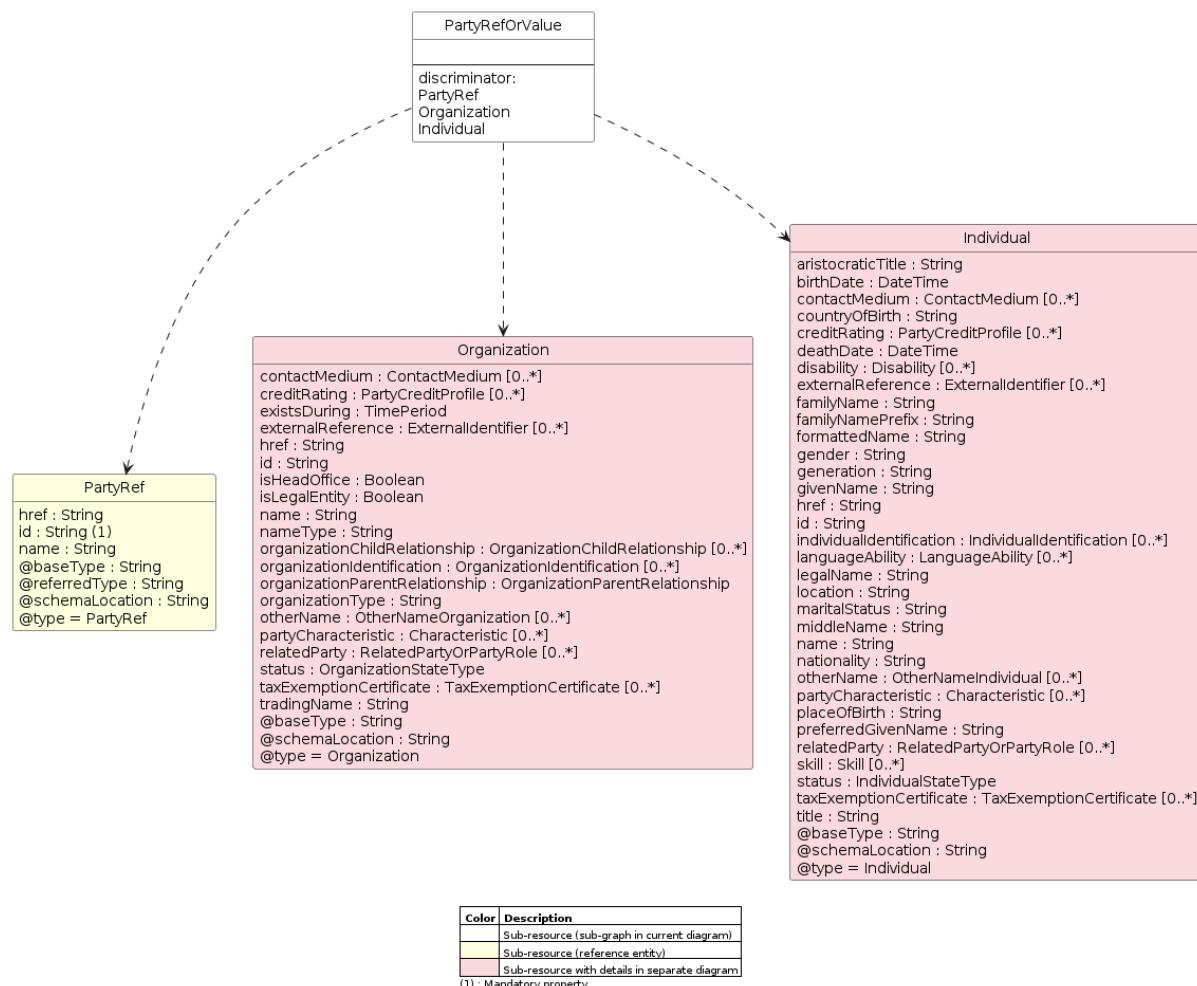


Figure 8 - PartyRefOrValue

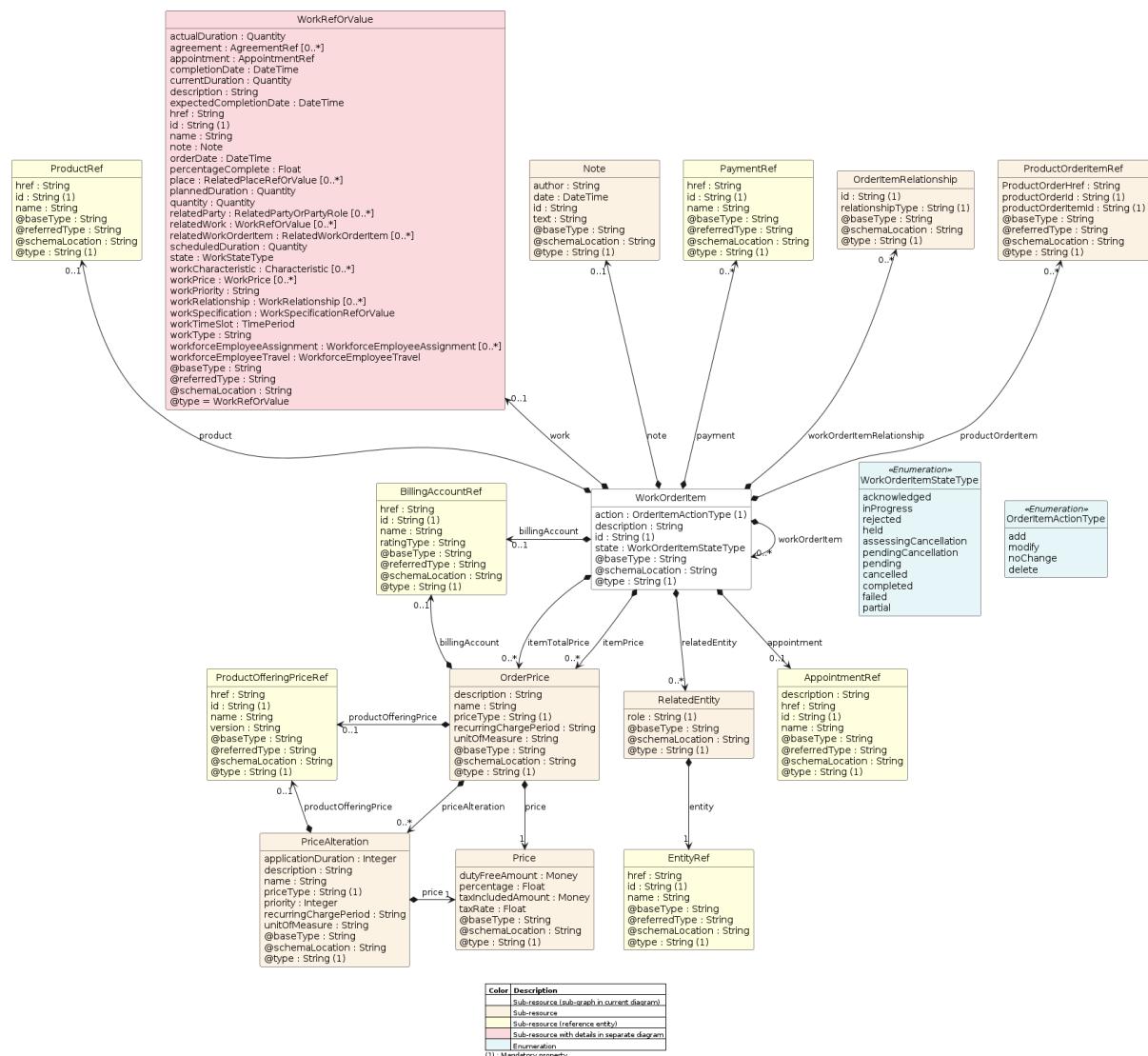


Figure 9 - WorkOrderItem

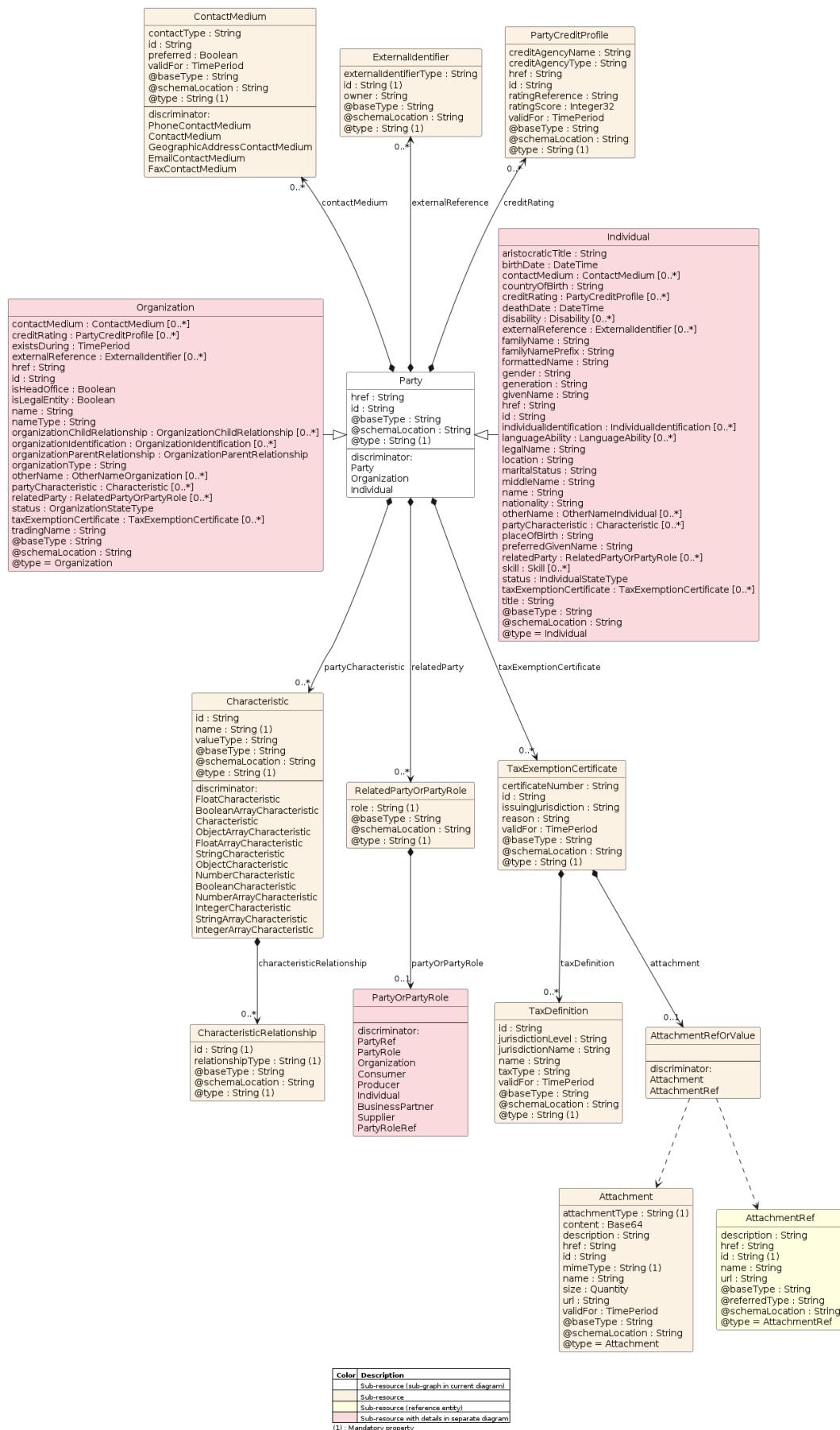


Figure 10 - Party

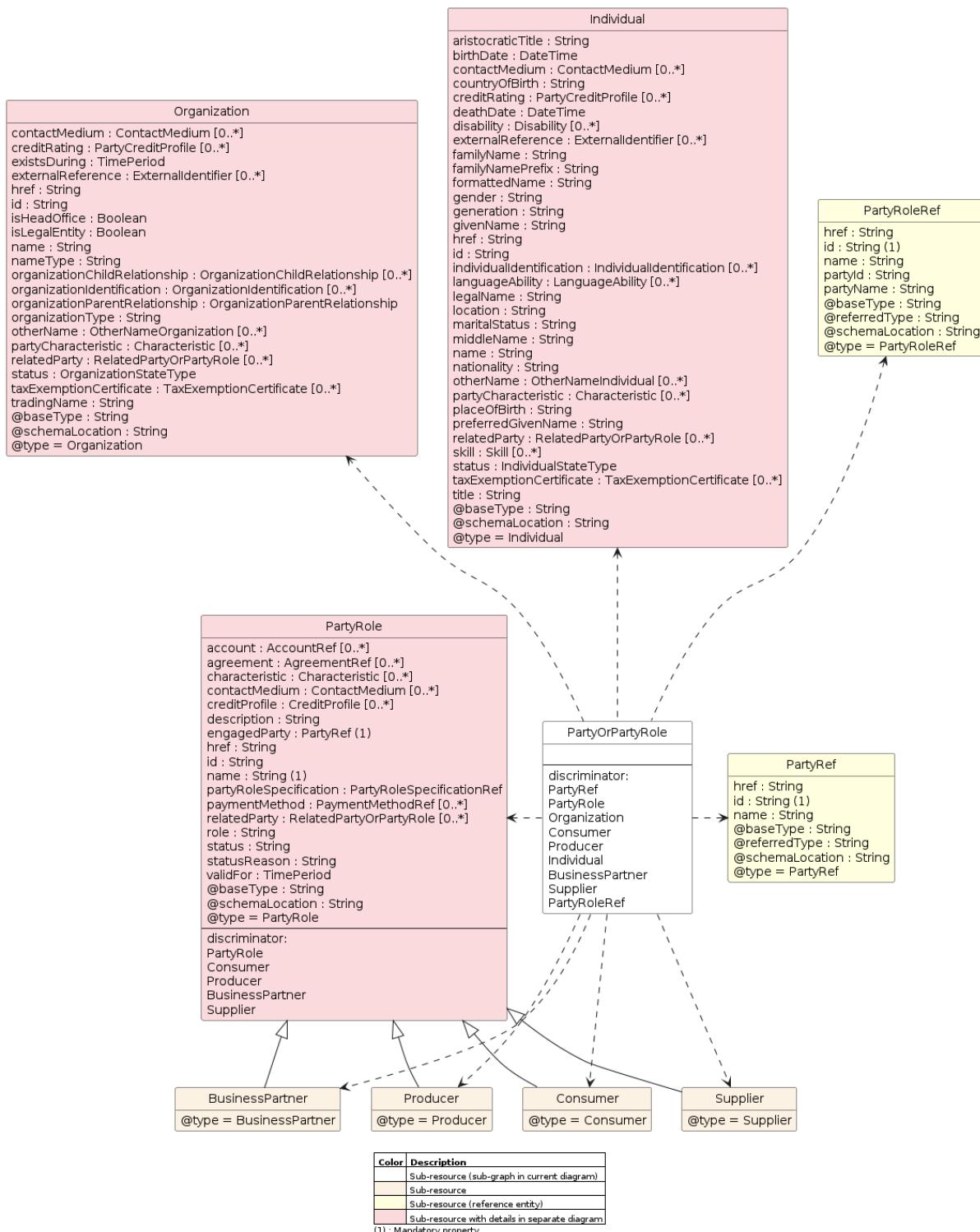


Figure 11 - PartyOrPartyRole

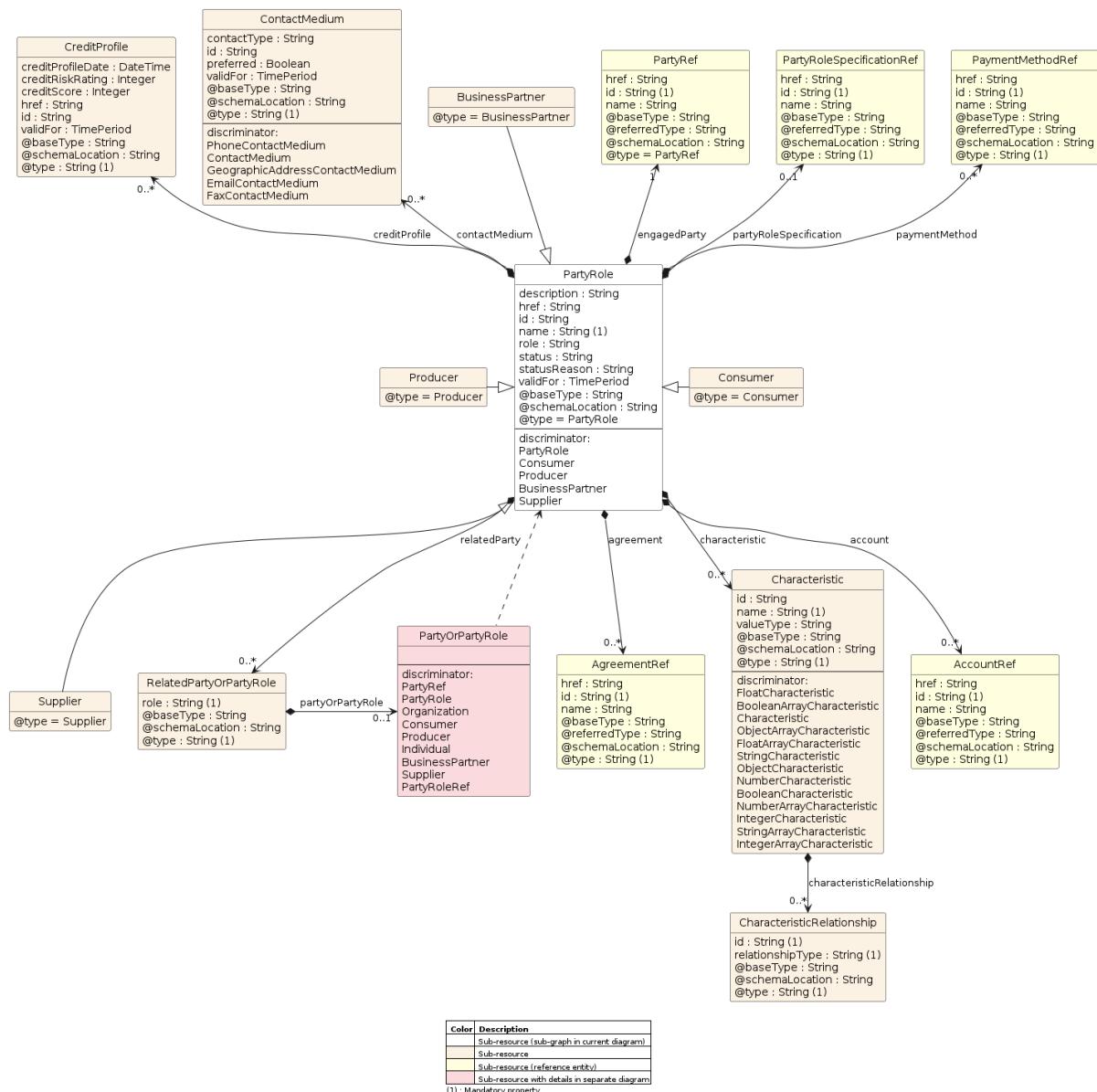


Figure 12 - PartyRole

Field descriptions

WorkOrder fields

agreement	An AgreementRef. Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
appointment	An AppointmentRef. Refers an appointment, such as a Customer presentation or internal meeting or site visit.
billingAccount	A BillingAccountRef. BillingAccount reference. A BillingAccount is a detailed description of a bill structure.

cancellationDate	A DateTime. Date when the order is cancelled. This is used when order is cancelled.
cancellationReason	A String. Reason why the order is cancelled. This is used when order is cancelled.
category	A String. Used to categorize the order from a business perspective that can be useful for the OM system (e.g. "enterprise", "residential", ...).
channel	A RelatedChannel. Related channel to another entity. May be online web, mobile app, social ,etc.
completionDate	A DateTime. Date when the order was completed.
description	A String. A free-text description of the order.
expectedCompletionDate	A DateTime. Expected completion date amended by the provider.
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.
note	A Note. Extra information about a given entity.
notificationContact	A String. Contact attached to the order to send back information regarding this order.
orderDate	A DateTime. Date when the order was created.
orderTotalPrice	An OrderPrice. An amount, usually of money, that represents the actual price paid by the Customer for this item or this order.
payment	A PaymentRef. If an immediate payment has been done at the product order submission, the payment information are captured and stored (as a reference) in the order.
place	A PlaceRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Place entity and not the PlaceRefOrValue class itself.
priority	A String. A way that can be used by consumers to prioritize orders in OM system (from 0 to 4 : 0 is the highest priority, and 4 the lowest).
quote	A QuoteRef. Quote reference. It's a Quote that has been executed previously.
relatedEntity	A RelatedEntity. A reference to an entity, where the type of the entity is not known in advance.

relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
relatedProductOrder	A ProductOrderRef. A reference to an existing Product Order.
requestedCompletionDate	A DateTime. Requested completion date from the requestors perspective.
requestedStartDate	A DateTime. Order fulfillment start date wished by the requestor. This is used when, for any reason, requestor cannot allow provider to begin to operationally begin the fulfillment before a date.
startDate	A DateTime. Date when the order started.
state	A WorkOrderStateType. Possible values for the state of the order. ENUMERATED with values: * acknowledged * rejected * pending * held * inProgress * cancelled * completed * failed * partial * assessingCancellation * pendingCancellation
stateChangeDate	A DateTime. Last change date of the order state.
workOrderItem	A WorkOrderItem. An identified part of the order. A work order is decomposed into one or more order items.
workOrderRelationship	An OrderRelationship.
@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.

QuoteRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.
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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.

BillingAccountRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
ratingType	A String. Indicates whether the account follows a specific payment option such as prepaid or postpaid.
@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.

AgreementRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

OrderPrice sub-resource fields

billingAccount	A BillingAccountRef. BillingAccount reference. A BillingAccount is a detailed description of a bill structure.
description	A String. A narrative that explains in detail the semantics of this order item price.
name	A String. A short descriptive name such as "Subscription price".
price	A Price. Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price and Price Alteration.
priceAlteration	A PriceAlteration. Is an amount, usually of money, that modifies the price charged for an order item.
priceType	A String. Indicate if the price is for recurrent or no-recurrent charge.
productOfferingPrice	A ProductOfferingPriceRef. ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
recurringChargePeriod	A String. Could be month, week...
unitOfMeasure	A String. Could be minutes, GB...
@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.

RelatedPartyOrPartyRole sub-resource fields

partyOrPartyRole	A PartyOrPartyRole.
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.

AppointmentRef sub-resource fields

description	A String. An explanatory text regarding the appointment made with a party.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

RelatedChannel sub-resource fields

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..
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.

ProductOrderRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.
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GeographicAddress sub-resource fields

city	A String. City that the address is in.
country	A String. Country that the address is in.
countryCode	A StandardIdentifier. The corresponding identification of the resource in different standard, regulatory definitions. The standard specification identifier (e.g., ISO 3166-1 Alpha-2) and the corresponding value (e.g., BE) relevant to a particular resource. It is anticipated that multiple standards can provide definitions for a single entity, e.g., a country identifier can be specified in various standards (e.g., "ISO 3166-1 Alpha 2", "ISO 3166-1 Alpha 3", "ISO 3166-1 Numeric").
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.
geographicAddressRelationship	A GeographicAddressRelationship. The GeographicAddressRelationship schema represents a relationship between geographic addresses. It defines the structure for storing information about how two geographic addresses are related to each other within a system.
geographicAddressType	A String. Classification of the address, e.g., residential, industrial.
geographicLocation	A GeographicLocationRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the GeographicLocation entity and not the GeographicLocationRefOrValue class itself.
geographicSite	A GeographicSiteRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the GeographicSite entity and not the GeographicSiteRefOrValue class itself.
geographicSubAddress	A GeographicSubAddress. Representation of a GeographicSubAddress. It is used for addressing within a property in an urban area (country properties are often defined differently). It may refer to a building, a building cluster, or a floor of a multistory building.
href	A String. Hyperlink reference.
id	A String. Unique identifier.

locality	A String. An area of defined or undefined boundaries within a local authority or other legislatively defined area, usually rural or semi rural in nature. [ANZLIC-STREET], or a suburb, a bounded locality within a city, town or shire principally of urban character [ANZLICSTREET].
postcode	A String. Descriptor for a postal delivery area, used to speed and simplify the delivery of mail (also known as zipcode).
stateOrProvince	A String. The State or Province that the address is in.
streetName	A String. Name of the street or other street type.
streetNr	A String. Number identifying a specific property on a public street. It may be combined with streetNrLast for ranged addresses.
streetNrLast	A String. Last number in a range of street numbers allocated to a property.
streetNrLastSuffix	A String. Last street number suffix for a ranged address.
streetNrSuffix	A String. The first street number suffix.
streetSuffix	A String. A modifier denoting a relative direction.
streetType	A String. Alley, avenue, boulevard, brae, crescent, drive, highway, lane, terrace, parade, place, tarn, way, wharf.
@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.

GeographicLocation sub-resource fields

bbox	A bbox. A bounding box array that contains the geometry. The axes order follows the axes order of the geometry.
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.
@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.
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GeographicSite sub-resource fields

calendar	A CalendarPeriod. The CalendarPeriod schema represents a period of time within a calendar, defining various attributes such as the applicable day, timezone, hour period, and status. It is designed to capture information about the availability or status of a calendar period, which can be used in scheduling, booking, or resource allocation applications.
code	A String. A code that may be used for some addressing schemes eg: [ANSI T1.253-1999].
contactMedium	<p>A ContactMedium. Indicates the contact medium that could be used to contact the party. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : EmailContactMedium, FaxContactMedium, PhoneContactMedium, GeographicAddressContactMedium, SocialMediaContactMedium...</p> <p>ContactMedium can be instanciated as</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * PhoneContactMedium
creationDate	A DateTime. Date and time when the GeographicSite was created.
description	A String. Text describing additional information regarding the site.
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.
place	A PlaceRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Place entity and not the PlaceRefOrValue class itself.
relatedParty	A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
siteCategory	A String. Site classification/category.

siteFeature	A GeographicSiteFeature. Geographic Site Feature captures various site information, ranging from survey data to safety guidelines and hazard information.
siteRelationship	A GeographicSiteRelationship. Details of geographic site relationship.
status	A String. The condition of the GeographicSite, such as planned, underConstruction, cancelled, active, inactive, former.
@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.

PlaceRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

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.

PaymentRef sub-resource fields

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

<code>name</code>	A String. Name of the referred entity.
<code>@baseType</code>	A String. When sub-classing, this defines the super-class.
<code>@referredType</code>	A String. The actual type of the target instance when needed for disambiguation.
<code>@schemaLocation</code>	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
<code>@type</code>	A String. When sub-classing, this defines the sub-class Extensible name.

OrderRelationship sub-resource fields

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

WorkOrderItem sub-resource fields

<code>action</code>	An OrderItemActionType. Action to be performed on the product. ENUMERATED with values: * add * modify * delete * noChange
<code>appointment</code>	An AppointmentRef. Refers an appointment, such as a Customer presentation or internal meeting or site visit.
<code>billingAccount</code>	A BillingAccountRef. BillingAccount reference. A BillingAccount is a detailed description of a bill structure.
<code>description</code>	A String. Description of the Order Item.
<code>id</code>	A String. Identifier of the line item (generally it is a sequence number 01, 02, 03, ...).
<code>itemPrice</code>	An OrderPrice. An amount, usually of money, that represents the actual price paid by the Customer for this item or this order.
<code>itemTotalPrice</code>	An OrderPrice. An amount, usually of money, that represents the actual price paid by the Customer for this item or this order.
<code>note</code>	A Note. Extra information about a given entity.
<code>payment</code>	A PaymentRef. If an immediate payment has been done at the product order submission, the payment information are captured and stored (as a reference) in the order.

product	A ProductRef. A Product reference.
productOrderItem	A ProductOrderItemRef. A reference to ProductOrder item that has been executed previously.
relatedEntity	A RelatedEntity. A reference to an entity, where the type of the entity is not known in advance.
state	A WorkOrderItemStateType. Possible values for the state of the order. ENUMERATED with values: * acknowledged * rejected * pending * held * inProgress * cancelled * completed * failed * partial * assessingCancellation * pendingCancellation
work	A WorkRefOrValue. A Unit of Work defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the work entity and not the related WorkRefOrValue class itself.
workOrderItem	A WorkOrderItem. An identified part of the order. A work order is decomposed into one or more order items.
workOrderItemRelationship	An OrderItemRelationship. Used to describe relationship between Order item. These relationship could have an impact on pricing and conditions.
@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.
@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.

PriceAlteration sub-resource fields

applicationDuration	An Integer. Duration during which the alteration applies on the order item price (for instance 2 months free of charge for the recurring charge).
description	A String. A narrative that explains in detail the semantics of this order item price alteration.
name	A String. Name of the order item price alteration.
price	A Price. Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price and Price Alteration.
priceType	A String. A category that describes the price such as recurring, one time and usage.
priority	An Integer. Priority level for applying this alteration among all the defined alterations on the order item price.
productOfferingPrice	A ProductOfferingPriceRef. ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased.
recurringChargePeriod	A String. Could be month, week...
unitOfMeasure	A String. Could be minutes, GB...
@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.

ProductOfferingPriceRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
version	A String. Version of the product offering price.
@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.

Price sub-resource fields

dutyFreeAmount	A Money. A base / value business entity used to represent money.
percentage	A Float. Percentage to apply for ProdOfferPriceAlteration.
taxIncludedAmount	A Money. A base / value business entity used to represent money.
taxRate	A Float. Tax rate.
@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.

PartyRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

PartyRole sub-resource fields

account	An AccountRef. Account reference. A account may be a party account or a financial account.
agreement	An AgreementRef. Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

characteristic	<p>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...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
contactMedium	<p>A ContactMedium. Indicates the contact medium that could be used to contact the party. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : EmailContactMedium, FaxContactMedium, PhoneContactMedium, GeographicAddressContactMedium, SocialMediaContactMedium...</p> <p>ContactMedium can be instantiated as</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * PhoneContactMedium
creditProfile	<p>A CreditProfile. Credit profile for the party (containing credit scoring, ...). By default only the current credit profile is retrieved. It can be used as a list to give the party credit profiles history, the first one in the list will be the current one.</p>
description	A String. A description of the PartyRole.
engagedParty	A PartyRef. A Party reference.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. A word, term, or phrase by which the PartyRole is known and distinguished from other PartyRoles. It's the name of the PartyRole unique entity.
partyRoleSpecification	A PartyRoleSpecificationRef. Party role specification reference. A party role specification gives additional details on the part played by a party in a given context.
paymentMethod	A PaymentMethodRef. PaymentMethod reference. A payment method defines a specific mean of payment (e.g direct debit).

relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
role	A String. Role played by the engagedParty in this context. As role is defined by partyRoleSpecification, this role attribute can be used to precise the role defined by partyRoleSpecification, or it can be used to define the role in case there is no partyRoleSpecification.
status	A String. Used to track the lifecycle status of the party role.
statusReason	A String. A string providing an explanation on the value of the status lifecycle. For instance if the status is Rejected, statusReason will provide the reason for rejection.
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.
	PartyRole can be instanciated as * BusinessPartner * Consumer * Producer * Supplier

Organization sub-resource fields

contactMedium	<p>A ContactMedium. Indicates the contact medium that could be used to contact the party. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : EmailContactMedium, FaxContactMedium, PhoneContactMedium, GeographicAddressContactMedium, SocialMediaContactMedium...</p> <p>ContactMedium can be instanciated as</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * PhoneContactMedium
creditRating	A PartyCreditProfile. An individual might be evaluated for its worthiness and this evaluation might be based on a credit rating given by a credit agency.
existsDuring	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.

externalReference	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.
isHeadOffice	A Boolean. If value is true, the organization is the head office.
isLegalEntity	A Boolean. If value is true, the organization is a legal entity known by a national referential.
name	A String. Organization name (department name for example).
nameType	A String. Type of the name : Co, Inc, Ltd, etc.
organizationChildRelationship	An OrganizationChildRelationship. Child references of an organization in a structure of organizations.
organizationIdentification	An OrganizationIdentification. Represents our registration of information used as proof of identity by an organization.
organizationParentRelationship	An OrganizationParentRelationship. Parent references of an organization in a structure of organizations.
organizationType	A String. Type of Organization (company, department...).
otherName	An OtherNameOrganization. Keeps track of other names, for example the old name of an organization.

partyCharacteristic	<p>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...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
status	An OrganizationStateType. Valid values for the lifecycle state of the organization. ENUMERATED with values: * initialized * validated * closed
taxExemptionCertificate	A TaxExemptionCertificate. A tax exemption certificate represents a tax exemption granted to a party (individual or organization) by a tax jurisdiction which may be a city, state, country,... An exemption has a certificate identifier (received from the jurisdiction that levied the tax) and a validity period. An exemption is per tax types and determines for each type of tax what portion of the tax is exempted (partial by percentage or complete) via the tax definition.
tradingName	A String. Name that the organization (unit) trades under.
@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.

Consumer sub-resource fields

account	An AccountRef. Account reference. A account may be a party account or a financial account.
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agreement	An AgreementRef. Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
characteristic	<p>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 :</p> <ul style="list-style-type: none"> StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic... <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
contactMedium	<p>A ContactMedium. Indicates the contact medium that could be used to contact the party. This is an abstract base class, the actual value is in one of the strongly-typed subclasses :</p> <ul style="list-style-type: none"> EmailContactMedium, FaxContactMedium, PhoneContactMedium, GeographicAddressContactMedium, SocialMediaContactMedium... <p>ContactMedium can be instantiated as</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * PhoneContactMedium
creditProfile	A CreditProfile. Credit profile for the party (containing credit scoring, ...). By default only the current credit profile is retrieved. It can be used as a list to give the party credit profiles history, the first one in the list will be the current one.
description	A String. A description of the PartyRole.
engagedParty	A PartyRef. A Party reference.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. A word, term, or phrase by which the PartyRole is known and distinguished from other PartyRoles. It's the name of the PartyRole unique entity.

partyRoleSpecification	A PartyRoleSpecificationRef. Party role specification reference. A party role specification gives additional details on the part played by a party in a given context.
paymentMethod	A PaymentMethodRef. PaymentMethod reference. A payment method defines a specific mean of payment (e.g direct debit).
relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
role	A String. Role played by the engagedParty in this context. As role is defined by partyRoleSpecification, this role attribute can be used to precise the role defined by partyRoleSpecification, or it can be used to define the role in case there is no partyRoleSpecification.
status	A String. Used to track the lifecycle status of the party role.
statusReason	A String. A string providing an explanation on the value of the status lifecycle. For instance if the status is Rejected, statusReason will provide the reason for rejection.
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.

Producer sub-resource fields

account	An AccountRef. Account reference. A account may be a party account or a financial account.
agreement	An AgreementRef. Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

characteristic	<p>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...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
contactMedium	<p>A ContactMedium. Indicates the contact medium that could be used to contact the party. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : EmailContactMedium, FaxContactMedium, PhoneContactMedium, GeographicAddressContactMedium, SocialMediaContactMedium...</p> <p>ContactMedium can be instantiated as</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * PhoneContactMedium
creditProfile	<p>A CreditProfile. Credit profile for the party (containing credit scoring, ...). By default only the current credit profile is retrieved. It can be used as a list to give the party credit profiles history, the first one in the list will be the current one.</p>
description	A String. A description of the PartyRole.
engagedParty	A PartyRef. A Party reference.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. A word, term, or phrase by which the PartyRole is known and distinguished from other PartyRoles. It's the name of the PartyRole unique entity.
partyRoleSpecification	A PartyRoleSpecificationRef. Party role specification reference. A party role specification gives additional details on the part played by a party in a given context.
paymentMethod	A PaymentMethodRef. PaymentMethod reference. A payment method defines a specific mean of payment (e.g direct debit).

relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
role	A String. Role played by the engagedParty in this context. As role is defined by partyRoleSpecification, this role attribute can be used to precise the role defined by partyRoleSpecification, or it can be used to define the role in case there is no partyRoleSpecification.
status	A String. Used to track the lifecycle status of the party role.
statusReason	A String. A string providing an explanation on the value of the status lifecycle. For instance if the status is Rejected, statusReason will provide the reason for rejection.
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.

Individual sub-resource fields

aristocraticTitle	A String. E.g. Baron, Graf, Earl.
birthDate	A DateTime. Birth date.
contactMedium	<p>A ContactMedium. Indicates the contact medium that could be used to contact the party. This is an abstract base class, the actual value is in one of the strongly-typed subclasses :</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * SocialMediaContactMedium... <p>ContactMedium can be instanciated as</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * SocialMediaContactMedium
countryOfBirth	A String. Country where the individual was born.
creditRating	A PartyCreditProfile. An individual might be evaluated for its worthiness and this evaluation might be based on a credit rating given by a credit agency.
deathDate	A DateTime. Date of death.
disability	A Disability. Lack or inadequate strength or ability.

externalReference	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.
familyName	A String. Contains the non-chosen or inherited name. Also known as last name in the Western context.
familyNamePrefix	A String. Family name prefix.
formattedName	A String. A fully formatted name in one string with all of its pieces in their proper place and all of the necessary punctuation. Useful for specific contexts (Chinese, Japanese, Korean).
gender	A String. Gender.
generation	A String. E.g.. Sr, Jr, III (the third).
givenName	A String. First name of the individual.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
individualIdentification	An IndividualIdentification. Represents our registration of information used as proof of identity by an individual (passport, national identity card, drivers license, social security number, birth certificate).
languageAbility	A LanguageAbility. Ability of an individual to understand or converse in a language.
legalName	A String. Legal name or birth name (name one has for official purposes).
location	A String. Temporary current location of the individual (may be used if the individual has approved its sharing).
maritalStatus	A String. Marital status (married, divorced, widow ...).
middleName	A String. Middle name or initial.
name	A String. Full name flatten (first, middle, and last names) - this is the name that is expected to be presented in reference data types such as PartyRef, RelatedParty, etc. that refer to Individual.
nationality	A String. Nationality.
otherName	An OtherNameIndividual. Keeps track of other names, for example the old name of a woman before marriage or an artist name.

partyCharacteristic	<p>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...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
placeOfBirth	A String. Reference to the place where the individual was born.
preferredGivenName	A String. Contains the chosen name by which the individual prefers to be addressed. Note: This name may be a name other than a given name, such as a nickname.
relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
skill	A Skill. Skills evaluated for an individual with a level and possibly with a limited validity when an obsolescence is defined (Ex: the first-aid certificate first level is limited to one year and an update training is required each year to keep the level).
status	An IndividualStateType. Valid values for the lifecycle state of the individual. ENUMERATED with values:
	<ul style="list-style-type: none"> * initialized * validated * deceased
taxExemptionCertificate	A TaxExemptionCertificate. A tax exemption certificate represents a tax exemption granted to a party (individual or organization) by a tax jurisdiction which may be a city, state, country,... An exemption has a certificate identifier (received from the jurisdiction that levied the tax) and a validity period. An exemption is per tax types and determines for each type of tax what portion of the tax is exempted (partial by percentage or complete) via the tax definition.
title	A String. Useful for titles (aristocratic, social,...) Pr, Dr, Sir, ...
@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.
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BusinessPartner sub-resource fields

account	An AccountRef. Account reference. A account may be a party account or a financial account.
agreement	An AgreementRef. Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
characteristic	<p>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...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
contactMedium	<p>A ContactMedium. Indicates the contact medium that could be used to contact the party. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : EmailContactMedium, FaxContactMedium, PhoneContactMedium, GeographicAddressContactMedium, SocialMediaContactMedium...</p> <p>ContactMedium can be instantiated as</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * PhoneContactMedium
creditProfile	A CreditProfile. Credit profile for the party (containing credit scoring, ...). By default only the current credit profile is retrieved. It can be used as a list to give the party credit profiles history, the first one in the list will be the current one.
description	A String. A description of the PartyRole.

engagedParty	A PartyRef. A Party reference.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. A word, term, or phrase by which the PartyRole is known and distinguished from other PartyRoles. It's the name of the PartyRole unique entity.
partyRoleSpecification	A PartyRoleSpecificationRef. Party role specification reference. A party role specification gives additional details on the part played by a party in a given context.
paymentMethod	A PaymentMethodRef. PaymentMethod reference. A payment method defines a specific mean of payment (e.g direct debit).
relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
role	A String. Role played by the engagedParty in this context. As role is defined by partyRoleSpecification, this role attribute can be used to precise the role defined by partyRoleSpecification, or it can be used to define the role in case there is no partyRoleSpecification.
status	A String. Used to track the lifecycle status of the party role.
statusReason	A String. A string providing an explanation on the value of the status lifecycle. For instance if the status is Rejected, statusReason will provide the reason for rejection.
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.

Supplier sub-resource fields

account	An AccountRef. Account reference. A account may be a party account or a financial account.
agreement	An AgreementRef. Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

characteristic	<p>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...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
contactMedium	<p>A ContactMedium. Indicates the contact medium that could be used to contact the party. This is an abstract base class, the actual value is in one of the strongly-typed subclasses : EmailContactMedium, FaxContactMedium, PhoneContactMedium, GeographicAddressContactMedium, SocialMediaContactMedium...</p> <p>ContactMedium can be instantiated as</p> <ul style="list-style-type: none"> * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * PhoneContactMedium
creditProfile	<p>A CreditProfile. Credit profile for the party (containing credit scoring, ...). By default only the current credit profile is retrieved. It can be used as a list to give the party credit profiles history, the first one in the list will be the current one.</p>
description	A String. A description of the PartyRole.
engagedParty	A PartyRef. A Party reference.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. A word, term, or phrase by which the PartyRole is known and distinguished from other PartyRoles. It's the name of the PartyRole unique entity.
partyRoleSpecification	A PartyRoleSpecificationRef. Party role specification reference. A party role specification gives additional details on the part played by a party in a given context.
paymentMethod	A PaymentMethodRef. PaymentMethod reference. A payment method defines a specific mean of payment (e.g direct debit).

relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
role	A String. Role played by the engagedParty in this context. As role is defined by partyRoleSpecification, this role attribute can be used to precise the role defined by partyRoleSpecification, or it can be used to define the role in case there is no partyRoleSpecification.
status	A String. Used to track the lifecycle status of the party role.
statusReason	A String. A string providing an explanation on the value of the status lifecycle. For instance if the status is Rejected, statusReason will provide the reason for rejection.
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.

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.
@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.

CreditProfile sub-resource fields

creditProfileDate	A DateTime. The date the profile was established.
creditRiskRating	An Integer. This is an integer whose value is used to rate the risk.

creditScore	An Integer. A measure of a person or organizations creditworthiness calculated on the basis of a combination of factors such as their income and credit history.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
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.

ContactMedium sub-resource fields

contactType	A String. Type of the contact medium to qualify it like pro email / personal email. This is not used to define the contact medium used.
id	A String. Identifier for this contact medium.
preferred	A Boolean. If true, indicates that is the preferred contact medium.
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.
	ContactMedium can be instanciated as * EmailContactMedium * FaxContactMedium * GeographicAddressContactMedium * PhoneContactMedium
city	This property is present in subclasses
country	This property is present in subclasses
emailAddress	This property is present in subclasses
faxNumber	This property is present in subclasses
geographicAddress	This property is present in subclasses
phoneNumber	This property is present in subclasses
postCode	This property is present in subclasses
stateOrProvince	This property is present in subclasses
street1	This property is present in subclasses

street2	This property is present in subclasses
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PhoneContactMedium sub-resource fields

contactType	A String. Type of the contact medium to qualify it like pro email / personal email. This is not used to define the contact medium used.
id	A String. Identifier for this contact medium.
phoneNumber	A String. The phone number of the contact.
preferred	A Boolean. If true, indicates that is the preferred contact medium.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startTime 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.

GeographicAddressContactMedium sub-resource fields

city	A String. The city.
contactType	A String. Type of the contact medium to qualify it like pro email / personal email. This is not used to define the contact medium used.
country	A String. The country.
geographicAddress	A GeographicAddressRef. Reference to a Geographic Address.
id	A String. Identifier for this contact medium.
postCode	A String. Postcode.
preferred	A Boolean. If true, indicates that is the preferred contact medium.
stateOrProvince	A String. State or province.
street1	A String. Describes the street.
street2	A String. Complementary street description.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startTime 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.

EmailContactMedium sub-resource fields

contactType	A String. Type of the contact medium to qualify it like pro email / personal email. This is not used to define the contact medium used.
emailAddress	A String. Full email address in standard format.
id	A String. Identifier for this contact medium.
preferred	A Boolean. If true, indicates that is the preferred contact medium.
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.

FaxContactMedium sub-resource fields

contactType	A String. Type of the contact medium to qualify it like pro email / personal email. This is not used to define the contact medium used.
faxNumber	A String. The fax number of the contact.
id	A String. Identifier for this contact medium.
preferred	A Boolean. If true, indicates that is the preferred contact medium.
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.

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.

	Characteristic can be instantiated as * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
value	This property is present in subclasses

FloatCharacteristic 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.
value	A Float. Value 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.

BooleanArrayCharacteristic 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.
value	A Boolean. A characteristic which value is an array of Boolean(s).
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.

ObjectArrayCharacteristic 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.
value	An object. Collection of characteristic values.
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.

FloatArrayCharacteristic 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.
value	A Float. A characteristic which value is an array of Float(s).
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.

StringCharacteristic 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.
value	A String. Value 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.

ObjectCharacteristic 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.
value	An object. Value 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.

NumberCharacteristic 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.
value	A Number. Value 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.

BooleanCharacteristic 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.
value	A Boolean. Value 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.

NumberArrayCharacteristic 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.
value	A Number. A characteristic which value is an array of Number(s).
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.

IntegerCharacteristic 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.
value	An Integer. Value 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.

StringArrayCharacteristic 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.
value	A String. Collection of string characteristics.
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.

IntegerArrayCharacteristic 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.
value	An Integer. A characteristic which value is an array of Integer(s).
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.

AccountRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

PartyRoleSpecificationRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

PaymentMethodRef sub-resource fields

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

GeographicAddressRef sub-resource fields

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

CharacteristicRelationship sub-resource fields

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

OrganizationParentRelationship sub-resource fields

<code>organization</code>	An OrganizationRef.
<code>relationshipType</code>	A String. Type of the relationship. Could be juridical, hierarchical, geographical, functional for example.
<code>@baseType</code>	A String. When sub-classing, this defines the super-class.
<code>@schemaLocation</code>	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.
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OrganizationIdentification sub-resource fields

attachment	An AttachmentRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Attachment entity and not the AttachmentRefOrValue class itself.
identificationId	A String. Identifier.
identificationType	A String. Type of identification information used to identify the company in a country or internationally.
issuingAuthority	A String. Authority which has issued the identifier (chamber of commerce...).
issuingDate	A DateTime. Date at which the identifier was issued.
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.

OtherNameOrganization sub-resource fields

name	A String. Organization name (department name for example).
nameType	A String. Co. , Inc. , Ltd. , Pty Ltd. , Plc; , Gmbh.
tradingName	A String. The name that the organization trades under.
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.

OrganizationChildRelationship sub-resource fields

organization	An OrganizationRef.
relationshipType	A String. Type of the relationship. Could be juridical, hierarchical, geographical, functional for example.
@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.
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OrganizationRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

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.
mimeType	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.
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.
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.

Disability sub-resource fields

disabilityCode	A String. Code of the disability.
disabilityName	A String. Name of the disability.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startTime only, or both.

Skill sub-resource fields

comment	A String. A free text comment linked to the evaluation done.
evaluatedLevel	A String. Level of expertise in a skill evaluated for an individual.
skillCode	A String. Code of the skill.
skillName	A String. Name of the skill, such as Java language.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startTime only, or both.

LanguageAbility sub-resource fields

isFavouriteLanguage	A Boolean. A ?true? value specifies whether the language is considered by the individual as his favourite one.
languageCode	A String. Language code (RFC 5646).
languageName	A String. Language name.
listeningProficiency	A String. Listening proficiency evaluated for this language.
readingProficiency	A String. Reading proficiency evaluated for this language.
speakingProficiency	A String. Speaking proficiency evaluated for this language.
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startTime only, or both.

writingProficiency	A String. Writing proficiency evaluated for this language.
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IndividualIdentification sub-resource fields

attachment	An AttachmentRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Attachment entity and not the AttachmentRefOrValue class itself.
identificationId	A String. Identifier.
identificationType	A String. Identification type (passport, national identity card, drivers license, social security number, birth certificate).
issuingAuthority	A String. Authority which has issued the identifier, such as: social security, town hall.
issuingDate	A DateTime. Date at which the identifier was issued.
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.

OtherNameIndividual sub-resource fields

aristocraticTitle	A String. E.g. Baron, Graf, Earl, etc.
familyName	A String. Contains the non-chosen or inherited name. Also known as last name in the Western context.
familyNamePrefix	A String. Family name prefix.
formattedName	A String. A fully formatted name in one string with all of its pieces in their proper place and all of the necessary punctuation. Useful for specific contexts (Chinese, Japanese, Korean, etc.).
fullName	A String. Full name flatten (first, middle, and last names).
generation	A String. E.g. Sr, Jr, etc.
givenName	A String. First name.
legalName	A String. Legal name or birth name (name one has for official purposes).
middleName	A String. Middle name or initial.
preferredGivenName	A String. Contains the chosen name by which the person prefers to be addressed. Note: This name may be a name other than a given name, such as a nickname.
title	A String. Use for titles (aristocratic, social, ...): Pr, Dr, Sir,....
validFor	A TimePeriod. A period of time, either as a deadline (endDateTime only) a startDateTime only, or both.

ChannelRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

GeographicAddressRelationship 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 between the geographic addresses. This attribute specifies the nature of the relationship between the related addresses. It provides context for understanding how the addresses are related to each other.
@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.

StandardIdentifier sub-resource fields

format	A String. Standard/Regulatory definition identifier. e.g., ISO 3166-1.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
value	A String. The value of the resource in the corresponding standard.e.g., a country code value.
@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.

GeographicLocationRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

GeographicSubAddress sub-resource fields

buildingName	A String. Allows for buildings that have well-known names.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
levelNumber	A String. Used where a level type may be repeated e.g. BASEMENT 1, BASEMENT 2.
levelType	A String. Describes level types within a building.
name	A String. Name of the subAddress to identify it with a meaningful identification.
privateStreetName	A String. Private streets internal to a property (e.g. a university) may have internal names that are not recorded by the land title office.
privateStreetNumber	A String. Private streets numbers internal to a private street.
subAddressType	A String. Type of subAddress : it can be a subunit or a private street.
subUnit	A GeographicSubAddressUnit. Representation of a SubUnit. It is used for describing subunit within a subAddress e.g. BERTH, FLAT, PIER, SUITE, SHOP, TOWER, UNIT, WHARF.
@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.

GeographicSiteRef sub-resource fields

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

name	A String. Name of the referred entity.
@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.

GeographicSubAddressUnit sub-resource fields

subUnitNumber	A String. The discriminator used for the subunit, often just a simple number but may also be a range.
subUnitType	A String. The type of subunit e.g.BERTH, FLAT, PIER, SUITE, SHOP, TOWER, UNIT, WHARF, RACK.
@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.

CalendarPeriod sub-resource fields

day	A String. Day where the calendar status applies (e.g.: monday, mon-to-fri, weekdays, weekend, all week, ...).
hourPeriod	A HourPeriod. Hour interval.
status	A String. Indication of the availability of the calendar period (e.g.: available, booked, etc.).
timeZone	A String. Indication of the timezone applicable to the calendar information (e.g.: Paris, GMT+1).
@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.

GeographicSiteRelationship sub-resource fields

href	A String. Reference of the related geographic site.
id	A String. Unique identifier of the related site entity within the server.
relationshipType	A String. Type of relationship.
role	A String. Role of the related site in the relationship.

validFor	A TimePeriod. A period of time, either as a deadline (endTime only) a startTime 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.

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.

GeographicSiteFeature sub-resource fields

attachment	An AttachmentRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Attachment entity and not the AttachmentRefOrValue class itself.
featureCategory	A String. Collection of feature category.
featureCharacteristic	<p>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...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic

featureRelationship	A FeatureRelationship. Configuration feature.
id	A String. Unique identifier.
isBundle	A Boolean. True if this is a feature group. Default is false.
isEnabled	A Boolean. True if this feature is enabled. Default is true.
name	A String. This is the name for the feature.
note	A Note. Extra information about a given entity.
policyConstraint	A PolicyRef. Reference to managed Policy object.
relatedParty	A RelatedPartyRefOrPartyRoleRef. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
validFor	A CalendarPeriod. The CalendarPeriod schema represents a period of time within a calendar, defining various attributes such as the applicable day, timezone, hour period, and status. It is designed to capture information about the availability or status of a calendar period, which can be used in scheduling, booking, or resource allocation applications.
@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.

Feature sub-resource fields

featureCharacteristic	<p>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 :</p> <ul style="list-style-type: none"> * StringCharacteristic * ObjectCharacteristic * FloatCharacteristic * BooleanCharacteristic * NumberCharacteristic * IntegerCharacteristic * StringArrayCharacteristic * ObjectArrayCharacteristic * BooleanArrayCharacteristic * NumberArrayCharacteristic * IntegerArrayCharacteristic <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanCharacteristic * BooleanArrayCharacteristic * FloatCharacteristic * FloatArrayCharacteristic * IntegerCharacteristic * IntegerArrayCharacteristic * NumberCharacteristic * NumberArrayCharacteristic * ObjectCharacteristic * ObjectArrayCharacteristic * StringCharacteristic * StringArrayCharacteristic
featureRelationship	A FeatureRelationship. Configuration feature.

<code>id</code>	A String. Unique identifier.
<code>isBundle</code>	A Boolean. True if this is a feature group. Default is false.
<code>isEnabled</code>	A Boolean. True if this feature is enabled. Default is true.
<code>name</code>	A String. This is the name for the feature.
<code>policyConstraint</code>	A PolicyRef. Reference to managed Policy object.
<code>@baseType</code>	A String. When sub-classing, this defines the super-class.
<code>@schemaLocation</code>	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
<code>@type</code>	A String. When sub-classing, this defines the sub-class Extensible name. Feature can be instantiated as * GeographicSiteFeature
<code>attachment</code>	This property is present in subclasses
<code>featureCategory</code>	This property is present in subclasses
<code>note</code>	This property is present in subclasses
<code>relatedParty</code>	This property is present in subclasses
<code>validFor</code>	This property is present in subclasses

HourPeriod sub-resource fields

<code>endHour</code>	A String. The time when the status ends applying.
<code>startHour</code>	A String. The time when the status starts applying.
<code>@baseType</code>	A String. When sub-classing, this defines the super-class.
<code>@schemaLocation</code>	A String. A URI to a JSON-Schema file that defines additional attributes and relationships.
<code>@type</code>	A String. When sub-classing, this defines the sub-class Extensible name.

ProductRef sub-resource fields

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

WorkRefOrValue sub-resource fields

actualDuration	A Quantity. An amount in a given unit.
agreement	An AgreementRef. Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
appointment	An AppointmentRef. Refers an appointment, such as a Customer presentation or internal meeting or site visit.
completionDate	A DateTime. Date when the order was completed.
currentDuration	A Quantity. An amount in a given unit.
description	A String. Is the description of the work unit. It could be the same as the description of the work specification.
expectedCompletionDate	A DateTime. Date when the requester expects the work to be completed.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
note	A Note. Extra information about a given entity.
orderDate	A DateTime. Date at which the work order which triggered this unit of work's creation/change/termination was created.
percentageComplete	A Float. Percentage of the completed work.
place	A RelatedPlaceRefOrValue. Entity reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the RelatedPlace entity and not the RelatedPlaceRefOrValue class itself.
plannedDuration	A Quantity. An amount in a given unit.
quantity	A Quantity. An amount in a given unit.
relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
relatedWork	A WorkRefOrValue. A Unit of Work defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the work entity and not the related WorkRefOrValue class itself.
relatedWorkOrderItem	A RelatedWorkOrderItem. RelatedWorkOrderItem (WorkOrder item). The work order item which triggered this unit of work's creation/change/termination.
scheduledDuration	A Quantity. An amount in a given unit.

state	A WorkStateType. ENUMERATED with values: * acknowledged * rejected * pending * held * inProgress * cancelled * completed * failed * partial
workCharacteristic	<p>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 :</p> <p>StringCharacteristic, ObjectCharacteristic, FloatCharacteristic, BooleanCharacteristic, NumberCharacteristic, IntegerCharacteristic, StringArrayCharacteristic, ObjectArrayCharacteristic, BooleanArrayCharacteristic, NumberArrayCharacteristic, IntegerArrayCharacteristic...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
workPrice	A WorkPrice. An amount, usually of money, that represents the actual price paid by the Customer for this item or this order.
workPriority	A String. Work Priority Level.
workRelationship	A WorkRelationship. Relationship between work order jobs.
workSpecification	A WorkSpecificationRefOrValue. Related Entity reference. A related WorkSpecification defines a WorkSpecification described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the WorkSpecification entity and not the WorkSpecificationRefOrValue class itself.
workTimeSlot	A TimePeriod. A period of time, either as a deadline (endTime only) a startTime only, or both.
workType	A String. Classification of work performed.
workforceEmployeeAssignment	A WorkforceEmployeeAssignment. Represents an assignment of a particular WorkforceEmployeeRole for a particular unit of work in a specific timeframe. For example, assignment of a person in a network engineer role to a trouble shooting unit of work for at least 2 hours. The assignment is associated with a TimeSlot.

workforceEmployeeTravel	A WorkforceEmployeeTravel. Captures the travel details for the workforce engineers.
@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.

WorkRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.
	WorkRef can be instantiated as * WorkRefOrValue
state	This property is present in subclasses

Work sub-resource fields

actualDuration	A Quantity. An amount in a given unit.
agreement	An AgreementRef. Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
appointment	An AppointmentRef. Refers an appointment, such as a Customer presentation or internal meeting or site visit.
completionDate	A DateTime. Date when the order was completed.
currentDuration	A Quantity. An amount in a given unit.
description	A String. Is the description of the work unit. It could be the same as the description of the work specification.
expectedCompletionDate	A DateTime. Date when the requester expects the work to be completed.

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the work unit. It could be the same as the name of the work specification.
note	A Note. Extra information about a given entity.
orderDate	A DateTime. Date at which the work order which triggered this unit of work's creation/change/termination was created.
percentageComplete	A Float. Percentage of the completed work.
place	A RelatedPlaceRefOrValue. Entity reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the RelatedPlace entity and not the RelatedPlaceRefOrValue class itself.
plannedDuration	A Quantity. An amount in a given unit.
quantity	A Quantity. An amount in a given unit.
relatedParty	A RelatedPartyOrPartyRole. RelatedParty reference. A related party defines party or party role or its reference, linked to a specific entity.
relatedWork	A WorkRefOrValue. A Unit of Work defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the work entity and not the related WorkRefOrValue class itself.
relatedWorkOrderItem	A RelatedWorkOrderItem. RelatedWorkOrderItem (WorkOrder item). The work order item which triggered this unit of work's creation/change/termination.
scheduledDuration	A Quantity. An amount in a given unit.
state	A WorkStateType. ENUMERATED with values: * acknowledged * rejected * pending * held * inProgress * cancelled * completed * failed * partial

workCharacteristic	<p>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...</p> <p>Characteristic can be instantiated as</p> <ul style="list-style-type: none"> * BooleanArrayCharacteristic * BooleanCharacteristic * FloatArrayCharacteristic * FloatCharacteristic * IntegerArrayCharacteristic * IntegerCharacteristic * NumberArrayCharacteristic * NumberCharacteristic * ObjectArrayCharacteristic * ObjectCharacteristic * StringArrayCharacteristic * StringCharacteristic
workPrice	A WorkPrice. An amount, usually of money, that represents the actual price paid by the Customer for this item or this order.
workPriority	A String. Work Priority Level.
workRelationship	A WorkRelationship. Relationship between work order jobs.
workSpecification	A WorkSpecificationRefOrValue. Related Entity reference. A related WorkSpecification defines a WorkSpecification described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the WorkSpecification entity and not the WorkSpecificationRefOrValue class itself.
workTimeSlot	A TimePeriod. A period of time, either as a deadline (endTime only) a startTime only, or both.
workType	A String. Classification of work performed.
workforceEmployeeAssignment	A WorkforceEmployeeAssignment. Represents an assignment of a particular WorkforceEmployeeRole for a particular unit of work in a specific timeframe. For example, assignment of a person in a network engineer role to a trouble shooting unit of work for at least 2 hours. The assignment is associated with a TimeSlot.
workforceEmployeeTravel	A WorkforceEmployeeTravel. Captures the travel details for the workforce engineers.
@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.

	Work can be instantiated as * WorkRefOrValue
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OrderItemRelationship sub-resource fields

id	A String. Id of the related Order item (must be in the same Order).
relationshipType	A String. Relationship type as relies on, bundles, etc...
@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.

ProductOrderItemRef sub-resource fields

ProductOrderHref	A String. Reference of the related ProductOrder.
productOrderId	A String. Unique identifier of a referred product order.
productOrderItemId	A String. Identifier of a product order item.
@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 'WorkOrder' resource object.

```
{
  "@type": "WorkOrder",
  "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",
  "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25",
  "category": "Installation WorkOrder",
  "description": "Fixed Fibre Broadband Installation",
  "startDate": "2024-04-22T14:23:06.528Z",
  "requestedCompletionDate": "2024-04-22T14:23:06.528Z",
  "requestedStartDate": "2024-04-22T14:23:06.528Z",
  "state": "acknowledged",
  "stateChangeDate": "2024-04-22T14:23:06.528Z",
  "priority": "high",
  "completionDate": "2024-04-22T14:23:06.528Z",
  "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
  "place": {
    "@type": "GeographicSite",
    "href": "https://mycsp.com/tmf-api/v5/geographicSite/geographicSite/23d34276-"
  }
}
```

```
c446-4e7d-aaef-921c9c5d16ec",
  "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",
  "relatedParty": [
    {
      "role": "SiteResponsible",
      "partyOrPartyRole": {
        "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",
        "href": "https://mycsp.com/tmf-api/partyManagement/v5/individual/68e81bb8-
cbc2-4908-81ee-fef70d86ab78",
        "name": "Jane Smith",
        "@type": "PartyRef",
        "@referredType": "Individual"
      },
      "@type": "RelatedPartyRefOrPartyRoleRef"
    }
  ],
  "contactMedium": [
    {
      "@type": "PhoneContactMedium",
      "contactMediumIdentifier": "TelephoneNumber",
      "preferred": true,
      "validFor": {
        "startDateTime": "2018-06-12T00:00:00Z",
        "endDateTime": "2019-01-01T00:00:00Z"
      },
      "phoneNumber": "01 09 75 83 51"
    }
  ],
  "siteFeature": [
    {
      "id": "981dc298-364c-45a3-b051-e1feab7f4622",
      "name": "accessRestrictions",
      "featureCategory": [
        "restrictions"
      ],
      "isEnabled": true,
      "featureCharacteristic": [
        {
          "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",
          "name": "Brick Wall",
          "valueType": "string",
          "value": true,
          "@type": "BooleanCharacteristic"
        }
      ]
    },
    {
      "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",
      "name": "hazards",
      "featureCategory": [
        "hazards"
      ],
      "isEnabled": true,
      "featureCharacteristic": [
        {
          "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",
          "name": "Noisy Migration",
          "valueType": "string",
          "value": true,
          "@type": "BooleanCharacteristic"
        }
      ]
    }
  ]
}
```

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        ]
    },
    "relatedParty": [
    {
        "@type": "RelatedPartyRef",
        "href": "https://mycsp.com/tmf-api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
        "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
        "name": "Workforce Engineering Group",
        "role": "Installation Partner"
    }
],
"appointment": {
    "@type": "AppointmentRef",
    "href": "https://mycsp.com/tmf-api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",
    "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",
    "name": "Installation Appointment",
    "description": "Installation Appointment for Fixed Fibre Broadband"
},
"relatedProductOrder": [
{
    "@type": "ProductOrderRef",
    "href": "https://mycsp.com/tmf-api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "name": "Fixed Fibre Broadband"
}
],
"externalIdentifier": [
{
    "@type": "ExternalIdentifier",
    "owner": "MagentoWorkforceManagement",
    "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"
}
],
"workOrderItem": [
{
    "@type": "WorkOrderItem",
    "action": "add",
    "description": "FTTH Installation",
    "id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",
    "completionDate": "2024-04-22T14:23:06.528Z",
    "state": "acknowledged",
    "work": {
        "id": "a833c6f7-b5f8-4e58-8af0-616fbalfba7f",
        "@type": "WorkRefOrValue",
        "workType": "CPEInst1",
        "orderDate": "2024-04-22T14:23:06.528Z",
        "description": "Cabinet Configuration",
        "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
        "name": "FTTH Installation",
        "workPriority": "high",
        "workCharacteristic": [
        {
            "id": "db1b00d6-acaa-428f-9af6-fd7b337b9f17",
            "name": "cityCode",
            "valueType": "string",
            "value": "MK",
            "@type": "StringCharacteristic"
        }
        ],
    }
}
],
```

```
"place": [
  {
    "@type": "RelatedPlaceRefOrValue",
    "role": "string",
    "place": {
      "@type": "GeographicSite",
      "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
      "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
      "code": "BS-9283",
      "description": "This is the site for the base station BS-9283",
      "place": [
        {
          "@type": "GeographicAddress",
          "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
          "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
          "city": "New York",
          "country": "United Kingdom",
          "locality": "Oxford",
          "postcode": "OX23 232",
          "stateOrProvince": "Oxfordshire",
          "streetName": "Broadway",
          "streetNr": "123",
          "geographicAddressType": "Building"
        },
        {
          "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
          "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
          "@type": "GeoJsonPolygon",
          "coordinates": [
            [
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        },
        "scheduledDuration": {
            "amount": 1,
            "units": "day"
        },
        "relatedWork": [
            {
                "@type": "WorkRefOrValue",
                "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/82000258-ecf8-47a6-a7b9-b972475bff5a",
                "id": "82000258-ecf8-47a6-a7b9-b972475bff5a"
            }
        ],
        "relatedParty": [
            {
                "@type": "RelatedPartyRef",
                "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
                "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
                "name": "Workforce Engineering Group",
                "role": "Installation Partner"
            }
        ],
        "workSpecification": {
            "@type": "WorkSpecificationRef",
            "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
            "name": "FTTH Installation"
        },
        "workforceEmployeeAssignment": [
            {
                "@type": "WorkforceEmployeeAssignment",
                "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
                "skillType": "FTTH Installation Engineer",
                "state": "acknowledged",
                "timeSlot": [
                    {
                        "@type": "TimeSlot",
                        "validFor": {
                            "startDateTime": "2024-04-12T23:20:50.52Z",
                            "endDateTime": "2024-04-12T23:20:50.52Z"
                        }
                    }
                ],
                "workforceEmployee": {
                    "@type": "Individual",
                    "name": "Athelstan Amos",
                    "id": "12231244",
                    "contactMedium": [
                        {
                            "@type": "PhoneContactMedium",
                            "@baseType": "ContactMedium",
                            "contactType": "private",
                            "id": "c0181f3d83e144a59162fd6136a98462",
                            "preferred": true,
                            "validFor": {
                                "startDateTime": "2018-09-21T23:20:50.52Z"
                            },
                            "verified": true,
                            "phoneNumber": "+1 202-918-2132"
                        }
                    ]
                }
            }
        ]
    }
```

```
        ]
    }
],
"workOrderRelationship": [
{
    "@type": "OrderRelationship",
    "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "relationshipType": "reliesOn"
},
],
"agreement": [
{
    "@type": "AgreementRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "a99a4a2c-df8b-46d1-ba49-42ccb0623b3c",
    "name": "Fixed Fibre Broadband Agreement"
}
],
"billingAccount": {
    "@type": "BillingAccountRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
},
"channel": [
{
    "@type": "RelatedChannel",
    "role": "Portal",
    "channel": {
        "@type": "ChannelRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
        "name": "Portal"
    }
}
],
"note": [
{
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important"
},
"orderDate": "2024-04-22T14:23:06.528Z",
"orderTotalPrice": [
{
    "@type": "OrderPrice",
    "description": "Fixed Fibre Broadband Installation",
    "name": "Installation Fee",
    "price": {
        "@type": "Price",
        "dutyFreeAmount": {
            "unit": "USD",
            "value": 99.99
        },
        "percentage": 0,
        "taxIncludedAmount": {
            "unit": "USD",
            "value": 99.99
        },
        "taxRate": 0
    }
}
]
```

```

        },
        "priceType": "Installation Fee"
    ]
}
}

```

CancelWorkOrder resource

Resource model

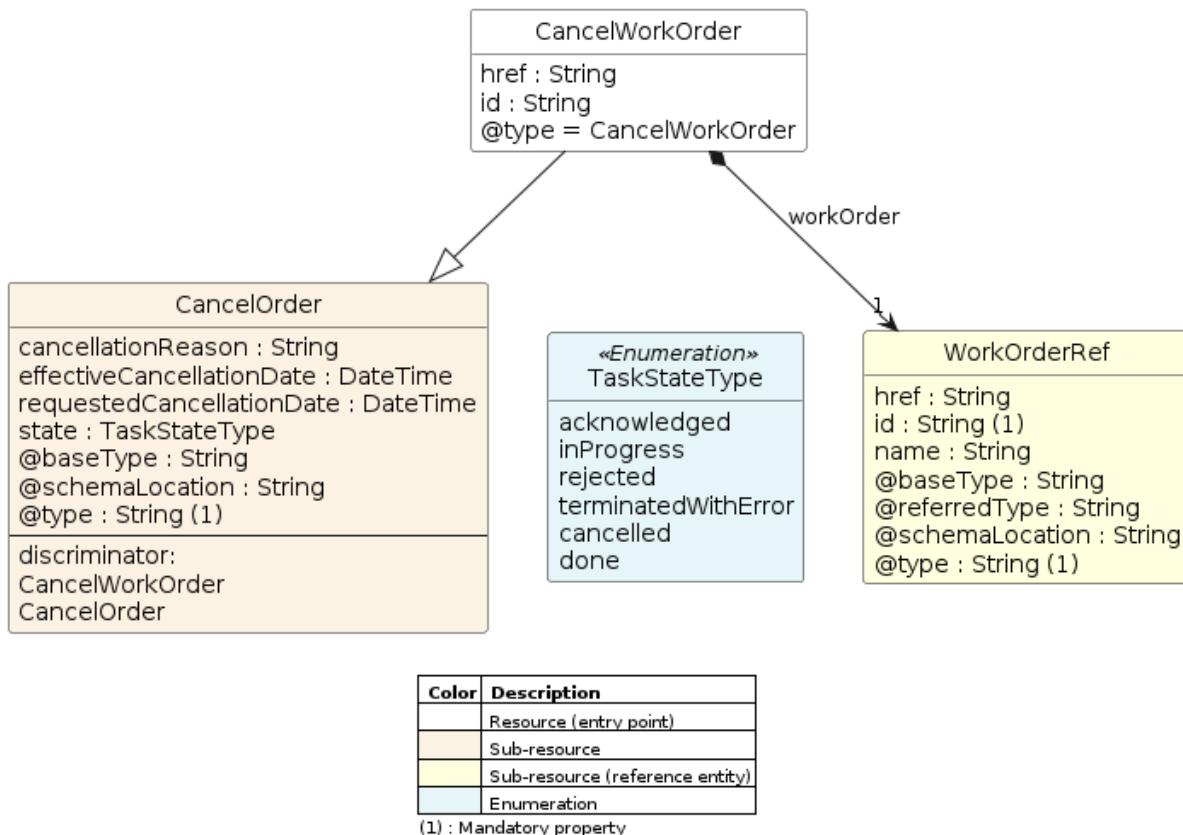


Figure 13 - CancelWorkOrder

Field descriptions

CancelWorkOrder fields

<code>cancellationReason</code>	A String. Reason why the order is cancelled.
<code>effectiveCancellationDate</code>	A DateTime. Date when the order is cancelled.
<code>href</code>	A String. Hyperlink reference.
<code>id</code>	A String. Unique identifier.
<code>requestedCancellationDate</code>	A DateTime. Date when the submitter wants the order to be cancelled.

state	A TaskStateType. Possible values for the state of a task. ENUMERATED with values: * acknowledged * rejected * inProgress * cancelled * done * terminatedWithError
workOrder	A WorkOrderRef. WorkOrder reference.
@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.

WorkOrderRef sub-resource fields

href	A String. Hyperlink reference.
id	A String. Unique identifier.
name	A String. Name of the referred entity.
@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.

CancelOrder sub-resource fields

cancellationReason	A String. Reason why the order is cancelled.
effectiveCancellationDate	A DateTime. Date when the order is cancelled.
requestedCancellationDate	A DateTime. Date when the submitter wants the order to be cancelled.
state	A TaskStateType. Possible values for the state of a task. ENUMERATED with values: * acknowledged * rejected * inProgress * cancelled * done * terminatedWithError
@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.
	CancelOrder can be instantiated as * CancelWorkOrder
href	This property is present in subclasses
id	This property is present in subclasses
workOrder	This property is present in subclasses

Json representation sample(s)

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

```
{
  "@type": "CancelWorkOrder",
  "requestedCancellationDate": "2024-05-01T10:15:30.000Z",
  "effectiveCancellationDate": "2024-05-01T10:15:30.000Z",
  "cancellationReason": "Workforce unavailability",
  "state": "acknowledged",
  "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/cancelWorkOrder/cc8e9f41-c351-48ac-8980-548d4a2d59ca",
  "id": "cc8e9f41-c351-48ac-8980-548d4a2d59ca",
  "workOrder": {
    "@type": "WorkOrderRef",
    "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",
    "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25"
  }
}
```

Notification Resource Models

6 notifications are defined for this API.

Notifications related to WorkOrder:

- Create Event
- Attribute Value Change Event
- State Change Event

Notifications related to CancelWorkOrder:

- Create Event
- Information Required Event
- State 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).

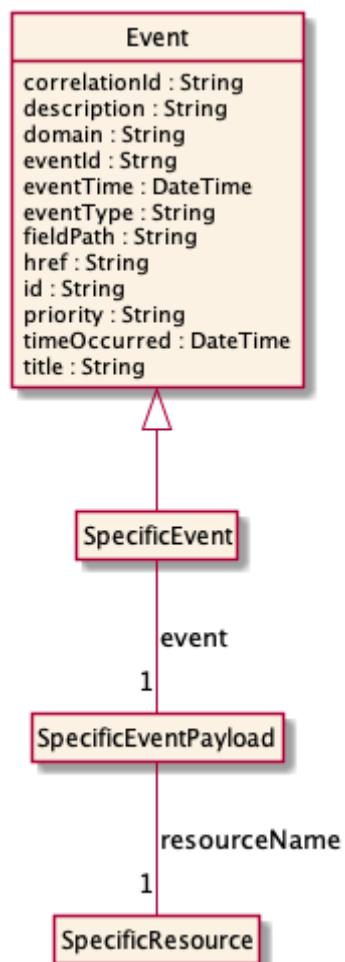


Figure 14 Notification Pattern

WorkOrder

Create Event

Message example for WorkOrderCreateEvent event

```

Content-Type: application/json

{
    "correlationId": "35768906-7ccc-4ca3-8892-c2bbd8054009",
    "description": "WorkOrderCreateEvent illustration",
    "domain": "Service Assurance",
    "eventId": "965dfda1-06c4-49cb-bcb9-1aa2a93fb2af",
    "eventTime": "2022-08-25T12:21:36.704Z",
    "eventType": "WorkOrderCreateEvent",
    "priority": "1",
    "timeOccurred": "2022-08-25T12:21:32.568Z",
    "title": "WorkOrderCreateEvent",
}
  
```

```
"event": {
    "workOrder": {
        "@type": "WorkOrder",
        "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",
        "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25",
        "category": "Installation WorkOrder",
        "description": "Fixed Fibre Broadband Installation",
        "startDate": "2024-04-22T14:23:06.528Z",
        "requestedCompletionDate": "2024-04-22T14:23:06.528Z",
        "requestedStartDate": "2024-04-22T14:23:06.528Z",
        "state": "acknowledged",
        "stateChangeDate": "2024-04-22T14:23:06.528Z",
        "priority": "high",
        "completionDate": "2024-04-22T14:23:06.528Z",
        "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
        "place": {
            "@type": "GeographicSite",
            "href": "https://mycsp.com/tmf-
api/v5/geographicSite/geographicSite/23d34276-c446-4e7d-aaef-921c9c5d16ec",
            "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",
            "relatedParty": [
                {
                    "role": "SiteResponsible",
                    "partyOrPartyRole": {
                        "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                        "href": "https://mycsp.com/tmf-
api/partyManagement/v5/individual/68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                        "name": "Jane Smith",
                        "@type": "PartyRef",
                        "@REFERREDTYPE": "Individual"
                    },
                    "@type": "RelatedPartyRefOrPartyRoleRef"
                }
            ],
            "contactMedium": [
                {
                    "@type": "PhoneContactMedium",
                    "contactMediumIdentifier": "TelephoneNumber",
                    "preferred": true,
                    "validFor": {
                        "startDateTime": "2018-06-12T00:00:00Z",
                        "endDateTime": "2019-01-01T00:00:00Z"
                    },
                    "phoneNumber": "01 09 75 83 51"
                }
            ],
            "siteFeature": [
                {
                    "id": "981dc298-364c-45a3-b051-e1feab7f4622",
                    "name": "accessRestrictions",
                    "featureCategory": [
                        "restrictions"
                    ],
                    "isEnabled": true,
                    "featureCharacteristic": [
                        {
                            "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",
                            "name": "Brick Wall",
                            "valueType": "string",
                            "value": true,
                            "@type": "BooleanCharacteristic"
                        }
                    ]
                }
            ]
        }
    }
}
```

```
        ]
    },
    [
        {
            "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",
            "name": "hazards",
            "featureCategory": [
                "hazards"
            ],
            "isEnabled": true,
            "featureCharacteristic": [
                {
                    "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",
                    "name": "Noisy Migration",
                    "valueType": "string",
                    "value": true,
                    "@type": "BooleanCharacteristic"
                }
            ]
        }
    ],
    "relatedParty": [
        {
            "@type": "RelatedPartyRef",
            "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
            "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
            "name": "Workforce Engineering Group",
            "role": "Installation Partner"
        }
    ],
    "appointment": {
        "@type": "AppointmentRef",
        "href": "https://mycsp.com/tmf-
api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",
        "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",
        "name": "Installation Appointment",
        "description": "Installation Appointment for Fixed Fibre Broadband"
    },
    "relatedProductOrder": [
        {
            "@type": "ProductOrderRef",
            "href": "https://mycsp.com/tmf-
api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-
dcf1a139c683",
            "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",
            "name": "Fixed Fibre Broadband"
        }
    ],
    "externalIdentifier": [
        {
            "@type": "ExternalIdentifier",
            "owner": "MagentoWorkforceManagement",
            "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"
        }
    ],
    "workOrderItem": [
        {
            "@type": "WorkOrderItem",
            "action": "add",
            "description": "FTTH Installation",
            "id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",
            "completionDate": "2024-04-22T14:23:06.528Z",
            "quantity": 1
        }
    ]
]
```

```
        "state": "acknowledged",
        "work": {
            "id": "a833c6f7-b5f8-4e58-8af0-616fbalfba7f",
            "@type": "WorkRefOrValue",
            "workType": "CPEInst1",
            "orderDate": "2024-04-22T14:23:06.528Z",
            "description": "Cabinet Configuration",
            "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
            "name": "FTTH Installation",
            "workPriority": "high",
            "workCharacteristic": [
                {
                    "id": "db1b00d6-acaa-428f-9af6-fd7b337b9f17",
                    "name": "cityCode",
                    "valueType": "string",
                    "value": "MK",
                    "@type": "StringCharacteristic"
                }
            ],
            "place": [
                {
                    "@type": "RelatedPlaceRefOrValue",
                    "role": "string",
                    "place": {
                        "@type": "GeographicSite",
                        "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
                        "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
                        "code": "BS-9283",
                        "description": "This is the site for the base station BS-
9283",
                        "place": [
                            {
                                "@type": "GeographicAddress",
                                "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
                                "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
                                "city": "New York",
                                "country": "United Kingdom",
                                "locality": "Oxford",
                                "postcode": "OX23 232",
                                "stateOrProvince": "Oxfordshire",
                                "streetName": "Broadway",
                                "streetNr": "123",
                                "geographicAddressType": "Building"
                            },
                            {
                                "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
                                "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
                                "@type": "GeoJsonPolygon",
                                "coordinates": [
                                    "12.14",
                                    "12.45",
                                    "34.54",
                                    "65.34"
                                ],
                                "type": "Polygon"
                            }
                        ]
                    }
                ]
            ]
        }
    ]
```

```
        }
    ],
    "actualDuration": {
        "amount": 4,
        "units": "hour"
    },
    "workTimeSlot": {
        "startDateTime": "2024-04-12T23:20:50.52Z"
    },
    "currentDuration": {
        "amount": 4,
        "units": "hour"
    },
    "note": {
        "@type": "Note",
        "id": "afa9-3d90aaa8da0f",
        "author": "Mr. N. Bene",
        "date": "2020-11-20T08:00:00Z",
        "text": "Demand Point Type: SDU"
    },
    "scheduledDuration": {
        "amount": 1,
        "units": "day"
    },
    "relatedWork": [
        {
            "@type": "WorkRefOrValue",
            "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/82000258-ecf8-47a6-a7b9-b972475bff5a",
            "id": "82000258-ecf8-47a6-a7b9-b972475bff5a"
        }
    ],
    "relatedParty": [
        {
            "@type": "RelatedPartyRef",
            "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
            "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
            "name": "Workforce Engineering Group",
            "role": "Installation Partner"
        }
    ],
    "workSpecification": {
        "@type": "WorkSpecificationRef",
        "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
        "name": "FTTH Installation"
    },
    "workforceEmployeeAssignment": [
        {
            "@type": "WorkforceEmployeeAssignment",
            "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
            "skillType": "FTTH Installation Engineer",
            "state": "acknowledged",
            "timeSlot": [
                {
                    "@type": "TimeSlot",
                    "validFor": {
                        "startDateTime": "2024-04-12T23:20:50.52Z",
                        "endDateTime": "2024-04-12T23:20:50.52Z"
                    }
                }
            ]
        }
    ]
},
```

```
"workforceEmployee": [
    "@type": "Individual",
    "name": "Athelstan Amos",
    "id": "12231244",
    "contactMedium": [
        {
            "@type": "PhoneContactMedium",
            "@baseType": "ContactMedium",
            "contactType": "private",
            "id": "c0181f3d83e144a59162fd6136a98462",
            "preferred": true,
            "validFor": {
                "startDateTime": "2018-09-21T23:20:50.52Z"
            },
            "verified": true,
            "phoneNumber": "+1 202-918-2132"
        }
    ]
},
"workOrderRelationship": [
    {
        "@type": "OrderRelationship",
        "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
        "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
        "relationshipType": "reliesOn"
    }
],
"agreement": [
    {
        "@type": "AgreementRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "a99a4a2c-df8b-46d1-ba49-42cbb0623b3c",
        "name": "Fixed Fibre Broadband Agreement"
    }
],
"billingAccount": {
    "@type": "BillingAccountRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
},
"channel": [
    {
        "@type": "RelatedChannel",
        "role": "Portal",
        "channel": {
            "@type": "ChannelRef",
            "href": "https://mycsp.com/tmf-api/v5/API",
            "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
            "name": "Portal"
        }
    }
],
"note": {
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is a test note for the Work Order Management API."}
```

```

        "text": "This is important"
    },
    "orderDate": "2024-04-22T14:23:06.528Z",
    "orderTotalPrice": [
        {
            "@type": "OrderPrice",
            "description": "Fixed Fibre Broadband Installation",
            "name": "Installation Fee",
            "price": {
                "@type": "Price",
                "dutyFreeAmount": {
                    "unit": "USD",
                    "value": 99.99
                },
                "percentage": 0,
                "taxIncludedAmount": {
                    "unit": "USD",
                    "value": 99.99
                },
                "taxRate": 0
            },
            "priceType": "Installation Fee"
        }
    ]
},
"reportingSystem": {
    "id": "51d61d67-07a4-470f-b27b-b20fdf989e35",
    "name": "APP-675",
    "@type": "ReportingResource",
    "@REFERREDTYPE": "LogicalResource"
},
"source": {
    "id": "6a15927f-8feb-4ed0-91d9-b60da1b5a132",
    "name": "APP-374",
    "@type": "ReportingResource",
    "@REFERREDTYPE": "LogicalResource"
},
"@baseType": "Event",
"@type": "WorkOrderCreateEvent"
}
}
```

Attribute Value Change Event

Message example for WorkOrderAttributeValueChangeEvent event

Content-Type: application/json

```
{
    "correlationId": "67f7126c-4254-4733-9462-a12f47ff884a",
    "description": "WorkOrderAttributeValueChangeEvent illustration",
    "domain": "Service Assurance",
    "eventId": "96e15d34-31bb-4d80-98b1-3e8385dadbd",
    "eventTime": "2022-08-25T12:21:36.714Z",
    "eventType": "WorkOrderAttributeValueChangeEvent",
    "priority": "3",
    "timeOccurred": "2022-08-25T12:21:36.133Z",
    "title": "WorkOrderAttributeValueChangeEvent",
    "event": {
        "workOrder": {

```

```
    "@type": "WorkOrder",
    "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",
    "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25",
    "category": "Installation WorkOrder",
    "description": "Fixed Fibre Broadband Installation",
    "startDate": "2024-04-22T14:23:06.528Z",
    "requestedCompletionDate": "2024-04-22T14:23:06.528Z",
    "requestedStartDate": "2024-04-22T14:23:06.528Z",
    "state": "acknowledged",
    "stateChangeDate": "2024-04-22T14:23:06.528Z",
    "priority": "high",
    "completionDate": "2024-04-22T14:23:06.528Z",
    "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
    "place": {
        "@type": "GeographicSite",
        "href": "https://mycsp.com/tmf-
api/v5/geographicSite/geographicSite/23d34276-c446-4e7d-aaef-921c9c5d16ec",
        "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",
        "relatedParty": [
            {
                "role": "SiteResponsible",
                "partyOrPartyRole": {
                    "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                    "href": "https://mycsp.com/tmf-
api/partyManagement/v5/individual/68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                    "name": "Jane Smith",
                    "@type": "PartyRef",
                    "@REFERREDTYPE": "Individual"
                },
                "@type": "RelatedPartyRefOrPartyRoleRef"
            }
        ],
        "contactMedium": [
            {
                "@type": "PhoneContactMedium",
                "contactMediumIdentifier": "TelephoneNumber",
                "preferred": true,
                "validFor": {
                    "startDateTime": "2018-06-12T00:00:00Z",
                    "endDateTime": "2019-01-01T00:00:00Z"
                },
                "phoneNumber": "01 09 75 83 51"
            }
        ],
        "siteFeature": [
            {
                "id": "981dc298-364c-45a3-b051-e1feab7f4622",
                "name": "accessRestrictions",
                "featureCategory": [
                    "restrictions"
                ],
                "isEnabled": true,
                "featureCharacteristic": [
                    {
                        "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",
                        "name": "Brick Wall",
                        "valueType": "string",
                        "value": true,
                        "@type": "BooleanCharacteristic"
                    }
                ]
            }
        ]
    }
}
```

```
{  
    "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",  
    "name": "hazards",  
    "featureCategory": [  
        "hazards"  
    ],  
    "isEnabled": true,  
    "featureCharacteristic": [  
        {  
            "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",  
            "name": "Noisy Migration",  
            "valueType": "string",  
            "value": true,  
            "@type": "BooleanCharacteristic"  
        }  
    ]  
},  
"relatedParty": [  
    {  
        "@type": "RelatedPartyRef",  
        "href": "https://mycsp.com/tmf-  
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",  
        "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",  
        "name": "Workforce Engineering Group",  
        "role": "Installation Partner"  
    }  
,  
    "appointment": {  
        "@type": "AppointmentRef",  
        "href": "https://mycsp.com/tmf-  
api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",  
        "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",  
        "name": "Installation Appointment",  
        "description": "Installation Appointment for Fixed Fibre Broadband"  
    },  
    "relatedProductOrder": [  
        {  
            "@type": "ProductOrderRef",  
            "href": "https://mycsp.com/tmf-  
api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-  
dcf1a139c683",  
            "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",  
            "name": "Fixed Fibre Broadband"  
        }  
,  
        "externalIdentifier": [  
            {  
                "@type": "ExternalIdentifier",  
                "owner": "MagentoWorkforceManagement",  
                "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"  
            }  
,  
            "workOrderItem": [  
                {  
                    "@type": "WorkOrderItem",  
                    "action": "add",  
                    "description": "FTTH Installation",  
                    "id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",  
                    "completionDate": "2024-04-22T14:23:06.528Z",  
                    "state": "acknowledged",  
                    "work": {  
                        "id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",  
                        "name": "FTTH Installation",  
                        "status": "acknowledged",  
                        "start": "2024-04-22T14:23:06.528Z",  
                        "end": null  
                    }  
                }  
            ]  
        ]  
    ]  
}
```

```
"id": "a833c6f7-b5f8-4e58-8af0-616fbalfba7f",
"@type": "WorkRefOrValue",
"workType": "CPEInstl",
"orderDate": "2024-04-22T14:23:06.528Z",
"description": "Cabinet Configuration",
"expectedCompletionDate": "2024-04-22T14:23:06.528Z",
"name": "FTTH Installation",
"workPriority": "high",
"workCharacteristic": [
  {
    "id": "db1b00d6-acaa-428f-9af6-fd7b337b9f17",
    "name": "cityCode",
    "valueType": "string",
    "value": "MK",
    "@type": "StringCharacteristic"
  }
],
"place": [
  {
    "@type": "RelatedPlaceRefOrValue",
    "role": "string",
    "place": {
      "@type": "GeographicSite",
      "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
      "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
      "code": "BS-9283",
      "description": "This is the site for the base station BS-
9283",
      "place": [
        {
          "@type": "GeographicAddress",
          "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
          "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
          "city": "New York",
          "country": "United Kingdom",
          "locality": "Oxford",
          "postcode": "OX23 232",
          "stateOrProvince": "Oxfordshire",
          "streetName": "Broadway",
          "streetNr": "123",
          "geographicAddressType": "Building"
        },
        {
          "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
          "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
          "@type": "GeoJsonPolygon",
          "coordinates": [
            "12.14",
            "12.45",
            "34.54",
            "65.34"
          ],
          "type": "Polygon"
        }
      ]
    }
  }
]
```

```
        ],
        "actualDuration": {
            "amount": 4,
            "units": "hour"
        },
        "workTimeSlot": {
            "startDateTime": "2024-04-12T23:20:50.52Z"
        },
        "currentDuration": {
            "amount": 4,
            "units": "hour"
        },
        "note": {
            "@type": "Note",
            "id": "afa9-3d90aaa8da0f",
            "author": "Mr. N. Bene",
            "date": "2020-11-20T08:00:00Z",
            "text": "Demand Point Type: SDU"
        },
        "scheduledDuration": {
            "amount": 1,
            "units": "day"
        },
        "relatedWork": [
            {
                "@type": "WorkRefOrValue",
                "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/82000258-ecf8-47a6-a7b9-b972475bff5a",
                "id": "82000258-ecf8-47a6-a7b9-b972475bff5a"
            }
        ],
        "relatedParty": [
            {
                "@type": "RelatedPartyRef",
                "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
                "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
                "name": "Workforce Engineering Group",
                "role": "Installation Partner"
            }
        ],
        "workSpecification": {
            "@type": "WorkSpecificationRef",
            "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
            "name": "FTTH Installation"
        },
        "workforceEmployeeAssignment": [
            {
                "@type": "WorkforceEmployeeAssignment",
                "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
                "skillType": "FTTH Installation Engineer",
                "state": "acknowledged",
                "timeSlot": [
                    {
                        "@type": "TimeSlot",
                        "validFor": {
                            "startDateTime": "2024-04-12T23:20:50.52Z",
                            "endDateTime": "2024-04-12T23:20:50.52Z"
                        }
                    }
                ],
                "workforceEmployee": {
                    "@type": "Individual",

```

```
        "name": "Athelstan Amos",
        "id": "12231244",
        "contactMedium": [
            {
                "@type": "PhoneContactMedium",
                "@baseType": "ContactMedium",
                "contactType": "private",
                "id": "c0181f3d83e144a59162fd6136a98462",
                "preferred": true,
                "validFor": {
                    "startDateTime": "2018-09-21T23:20:50.52Z"
                },
                "verified": true,
                "phoneNumber": "+1 202-918-2132"
            }
        ]
    }
],
"workOrderRelationship": [
{
    "@type": "OrderRelationship",
    "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "relationshipType": "reliesOn"
}
],
"agreement": [
{
    "@type": "AgreementRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "a99a4a2c-df8b-46d1-ba49-42cbb0623b3c",
    "name": "Fixed Fibre Broadband Agreement"
}
],
"billingAccount": {
    "@type": "BillingAccountRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
},
"channel": [
{
    "@type": "RelatedChannel",
    "role": "Portal",
    "channel": {
        "@type": "ChannelRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
        "name": "Portal"
    }
}
],
"note": [
{
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important"
}
],
```

```

    "orderDate": "2024-04-22T14:23:06.528Z",
    "orderTotalPrice": [
        {
            "@type": "OrderPrice",
            "description": "Fixed Fibre Broadband Installation",
            "name": "Installation Fee",
            "price": {
                "@type": "Price",
                "dutyFreeAmount": {
                    "unit": "USD",
                    "value": 99.99
                },
                "percentage": 0,
                "taxIncludedAmount": {
                    "unit": "USD",
                    "value": 99.99
                },
                "taxRate": 0
            },
            "priceType": "Installation Fee"
        }
    ],
    "reportingSystem": {
        "id": "c69c6ace-082a-449e-be54-5eca894cc295",
        "name": "APP-675",
        "@type": "ReportingResource",
        "@REFERREDTYPE": "LogicalResource"
    },
    "source": {
        "id": "fca42cfb-4f81-40ba-a311-32915cb4bfe4",
        "name": "APP-374",
        "@type": "ReportingResource",
        "@REFERREDTYPE": "LogicalResource"
    },
    "@baseType": "Event",
    "@type": "WorkOrderAttributeValueChangeEvent"
}

```

State Change Event

Message example for WorkOrderStateChangeEvent event with ?fields=state property only

```

Content-Type: application/json

{
    "correlationId": "f5b717c5-4da9-4687-823e-b44d63f81805",
    "description": "WorkOrderStateChangeEvent illustration",
    "domain": "Service Assurance",
    "eventId": "18bab44e-a3f9-4995-b641-cdda15025387",
    "eventTime": "2022-08-25T12:21:36.678Z",
    "eventType": "WorkOrderStateChangeEvent",
    "priority": "2",
    "timeOccurred": "2022-08-25T12:21:28.377Z",
    "title": "WorkOrderStateChangeEvent",
    "event": {
        "workOrder": {
            "@type": "WorkOrder",
            "href": "https://mycsp.com/tmf-

```

```

    "api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",
        "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25",
        "state": "completed"
    }
},
"reportingSystem": {
    "id": "49144272-e489-42b0-8710-c060469184ed",
    "name": "APP-675",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"source": {
    "id": "58ea2313-c057-43ba-910b-36876293c751",
    "name": "APP-374",
    "@type": "ReportingResource",
    "@referredType": "LogicalResource"
},
"@baseType": "Event",
"@type": "WorkOrderStateChangeEvent"
}
}

```

CancelWorkOrder

Create Event

Message example for CancelWorkOrderCreateEvent event

```

Content-Type: application/json

{
    "correlationId": "35768906-7ccc-4ca3-8892-c2bbd8054009",
    "description": "CancelWorkOrderCreateEvent illustration",
    "domain": "Service Assurance",
    "eventId": "965dfdal-06c4-49cb-bcb9-1aa2a93fb2af",
    "eventTime": "2022-08-25T12:21:36.704Z",
    "eventType": "CancelWorkOrderCreateEvent",
    "priority": "1",
    "timeOcurred": "2022-08-25T12:21:32.568Z",
    "title": "CancelWorkOrderCreateEvent",
    "event": {
        "cancelWorkOrder": {
            "@type": "CancelWorkOrder",
            "requestedCancellationDate": "2024-05-01T10:15:30.000Z",
            "effectiveCancellationDate": "2024-05-01T10:15:30.000Z",
            "cancellationReason": "Workforce unavailability",
            "state": "acknowledged",
            "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/cancelWorkOrder/cc8e9f41-c351-48ac-8980-548d4a2d59ca",
            "id": "cc8e9f41-c351-48ac-8980-548d4a2d59ca",
            "workOrder": {
                "@type": "WorkOrderRef",
                "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",
                "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25"
            }
        }
    },
    "reportingSystem": {
        "id": "51d61d67-07a4-470f-b27b-b20fdf989e35",
        "name": "APP-675",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    }
}

```

```

        "name": "APP-675",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "source": {
        "id": "6a15927f-8feb-4ed0-91d9-b60da1b5a132",
        "name": "APP-374",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "@baseType": "Event",
    "@type": "CancelWorkOrderCreateEvent"
}

```

Information Required Event

Message example for CancelWorkOrderInformationRequiredEvent event

```

Content-Type: application/json

{
    "correlationId": "23ad1947-6b0a",
    "description": "CancelWorkOrderInformationRequiredEvent illustration request for attachment",
    "domain": "Commercial",
    "eventId": "4655-9378-c6258e688816",
    "eventTime": "2022-08-25T12:18:12.224Z",
    "eventType": "CancelWorkOrderInformationRequiredEvent",
    "priority": "2",
    "timeOcurred": "2022-08-25T12:18:07.161Z",
    "title": "CancelWorkOrderInformationRequiredEvent",
    "event": {
        "cancelWorkOrder": {
            "id": "cc8e9f41-c351-48ac-8980-548d4a2d59ca",
            "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/cancelWorkOrder/cc8e9f41-c351-48ac-8980-548d4a2d59ca",
            "@type": "CancelWorkOrder"
        },
        "informationRequired": {
            "op": "add",
            "path": "/cancellationReason"
        }
    },
    "reportingSystem": {
        "id": "759",
        "name": "APP-745",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "source": {
        "id": "705",
        "name": "APP-317",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "@baseType": "Event",
    "@type": "CancelWorkOrderInformationRequiredEvent"
}

```

State Change Event

Message example for CancelWorkOrderStateChangeEvent event

```
Content-Type: application/json

{
    "correlationId": "35768906-7ccc-4ca3-8892-c2bbd8054009",
    "description": "CancelWorkOrderStateChangeEvent illustration",
    "domain": "Service Assurance",
    "eventId": "965dfdal-06c4-49cb-bcb9-1aa2a93fb2af",
    "eventTime": "2022-08-25T12:21:36.704Z",
    "eventType": "CancelWorkOrderStateChangeEvent",
    "priority": "1",
    "timeOccurred": "2022-08-25T12:21:32.568Z",
    "title": "CancelWorkOrderStateChangeEvent",
    "event": {
        "cancelWorkOrder": {
            "id": "cc8e9f41-c351-48ac-8980-548d4a2d59ca",
            "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/cancelWorkOrder/cc8e9f41-c351-48ac-8980-548d4a2d59ca",
            "state": "acknowledged",
            "@type": "CancelWorkOrder"
        }
    },
    "reportingSystem": {
        "id": "51d61d67-07a4-470f-b27b-b20fdf989e35",
        "name": "APP-675",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "source": {
        "id": "6a15927f-8feb-4ed0-91d9-b60da1b5a132",
        "name": "APP-374",
        "@type": "ReportingResource",
        "@referredType": "LogicalResource"
    },
    "@baseType": "Event",
    "@type": "CancelWorkOrderStateChangeEvent"
}
```

API OPERATIONS

Remember the following Uniform Contract:

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

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

Notifications are also described in a subsequent section.

Operations on WorkOrder

Retrieves a WorkOrder by ID

`GET /workOrder/{id}?fields=...`

Description

This operation retrieves a WorkOrder 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

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

Request

```
GET /workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25
Content-Type: application/json
```

Response

```
200
```

```
{  
    "@type": "WorkOrder",  
    "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/f8ec1c38-  
4e4d-4378-a693-f95680e51e25",  
    "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25",  
    "category": "Installation WorkOrder",  
    "description": "Fixed Fibre Broadband Installation",  
    "startDate": "2024-04-22T14:23:06.528Z",  
    "requestedCompletionDate": "2024-04-22T14:23:06.528Z",  
    "requestedStartDate": "2024-04-22T14:23:06.528Z",  
    "state": "acknowledged",  
    "stateChangeDate": "2024-04-22T14:23:06.528Z",  
    "priority": "high",  
    "completionDate": "2024-04-22T14:23:06.528Z",  
    "expectedCompletionDate": "2024-04-22T14:23:06.528Z",  
    "place": {  
        "@type": "GeographicSite",  
        "href": "https://mycsp.com/tmf-api/v5/geographicSite/geographicSite/23d34276-  
c446-4e7d-aaef-921c9c5d16ec",  
        "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",  
        "relatedParty": [  
            {  
                "role": "SiteResponsible",  
                "partyOrPartyRole": {  
                    "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",  
                    "href": "https://mycsp.com/tmf-  
api/partyManagement/v5/individual/68e81bb8-cbc2-4908-81ee-fef70d86ab78",  
                    "name": "Jane Smith",  
                    "@type": "PartyRef",  
                    "@referredType": "Individual"  
                },  
                "@type": "RelatedPartyRefOrPartyRoleRef"  
            }  
        ],  
        "contactMedium": [  
            {  
                "@type": "PhoneContactMedium",  
                "contactMediumIdentifier": "TelephoneNumber",  
                "preferred": true,  
                "validFor": {  
                    "startDateTime": "2018-06-12T00:00:00Z",  
                    "endDateTime": "2019-01-01T00:00:00Z"  
                },  
                "phoneNumber": "01 09 75 83 51"  
            }  
        ],  
        "siteFeature": [  
            {  
                "id": "981dc298-364c-45a3-b051-e1feab7f4622",  
                "name": "accessRestrictions",  
                "featureCategory": [  
                    "restrictions"  
                ],  
                "isEnabled": true,  
                "featureCharacteristic": [  
                    {  
                        "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",  
                        "name": "Brick Wall",  
                        "valueType": "string",  
                        "value": true,  
                        "@type": "BooleanCharacteristic"  
                    }  
                ]  
            }  
        ]  
    }  
}
```

```
        "@type": "GeographicSiteFeature"
    },
    {
        "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",
        "name": "hazards",
        "featureCategory": [
            "hazards"
        ],
        "isEnabled": true,
        "featureCharacteristic": [
            {
                "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",
                "name": "Noisy Migration",
                "valueType": "string",
                "value": true,
                "@type": "BooleanCharacteristic"
            }
        ],
        "@type": "GeographicSiteFeature"
    }
]
},
"relatedParty": [
{
    "@type": "RelatedPartyRef",
    "href": "https://mycsp.com/tmf-api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "name": "Workforce Engineering Group",
    "role": "Installation Partner"
}
],
"appointment": {
    "@type": "AppointmentRef",
    "href": "https://mycsp.com/tmf-api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",
    "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",
    "name": "Installation Appointment",
    "description": "Installation Appointment for Fixed Fibre Broadband"
},
"relatedProductOrder": [
{
    "@type": "ProductOrderRef",
    "href": "https://mycsp.com/tmf-api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "name": "Fixed Fibre Broadband"
}
],
"externalIdentifier": [
{
    "@type": "ExternalIdentifier",
    "owner": "MagentoWorkforceManagement",
    "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"
}
],
"workOrderItem": [
{
    "@type": "WorkOrderItem",
    "action": "add",
    "description": "FTTH Installation",
    "id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",
    "label": "FTTH Installation"
}
]
```

```
"completionDate": "2024-04-22T14:23:06.528Z",
"state": "acknowledged",
"work": [
    {
        "id": "a833c6f7-b5f8-4e58-8af0-616fbalfba7f",
        "@type": "WorkRefOrValue",
        "workType": "CPEInst1",
        "orderDate": "2024-04-22T14:23:06.528Z",
        "description": "Cabinet Configuration",
        "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
        "name": "FTTH Installation",
        "workPriority": "high",
        "workCharacteristic": [
            {
                "id": "db1b00d6-acaa-428f-9af6-fd7b337b9f17",
                "name": "cityCode",
                "valueType": "string",
                "value": "MK",
                "@type": "StringCharacteristic"
            }
        ],
        "place": [
            {
                "@type": "RelatedPlaceRefOrValue",
                "role": "string",
                "place": {
                    "@type": "GeographicSite",
                    "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
                    "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
                    "code": "BS-9283",
                    "description": "This is the site for the base station BS-9283",
                    "place": [
                        {
                            "@type": "GeographicAddress",
                            "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
                            "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
                            "city": "New York",
                            "country": "United Kingdom",
                            "locality": "Oxford",
                            "postcode": "OX23 232",
                            "stateOrProvince": "Oxfordshire",
                            "streetName": "Broadway",
                            "streetNr": "123",
                            "geographicAddressType": "Building"
                        },
                        {
                            "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
                            "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
                            "@type": "GeoJsonPolygon",
                            "coordinates": [
                                "12.14",
                                "12.45",
                                "34.54",
                                "65.34"
                            ],
                            "type": "Polygon"
                        }
                    ]
                }
            }
        ]
    }
]
```

```
        }
    ],
    "actualDuration": {
        "amount": 4,
        "units": "hour"
    },
    "workTimeSlot": {
        "startDateTime": "2024-04-12T23:20:50.52Z"
    },
    "currentDuration": {
        "amount": 4,
        "units": "hour"
    },
    "note": {
        "@type": "Note",
        "id": "afa9-3d90aaa8da0f",
        "author": "Mr. N. Bene",
        "date": "2020-11-20T08:00:00Z",
        "text": "Demand Point Type: SDU"
    },
    "scheduledDuration": {
        "amount": 1,
        "units": "day"
    },
    "relatedWork": [
        {
            "@type": "WorkRefOrValue",
            "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/82000258-ecf8-47a6-a7b9-b972475bff5a",
            "id": "82000258-ecf8-47a6-a7b9-b972475bff5a"
        }
    ],
    "relatedParty": [
        {
            "@type": "RelatedPartyRef",
            "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
            "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
            "name": "Workforce Engineering Group",
            "role": "Installation Partner"
        }
    ],
    "workSpecification": {
        "@type": "WorkSpecificationRef",
        "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
        "name": "FTTH Installation"
    },
    "workforceEmployeeAssignment": [
        {
            "@type": "WorkforceEmployeeAssignment",
            "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
            "skillType": "FTTH Installation Engineer",
            "state": "acknowledged",
            "timeSlot": [
                {
                    "@type": "TimeSlot",
                    "validFor": {
                        "startDateTime": "2024-04-12T23:20:50.52Z",
                        "endDateTime": "2024-04-12T23:20:50.52Z"
                    }
                }
            ]
        }
    ]
},
```

```
"workforceEmployee": [
    "@type": "Individual",
    "name": "Athelstan Amos",
    "id": "12231244",
    "contactMedium": [
        {
            "@type": "PhoneContactMedium",
            "@baseType": "ContactMedium",
            "contactType": "private",
            "id": "c0181f3d83e144a59162fd6136a98462",
            "preferred": true,
            "validFor": {
                "startDateTime": "2018-09-21T23:20:50.52Z"
            },
            "verified": true,
            "phoneNumber": "+1 202-918-2132"
        }
    ]
},
"workOrderRelationship": [
    {
        "@type": "OrderRelationship",
        "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
        "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
        "relationshipType": "reliesOn"
    }
],
"agreement": [
    {
        "@type": "AgreementRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "a99a4a2c-df8b-46d1-ba49-42cbb0623b3c",
        "name": "Fixed Fibre Broadband Agreement"
    }
],
"billingAccount": {
    "@type": "BillingAccountRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
},
"channel": [
    {
        "@type": "RelatedChannel",
        "role": "Portal",
        "channel": {
            "@type": "ChannelRef",
            "href": "https://mycsp.com/tmf-api/v5/API",
            "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
            "name": "Portal"
        }
    }
],
"note": {
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
}
```

```
        "text": "This is important"
    },
    "orderDate": "2024-04-22T14:23:06.528Z",
    "orderTotalPrice": [
        {
            "@type": "OrderPrice",
            "description": "Fixed Fibre Broadband Installation",
            "name": "Installation Fee",
            "price": {
                "@type": "Price",
                "dutyFreeAmount": {
                    "unit": "USD",
                    "value": 99.99
                },
                "percentage": 0,
                "taxIncludedAmount": {
                    "unit": "USD",
                    "value": 99.99
                },
                "taxRate": 0
            },
            "priceType": "Installation Fee"
        }
    ]
}
```

List or find WorkOrder objects

GET /workOrder?fields=...

Description

This operation list WorkOrder 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

TBD - not retrievable from API

Request

```
GET /workOrder
Content-Type: application/json
{}
```

Response

```
200
```

Creates a WorkOrder

POST /workOrder?fields=...

Description

This operation creates a WorkOrder entity.

Mandatory Attributes

Mandatory Attributes	Rule
workOrderItem	
workOrderItem.@type	
workOrderItem.action	
workOrderItem.id	
@type	

Usage samples

Creation of a new work order with POST operation

Request

```
POST /workOrder
Content-Type: application/json

{
    "@type": "WorkOrder",
    "category": "Installation WorkOrder",
    "description": "Fixed Fibre Broadband Installation",
    "startDate": "2024-04-22T14:23:06.528Z",
    "requestedCompletionDate": "2024-04-22T14:23:06.528Z",
    "requestedStartDate": "2024-04-22T14:23:06.528Z",
    "priority": "high",
    "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
    "place": {
        "@type": "GeographicSite",
        "href": "https://mycsp.com/tmf-api/v5/geographicSite/geographicSite/23d34276-c446-4e7d-aaef-921c9c5d16ec",
        "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",
        "relatedParty": [
            {
                "role": "SiteResponsible",
                "partyOrPartyRole": {
                    "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                    "href": "https://mycsp.com/tmf-api/partyManagement/v5/individual/68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                    "name": "Jane Smith",
                    "@type": "PartyRef",
                    "@referredType": "Individual"
                },
                "@type": "RelatedPartyRefOrPartyRoleRef"
            }
        ],
        "contactMedium": [
            {
                "@type": "PhoneContactMedium",
                "contactMediumIdentifier": "TelephoneNumber",
                "preferred": true,
                "value": "+1234567890"
            }
        ]
    }
}
```

```
        "validFor": {
            "startDateTime": "2018-06-12T00:00:00Z",
            "endDateTime": "2019-01-01T00:00:00Z"
        },
        "phoneNumber": "01 09 75 83 51"
    }
],
"siteFeature": [
{
    "id": "981dc298-364c-45a3-b051-e1feab7f4622",
    "name": "accessRestrictions",
    "featureCategory": [
        "restrictions"
    ],
    "isEnabled": true,
    "featureCharacteristic": [
        {
            "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",
            "name": "Brick Wall",
            "valueType": "string",
            "value": true,
            "@type": "BooleanCharacteristic"
        }
    ],
    "@type": "GeographicSiteFeature"
},
{
    "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",
    "name": "hazards",
    "featureCategory": [
        "hazards"
    ],
    "isEnabled": true,
    "featureCharacteristic": [
        {
            "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",
            "name": "Noisy Migration",
            "valueType": "string",
            "value": true,
            "@type": "BooleanCharacteristic"
        }
    ],
    "@type": "GeographicSiteFeature"
}
]
},
"relatedParty": [
{
    "@type": "RelatedPartyRef",
    "href": "https://mycsp.com/tmf-api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "name": "Workforce Engineering Group",
    "role": "Installation Partner"
}
],
"appointment": {
    "@type": "AppointmentRef",
    "href": "https://mycsp.com/tmf-api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",
    "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",
    "name": "Installation Appointment",
    "description": "Installation Appointment for Fixed Fibre Broadband"
}
```

```
        },
        "relatedProductOrder": [
            {
                "@type": "ProductOrderRef",
                "href": "https://mycsp.com/tmf-
api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-
dcf1a139c683",
                "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",
                "name": "Fixed Fibre Broadband"
            }
        ],
        "externalIdentifier": [
            {
                "@type": "ExternalIdentifier",
                "owner": "MagentoWorkforceManagement",
                "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"
            }
        ],
        "workOrderItem": [
            {
                "@type": "WorkOrderItem",
                "id": "1",
                "action": "add",
                "description": "FTTH Installation",
                "completionDate": "2024-04-22T14:23:06.528Z",
                "state": "acknowledged",
                "work": {
                    "@type": "WorkRefOrValue",
                    "id": "1",
                    "workType": "CPEInst1",
                    "orderDate": "2024-04-22T14:23:06.528Z",
                    "description": "Cabinet Configuration",
                    "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
                    "name": "FTTH Installation",
                    "workPriority": "high",
                    "workCharacteristic": [
                        {
                            "name": "cityCode",
                            "valueType": "string",
                            "value": "MK",
                            "@type": "StringCharacteristic"
                        }
                    ],
                    "place": [
                        {
                            "@type": "RelatedPlaceRefOrValue",
                            "role": "string",
                            "place": {
                                "@type": "GeographicSite",
                                "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
                                "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
                                "code": "BS-9283",
                                "description": "This is the site for the base station BS-9283",
                                "place": [
                                    {
                                        "@type": "GeographicAddress",
                                        "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
                                        "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
                                        "city": "New York"
                                    }
                                ]
                            }
                        }
                    ]
                }
            }
        ]
    }
}
```

```
        "country": "United Kingdom",
        "locality": "Oxford",
        "postcode": "OX23 232",
        "stateOrProvince": "Oxfordshire",
        "streetName": "Broadway",
        "streetNr": "123",
        "geographicAddressType": "Building"
    },
    {
        "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
        "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
        "@type": "GeoJsonPolygon",
        "coordinates": [
            [
                [
                    [
                        [
                            [
                                [
                                    [
                                        [
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                                                [
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                                                                                                 [
................................................................
```

```
        "role": "Installation Partner"
    },
],
"workSpecification": {
    "@type": "WorkSpecificationRef",
    "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
    "name": "FTTH Installation"
},
"workforceEmployeeAssignment": [
    {
        "@type": "WorkforceEmployeeAssignment",
        "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
        "skillType": "FTTH Installation Engineer",
        "state": "acknowledged",
        "timeSlot": [
            {
                "@type": "TimeSlot",
                "validFor": {
                    "startDateTime": "2024-04-12T23:20:50.52Z",
                    "endDateTime": "2024-04-12T23:20:50.52Z"
                }
            }
        ],
        "workforceEmployee": {
            "@type": "Individual",
            "name": "Athelstan Amos",
            "id": "12231244",
            "contactMedium": [
                {
                    "@type": "PhoneContactMedium",
                    "@baseType": "ContactMedium",
                    "contactType": "private",
                    "id": "c0181f3d83e144a59162fd6136a98462",
                    "preferred": true,
                    "validFor": {
                        "startDateTime": "2018-09-21T23:20:50.52Z"
                    },
                    "verified": true,
                    "phoneNumber": "+1 202-918-2132"
                }
            ]
        }
    }
],
"workOrderRelationship": [
    {
        "@type": "OrderRelationship",
        "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
        "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
        "relationshipType": "reliesOn"
    }
],
"agreement": [
    {
        "@type": "AgreementRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "a99a4a2c-df8b-46d1-ba49-42cbb0623b3c",
        "name": "Fixed Fibre Broadband Agreement"
    }
]
```

```

] ,
"billingAccount": {
    "@type": "BillingAccountRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
},
"channel": [
{
    "@type": "RelatedChannel",
    "role": "Portal",
    "channel": {
        "@type": "ChannelRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
        "name": "Portal"
    }
}
],
"note": {
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important"
},
"orderTotalPrice": [
{
    "@type": "OrderPrice",
    "description": "Fixed Fibre Broadband Installation",
    "name": "Installation Fee",
    "price": {
        "@type": "Price",
        "dutyFreeAmount": {
            "unit": "USD",
            "value": 99.99
        },
        "percentage": 0,
        "taxIncludedAmount": {
            "unit": "USD",
            "value": 99.99
        },
        "taxRate": 0
    },
    "priceType": "Installation Fee"
}
]
}

```

Response

```

201
{
    "@type": "WorkOrder",
    "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",
    "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25",
    "category": "Installation WorkOrder",
    "description": "Fixed Fibre Broadband Installation",
    "startDate": "2024-04-22T14:23:06.528Z",

```

```
"requestedCompletionDate": "2024-04-22T14:23:06.528Z",
"requestedStartDate": "2024-04-22T14:23:06.528Z",
"state": "acknowledged",
"stateChangeDate": "2024-04-22T14:23:06.528Z",
"priority": "high",
"completionDate": "2024-04-22T14:23:06.528Z",
"expectedCompletionDate": "2024-04-22T14:23:06.528Z",
"place": {
    "@type": "GeographicSite",
    "href": "https://mycsp.com/tmf-api/v5/geographicSite/geographicSite/23d34276-c446-4e7d-aaef-921c9c5d16ec",
    "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",
    "relatedParty": [
        {
            "role": "SiteResponsible",
            "partyOrPartyRole": {
                "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                "href": "https://mycsp.com/tmf-api/partyManagement/v5/individual/68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                "name": "Jane Smith",
                "@type": "PartyRef",
                "@referredType": "Individual"
            },
            "@type": "RelatedPartyRefOrPartyRoleRef"
        }
    ],
    "contactMedium": [
        {
            "@type": "PhoneContactMedium",
            "contactMediumIdentifier": "TelephoneNumber",
            "preferred": true,
            "validFor": {
                "startDateTime": "2018-06-12T00:00:00Z",
                "endDateTime": "2019-01-01T00:00:00Z"
            },
            "phoneNumber": "01 09 75 83 51"
        }
    ],
    "siteFeature": [
        {
            "id": "981dc298-364c-45a3-b051-e1feab7f4622",
            "name": "accessRestrictions",
            "featureCategory": [
                "restrictions"
            ],
            "isEnabled": true,
            "featureCharacteristic": [
                {
                    "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",
                    "name": "Brick Wall",
                    "valueType": "string",
                    "value": true,
                    "@type": "BooleanCharacteristic"
                }
            ],
            "@type": "GeographicSiteFeature"
        },
        {
            "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",
            "name": "hazards",
            "featureCategory": [
                "hazards"
            ],
        }
    ]
}
```

```
        "isEnabled": true,
        "featureCharacteristic": [
            {
                "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",
                "name": "Noisy Migration",
                "valueType": "string",
                "value": true,
                "@type": "BooleanCharacteristic"
            }
        ],
        "@type": "GeographicSiteFeature"
    }
],
"relatedParty": [
{
    "@type": "RelatedPartyRef",
    "href": "https://mycsp.com/tmf-api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "name": "Workforce Engineering Group",
    "role": "Installation Partner"
}
],
"appointment": {
    "@type": "AppointmentRef",
    "href": "https://mycsp.com/tmf-api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",
    "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",
    "name": "Installation Appointment",
    "description": "Installation Appointment for Fixed Fibre Broadband"
},
"relatedProductOrder": [
{
    "@type": "ProductOrderRef",
    "href": "https://mycsp.com/tmf-api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "name": "Fixed Fibre Broadband"
}
],
"externalIdentifier": [
{
    "@type": "ExternalIdentifier",
    "owner": "MagentoWorkforceManagement",
    "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"
}
],
"workOrderItem": [
{
    "@type": "WorkOrderItem",
    "action": "add",
    "description": "FTTH Installation",
    "id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",
    "completionDate": "2024-04-22T14:23:06.528Z",
    "state": "acknowledged",
    "work": {
        "id": "a833c6f7-b5f8-4e58-8af0-616fbalfba7f",
        "@type": "WorkRefOrValue",
        "workType": "CPEInst1",
        "orderDate": "2024-04-22T14:23:06.528Z",
        "description": "Cabinet Configuration"
    }
}
```

```
"expectedCompletionDate": "2024-04-22T14:23:06.528Z",
"name": "FTTH Installation",
"workPriority": "high",
"workCharacteristic": [
  {
    "id": "db1b00d6-acaa-428f-9af6-fd7b337b9f17",
    "name": "cityCode",
    "valueType": "string",
    "value": "MK",
    "@type": "StringCharacteristic"
  }
],
"place": [
  {
    "@type": "RelatedPlaceRefOrValue",
    "role": "string",
    "place": {
      "@type": "GeographicSite",
      "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
      "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
      "code": "BS-9283",
      "description": "This is the site for the base station BS-9283",
      "place": [
        {
          "@type": "GeographicAddress",
          "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
          "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
          "city": "New York",
          "country": "United Kingdom",
          "locality": "Oxford",
          "postcode": "OX23 232",
          "stateOrProvince": "Oxfordshire",
          "streetName": "Broadway",
          "streetNr": "123",
          "geographicAddressType": "Building"
        },
        {
          "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
          "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
          "@type": "GeoJsonPolygon",
          "coordinates": [
            [
              [
                [
                  [
                    [
                      "12.14",
                      "12.45",
                      "34.54",
                      "65.34"
                    ]
                  ]
                ]
              ]
            ]
          ],
          "type": "Polygon"
        }
      ]
    }
  ],
  "actualDuration": {
    "amount": 4,
    "units": "hour"
  },
  "workTimeSlot": {
```

```
        "startDateTime": "2024-04-12T23:20:50.52Z"
    },
    "currentDuration": {
        "amount": 4,
        "units": "hour"
    },
    "note": {
        "@type": "Note",
        "id": "afa9-3d90aaa8da0f",
        "author": "Mr. N. Bene",
        "date": "2020-11-20T08:00:00Z",
        "text": "Demand Point Type: SDU"
    },
    "scheduledDuration": {
        "amount": 1,
        "units": "day"
    },
    "relatedWork": [
        {
            "@type": "WorkRefOrValue",
            "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/82000258-ecf8-47a6-a7b9-b972475bff5a",
            "id": "82000258-ecf8-47a6-a7b9-b972475bff5a"
        }
    ],
    "relatedParty": [
        {
            "@type": "RelatedPartyRef",
            "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
            "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
            "name": "Workforce Engineering Group",
            "role": "Installation Partner"
        }
    ],
    "workSpecification": {
        "@type": "WorkSpecificationRef",
        "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
        "name": "FTTH Installation"
    },
    "workforceEmployeeAssignment": [
        {
            "@type": "WorkforceEmployeeAssignment",
            "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
            "skillType": "FTTH Installation Engineer",
            "state": "acknowledged",
            "timeSlot": [
                {
                    "@type": "TimeSlot",
                    "validFor": {
                        "startDateTime": "2024-04-12T23:20:50.52Z",
                        "endDateTime": "2024-04-12T23:20:50.52Z"
                    }
                }
            ],
            "workforceEmployee": {
                "@type": "Individual",
                "name": "Athelstan Amos",
                "id": "12231244",
                "contactMedium": [
                    {
                        "@type": "PhoneContactMedium",
                        "@baseType": "ContactMedium",
                        "number": "+44 7700 123456"
                    }
                ]
            }
        }
    ]
}
```

```
        "contactType": "private",
        "id": "c0181f3d83e144a59162fd6136a98462",
        "preferred": true,
        "validFor": [
            {
                "startDateTime": "2018-09-21T23:20:50.52Z"
            }
        ],
        "verified": true,
        "phoneNumber": "+1 202-918-2132"
    }
]
}
]
},
],
"workOrderRelationship": [
{
    "@type": "OrderRelationship",
    "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "relationshipType": "reliesOn"
}
],
"agreement": [
{
    "@type": "AgreementRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "a99a4a2c-df8b-46d1-ba49-42cbb0623b3c",
    "name": "Fixed Fibre Broadband Agreement"
}
],
"billingAccount": {
    "@type": "BillingAccountRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
},
"channel": [
{
    "@type": "RelatedChannel",
    "role": "Portal",
    "channel": {
        "@type": "ChannelRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
        "name": "Portal"
    }
}
],
"note": [
{
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important"
},
{
    "orderDate": "2024-04-22T14:23:06.528Z",
    "orderTotalPrice": [
{
        "@type": "OrderPrice",
        "description": "Fixed Fibre Broadband Installation",
        "name": "Installation Fee",
        "value": 100
    }
]
}
]
```

```

    "price": {
      "@type": "Price",
      "dutyFreeAmount": {
        "unit": "USD",
        "value": 99.99
      },
      "percentage": 0,
      "taxIncludedAmount": {
        "unit": "USD",
        "value": 99.99
      },
      "taxRate": 0
    },
    "priceType": "Installation Fee"
  }
]
}

```

Updates partially a WorkOrder

PATCH /workOrder/{id}?fields=...

Description

This operation allows partial updates of a WorkOrder entity. Support of json/merge (<https://tools.ietf.org/html/rfc7396>) 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

Non Patchable Attributes	Rule
href	
id	
orderDate	
@baseType	@baseType is immutable
@schemaLocation	@schemaLocation is immutable
@type	@type is immutable

Patchable Attributes	Rule
agreement	
appointment	
billingAccount	
cancellationDate	
cancellationReason	
category	

Patchable Attributes	Rule
channel	
completionDate	
description	
expectedCompletionDate	
externalIdentifier	
note	
notificationContact	
orderTotalPrice	
payment	
place	
priority	
quote	
relatedEntity	
relatedParty	
relatedProductOrder	
requestedCompletionDate	
requestedStartDate	
startDate	
state	
stateChangeDate	
workOrderItem	
workOrderRelationship	

Usage samples

Here's an example of a request for patching a work order using merge-patch+json. In this example, name, description and externalIdentifier is updated.

Request

```
PATCH /workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25
Content-Type: application/merge-patch+json

{
    "state": "inProgress",
    "@type": "WorkOrder"
}
```

Response

200

```
{  
    "@type": "WorkOrder",  
    "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/f8ec1c38-  
4e4d-4378-a693-f95680e51e25",  
    "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25",  
    "category": "Installation WorkOrder",  
    "description": "Fixed Fibre Broadband Installation",  
    "startDate": "2024-04-22T14:23:06.528Z",  
    "requestedCompletionDate": "2024-04-22T14:23:06.528Z",  
    "requestedStartDate": "2024-04-22T14:23:06.528Z",  
    "state": "inProgress",  
    "stateChangeDate": "2024-04-22T14:23:06.528Z",  
    "priority": "high",  
    "completionDate": "2024-04-22T14:23:06.528Z",  
    "expectedCompletionDate": "2024-04-22T14:23:06.528Z",  
    "place": {  
        "@type": "GeographicSite",  
        "href": "https://mycsp.com/tmf-api/v5/geographicSite/geographicSite/23d34276-  
c446-4e7d-aaef-921c9c5d16ec",  
        "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",  
        "relatedParty": [  
            {  
                "role": "SiteResponsible",  
                "partyOrPartyRole": {  
                    "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",  
                    "href": "https://mycsp.com/tmf-  
api/partyManagement/v5/individual/68e81bb8-cbc2-4908-81ee-fef70d86ab78",  
                    "name": "Jane Smith",  
                    "@type": "PartyRef",  
                    "@referredType": "Individual"  
                },  
                "@type": "RelatedPartyRefOrPartyRoleRef"  
            }  
        ],  
        "contactMedium": [  
            {  
                "@type": "PhoneContactMedium",  
                "contactMediumIdentifier": "TelephoneNumber",  
                "preferred": true,  
                "validFor": {  
                    "startDateTime": "2018-06-12T00:00:00Z",  
                    "endDateTime": "2019-01-01T00:00:00Z"  
                },  
                "phoneNumber": "01 09 75 83 51"  
            }  
        ],  
        "siteFeature": [  
            {  
                "id": "981dc298-364c-45a3-b051-e1feab7f4622",  
                "name": "accessRestrictions",  
                "featureCategory": [  
                    "restrictions"  
                ],  
                "isEnabled": true,  
                "featureCharacteristic": [  
                    {  
                        "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",  
                        "name": "Brick Wall",  
                        "valueType": "string",  
                        "value": true,  
                    }  
                ]  
            }  
        ]  
    }  
}
```

```
        "@type": "BooleanCharacteristic"
    }
]
},
{
    "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",
    "name": "hazards",
    "featureCategory": [
        "hazards"
    ],
    "isEnabled": true,
    "featureCharacteristic": [
        {
            "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",
            "name": "Noisy Migration",
            "valueType": "string",
            "value": true,
            "@type": "BooleanCharacteristic"
        }
    ]
}
],
"relatedParty": [
{
    "@type": "RelatedPartyRef",
    "href": "https://mycsp.com/tmf-api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "name": "Workforce Engineering Group",
    "role": "Installation Partner"
}
],
"appointment": {
    "@type": "AppointmentRef",
    "href": "https://mycsp.com/tmf-api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",
    "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",
    "name": "Installation Appointment",
    "description": "Installation Appointment for Fixed Fibre Broadband"
},
"relatedProductOrder": [
{
    "@type": "ProductOrderRef",
    "href": "https://mycsp.com/tmf-api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "name": "Fixed Fibre Broadband"
}
],
"externalIdentifier": [
{
    "@type": "ExternalIdentifier",
    "owner": "MagentoWorkforceManagement",
    "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"
}
],
"workOrderItem": [
{
    "@type": "WorkOrderItem",
    "action": "add",
    "description": "FTTH Installation",
    "id": "12345678-9abc-def0-4567-890123456789"
}
]
```

```
"id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",
"completionDate": "2024-04-22T14:23:06.528Z",
"state": "acknowledged",
"work": {
  "id": "a833c6f7-b5f8-4e58-8af0-616fbalfba7f",
  "@type": "WorkRefOrValue",
  "workType": "CPEInstl",
  "orderDate": "2024-04-22T14:23:06.528Z",
  "description": "Cabinet Configuration",
  "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
  "name": "FTTH Installation",
  "workPriority": "high",
  "workCharacteristic": [
    {
      "id": "db1b00d6-acaa-428f-9af6-fd7b337b9f17",
      "name": "cityCode",
      "valueType": "string",
      "value": "MK",
      "@type": "StringCharacteristic"
    }
  ],
  "place": [
    {
      "@type": "RelatedPlaceRefOrValue",
      "role": "string",
      "place": {
        "@type": "GeographicSite",
        "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
        "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
        "code": "BS-9283",
        "description": "This is the site for the base station BS-9283",
        "place": [
          {
            "@type": "GeographicAddress",
            "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
            "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
            "city": "New York",
            "country": "United Kingdom",
            "locality": "Oxford",
            "postcode": "OX23 232",
            "stateOrProvince": "Oxfordshire",
            "streetName": "Broadway",
            "streetNr": "123",
            "geographicAddressType": "Building"
          },
          {
            "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
            "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
            "@type": "GeoJsonPolygon",
            "coordinates": [
              "12.14",
              "12.45",
              "34.54",
              "65.34"
            ],
            "type": "Polygon"
          }
        ]
      }
    }
  ]
}
```

```
        ]
    }
],
"actualDuration": {
    "amount": 4,
    "units": "hour"
},
"workTimeSlot": {
    "startDateTime": "2024-04-12T23:20:50.52Z"
},
"currentDuration": {
    "amount": 4,
    "units": "hour"
},
"note": {
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "Demand Point Type: SDU"
},
"scheduledDuration": {
    "amount": 1,
    "units": "day"
},
"relatedWork": [
{
    "@type": "WorkRefOrValue",
    "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/82000258-ecf8-47a6-a7b9-b972475bff5a",
    "id": "82000258-ecf8-47a6-a7b9-b972475bff5a"
}
],
"relatedParty": [
{
    "@type": "RelatedPartyRef",
    "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "name": "Workforce Engineering Group",
    "role": "Installation Partner"
}
],
"workSpecification": {
    "@type": "WorkSpecificationRef",
    "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
    "name": "FTTH Installation"
},
"workforceEmployeeAssignment": [
{
    "@type": "WorkforceEmployeeAssignment",
    "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
    "skillType": "FTTH Installation Engineer",
    "state": "acknowledged",
    "timeSlot": [
{
    "@type": "TimeSlot",
    "validFor": {
        "startDateTime": "2024-04-12T23:20:50.52Z",
        "endDateTime": "2024-04-12T23:20:50.52Z"
    }
}
]
```

```
        ],
        "workforceEmployee": [
            "@type": "Individual",
            "name": "Athelstan Amos",
            "id": "12231244",
            "contactMedium": [
                {
                    "@type": "PhoneContactMedium",
                    "@baseType": "ContactMedium",
                    "contactType": "private",
                    "id": "c0181f3d83e144a59162fd6136a98462",
                    "preferred": true,
                    "validFor": {
                        "startDateTime": "2018-09-21T23:20:50.52Z"
                    },
                    "verified": true,
                    "phoneNumber": "+1 202-918-2132"
                }
            ]
        }
    ],
    "workOrderRelationship": [
        {
            "@type": "OrderRelationship",
            "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
            "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
            "relationshipType": "reliesOn"
        }
    ],
    "agreement": [
        {
            "@type": "AgreementRef",
            "href": "https://mycsp.com/tmf-api/v5/API",
            "id": "a99a4a2c-df8b-46d1-ba49-42cbb0623b3c",
            "name": "Fixed Fibre Broadband Agreement"
        }
    ],
    "billingAccount": {
        "@type": "BillingAccountRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
    },
    "channel": [
        {
            "@type": "RelatedChannel",
            "role": "Portal",
            "channel": {
                "@type": "ChannelRef",
                "href": "https://mycsp.com/tmf-api/v5/API",
                "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
                "name": "Portal"
            }
        }
    ],
    "note": {
        "@type": "Note",
        "id": "afaf9-3d90aaa8da0f",
        "author": "Mr. N. Bene"
    }
]
```

```

    "date": "2020-11-20T08:00:00Z",
    "text": "This is important"
},
"orderDate": "2024-04-22T14:23:06.528Z",
"orderTotalPrice": [
{
    "@type": "OrderPrice",
    "description": "Fixed Fibre Broadband Installation",
    "name": "Installation Fee",
    "price": {
        "@type": "Price",
        "dutyFreeAmount": {
            "unit": "USD",
            "value": 99.99
        },
        "percentage": 0,
        "taxIncludedAmount": {
            "unit": "USD",
            "value": 99.99
        },
        "taxRate": 0
    },
    "priceType": "Installation Fee"
}
]
}

```

Here's an example of a request for patching a work order using json-patch+json. In this example, description is updated.

Request

```

PATCH /workOrder/499722f4-2928-4f41-87f0-7cf11157339d
Content-Type: application/json-patch+json

[
{
    "op": "test",
    "path": "/state",
    "value": "acknowledged"
},
{
    "op": "replace",
    "path": "/state",
    "value": "inProgress"
}
]

```

Response

```

200

{
    "@type": "WorkOrder",
    "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/499722f4-2928-4f41-87f0-7cf11157339d",
    "id": "499722f4-2928-4f41-87f0-7cf11157339d",
}

```

```
"category": "Installation WorkOrder",
"description": "Fixed Fibre Broadband Installation",
"startDate": "2024-04-22T14:23:06.528Z",
"requestedCompletionDate": "2024-04-22T14:23:06.528Z",
"requestedStartDate": "2024-04-22T14:23:06.528Z",
"state": "inProgress",
"stateChangeDate": "2024-04-22T14:23:06.528Z",
"priority": "high",
"completionDate": "2024-04-22T14:23:06.528Z",
"expectedCompletionDate": "2024-04-22T14:23:06.528Z",
"place": {
    "@type": "GeographicSite",
    "href": "https://mycsp.com/tmf-api/v5/geographicSite/geographicSite/23d34276-c446-4e7d-aaef-921c9c5d16ec",
    "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",
    "relatedParty": [
        {
            "role": "SiteResponsible",
            "partyOrPartyRole": {
                "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                "href": "https://mycsp.com/tmf-
api/partyManagement/v5/individual/68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                "name": "Jane Smith",
                "@type": "PartyRef",
                "@REFERREDTYPE": "Individual"
            },
            "@type": "RelatedPartyRefOrPartyRoleRef"
        }
    ],
    "contactMedium": [
        {
            "@type": "PhoneContactMedium",
            "contactMediumIdentifier": "TelephoneNumber",
            "preferred": true,
            "validFor": {
                "startDateTime": "2018-06-12T00:00:00Z",
                "endDateTime": "2019-01-01T00:00:00Z"
            },
            "phoneNumber": "01 09 75 83 51"
        }
    ],
    "siteFeature": [
        {
            "id": "981dc298-364c-45a3-b051-e1feab7f4622",
            "name": "accessRestrictions",
            "featureCategory": [
                "restrictions"
            ],
            "isEnabled": true,
            "featureCharacteristic": [
                {
                    "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",
                    "name": "Brick Wall",
                    "valueType": "string",
                    "value": true,
                    "@type": "BooleanCharacteristic"
                }
            ]
        },
        {
            "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",
            "name": "hazards",
            "featureCategory": [

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```
        "hazards"
    ],
    "isEnabled": true,
    "featureCharacteristic": [
        {
            "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",
            "name": "Noisy Migration",
            "valueType": "string",
            "value": true,
            "@type": "BooleanCharacteristic"
        }
    ]
},
"relatedParty": [
{
    "@type": "RelatedPartyRef",
    "href": "https://mycsp.com/tmf-api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "name": "Workforce Engineering Group",
    "role": "Installation Partner"
}
],
"appointment": {
    "@type": "AppointmentRef",
    "href": "https://mycsp.com/tmf-api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",
    "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",
    "name": "Installation Appointment",
    "description": "Installation Appointment for Fixed Fibre Broadband"
},
"relatedProductOrder": [
{
    "@type": "ProductOrderRef",
    "href": "https://mycsp.com/tmf-api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "name": "Fixed Fibre Broadband"
}
],
"externalIdentifier": [
{
    "@type": "ExternalIdentifier",
    "owner": "MagentoWorkforceManagement",
    "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"
}
],
"workOrderItem": [
{
    "@type": "WorkOrderItem",
    "action": "add",
    "description": "FTTH Installation",
    "id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",
    "completionDate": "2024-04-22T14:23:06.528Z",
    "state": "acknowledged",
    "work": {
        "id": "a833c6f7-b5f8-4e58-8af0-616fbalfba7f",
        "@type": "WorkRefOrValue",
        "workType": "CPEInst1",
        "orderDate": "2024-04-22T14:23:06.528Z"
    }
}
```

```
"description": "Cabinet Configuration",
"expectedCompletionDate": "2024-04-22T14:23:06.528Z",
"name": "FTTH Installation",
"workPriority": "high",
"workCharacteristic": [
  {
    "id": "db1b00d6-acaa-428f-9af6-fd7b337b9f17",
    "name": "cityCode",
    "valueType": "string",
    "value": "MK",
    "@type": "StringCharacteristic"
  }
],
"place": [
  {
    "@type": "RelatedPlaceRefOrValue",
    "role": "string",
    "place": {
      "@type": "GeographicSite",
      "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
      "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
      "code": "BS-9283",
      "description": "This is the site for the base station BS-9283",
      "place": [
        {
          "@type": "GeographicAddress",
          "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
          "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
          "city": "New York",
          "country": "United Kingdom",
          "locality": "Oxford",
          "postcode": "OX23 232",
          "stateOrProvince": "Oxfordshire",
          "streetName": "Broadway",
          "streetNr": "123",
          "geographicAddressType": "Building"
        },
        {
          "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
          "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
          "@type": "GeoJsonPolygon",
          "coordinates": [
            [
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"workTimeSlot": {
    "startDateTime": "2024-04-12T23:20:50.52Z"
},
"currentDuration": {
    "amount": 4,
    "units": "hour"
},
"note": {
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "Demand Point Type: SDU"
},
"scheduledDuration": {
    "amount": 1,
    "units": "day"
},
"relatedWork": [
{
    "@type": "WorkRefOrValue",
    "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/82000258-ecf8-47a6-a7b9-b972475bff5a",
    "id": "82000258-ecf8-47a6-a7b9-b972475bff5a"
}
],
"relatedParty": [
{
    "@type": "RelatedPartyRef",
    "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "name": "Workforce Engineering Group",
    "role": "Installation Partner"
}
],
"workSpecification": {
    "@type": "WorkSpecificationRef",
    "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
    "name": "FTTH Installation"
},
"workforceEmployeeAssignment": [
{
    "@type": "WorkforceEmployeeAssignment",
    "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
    "skillType": "FTTH Installation Engineer",
    "state": "acknowledged",
    "timeSlot": [
{
        "@type": "TimeSlot",
        "validFor": {
            "startDateTime": "2024-04-12T23:20:50.52Z",
            "endDateTime": "2024-04-12T23:20:50.52Z"
        }
    }
],
"workforceEmployee": {
    "@type": "Individual",
    "name": "Athelstan Amos",
    "id": "12231244",
    "contactMedium": [
{
        "@type": "PhoneContactMedium",
        "number": "+44 7700 123456"
    }
]
}
]
```

```
        "@baseType": "ContactMedium",
        "contactType": "private",
        "id": "c0181f3d83e144a59162fd6136a98462",
        "preferred": true,
        "validFor": [
            "startDateTime": "2018-09-21T23:20:50.52Z"
        ],
        "verified": true,
        "phoneNumber": "+1 202-918-2132"
    }
]
}
]
],
"workOrderRelationship": [
{
    "@type": "OrderRelationship",
    "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "relationshipType": "reliesOn"
},
],
"agreement": [
{
    "@type": "AgreementRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "a99a4a2c-df8b-46d1-ba49-42cbb0623b3c",
    "name": "Fixed Fibre Broadband Agreement"
}
],
"billingAccount": {
    "@type": "BillingAccountRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
},
"channel": [
{
    "@type": "RelatedChannel",
    "role": "Portal",
    "channel": {
        "@type": "ChannelRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
        "name": "Portal"
    }
}
],
"note": {
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important"
},
"orderDate": "2024-04-22T14:23:06.528Z",
"orderTotalPrice": [
{
    "@type": "OrderPrice",
    "description": "Fixed Fibre Broadband Installation"
}
```

```

        "name": "Installation Fee",
        "price": {
            "@type": "Price",
            "dutyFreeAmount": {
                "unit": "USD",
                "value": 99.99
            },
            "percentage": 0,
            "taxIncludedAmount": {
                "unit": "USD",
                "value": 99.99
            },
            "taxRate": 0
        },
        "priceType": "Installation Fee"
    }
]
}

```

Here's an example of a request for patching a work order using json-patch-query+json. In this example, the RelatedParty role attribute is updated.

Request

```

PATCH /workOrder/712a24e8-d5fe-4304-abe2-48a2771509c0
Content-Type: application/json-patch-query+json

[
    {
        "op": "test",
        "path": "$.place.siteFeature[?(@.id=='981dc298-364c-45a3-b051-e1feab7f4622')].isEnabled",
        "value": "true"
    },
    {
        "op": "replace",
        "path": "$.place.siteFeature[?(@.id=='981dc298-364c-45a3-b051-e1feab7f4622')].isEnabled",
        "value": "false"
    }
]

```

Response

```

200
{
    "@type": "WorkOrder",
    "href": "https://mycsp.com/tmf-api/v5/workOrderManagement/workOrder/712a24e8-d5fe-4304-abe2-48a2771509c0",
    "id": "712a24e8-d5fe-4304-abe2-48a2771509c0",
    "category": "Installation WorkOrder",
    "description": "Fixed Fibre Broadband Installation",
    "startDate": "2024-04-22T14:23:06.528Z",
    "requestedCompletionDate": "2024-04-22T14:23:06.528Z",
    "requestedStartDate": "2024-04-22T14:23:06.528Z",
    "state": "inProgress",
}

```

```
"stateChangeDate": "2024-04-22T14:23:06.528Z",
"priority": "high",
"completionDate": "2024-04-22T14:23:06.528Z",
"expectedCompletionDate": "2024-04-22T14:23:06.528Z",
"place": {
    "@type": "GeographicSite",
    "href": "https://mycsp.com/tmf-api/v5/geographicSite/geographicSite/23d34276-c446-4e7d-aaef-921c9c5d16ec",
    "id": "23d34276-c446-4e7d-aaef-921c9c5d16ec",
    "relatedParty": [
        {
            "role": "SiteResponsible",
            "partyOrPartyRole": {
                "id": "68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                "href": "https://mycsp.com/tmf-api/partyManagement/v5/individual/68e81bb8-cbc2-4908-81ee-fef70d86ab78",
                "name": "Jane Smith",
                "@type": "PartyRef",
                "@referredType": "Individual"
            },
            "@type": "RelatedPartyRefOrPartyRoleRef"
        }
    ],
    "contactMedium": [
        {
            "@type": "PhoneContactMedium",
            "contactMediumIdentifier": "TelephoneNumber",
            "preferred": true,
            "validFor": {
                "startDateTime": "2018-06-12T00:00:00Z",
                "endDateTime": "2019-01-01T00:00:00Z"
            },
            "phoneNumber": "01 09 75 83 51"
        }
    ],
    "siteFeature": [
        {
            "id": "981dc298-364c-45a3-b051-e1feab7f4622",
            "name": "accessRestrictions",
            "featureCategory": [
                "restrictions"
            ],
            "isEnabled": false,
            "featureCharacteristic": [
                {
                    "id": "6b9661d1-2a72-4bf3-8663-86a32df242f2",
                    "name": "Brick Wall",
                    "valueType": "string",
                    "value": true,
                    "@type": "BooleanCharacteristic"
                }
            ]
        },
        {
            "id": "6e543d2d-c9db-4f5c-9510-e158610d66af",
            "name": "hazards",
            "featureCategory": [
                "hazards"
            ],
            "isEnabled": true,
            "featureCharacteristic": [
                {
                    "id": "7acbaa15-0dbf-4fb3-b228-e3b46739a4f4",

```

```
        "name": "Noisy Migration",
        "valueType": "string",
        "value": true,
        "@type": "BooleanCharacteristic"
    }
]
}
],
"relatedParty": [
{
    "@type": "RelatedPartyRef",
    "href": "https://mycsp.com/tmf-api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
    "name": "Workforce Engineering Group",
    "role": "Installation Partner"
},
],
"appointment": {
    "@type": "AppointmentRef",
    "href": "https://mycsp.com/tmf-api/v5/appointmentManagement/appointment/2552dab7-bf70-487a-b78b-914f4d3bba71",
    "id": "2552dab7-bf70-487a-b78b-914f4d3bba71",
    "name": "Installation Appointment",
    "description": "Installation Appointment for Fixed Fibre Broadband"
},
"relatedProductOrder": [
{
    "@type": "ProductOrderRef",
    "href": "https://mycsp.com/tmf-api/v5/productOrderingManagement/v5/productOrder/dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "id": "dd57bf9d-2fae-49fd-8247-dcf1a139c683",
    "name": "Fixed Fibre Broadband"
},
],
"externalIdentifier": [
{
    "@type": "ExternalIdentifier",
    "owner": "MagentoWorkforceManagement",
    "id": "b799a9ec-141e-43de-b3b1-06c8c5f0414c"
}
],
"workOrderItem": [
{
    "@type": "WorkOrderItem",
    "action": "add",
    "description": "FTTH Installation",
    "id": "f231dc85-d583-47fb-94de-26fc0f1509d-f",
    "completionDate": "2024-04-22T14:23:06.528Z",
    "state": "acknowledged",
    "work": {
        "id": "a833c6f7-b5f8-4e58-8af0-616fbalfba7f",
        "@type": "WorkRefOrValue",
        "workType": "CPEInst1",
        "orderDate": "2024-04-22T14:23:06.528Z",
        "description": "Cabinet Configuration",
        "expectedCompletionDate": "2024-04-22T14:23:06.528Z",
        "name": "FTTH Installation",
        "workPriority": "high",
        "workCharacteristic": [
        ]
    }
}
```

```
        "id": "db1b00d6-acaa-428f-9af6-fd7b337b9f17",
        "name": "cityCode",
        "valueType": "string",
        "value": "MK",
        "@type": "StringCharacteristic"
    }
],
"place": [
{
    "@type": "RelatedPlaceRefOrValue",
    "role": "string",
    "place": {
        "@type": "GeographicSite",
        "href": "https://mycsp.com/tmf-
api/geographicSiteManagement/v5/geographicSite/ae4b915f-16f5-4f05-a3c7-
8c6a99c7d24b",
        "id": "ae4b915f-16f5-4f05-a3c7-8c6a99c7d24b",
        "code": "BS-9283",
        "description": "This is the site for the base station BS-9283",
        "place": [
{
        "@type": "GeographicAddress",
        "href": "https://mycsp.com/tmf-
api/geographicAddressManagement/v5/geographicAddress/fcdb7157-3df9-4c49-93a6-
8a3a248d9a27",
        "id": "fcdb7157-3df9-4c49-93a6-8a3a248d9a27",
        "city": "New York",
        "country": "United Kingdom",
        "locality": "Oxford",
        "postcode": "OX23 232",
        "stateOrProvince": "Oxfordshire",
        "streetName": "Broadway",
        "streetNr": "123",
        "geographicAddressType": "Building"
    },
{
        "href": "https://mycsp.com/tmf-
api/geographicLocationManagement/v5/geographicLocation/0c8563f3-26e6-4673-9f82-
9784d3df257d",
        "id": "0c8563f3-26e6-4673-9f82-9784d3df257d",
        "@type": "GeoJsonPolygon",
        "coordinates": [
            "12.14",
            "12.45",
            "34.54",
            "65.34"
        ],
        "type": "Polygon"
    }
]
}
],
"actualDuration": {
    "amount": 4,
    "units": "hour"
},
"workTimeSlot": {
    "startDateTime": "2024-04-12T23:20:50.52Z"
},
"currentDuration": {
    "amount": 4,
    "units": "hour"
}
```

```
        },
        "note": {
            "@type": "Note",
            "id": "afa9-3d90aaa8da0f",
            "author": "Mr. N. Bene",
            "date": "2020-11-20T08:00:00Z",
            "text": "Demand Point Type: SDU"
        },
        "scheduledDuration": {
            "amount": 1,
            "units": "day"
        },
        "relatedWork": [
            {
                "@type": "WorkRefOrValue",
                "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/82000258-ecf8-47a6-a7b9-b972475bff5a",
                "id": "82000258-ecf8-47a6-a7b9-b972475bff5a"
            }
        ],
        "relatedParty": [
            {
                "@type": "RelatedPartyRef",
                "href": "https://mycsp.com/tmf-
api/partyManagement/v5/organisation/94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
                "id": "94c14d12-14a5-4c61-a0b1-9f59f7117a5e",
                "name": "Workforce Engineering Group",
                "role": "Installation Partner"
            }
        ],
        "workSpecification": {
            "@type": "WorkSpecificationRef",
            "id": "aebb358a-4630-41f7-be2d-1756f13b8b90",
            "name": "FTTH Installation"
        },
        "workforceEmployeeAssignment": [
            {
                "@type": "WorkforceEmployeeAssignment",
                "id": "50e8c30a-77f4-4308-804e-a24b321ff1e1",
                "skillType": "FTTH Installation Engineer",
                "state": "acknowledged",
                "timeSlot": [
                    {
                        "@type": "TimeSlot",
                        "validFor": {
                            "startDateTime": "2024-04-12T23:20:50.52Z",
                            "endDateTime": "2024-04-12T23:20:50.52Z"
                        }
                    }
                ]
            },
            "workforceEmployee": {
                "@type": "Individual",
                "name": "Athelstan Amos",
                "id": "12231244",
                "contactMedium": [
                    {
                        "@type": "PhoneContactMedium",
                        "@baseType": "ContactMedium",
                        "contactType": "private",
                        "id": "c0181f3d83e144a59162fd6136a98462",
                        "preferred": true,
                        "validFor": {
                            "startDateTime": "2018-09-21T23:20:50.52Z"
                        }
                    }
                ]
            }
        ]
    }
}
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        },
        "verified": true,
        "phoneNumber": "+1 202-918-2132"
    }
}
}
]
}
],
"workOrderRelationship": [
{
    "@type": "OrderRelationship",
    "href": "https://mycsp.com/tmf-
api/v5/workOrderManagement/workOrder/0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "id": "0a848092-9cea-4d64-b582-c8bcb8dd57ca",
    "relationshipType": "reliesOn"
},
],
"agreement": [
{
    "@type": "AgreementRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "a99a4a2c-df8b-46d1-ba49-42cbb0623b3c",
    "name": "Fixed Fibre Broadband Agreement"
}
],
"billingAccount": {
    "@type": "BillingAccountRef",
    "href": "https://mycsp.com/tmf-api/v5/API",
    "id": "38d8f5f1-6213-4f56-bf2c-81fb48843b3b"
},
"channel": [
{
    "@type": "RelatedChannel",
    "role": "Portal",
    "channel": {
        "@type": "ChannelRef",
        "href": "https://mycsp.com/tmf-api/v5/API",
        "id": "58cd86d0-5e2e-4b5b-8a17-3a7f5723c893",
        "name": "Portal"
    }
}
],
"note": {
    "@type": "Note",
    "id": "afa9-3d90aaa8da0f",
    "author": "Mr. N. Bene",
    "date": "2020-11-20T08:00:00Z",
    "text": "This is important"
},
"orderDate": "2024-04-22T14:23:06.528Z",
"orderTotalPrice": [
{
    "@type": "OrderPrice",
    "description": "Fixed Fibre Broadband Installation",
    "name": "Installation Fee",
    "price": {
        "@type": "Price",
        "dutyFreeAmount": {
            "unit": "USD",
            "value": 99.99
        }
    }
}
]
```

```
        },
        "percentage": 0,
        "taxIncludedAmount": {
            "unit": "USD",
            "value": 99.99
        },
        "taxRate": 0
    },
    "priceType": "Installation Fee"
}
]
```

Operations on CancelWorkOrder

List or find CancelWorkOrder objects

GET /cancelWorkOrder?fields=...

Description

This operation list CancelWorkOrder 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

TBD - not retrievable from API

Request

```
GET /cancelWorkOrder
Content-Type: application/json
{}
```

Response

```
200
```

Retrieves a CancelWorkOrder by ID

GET /cancelWorkOrder/{id}?fields=...

Description

This operation retrieves a CancelWorkOrder 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

Retrieve a CancelWorkOrder request from its identifier

Request

```
GET /cancelWorkOrder/cc8e9f41-c351-48ac-8980-548d4a2d59ca  
Content-Type: application/json
```

Response

```
200  
  
{  
    "@type": "CancelWorkOrder",  
    "requestedCancellationDate": "2024-05-01T10:15:30.000Z",  
    "effectiveCancellationDate": "2024-05-01T10:15:30.000Z",  
    "cancellationReason": "Workforce unavailability",  
    "state": "acknowledged",  
    "href": "https://mycsp.com/tmf-  
api/v5/workOrderManagement/cancelWorkOrder/cc8e9f41-c351-48ac-8980-548d4a2d59ca",  
    "id": "cc8e9f41-c351-48ac-8980-548d4a2d59ca",  
    "workOrder": {  
        "@type": "WorkOrderRef",  
        "href": "https://mycsp.com/tmf-  
api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",  
        "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25"  
    }  
}
```

Creates a CancelWorkOrder

POST /cancelWorkOrder?fields=...

Description

This operation creates a CancelWorkOrder entity.

Mandatory Attributes

Mandatory Attributes	Rule
workOrder	
workOrder.@type	
@type	

Usage samples

Creation of a new CancelWorkOrder with POST operation

Request

```
POST /cancelWorkOrder  
Content-Type: application/json
```

```
{  
    "@type": "CancelWorkOrder",  
    "requestedCancellationDate": "2024-05-01T10:15:30.000Z",  
    "cancellationReason": "Workforce unavailability",  
    "workOrder": {  
        "@type": "WorkOrderRef",  
        "href": "https://mycsp.com/tmf-  
api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",  
        "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25"  
    }  
}
```

Response

```
201  
  
{  
    "@type": "CancelWorkOrder",  
    "requestedCancellationDate": "2024-05-01T10:15:30.000Z",  
    "effectiveCancellationDate": "2024-05-01T10:15:30.000Z",  
    "cancellationReason": "Workforce unavailability",  
    "state": "acknowledged",  
    "href": "https://mycsp.com/tmf-  
api/v5/workOrderManagement/cancelWorkOrder/cc8e9f41-c351-48ac-8980-548d4a2d59ca",  
    "id": "cc8e9f41-c351-48ac-8980-548d4a2d59ca",  
    "workOrder": {  
        "@type": "WorkOrderRef",  
        "href": "https://mycsp.com/tmf-  
api/v5/workOrderManagement/workOrder/f8ec1c38-4e4d-4378-a693-f95680e51e25",  
        "id": "f8ec1c38-4e4d-4378-a693-f95680e51e25"  
    }  
}
```

API NOTIFICATIONS

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

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

Register listener

POST /hub

Description

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

Behavior

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

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

Usage Samples

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

Request

```
POST /api/hub
Accept: application/json
{
  "callback": "http://in.listener.com"
}
```

Response

```
201
Content-Type: application/json
Location: /api/hub/42
{
  "id": "42",
  "callback": "http://in.listener.com",
  "query": ""
}
```

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

Release History

New version based on new schema aligned with V5	Release 5.0	26/04/2024	Florin Tene (Cityfibre)
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Contributors to Document

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