Frameworx Specification

API Data Model

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INTRODUCTION

This document describes the API Data Model which defines the data structures used within TMF REST APIs.

Note: Quote, Appointment, Privacy, Address and Service qualification API data models will be included in the next release of this document.

API DATA MODEL DEFINITIONS

ACCOUNTS

The Party account module describes the concepts used for party account management.

DIAGRAMS

Account resource
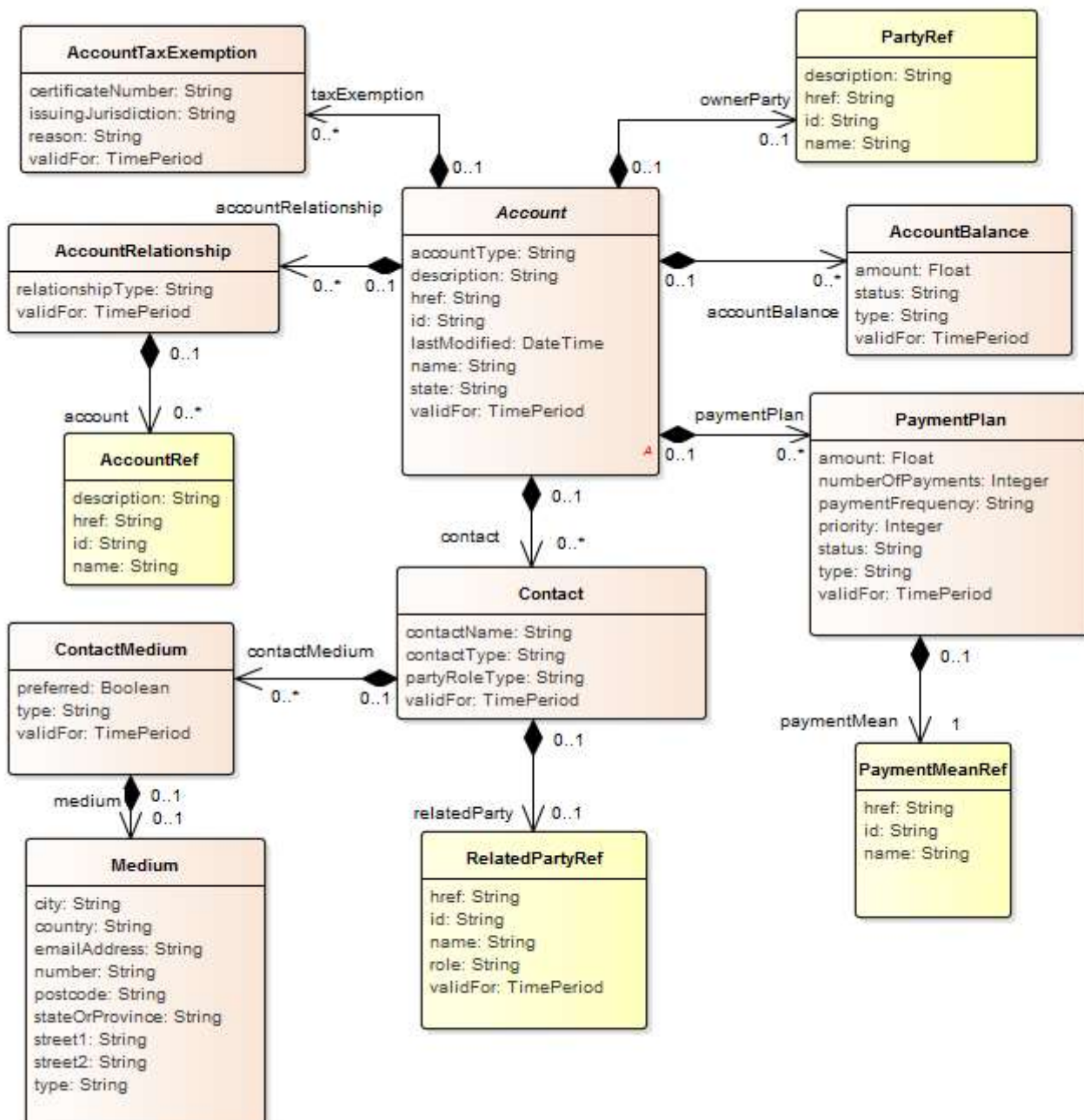
BillFormat resource

BillFormat

href: String
id: String
name: String
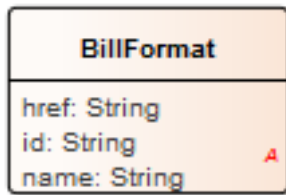
BillPresentationMedia resource

BillPresentationMedia

href: String
id: String
name: String
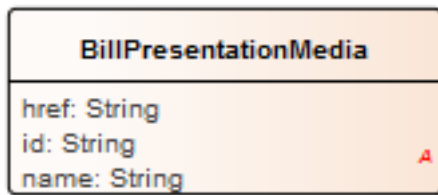
BillingAccount resource

PartyAccount

BillingAccount

BillingCycleSpecification resource

BillingCycle Specification

dateShift: Integer
frequency: String
href: String
id: String
name: String
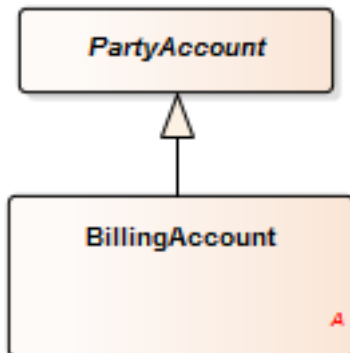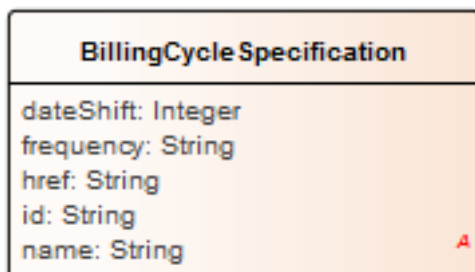
FinancialAccount resource
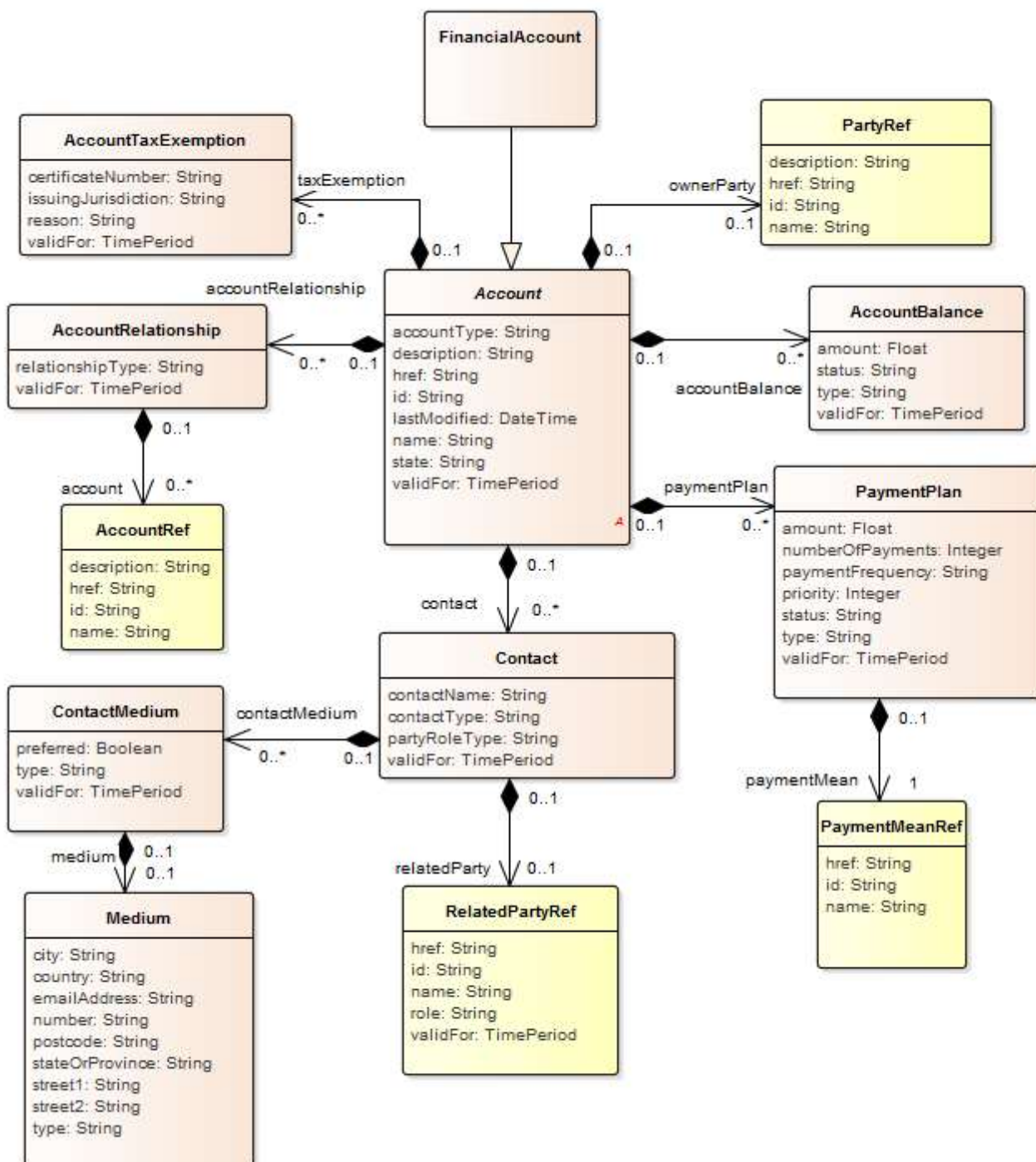
PartyAccount resource
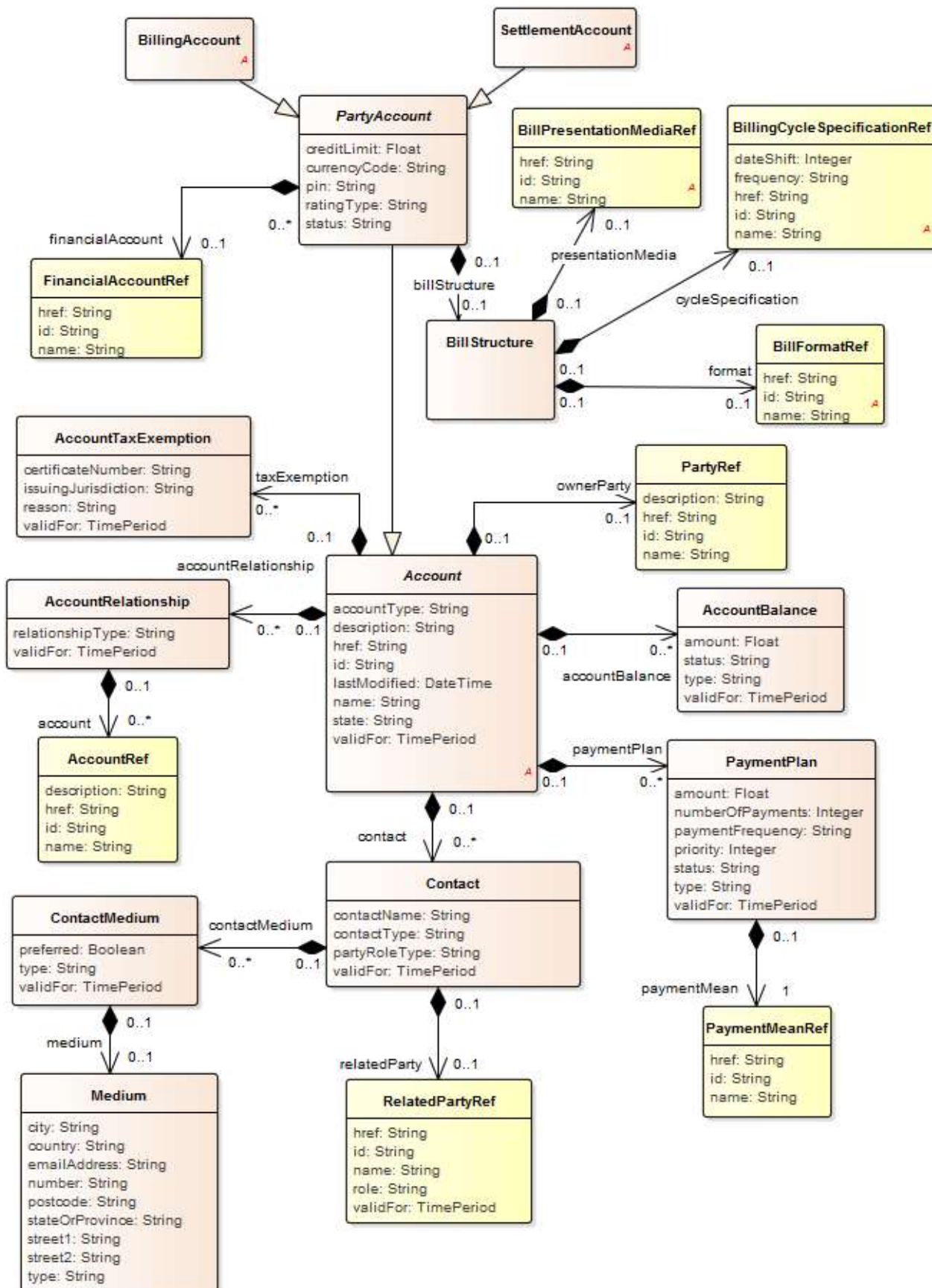
SettlementAccount resource
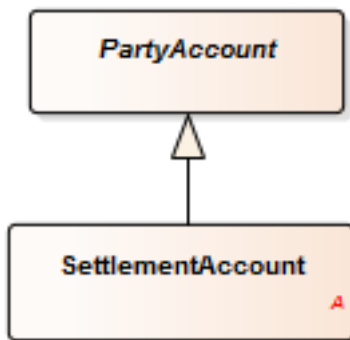
ENTITY CLASSES

Entity	Description
Account	Generic Account structure used to define commonalities between sub concepts of PartyAccount and AccountReceivable.
AccountBalance	Balances linked to the account
AccountRelationship	Significant connection between accounts
AccountTaxExemption	Proof of freedom from taxes imposed by a taxing jurisdiction
BillFormat	A detailed description of the way in which a bill is presented.
BillPresentationMedia	A mean of communicating a bill, supported by the associated bill format. For example, post mail, email, web page.
BillStructure	The structure of the bill for party accounts (billing or settlement).
BillingAccount	A party account used for billing purposes. It contains a description of the bill structure. A party account used for billing purposes. It includes a description of the bill structure (frequency, presentation media, format and so on).
BillingCycleSpecification	A detailed description of when to initiate a billing cycle and the various sub steps of a billing cycle.
FinancialAccount	An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. A financial (account receivable account/account payable) aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.
PartyAccount	Account used for billing or for settlement purposes concerning a given party (an organization or an individual).

SettlementAccount	A party account used for settlement purposes. It includes a description of the structure used for the settlement (frequency, presentation media, format and so on).

REFERENCE CLASSES

Reference Class	Description/Fields
AccountBalanceRef	Balances linked to the account. Fields: amount, status, type
AccountRef	Account reference. Fields: description, href, id, name
BillFormatRef	BillFormat reference. Fields: href, id, name
BillPresentationMediaRef	PresentationMedia reference. Fields: href, id, name
BillingAccountRef	BillingAccount reference. Fields: href, id, name
BillingCycleSpecificationRef	BillingCycleSpecification reference. Fields: dateShift, frequency, href, id, name
FinancialAccountRef	AccountReceivable reference. Fields: href, id, name
PartyAccountRef	PartyAccount reference. Fields: description, href, id, name, status

PROPERTY DETAILS

Account	Type	Description
accountBalance	AccountBalance [*]	A list of AccountBalance sub-objects.
accountRelationship	AccountRelationship [*]	A list of AccountRelationship sub-objects.
accountType	String [1]	A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics.
contact	Contact [*]	A list of Contact sub-objects.
description	String [1]	Detailed description of the party account
href	String [1]	Unique reference of the customer account
id	String [1]	Unique identifier of the customer account
lastModified	DateTime [1]	Date of last modification of the customer account
name	String [1]	Name of the party account
ownerParty	PartyRef [0..1]	A Party reference. (A party represents an organization or an individual.)
paymentPlan	PaymentPlan [*]	A list of PaymentPlan sub-objects.

state	String [1]	Contains the lifecycle state such as: Active, Closed, Suspended and so on.
taxExemption	AccountTaxExemption [*]	A list of AccountTaxExemption sub-objects.
validFor	TimePeriod [1]	Validity period for the account

AccountBalance	Type	Description
amount	Float [1]	Balance amount
status	String [1]	The condition of the account balance, such as due, paid, in arrears.
type	String [1]	Type of the balance: deposit balance, disputed balance, loyalty balance, receivable balance...
validFor	TimePeriod [1]	Balance validity period

AccountRelationship	Type	Description
account	AccountRef [*]	A list of Account references.
relationshipType	String [1]	Type of relationship
validFor	TimePeriod [1]	Validity period of that relationship

AccountTaxExemption	Type	Description
certificateNumber	String [1]	Identifier of a document that shows proof of exemption from taxes for the taxing jurisdiction
issuingJurisdiction	String [1]	Name of the taxing jurisdiction for which taxes are exempt
reason	String [1]	Reason of the tax exemption
validFor	TimePeriod [1]	Period for which the exemption is valid

BillFormat	Type	Description
href	String [1]	Reference of the bill format
id	String [1]	Unique identifier of the bill format
name	String [1]	A short descriptive name

BillPresentationMedia	Type	Description
href	String [1]	Reference of the bill presentation media
id	String [1]	Unique identifier of the bill presentation media
name	String [1]	A short descriptive name

BillStructure	Type	Description

cycleSpecification	BillingCycleSpecificationRef [0..1]	A BillingCycleSpecification reference. (A description of when to initiate a billing cycle and the various sub steps of a billing cycle.)
format	BillFormatRef [0..1]	A BillFormat reference. (A bill format is a description of the way in which a bill is presented.)
presentationMedia	BillPresentationMediaRef [0..1]	A BillPresentationMedia reference.

BillingAccount	Type	Description
accountBalance	AccountBalance [*]	A list of AccountBalance sub-objects.
accountRelationship	AccountRelationship [*]	A list of AccountRelationship sub-objects.
accountType	String [1]	A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics.
billStructure	BillStructure [0..1]	A BillStructure sub-object.
contact	Contact [*]	A list of Contact sub-objects.
creditLimit	Float [1]	The maximum amount of money that may be charged on an account
currencyCode	String [1]	A string used as a code for specifying the currency associated to the given amounts. The ISO 4217 norm uses 3 letters to define the currency (for example USD for US dollar or EUR for Euro).
description	String [1]	Detailed description of the party account
financialAccount	FinancialAccountRef [0..1]	A FinancialAccount reference.
href	String [1]	Unique reference of the customer account
id	String [1]	Unique identifier of the customer account
lastModified	DateTime [1]	Date of last modification of the customer account
name	String [1]	Name of the party account
ownerParty	PartyRef [0..1]	A Party reference. (A party represents an organization or an individual.)
paymentPlan	PaymentPlan [*]	A list of PaymentPlan sub-objects.
pin	String [1]	A multidigit personal identification number that is used by a Party to gain access to a PartyAccount at an ATM, a

		computer, or a telephone system, and so forth.
ratingType	String [1]	Rating type (prepaid, postpaid) of the party account
state	String [1]	Contains the lifecycle state such as: Active, Closed, Suspended and so on.
status	String [1]	The condition of the account, such as due, paid, in arrears.
taxExemption	AccountTaxExemption [*]	A list of AccountTaxExemption sub-objects.
validFor	TimePeriod [1]	Validity period for the account

BillingCycleSpecification	Type	Description
dateShift	Integer [1]	An offset of a billing/settlement date. The offset is expressed as number of days with regard to the start of the billing/settlement period.
frequency	String [1]	Frequency of the billing cycle (monthly for instance)
href	String [1]	Reference of the billing cycle specification
id	String [1]	Unique identifier of the billing cycle specification
name	String [1]	A short descriptive name

FinancialAccount	Type	Description
accountBalance	AccountBalance [*]	A list of AccountBalance sub-objects.
accountRelationship	AccountRelationship [*]	A list of AccountRelationship sub-objects.
accountType	String [1]	A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics.
contact	Contact [*]	A list of Contact sub-objects.
description	String [1]	Detailed description of the party account
href	String [1]	Unique reference of the customer account
id	String [1]	Unique identifier of the customer account
lastModified	DateTime [1]	Date of last modification of the customer account
name	String [1]	Name of the party account
ownerParty	PartyRef [0..1]	A Party reference. (A party represents an organization or an individual.)
paymentPlan	PaymentPlan [*]	A list of PaymentPlan sub-objects.

state	String [1]	Contains the lifecycle state such as: Active, Closed, Suspended and so on.
taxExemption	AccountTaxExemption [*]	A list of AccountTaxExemption sub-objects.
validFor	TimePeriod [1]	Validity period for the account

PartyAccount	Type	Description
accountBalance	AccountBalance [*]	A list of AccountBalance sub-objects.
accountRelationship	AccountRelationship [*]	A list of AccountRelationship sub-objects.
accountType	String [1]	A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics.
billStructure	BillStructure [0..1]	A BillStructure sub-object.
contact	Contact [*]	A list of Contact sub-objects.
creditLimit	Float [1]	The maximum amount of money that may be charged on an account
currencyCode	String [1]	A string used as a code for specifying the currency associated to the given amounts. The ISO 4217 norm uses 3 letters to define the currency (for example USD for US dollar or EUR for Euro).
description	String [1]	Detailed description of the party account
financialAccount	FinancialAccountRef [0..1]	A FinancialAccount reference.
href	String [1]	Unique reference of the customer account
id	String [1]	Unique identifier of the customer account
lastModified	DateTime [1]	Date of last modification of the customer account
name	String [1]	Name of the party account
ownerParty	PartyRef [0..1]	A Party reference. (A party represents an organization or an individual.)
paymentPlan	PaymentPlan [*]	A list of PaymentPlan sub-objects.
pin	String [1]	A multidigit personal identification number that is used by a Party to gain access to a PartyAccount at an ATM, a computer, or a telephone system, and so forth.
ratingType	String [1]	Rating type (prepaid, postpaid) of the party account
state	String [1]	Contains the lifecycle state such

		as: Active, Closed, Suspended and so on.
status	String [1]	The condition of the account, such as due, paid, in arrears.
taxExemption	AccountTaxExemption [*]	A list of AccountTaxExemption sub-objects.
validFor	TimePeriod [1]	Validity period for the account

SettlementAccount	Type	Description
accountBalance	AccountBalance [*]	A list of AccountBalance sub-objects.
accountRelationship	AccountRelationship [*]	A list of AccountRelationship sub-objects.
accountType	String [1]	A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics.
billStructure	BillStructure [0..1]	A BillStructure sub-object.
contact	Contact [*]	A list of Contact sub-objects.
creditLimit	Float [1]	The maximum amount of money that may be charged on an account
currencyCode	String [1]	A string used as a code for specifying the currency associated to the given amounts. The ISO 4217 norm uses 3 letters to define the currency (for example USD for US dollar or EUR for Euro).
description	String [1]	Detailed description of the party account
financialAccount	FinancialAccountRef [0..1]	A FinancialAccount reference.
href	String [1]	Unique reference of the customer account
id	String [1]	Unique identifier of the customer account
lastModified	DateTime [1]	Date of last modification of the customer account
name	String [1]	Name of the party account
ownerParty	PartyRef [0..1]	A Party reference. (A party represents an organization or an individual.)
paymentPlan	PaymentPlan [*]	A list of PaymentPlan sub-objects.
pin	String [1]	A multidigit personal identification number that is used by a Party to gain access to a PartyAccount at an ATM, a computer, or a telephone system, and so forth.
ratingType	String [1]	Rating type (prepaid, postpaid) of the party account

state	String [1]	Contains the lifecycle state such as: Active, Closed, Suspended and so on.
status	String [1]	The condition of the account, such as due, paid, in arrears.
taxExemption	AccountTaxExemption [*]	A list of AccountTaxExemption sub-objects.
validFor	TimePeriod [1]	Validity period for the account

JSON SAMPLES

Account

```
{
  "accountType": "a string ...",
  "description": "This  account ...",
  "href": "https://host:port/accounts/account/8994",
  "id": "8994",
  "lastModified": "2016-04-05T00:00",
  "name": "a string ...",
  "state": "a string ...",
  "validFor": {
    "startDateTime": "2016-04-07T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "ownerParty": {
    "description": "This  party ...",
    "href": "https://host:port/partyReferences/partyRef/8972",
    "id": "8972",
    "name": "Mobility Assistant Corp"
  },
  "taxExemption": [
    {
      "certificateNumber": "45678909876",
      "issuingJurisdiction": "Prefecture",
      "reason": "Social",
      "validFor": {
        "startDateTime": "2016-04-04T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "contact": [
    {
      "contactName": "Virginie Cork",
      "contactType": "secondary",
      "partyRoleType": "Publisher",
      "validFor": {
        "startDateTime": "2016-04-08T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "contactMedium": [
        {
          "preferred": false,
```

```
            "type": "Email",
            "validFor": {
              "startDateTime": "2016-04-01T00:00",
              "endDateTime": "2016-11-01T00:00"
            },
            "medium": {
              "city": "Lannion",
              "country": "France",
              "emailAddress": "coco.chanel@orange.fr",
              "number": "+336641234567",
              "postcode": "22300",
              "stateOrProvince": "Quebec",
              "street1": "Rue Flaubert",
              "street2": "",
              "type": "business"
            }
          }
        ],
        "relatedParty": {
          "href": "https://host:port/partyManagement/organization/5545",
          "id": "5545",
          "name": "Gustave Flaubert",
          "role": "bill responsible",
          "validFor": {
            "startDateTime": "2016-04-05T00:00",
            "endDateTime": "2016-11-01T00:00"
          }
        }
      }
    ],
    "paymentPlan": [
      {
        "amount": 100.0,
        "numberOfPayments": 12,
        "paymentFrequency": "bimonthly",
        "priority": 4,
        "status": "Ineffective",
        "type": "regular",
        "validFor": {
          "startDateTime": "2016-04-04T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "paymentMean": {
          "href": "https://host:port/onboardingManagement/paymentMean/2317",
          "id": "2317",
          "name": "professional paymean"
        }
      }
    ],
    "accountBalance": [
      {
        "amount": 58.57,
        "status": "Due",
        "type": "ReceivableBalance",
        "validFor": {
          "startDateTime": "2016-04-04T00:00",
```

```
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "accountRelationship": [
      {
        "relationshipType": "linked",
        "validFor": {
          "startDateTime": "2016-04-04T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "account": [
          {
            "description": "This  account ...",
            "href": "https://host:port/accounts/account/5235",
            "id": "5235",
            "name": "Paradise Account"
          }
        ]
      }
    ]
}
```

BillFormat

```
{
  "href": "https://host:port/accounts/billFormat/7290",
  "id": "7290",
  "name": "Summary invoice"
}
```

BillPresentationMedia

```
{
  "href": "https://host:port/accounts/billPresentationMedia/9248",
  "id": "9248",
  "name": "Paper"
}
```

BillingAccount

```
{
  "creditLimit": 59.06,
  "currencyCode": "CAD",
  "pin": "0000",
  "ratingType": "prepaid",
  "status": "In Collection",
  "accountType": "Business",
  "description": "This  billing account ...",
  "href": "https://host:port/onboardingManagement/billingAccount/3810",
  "id": "3810",
  "lastModified": "2016-04-05T00:00",
  "name": "Secret Account",
```

```
    "state": "Inactive",
    "validFor": {
      "startDateTime": "2016-04-04T00:00",
      "endDateTime": "2016-11-01T00:00"
    },
    "billStructure": {
      "presentationMedia": {
        "href": "https://host:port/accounts/billPresentationMedia/7408",
        "id": "7408",
        "name": "Electronic"
      },
      "format": {
        "href": "https://host:port/accounts/billFormat/8210",
        "id": "8210",
        "name": "Summary invoice"
      },
      "cycleSpecification": {
        "dateShift": 68,
        "frequency": "weekly",
        "href": "https://host:port/accounts/billingCycleSpecification/5601",
        "id": "5601",
        "name": "Monthly billing on the 15"
      }
    },
    "financialAccount": {
      "href": "https://host:port/accounts/financialAccount/6659",
      "id": "6659",
      "name": "Travel account"
    },
    "ownerParty": {
      "description": "This  party ...",
      "href": "https://host:port/partyReferences/partyRef/9394",
      "id": "9394",
      "name": "Airport Packaging Company"
    },
    "taxExemption": [
      {
        "certificateNumber": "45678909876",
        "issuingJurisdiction": "Prefecture",
        "reason": "VIP",
        "validFor": {
          "startDateTime": "2016-04-08T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "contact": [
      {
        "contactName": "Anna Cristal",
        "contactType": "secondary",
        "partyRoleType": "CustomerAccountRepresentative",
        "validFor": {
          "startDateTime": "2016-04-01T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "contactMedium": [
```

```
          {
            "preferred": true,
            "type": "PostalAddress",
            "validFor": {
              "startDateTime": "2016-04-06T00:00",
              "endDateTime": "2016-11-01T00:00"
            },
            "medium": {
              "city": "Lannion",
              "country": "France",
              "emailAddress": "coco.chanel@orange.fr",
              "number": "+336641234567",
              "postcode": "22300",
              "stateOrProvince": "Quebec",
              "street1": "Rue de la Taupe",
              "street2": "",
              "type": "home"
            }
          }
        ],
        "relatedParty": {
          "href": "https://host:port/partyManagement/organization/3635",
          "id": "3635",
          "name": "Richard Cole",
          "role": "user",
          "validFor": {
            "startDateTime": "2016-04-04T00:00",
            "endDateTime": "2016-11-01T00:00"
          }
        }
      }
    ],
    "paymentPlan": [
      {
        "amount": 1500.5,
        "numberOfPayments": 12,
        "paymentFrequency": "monthly",
        "priority": 1,
        "status": "Effective",
        "type": "special",
        "validFor": {
          "startDateTime": "2016-04-07T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "paymentMean": {
          "href": "https://host:port/onboardingManagement/paymentMean/2158",
          "id": "2158",
          "name": "professional paymean"
        }
      }
    ],
    "accountBalance": [
      {
        "amount": 50.86,
        "status": "Paid",
        "type": "DepositBalance",
```

```
      "validFor": {
        "startDateTime": "2016-04-06T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",
      "validFor": {
        "startDateTime": "2016-04-04T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "account": [
        {
          "description": "This  account ...",
          "href": "https://host:port/accounts/account/1107",
          "id": "1107",
          "name": "Travel Account"
        }
      ]
    }
  ]
}
```

BillingCycleSpecification

```
{
  "dateShift": 3,
  "frequency": "weekly",
  "href": "https://host:port/accounts/billingCycleSpecification/5900",
  "id": "5900",
  "name": "Monthly billing on the 15"
}
```

FinancialAccount

```
{
  "accountType": "Global",
  "description": "This  financial account ...",
  "href": "https://host:port/accounts/financialAccount/5671",
  "id": "5671",
  "lastModified": "2016-04-05T00:00",
  "name": "Travel account",
  "state": "Active",
  "validFor": {
    "startDateTime": "2016-04-06T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "ownerParty": {
    "description": "This  party ...",
    "href": "https://host:port/partyReferences/partyRef/8410",
    "id": "8410",
    "name": "Booking Corporation"
```

```
    },
    "taxExemption": [
      {
        "certificateNumber": "98765432345",
        "issuingJurisdiction": "Prefecture",
        "reason": "VIP",
        "validFor": {
          "startDateTime": "2016-04-03T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "contact": [
      {
        "contactName": "Charles Chopin",
        "contactType": "secondary",
        "partyRoleType": "Publisher",
        "validFor": {
          "startDateTime": "2016-04-08T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "contactMedium": [
          {
            "preferred": true,
            "type": "PostalAddress",
            "validFor": {
              "startDateTime": "2016-04-03T00:00",
              "endDateTime": "2016-11-01T00:00"
            },
            "medium": {
              "city": "Bordeaux",
              "country": "France",
              "emailAddress": "coco.chanel@orange.fr",
              "number": "+336641234567",
              "postcode": "75000",
              "stateOrProvince": "Quebec",
              "street1": "Rue Flaubert",
              "street2": "",
              "type": "home"
            }
          }
        ],
        "relatedParty": {
          "href": "https://host:port/partyManagement/organization/3078",
          "id": "3078",
          "name": "Gustave Flaubert",
          "role": "vendor",
          "validFor": {
            "startDateTime": "2016-04-06T00:00",
            "endDateTime": "2016-11-01T00:00"
          }
        }
      }
    ],
    "paymentPlan": [
      {
```

```
      "amount": 100.0,
      "numberOfPayments": 12,
      "paymentFrequency": "bimonthly",
      "priority": 1,
      "status": "Effective",
      "type": "regular",
      "validFor": {
        "startDateTime": "2016-04-08T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "paymentMean": {
        "href": "https://host:port/onboardingManagement/paymentMean/4406",
        "id": "4406",
        "name": "family payment"
      }
    }
  ],
  "accountBalance": [
    {
      "amount": 58.73,
      "status": "Due",
      "type": "DepositBalance",
      "validFor": {
        "startDateTime": "2016-04-07T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",
      "validFor": {
        "startDateTime": "2016-04-08T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "account": [
        {
          "description": "This  account ...",
          "href": "https://host:port/accounts/account/5560",
          "id": "5560",
          "name": "Paradise Account"
        }
      ]
    }
  ]
}
```

PartyAccount

```
{
  "accountType": "Business",
  "description": "This  party account ...",
  "href": "https://host:port/accounts/partyAccount/3543",
  "id": "3543",
  "lastModified": "2016-04-05T00:00",
```

```
"name": "Administration account",
"state": "Active",
"validFor": {
  "startDateTime": "2016-04-06T00:00",
  "endDateTime": "2016-11-01T00:00"
},
"creditLimit": "10000",
"currencyCode": "USD",
"pin": "4321",
"ratingType": "prepaid",
"status": "In Arrears",
"billStructure": {
  "presentationMedia": {
    "href": "https://host:port/accounts/billPresentationMedia/4190",
    "id": "4190",
    "name": "Email"
  },
  "format": {
    "href": "https://host:port/accounts/billFormat/8773",
    "id": "8773",
    "name": "Detailed invoice"
  },
  "cycleSpecification": {
    "dateShift": 65,
    "frequency": "monthly",
    "href": "https://host:port/accounts/billingCycleSpecification/9507",
    "id": "9507",
    "name": "Monthly billing on the 15"
  }
},
"financialAccount": {
  "href": "https://host:port/accounts/financialAccount/7307",
  "id": "7307",
  "name": "Administration account"
},
"ownerParty": {
  "description": "This  party ...",
  "href": "https://host:port/partyReferences/partyRef/6753",
  "id": "6753",
  "name": "Airport Packaging Company"
},
"taxExemption": [
  {
    "certificateNumber": "98765432345",
    "issuingJurisdiction": "Prefecture",
    "reason": "Social",
    "validFor": {
      "startDateTime": "2016-04-06T00:00",
      "endDateTime": "2016-11-01T00:00"
    }
  }
],
"contact": [
  {
    "contactName": "Ludwig Borgia",
    "contactType": "primary",
```

```
      "partyRoleType": "CustomerAccountRepresentative",
      "validFor": {
        "startDateTime": "2016-04-01T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "contactMedium": [
        {
          "preferred": false,
          "type": "TelephoneNumber",
          "validFor": {
            "startDateTime": "2016-04-06T00:00",
            "endDateTime": "2016-11-01T00:00"
          },
          "medium": {
            "city": "Toulouse",
            "country": "France",
            "emailAddress": "abc@tmforum.com",
            "number": "+33296051563",
            "postcode": "75000",
            "stateOrProvince": "Bretagne",
            "street1": "Rue Picasso",
            "street2": "",
            "type": "home"
          }
        }
      ],
      "relatedParty": {
        "href": "https://host:port/partyManagement/organization/2649",
        "id": "2649",
        "name": "Gustave Flaubert",
        "role": "bill responsible",
        "validFor": {
          "startDateTime": "2016-04-05T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    }
  ],
  "paymentPlan": [
    {
      "amount": 1500.5,
      "numberOfPayments": 12,
      "paymentFrequency": "bimonthly",
      "priority": 3,
      "status": "Ineffective",
      "type": "special",
      "validFor": {
        "startDateTime": "2016-04-01T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "paymentMean": {
        "href": "https://host:port/onboardingManagement/paymentMean/2441",
        "id": "2441",
        "name": "professional paymean"
      }
    }
```

```
  ],
  "accountBalance": [
    {
      "amount": 57.14,
      "status": "Paid",
      "type": "DepositBalance",
      "validFor": {
        "startDateTime": "2016-04-01T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "linked",
      "validFor": {
        "startDateTime": "2016-04-08T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "account": [
        {
          "description": "This  account ...",
          "href": "https://host:port/accounts/account/4464",
          "id": "4464",
          "name": "Travel Account"
        }
      ]
    }
  ]
}
```

SettlementAccount

```
{
  "creditLimit": 6.4,
  "currencyCode": "EUR",
  "pin": "4321",
  "ratingType": "postpaid",
  "status": "In Collection",
  "accountType": "Business",
  "description": "This  settlement account ...",
  "href": "https://host:port/onboardingManagement/settlementAccount/8946",
  "id": "8946",
  "lastModified": "2016-04-05T00:00",
  "name": "Regular Account",
  "state": "inactive",
  "validFor": {
    "startDateTime": "2016-04-02T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "billStructure": {
    "presentationMedia": {
      "href": "https://host:port/accounts/billPresentationMedia/3343",
      "id": "3343",
      "name": "Paper"
```

```
      },
      "format": {
        "href": "https://host:port/accounts/billFormat/3788",
        "id": "3788",
        "name": "Summary invoice"
      },
      "cycleSpecification": {
        "dateShift": 9,
        "frequency": "weekly",
        "href": "https://host:port/accounts/billingCycleSpecification/9966",
        "id": "9966",
        "name": "Monthly billing"
      }
    },
    "financialAccount": {
      "href": "https://host:port/accounts/financialAccount/8964",
      "id": "8964",
      "name": "Administration account"
    },
    "ownerParty": {
      "description": "This  party ...",
      "href": "https://host:port/partyReferences/partyRef/1457",
      "id": "1457",
      "name": "Mobility Assistant Corp"
    },
    "taxExemption": [
      {
        "certificateNumber": "45678909876",
        "issuingJurisdiction": "Embassy",
        "reason": "VIP",
        "validFor": {
          "startDateTime": "2016-04-05T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "contact": [
      {
        "contactName": "Charles Chopin",
        "contactType": "primary",
        "partyRoleType": "Publisher",
        "validFor": {
          "startDateTime": "2016-04-08T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "contactMedium": [
          {
            "preferred": true,
            "type": "Email",
            "validFor": {
              "startDateTime": "2016-04-07T00:00",
              "endDateTime": "2016-11-01T00:00"
            },
            "medium": {
              "city": "Paris",
              "country": "France",
```

```
            "emailAddress": "abc@tmforum.com",
            "number": "+336641234567",
            "postcode": "22300",
            "stateOrProvince": "Quebec",
            "street1": "Rue Picasso",
            "street2": "",
            "type": "business"
          }
        }
      ],
      "relatedParty": {
        "href": "https://host:port/partyManagement/organization/2760",
        "id": "2760",
        "name": "Richard Cole",
        "role": "bill receiver",
        "validFor": {
          "startDateTime": "2016-04-07T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    }
  }
],
"paymentPlan": [
  {
    "amount": 543.8,
    "numberOfPayments": 10,
    "paymentFrequency": "bimonthly",
    "priority": 4,
    "status": "Ineffective",
    "type": "regular",
    "validFor": {
      "startDateTime": "2016-04-06T00:00",
      "endDateTime": "2016-11-01T00:00"
    },
    "paymentMean": {
      "href": "https://host:port/onboardingManagement/paymentMean/4883",
      "id": "4883",
      "name": "professional paymean"
    }
  }
],
"accountBalance": [
  {
    "amount": 53.33,
    "status": "Due",
    "type": "DepositBalance",
    "validFor": {
      "startDateTime": "2016-04-01T00:00",
      "endDateTime": "2016-11-01T00:00"
    }
  }
],
"accountRelationship": [
  {
    "relationshipType": "linked",
    "validFor": {
```

```
        "startDateTime": "2016-04-01T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "account": [
        {
          "description": "This  account ...",
          "href": "https://host:port/accounts/account/4275",
          "id": "4275",
          "name": "Paradise Account"
        }
      ]
    }
  ]
}
```
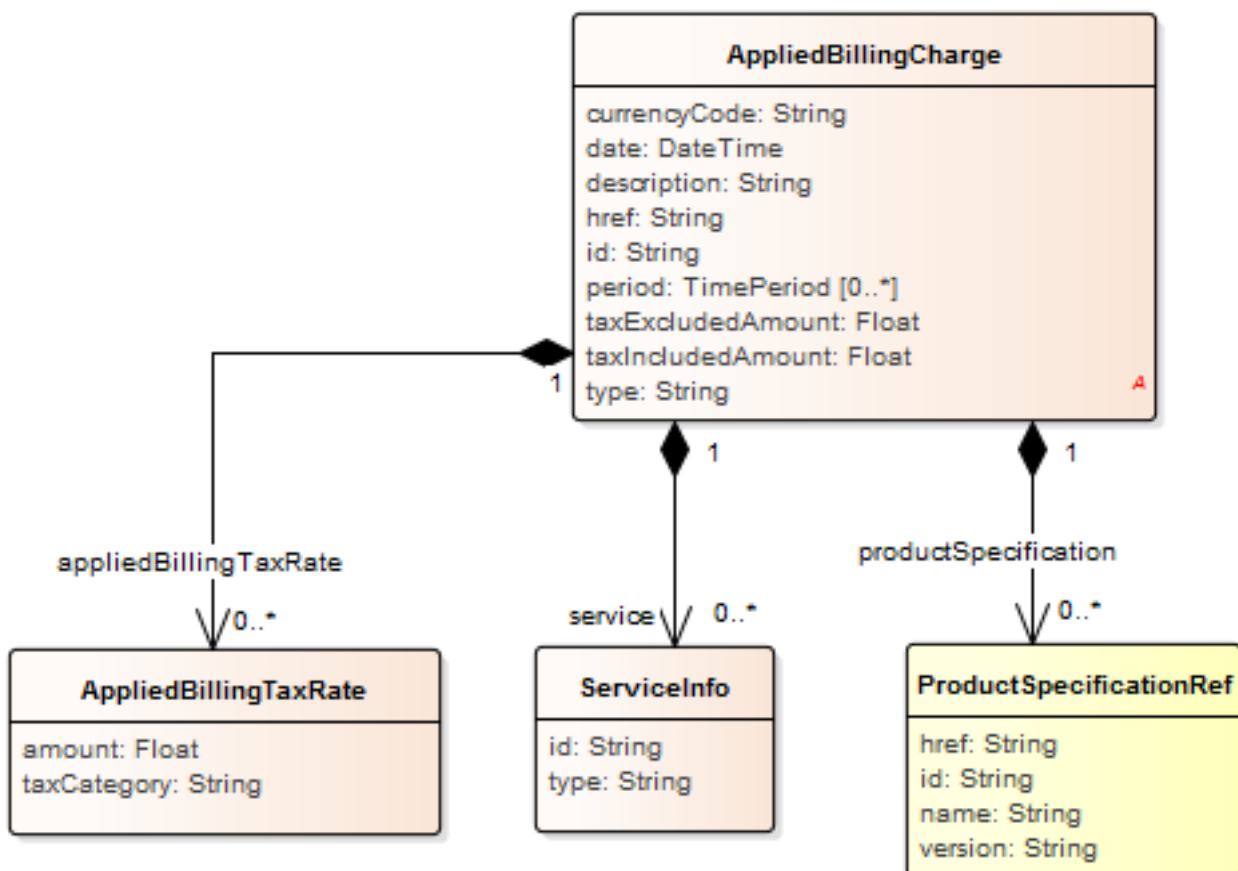
APPLIED BILLING CHARGE

The Billing Account module includes the resources used by the billing process.

DIAGRAMS

AppliedBillingCharge resource

ENTITY CLASSES

Entity	Description
AppliedBillingCharge	An amount, usually of money, for which a person or an organization is financially liable.
AppliedBillingTaxRate	An amount of money levied on the price of a product by a legislative body.

PROPERTY DETAILS

AppliedBillingCharge	Type	Description
appliedBillingTaxRate	AppliedBillingTaxRate [*]	A list of AppliedBillingTaxRate sub-objects.
currencyCode	String [1]	A string used as a code for specifying the currency associated to the given amounts. The ISO4217 norm uses 3 letters to define the currency (for example USD for US dollar or EUR for Euro).
date	DateTime [1]	Creation date of the applied billing charge
description	String [1]	Additional data to be displayed on the bill for this applied billing charge
href	String [1]	Reference of the applied billing charge
id	String [1]	Unique identifier of the applied billing charge
period	TimePeriod [*]	Validity period for the charge billing appliance
productSpecification	ProductSpecificationRef [*]	A list of ProductSpecification references.
service	ServiceInfo [*]	A list of ServiceInfo sub-objects.
taxExcludedAmount	Float [1]	Tax excluded amount to be charged on the bill (expresses in the given currency).
taxIncludedAmount	Float [1]	All taxes included amount to be charged on the bill (expressed in the given currency)
type	String [1]	Type of the applied billing charge (recurring, one time or usage) necessary to find the category of the invoice where the charge has to be displayed.

AppliedBillingTaxRate	Type	Description
amount	Float [1]	Tax amount
taxCategory	String [1]	A categorization of the tax rate

JSON SAMPLES

AppliedBillingCharge

```json
{
  "currencyCode": "CAD",
  "date": "2016-04-05T00:00",
  "description": "This  applied billing charge ...",
  "href": "https://host:port/appliedBillingCharge/appliedBillingCharge/7411",
  "id": "7411",
  "period": [
    {
      "startDateTime": "2016-04-03T00:00",
      "endDateTime": "2016-11-01T00:00"
    }
  ],
  "taxExcludedAmount": 92.35,
  "taxIncludedAmount": 78.92,
  "type": "a string ...",
  "appliedBillingTaxRate": [
    {
      "amount": 51.39,
      "taxCategory": "a string ..."
    }
  ],
  "productSpecification": [
    {
      "href": "https://host:port/productSpecification/productSpecification/9311",
      "id": "9311",
      "name": "Robotics999",
      "version": "1.1"
    }
  ],
  "service": [
    {
      "id": "8679",
      "type": "a string ..."
    }
  ]
}
```

AGREEMENTS

The Agreement module describes the concepts related to agreements between parties. It includes agreements specifications which serve as templates for establishing agreements.

DIAGRAMS

Agreement resource

AgreementSpecification resource

ENTITY CLASSES

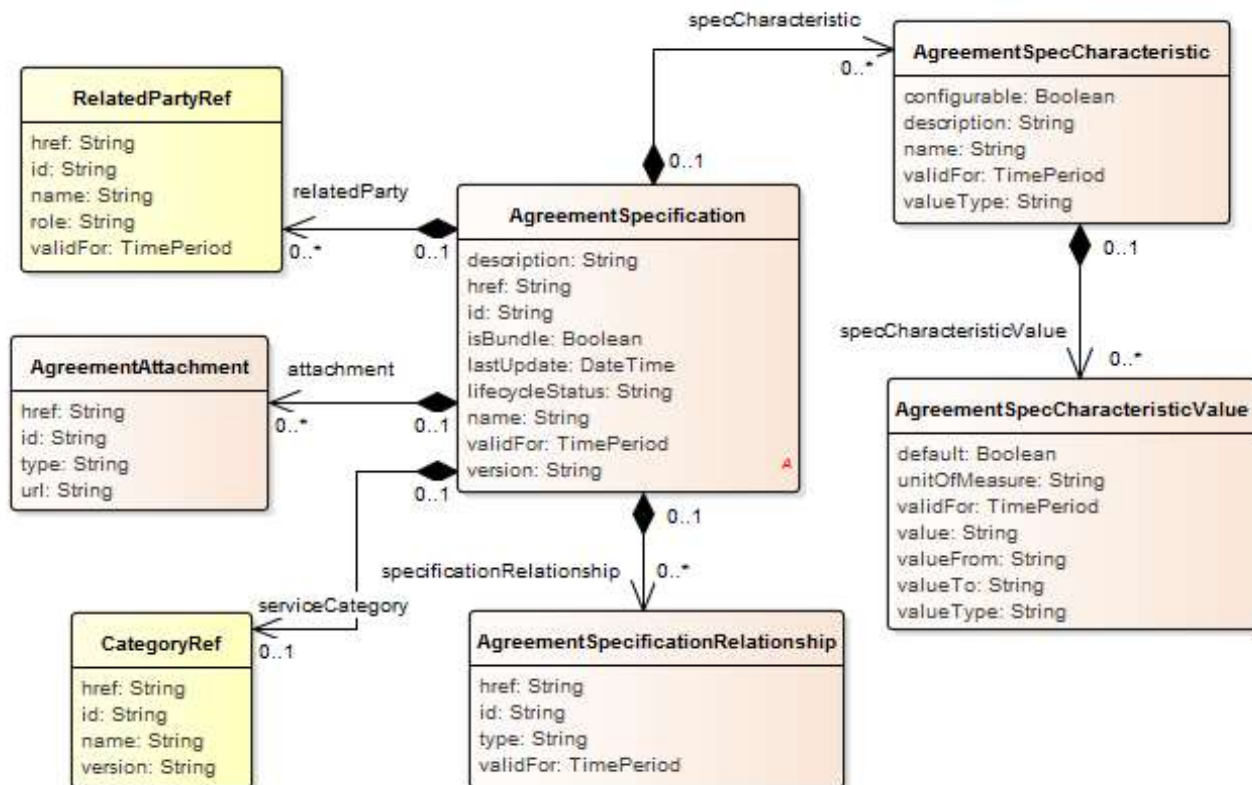| Entity	Description
Agreement	An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.
AgreementAttachment	Represents a complementary piece of information to describe the agreement. Could be a document, picture, a video or any kind of multimedia content.
AgreementAuthorization	A business participant that is responsible for approving the agreement.
AgreementItem	A part of the agreement expressed in terms of a product offering and possibly including specific terms and conditions.
AgreementSpecCharacteristic	A characteristic quality or distinctive feature of an agreement.
AgreementSpecCharacteristicValue	A number or text that can be assigned to an agreement specification characteristic.
AgreementSpecification	A template of an agreement that can be used when establishing partnerships.
AgreementSpecificationRelationship	A relationship between agreement specifications. Typical relationships are substitution and dependency.
AgreementTermOrCondition	Aspects of the agreement not formally specified elsewhere in the agreement and that cannot be captured elsewhere in a formal notation, or automatically monitored and require a more human level of management.

REFERENCE CLASSES

Reference Class	Description/Fields
AgreementRef	Agreement reference. Fields: href, id, name
AgreementSpecificationRef	AgreementSpecification reference. Fields: description, href, id, name

PROPERTY DETAILS

Agreement	Type	Description
agreementAuthorization	AgreementAuthorization [*]	A list of AgreementAuthorization sub-objects.
agreementItem	AgreementItem [*]	A list of AgreementItem sub-objects.
agreementPeriod	TimePeriod [1]	The time period during which the Agreement is in effect.

agreementSpecification	AgreementSpecificationRef [0..1]	An AgreementSpecification reference. (An AgreementSpecification represents a template of an agreement that can be used when establishing partnerships.)
associated Agreement	AgreementRef [*]	A list of Agreement references.
characteristic	Characteristic [*]	A list of Characteristic sub-objects.
completionDate	TimePeriod [1]	Date at which the agreement is completed
description	String [1]	Narrative that explains the agreement and details about the it, such as why the agreement is taking place.
documentNumber	Integer [1]	A reference number assigned to an Agreement that follows a prescribed numbering system.
engagedPartyRole	PartyRoleRef [*]	A list of PartyRole references.
href	String [1]	Unique url identifying the agreement as a resource
id	String [1]	Unique identifier for the agreement
initialDate	DateTime [1]	Date at which the agreement was initialized
name	String [1]	A human-readable name for the agreement
statementOfIntent	String [1]	An overview and goals of the Agreement.
status	String [1]	The current status of the agreement. Typical values are: in process, approved and rejected.
type	String [1]	The type of the agreement. For example "commercial".
version	String [1]	A string identifying the version of the agreement.

AgreementAttachment	Type	Description
href	String [1]	Reference of the attachment
id	String [1]	Unique identifier of the attachment
type	String [1]	Attachment type such as video, picture
url	String [1]	Uniform Resource Locator, is a web page address (a subset of URI)

AgreementAuthorization	Type	Description
date	DateTime [1]	The date associated with the authorization state.
signatureRepresentation	String [1]	Indication that represents

		whether the signature is a physical paper signature or a digital signature.
state	String [1]	Current status of the authorization, for example in process, approved, rejected.

AgreementItem	Type	Description
productOffering	ProductOfferingRef [*]	A list of ProductOffering references.
termOrCondition	AgreementTermOrCondition [*]	A list of AgreementTermOrCondition sub-objects.

AgreementSpecCharacteristic	Type	Description
configurable	Boolean [1]	If true, the Boolean indicates that the characteristic is configurable
description	String [1]	A narrative that explains in detail what the characteristic is
name	String [1]	Name of the characteristic being specified.
specCharacteristicValue	AgreementSpecCharacteristicValue [*]	A list of AgreementSpecCharacteristicValue sub-objects.
validFor	TimePeriod [1]	The period for which the specification characteristic is valid
valueType	String [1]	A kind of value that the characteristic can take on, such as numeric, text and so forth

AgreementSpecCharacteristicValue	Type	Description
default	Boolean [1]	Indicates if the value is the default value for a characteristic
unitOfMeasure	String [1]	Unit of measure for the characteristic, such as minutes, gigabytes (GB) and so on.
validFor	TimePeriod [1]	The period of time for which a value is applicable
value	String [1]	A discrete value that the characteristic can take on
valueFrom	String [1]	The low range value that a characteristic can take on
valueTo	String [1]	The upper range value that a characteristic can take on
valueType	String [1]	A kind of value that the characteristic can take on, such as numeric, text, and so forth

AgreementSpecification	Type	Description
attachment	AgreementAttachment [*]	A list of AgreementAttachment sub-objects.
description	String [1]	A narrative that explains in detail what the agreement specification is about.
href	String [1]	Reference of the agreement specification
id	String [1]	Unique identifier of the agreement specification
isBundle	Boolean [1]	Indicates that this agreement specification is a grouping of other agreement specifications. The list of bundled agreement specifications is provided via the specificationRelationship property.
lastUpdate	DateTime [1]	Date and time of the last update
lifecycleStatus	String [1]	Indicates the current lifecycle status
name	String [1]	Name of the agreement specification
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
serviceCategory	CategoryRef [0..1]	A Category reference. (The category resource is used to group product offerings, service and resource candidates in logical containers. Categories can contain other categories and/or product offerings, resource or service candidates.)
specCharacteristic	AgreementSpecCharacteristic [*]	A list of AgreementSpecCharacteristic sub-objects.
specificationRelationship	AgreementSpecificationRelationship [*]	A list of AgreementSpecificationRelationship sub-objects.
validFor	TimePeriod [1]	The period for which the agreement specification is valid
version	String [1]	Agreement specification version

AgreementSpecificationRelationship	Type	Description
href	String [1]	Reference of an agreement specification.
id	String [1]	Unique identifier of the related agreement specification.
type	String [1]	Type of relationship such as, substitution or dependency.
validFor	TimePeriod [1]	The period for which the relationship is valid

AgreementTermOrCondition	Type	Description
description	String [1]	Text that explains the term or condition of the agreement.

id	String [1]	Unique number assigned for reference.
validFor	TimePeriod [1]	The period of time during which the term or condition of the agreement applies.

JSON SAMPLES

Agreement

```
{
   "agreementPeriod": {
      "startDateTime": "2016-04-08T00:00",
      "endDateTime": "2016-11-01T00:00"
   },
   "completionDate": "2016-10-16",
   "description": "This  agreement ...",
   "documentNumber": 10,
   "href": "https://host:port/onboardingManagement/agreement/1266",
   "id": "1266",
   "initialDate": "2014-12-06",
   "name": "Summer Contract Agreement",
   "statementOfIntent": "Agreement on restricting the working hours ",
   "status": "approved",
   "type": "commercial",
   "version": "1.5",
   "agreementSpecification": {
      "description": "This agreement specification defines the ethic rules to be followed by each party.",
      "href": "https://host:port/onboardingManagement/agreementSpecification/9967",
      "id": "9967",
      "name": "Development Agreement Specification"
   },
   "agreementItem": [
      {
         "productOffering": [
            {
               "href": "https://host:port/productOffering/productOffering/8030",
               "id": "8030",
               "name": "My Quick BB Offer",
               "bundledProductOffering": [
                  {
                     "href": "https://host:port/productOffering/bundledProductOffering/5469",
                     "id": "5469",
                     "name": "Robust Offer",
                     "bundledProductOffering": []
                  }
               ]
            }
         ],
         "termOrCondition": [
            {
               "description": "This  agreement term or condition ...",
               "id": "1011",
               "validFor": {
```

```
                "startDateTime": "2016-04-02T00:00",
                "endDateTime": "2016-11-01T00:00"
            }
        }
    ]
  }
],
"engagedPartyRole": [
    {
        "href": "https://host:port/partyRole/partyRole/6382",
        "id": "6382",
        "name": "Supplier",
        "partyId": "477",
        "partyName": "The Pirate Bay"
    }
],
"agreementAuthorization": [
    {
        "date": "2016-04-05T00:00",
        "signatureRepresentation": "Mr Hyde",
        "state": "approved"
    }
],
"characteristic": [
    [
        {
            "name": "country",
            "value": "Italy"
        },
        {
            "name": "confidentialLevel",
            "value": "high"
        }
    ]
],
"associatedAgreement": [
    [
        {
            "name": "General Partnership Agreement",
            "id": "98765453"
        }
    ]
]
}
```

AgreementSpecification

```
{
    "description": "This agreement specification defines the environment protection rules to be followed by each
party.",
    "href": "https://host:port/onboardingManagement/agreementSpecification/4452",
    "id": "4452",
    "isBundle": false,
    "lastUpdate": "2016-04-05T00:00",
    "lifecycleStatus": "initialized",
```

```
      "name": "General Agreement Specification",
      "validFor": {
         "startDateTime": "2016-04-06T00:00",
         "endDateTime": "2016-11-01T00:00"
      },
      "version": "3.0",
      "serviceCategory": {
         "href": "https://host:port/productOffering/category/9518",
         "id": "9518",
         "name": "IoT",
         "version": "1.5"
      },
      "specCharacteristic": [
         {
            "configurable": true,
            "description": "This  agreement spec characteristic ...",
            "name": "Phone color",
            "validFor": {
               "startDateTime": "2016-04-02T00:00",
               "endDateTime": "2016-11-01T00:00"
            },
            "valueType": "string",
            "specCharacteristicValue": [
               {
                  "default": true,
                  "unitOfMeasure": "MB",
                  "validFor": {
                     "startDateTime": "2016-04-04T00:00",
                     "endDateTime": "2016-11-01T00:00"
                  },
                  "value": "pink",
                  "valueFrom": "",
                  "valueTo": "",
                  "valueType": "string"
               }
            ]
         }
      ],
      "relatedParty": [
         {
            "href": "https://host:port/partyManagement/organization/5813",
            "id": "5813",
            "name": "Richard Cole",
            "role": "service provider",
            "validFor": {
               "startDateTime": "2016-04-02T00:00",
               "endDateTime": "2016-11-01T00:00"
            }
         }
      ],
      "attachment": [
         {
            "href": "http://hostname:port/documentManagement/attachment/22",
            "id": "22",
            "type": "Photo",
            "url": "http://xxxxx"
```

```
      }
   ],
   "specificationRelationship": [
      {
         "href": "https://host:port/agreements/agreementSpecificationRelationship/6509",
         "id": "6509",
         "type": "dependency",
         "validFor": {
            "startDateTime": "2016-04-01T00:00",
            "endDateTime": "2016-11-01T00:00"
         }
      }
   ]
}
```
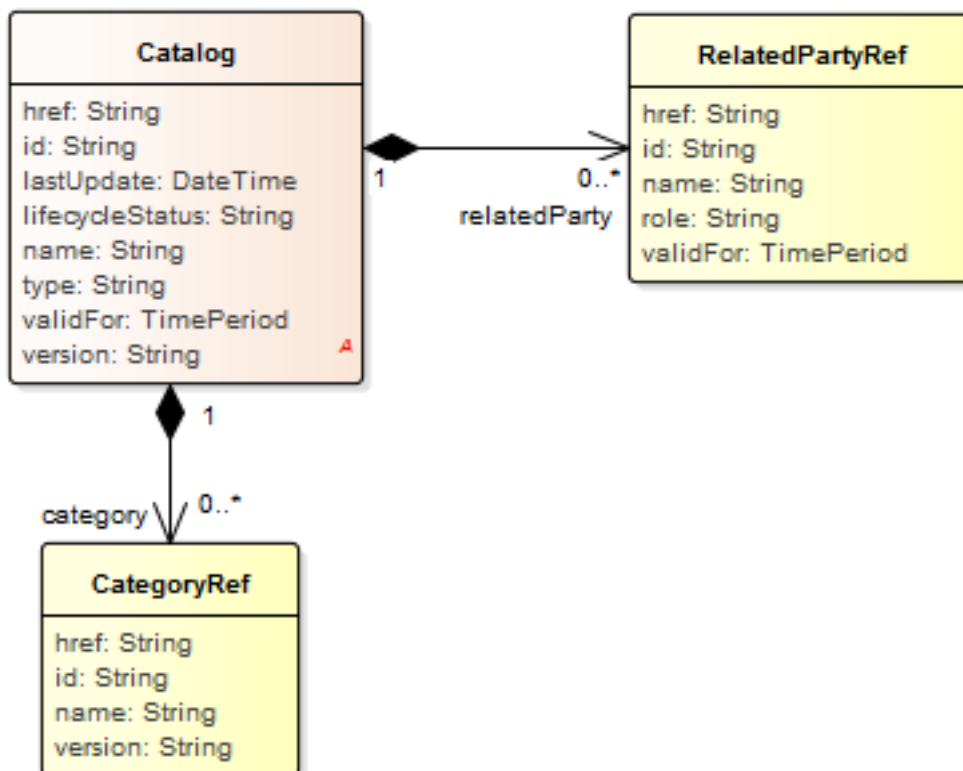
CATALOG

The Catalog module contains the elements needed for the management of the entire lifecycle of the catalog elements, the consultation of catalog elements during several processes such as ordering process and campaign.

DIAGRAMS

Catalog resource

ENTITY CLASSES

Entity	Description
Catalog	Is a collection of Product Offerings, intended for a specific DistributionChannel, enhanced with additional information such as SLA parameters, invoicing and shipping details.

PROPERTY DETAILS

Catalog	Type	Description
category	CategoryRef [*]	A list of Category references.
href	String [1]	Unique reference of the catalog
id	String [1]	Unique identifier of the Catalog
lastUpdate	DateTime [1]	Date and time of the last update
lifecycleStatus	String [1]	Used to indicate the current lifecycle status
name	String [1]	Name of the catalog
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
type	String [1]	Indicates if the catalog is a product, service or resource catalog
validFor	TimePeriod [1]	The period for which the catalog is valid
version	String [1]	Catalog version

JSON SAMPLES

Catalog

```
{
  "href": "https://host:port/catalog/catalog/2577",
  "id": "2577",
  "lastUpdate": "2016-04-05T00:00",
  "lifecycleStatus": "Inactive",
  "name": "Catalog Wholesale Business",
  "type": "Service Catalog",
  "validFor": {
    "startDateTime": "2016-04-03T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "version": "1.0",
  "relatedParty": [
    {
      "href": "https://host:port/partyManagement/organization/8610",
      "id": "8610",
      "name": "Richard Cole",
      "role": "owner",
```

```
            "validFor": {
               "startDateTime": "2016-04-03T00:00",
               "endDateTime": "2016-11-01T00:00"
            }
         }
      ],
      "category": [
         {
            "href": "https://host:port/productOffering/category/2792",
            "id": "2792",
            "name": "Cloud",
            "version": "3.2"
         }
      ]
   }
```
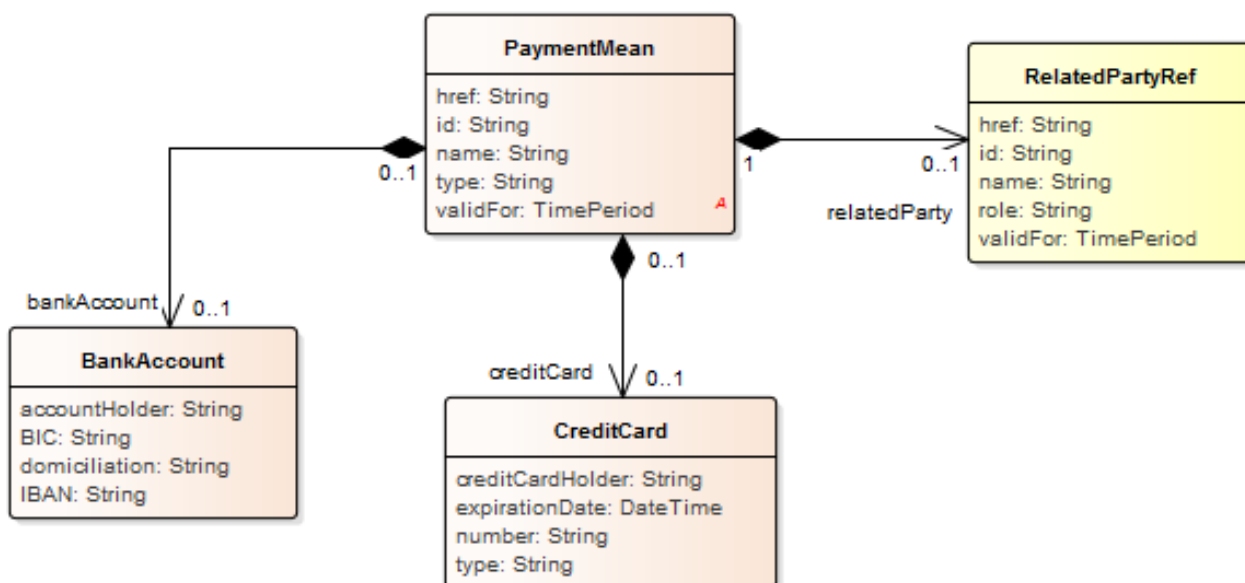
PAYMENT MEAN

The Payment Mean module describes the concepts used to specify the payment means of parties.

DIAGRAMS

PaymentMean resource

ENTITY CLASSES

Entity	Description
BankAccount	Describes the information of a bank account

CreditCard	Describes the credit card information
PaymentMean	Defines a specific mean of payment (e.g. direct debit with all details associated)
PaymentPlan	Defines a plan for payment (when a party wants to spread his payments)

REFERENCE CLASSES

Reference Class	Description/Fields
PaymentMeanRef	PaymentMean reference. Fields: href, id, name

PROPERTY DETAILS

BankAccount	Type	Description
BIC	String [1]	Identifier of the bank according to its international code
IBAN	String [1]	International format to describe a bank account
accountHolder	String [1]	Name of the holder of the bank account
domiciliation	String [1]	Address of the bank agency which manages the bank account

CreditCard	Type	Description
creditCardHolder	String [1]	Name of the credit card holder
expirationDate	DateTime [1]	Expiration date of the card
number	String [1]	Card number
type	String [1]	Credit card type (Mastercard, Visa,...)

PaymentMean	Type	Description
bankAccount	BankAccount [0..1]	A BankAccount sub-object.
creditCard	CreditCard [0..1]	A CreditCard sub-object.
href	String [1]	Unique reference of the payment mean
id	String [1]	Unique identifier of the payment mean
name	String [1]	Name of the payment mean
relatedParty	RelatedPartyRef [0..1]	A RelatedParty reference. (A related party defines party or party role linked to a specific entity.)
type	String [1]	Type of the payment mean
validFor	TimePeriod [1]	Validity period of the payment mean

PaymentPlan	Type	Description

amount	Float [1]	Amount paid
numberOfPayments	Integer [1]	Number of payments used to spread the global payment
paymentFrequency	String [1]	Frequency of the payments, such as monthly and bimonthly
paymentMean	PaymentMeanRef [1]	A PaymentMean reference. (A payment mean defines a specific mean of payment (e.g direct debit with all details associated).)
priority	Integer [1]	Priority of the payment plan
status	String [1]	Status of the payment plan (effective, ineffective)
type	String [1]	Type of payment plan
validFor	TimePeriod [1]	Validity period of the payment plan

JSON SAMPLES

PaymentMean

```
{
  "href": "https://host:port/onboardingManagement/paymentMean/8987",
  "id": "8987",
  "name": "family payment",
  "type": "CreditCard",
  "validFor": {
    "startDateTime": "2016-04-01T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "relatedParty": {
    "href": "https://host:port/partyManagement/organization/6535",
    "id": "6535",
    "name": "Richard Cole",
    "role": "bill receiver",
    "validFor": {
      "startDateTime": "2016-04-06T00:00",
      "endDateTime": "2016-11-01T00:00"
    }
  },
  "creditCard": {
    "creditCardHolder": "Emile Zola",
    "expirationDate": "2016-04-05T00:00",
    "number": "123456787654321",
    "type": "Visa"
  },
  "bankAccount": {
    "accountHolder": "Mr.GustaveFlaubert",
    "BIC": "PSSTFRPPPAR",
    "domiciliation": "LaBanquePostale-75900ParixCedex15",
    "IBAN": "FR4620061009010835927F33098"
  }
}
```

JOBS

Generic package defining general purpose resource attributes

DIAGRAMS

ExportJob resource

ExportJob
completionDate: DateTime
contentType: String
creationDate: DateTime
errorLog: String
href: String
id: String
path: String
query: String
status: String
url: String

ImportJob resource

ImportJob
completionDate: DateTime
contentType: String
creationDate: DateTime
errorLog: String
href: String
id: String
path: String
status: String
url: String
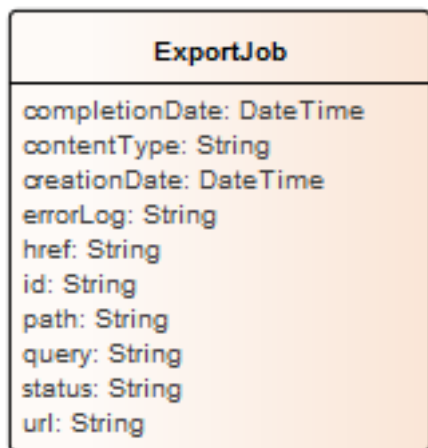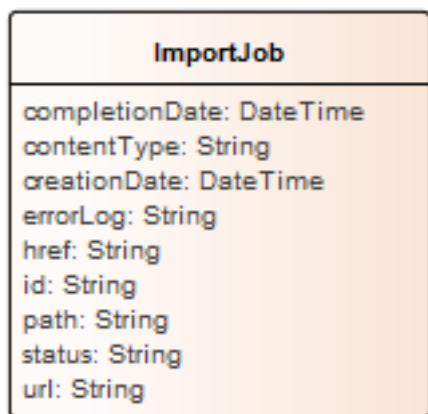
ENTITY CLASSES

Entity	Description
ExportJob	Represents a task used to export resources to a file
ImportJob	Represents a task used to import resources from a file

PROPERTY DETAILS

ExportJob	Type	Description
completionDate	DateTime [1]	Data at which the job was completed
contentType	String [1]	The format of the exported data
creationDate	DateTime [1]	Date at which the job was created
errorLog	String [1]	Reason for failure
href	String [1]	Reference of the export job
id	String [1]	Identifier of the export job
path	String [1]	URL of the root resource acting as the source for streaming content to the file specified by the export job
query	String [1]	Used to scope the exported data
status	String [1]	Status of the export job (not started, running, succeeded, failed)
url	String [1]	URL of the file containing the data to be exported

ImportJob	Type	Description
completionDate	DateTime [1]	Date at which the job was completed
contentType	String [1]	Indicates the format of the imported data
creationDate	DateTime [1]	Date at which the job was created
errorLog	String [1]	Reason for failure if status is failed
href	String [1]	Reference of the import job
id	String [1]	Identifier of the import job
path	String [1]	URL of the root resource where the content of the file specified by the import job must be applied
status	String [1]	Status of the import job (not started, running, succeeded, failed)
url	String [1]	URL of the file containing the data to be imported

JSON SAMPLES

ExportJob

```
{
  "completionDate": "2016-04-05T00:00",
  "contentType": "application/json",
  "creationDate": "2016-04-05T00:00",
```

```
    "errorLog": "http://my-platform/logging/errors.log",
    "href": "https://host:port/jobManagement/exportJob/9279",
    "id": "9279",
    "path": "/Unexpected/fatal/error",
    "query": "advancedCatalog",
    "status": "started",
    "url": "http://my/monthly/job/YHGFRDE"
}
```

ImportJob

```
{
    "completionDate": "2016-04-05T00:00",
    "contentType": "application/json",
    "creationDate": "2016-04-05T00:00",
    "errorLog": "http://my-platform/logging/errors.log",
    "href": "https://host:port/jobManagement/importJob/4890",
    "id": "4890",
    "path": "/Unexpected/fatal/error",
    "status": "completed",
    "url": "http://my/monthly/job/YHGFRDE"
}
```

PARTNERSHIP TYPE

The Partnerships module contains the elements describing partnerships types and the roles played by parties in a given context.

DIAGRAMS

PartnershipType resource
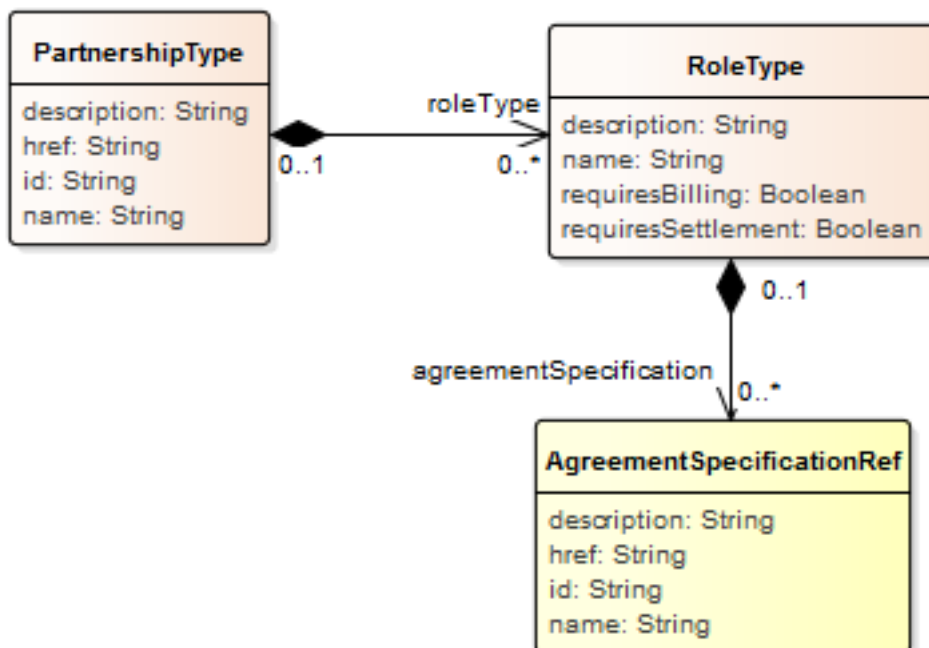
ENTITY CLASSES

Entity	Description
PartnershipType	A partnership type contains all the information for the setup of a partnership of a given kind. This includes the list of identified role types for the partnership with the corresponding agreement specifications.
RoleType	A RoleType represents the type of a PartyRole, defined in the context of a given type of partnership, such as Buyer, Seller.

REFERENCE CLASSES

Reference Class	Description/Fields
PartnershipTypeRef	PartnershipType reference. Fields: href, id, name
RoleTypeRef	RoleType reference. Fields: name, partnershipHref, partnershipId, partnershipName

PROPERTY DETAILS

PartnershipType	Type	Description
description	String [1]	An explanatory text regarding

			this partnership type
href	String [1]	The reference url for this partnership type
id	String [1]	The identifier of the partnership type
name	String [1]	An identifying name for the partnership type.
roleType	RoleType [*]	A list of RoleType sub-objects.

RoleType	Type	Description
agreementSpecification	AgreementSpecificationRef [*]	A list of AgreementSpecification references.
description	String [1]	An explanatory text documenting the role type
name	String [1]	The name of the role type.
requiresBilling	Boolean [1]	Indicates whether billing operations will be associated to parties playing the role
requiresSettlement	Boolean [1]	Indicates whether settlement operations will be associated to parties playing the role

JSON SAMPLES

PartnershipType

```
{
  "description": "This  partnership type ...",
  "href": "https://host:port/partnershipType/partnershipType/4034",
  "id": "4034",
  "name": "Dream Partnership",
  "roleType": [
    [
      {
        "name": "ContentProvider",
        "agreementSpecification": [
          {
            "name": "ContentLicenseAgreement",
            "id": "33"
          }
        ]
      },
      {
        "name": "CloudProvider"
      },
      {
        "name": "Developer",
        "agreementSpecification": [
          {
            "name": "ProfitShareAgreement",
            "id": "32"
          }
```

```
          ]
        },
        {
          "name": "Tester"
        }
      ]
    ]
}
```

CUSTOMER

Module defining a customer

DIAGRAMS

Customer resource
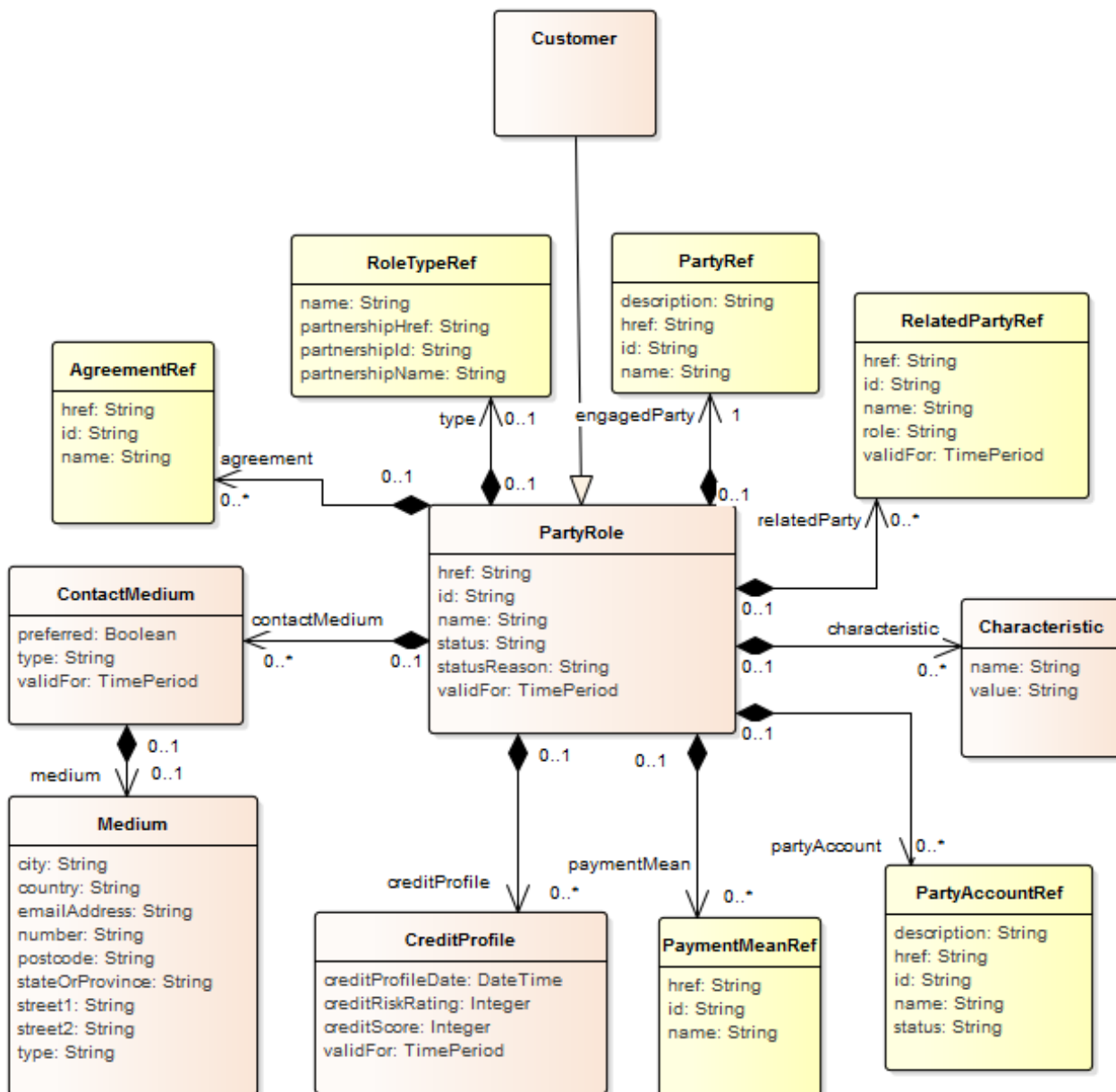
ENTITY CLASSES

Entity	Description
Customer	

PROPERTY DETAILS

Customer	Type	Description
agreement	AgreementRef [*]	A list of Agreement references.
characteristic	Characteristic [*]	A list of Characteristic sub-

		objects.
contactMedium	ContactMedium [*]	A list of ContactMedium sub-objects.
creditProfile	CreditProfile [*]	A list of CreditProfile sub-objects.
engagedParty	PartyRef [1]	A Party reference. (A party represents an organization or an individual.)
href	String [1]	Url used to reference the party role.
id	String [1]	Unique identifier for PartyRoles
name	String [1]	A word, term, or phrase by which the PartyRole is known and distinguished from other PartyRoles.
partyAccount	PartyAccountRef [*]	A list of PartyAccount references.
paymentMean	PaymentMeanRef [*]	A list of PaymentMean references.
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
status	String [1]	Used to track the lifecycle status of the party role.
statusReason	String [1]	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.
type	RoleTypeRef [0..1]	A RoleType reference. (RoleType reference.)
validFor	TimePeriod [1]	The time period that the PartyRole is valid for.

JSON SAMPLES

Customer

```
{
  "href": "https://host:port/customer/customer/3681",
  "id": "3681",
  "name": "Futura Oil",
  "status": "Active",
  "statusReason": "",
  "validFor": {
    "startDateTime": "2016-04-05T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "engagedParty": {
    "description": "This  party ...",
    "href": "https://host:port/partyReferences/partyRef/3811",
    "id": "3811",
    "name": "Booking Corporation"
```

```
    },
    "type": {
      "name": "a string ...",
      "partnershipHref": "a string ...",
      "partnershipId": "591",
      "partnershipName": "a string ..."
    },
    "partyAccount": [
      {
        "description": "This  party account ...",
        "href": "https://host:port/accounts/partyAccount/6637",
        "id": "6637",
        "name": "Travel account",
        "status": "Due"
      }
    ],
    "paymentMean": [
      {
        "href": "https://host:port/onboardingManagement/paymentMean/2771",
        "id": "2771",
        "name": "professional paymean"
      }
    ],
    "contactMedium": [
      {
        "preferred": false,
        "type": "TelephoneNumber",
        "validFor": {
          "startDateTime": "2016-04-07T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "medium": {
          "city": "Lannion",
          "country": "France",
          "emailAddress": "coco.chanel@orange.fr",
          "number": "+336641234567",
          "postcode": "75000",
          "stateOrProvince": "Quebec",
          "street1": "Rue Picasso",
          "street2": "",
          "type": "home"
        }
      }
    ],
    "characteristic": [
      [
        {
          "name": "Colour",
          "value": "pink"
        },
        {
          "name": "Memory",
          "value": "32"
        }
      ]
    ],
```

```
"creditProfile": [
    {
        "creditProfileDate": "2016-04-05T00:00",
        "creditRiskRating": 2,
        "creditScore": 4,
        "validFor": {
            "startDateTime": "2016-04-08T00:00",
            "endDateTime": "2016-11-01T00:00"
        }
    }
],
"agreement": [
    {
        "href": "https://host:port/onboardingManagement/agreement/4319",
        "id": "4319",
        "name": "Summer Contract Agreement"
    }
],
"relatedParty": [
    {
        "href": "https://host:port/partyManagement/organization/5607",
        "id": "5607",
        "name": "Jimmy Doe",
        "role": "employee",
        "validFor": {
            "startDateTime": "2016-04-03T00:00",
            "endDateTime": "2016-11-01T00:00"
        }
    }
]
}
```

PARTY ROLE

Generic package defining general purpose resource attributes

DIAGRAMS

PartyRole resource
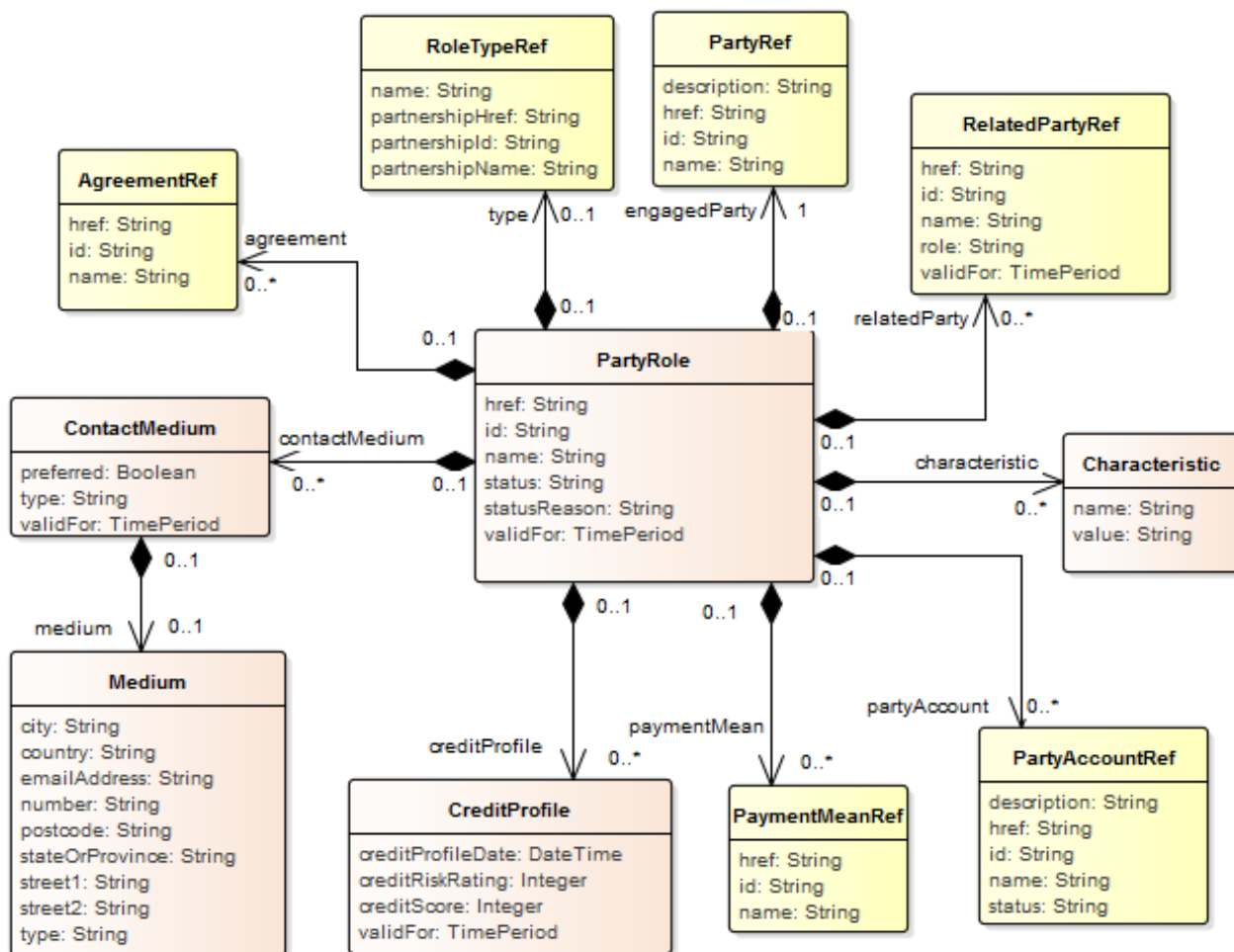
ENTITY CLASSES

Entity	Description
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.
PartyRole	The part played by a party in a given context.

REFERENCE CLASSES

Reference Class	Description/Fields
PartyRoleRef	Party role reference. Fields: href, id, name, partyId, partyName

PROPERTY DETAILS

CreditProfile	Type	Description
creditProfileDate	DateTime [1]	The date the profile was established
creditRiskRating	Integer [1]	This is an integer whose value is used to rate the risk
creditScore	Integer [1]	A measure of a person's or an organization's creditworthiness calculated on the basis of a combination of factors such as their income and credit history.
validFor	TimePeriod [1]	The period for which the profile is valid

PartyRole	Type	Description
agreement	AgreementRef [*]	A list of Agreement references.
characteristic	Characteristic [*]	A list of Characteristic sub-objects.
contactMedium	ContactMedium [*]	A list of ContactMedium sub-objects.
creditProfile	CreditProfile [*]	A list of CreditProfile sub-objects.
engagedParty	PartyRef [1]	A Party reference. (A party represents an organization or an individual.)
href	String [1]	Url used to reference the party role.
id	String [1]	Unique identifier for PartyRoles
name	String [1]	A word, term, or phrase by which the PartyRole is known and distinguished from other PartyRoles.
partyAccount	PartyAccountRef [*]	A list of PartyAccount references.
paymentMean	PaymentMeanRef [*]	A list of PaymentMean references.
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
status	String [1]	Used to track the lifecycle status of the party role.
statusReason	String [1]	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.
type	RoleTypeRef [0..1]	A RoleType reference. (RoleType reference.)
validFor	TimePeriod [1]	The time period that the PartyRole is valid for.

JSON SAMPLES

PartyRole

```json
{
  "href": "https://host:port/partyRole/partyRole/9974",
  "id": "9974",
  "name": "Supplier",
  "status": "Created",
  "statusReason": "",
  "validFor": {
    "startDateTime": "2016-04-08T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "engagedParty": {
    "description": "This  party ...",
    "href": "https://host:port/partyReferences/partyRef/5828",
    "id": "5828",
    "name": "Booking Corporation"
  },
  "type": {
    "partnershipId": "178",
    "name": "Supplier",
    "partnershipName": "Application provider partnership"
  },
  "partyAccount": [
    {
      "description": "This  party account ...",
      "href": "https://host:port/accounts/partyAccount/1836",
      "id": "1836",
      "name": "Partnership account",
      "status": "Due"
    }
  ],
  "paymentMean": [
    {
      "href": "https://host:port/onboardingManagement/paymentMean/1863",
      "id": "1863",
      "name": "family payment"
    }
  ],
  "contactMedium": [
    {
      "preferred": true,
      "type": "TelephoneNumber",
      "validFor": {
        "startDateTime": "2016-04-03T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "medium": {
        "city": "Toulouse",
        "country": "France",
        "emailAddress": "abc@tmforum.com",
        "number": "+33296051563",
        "postcode": "22300",
        "stateOrProvince": "Quebec",
        "street1": "Rue Flaubert",
        "street2": "",
```

```
          "type": "business"
        }
      }
    ],
    "characteristic": [
      [
        {
          "name": "Colour",
          "value": "white"
        },
        {
          "name": "Memory",
          "value": "32"
        }
      ]
    ],
    "creditProfile": [
      {
        "creditProfileDate": "2016-04-05T00:00",
        "creditRiskRating": 2,
        "creditScore": 2,
        "validFor": {
          "startDateTime": "2016-04-02T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "agreement": [
      {
        "href": "https://host:port/onboardingManagement/agreement/6864",
        "id": "6864",
        "name": "Winter Contract Agreement"
      }
    ],
    "relatedParty": [
      {
        "href": "https://host:port/partyManagement/organization/1175",
        "id": "1175",
        "name": "Richard Cole",
        "role": "bill receiver",
        "validFor": {
          "startDateTime": "2016-04-05T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ]
  }
}
```
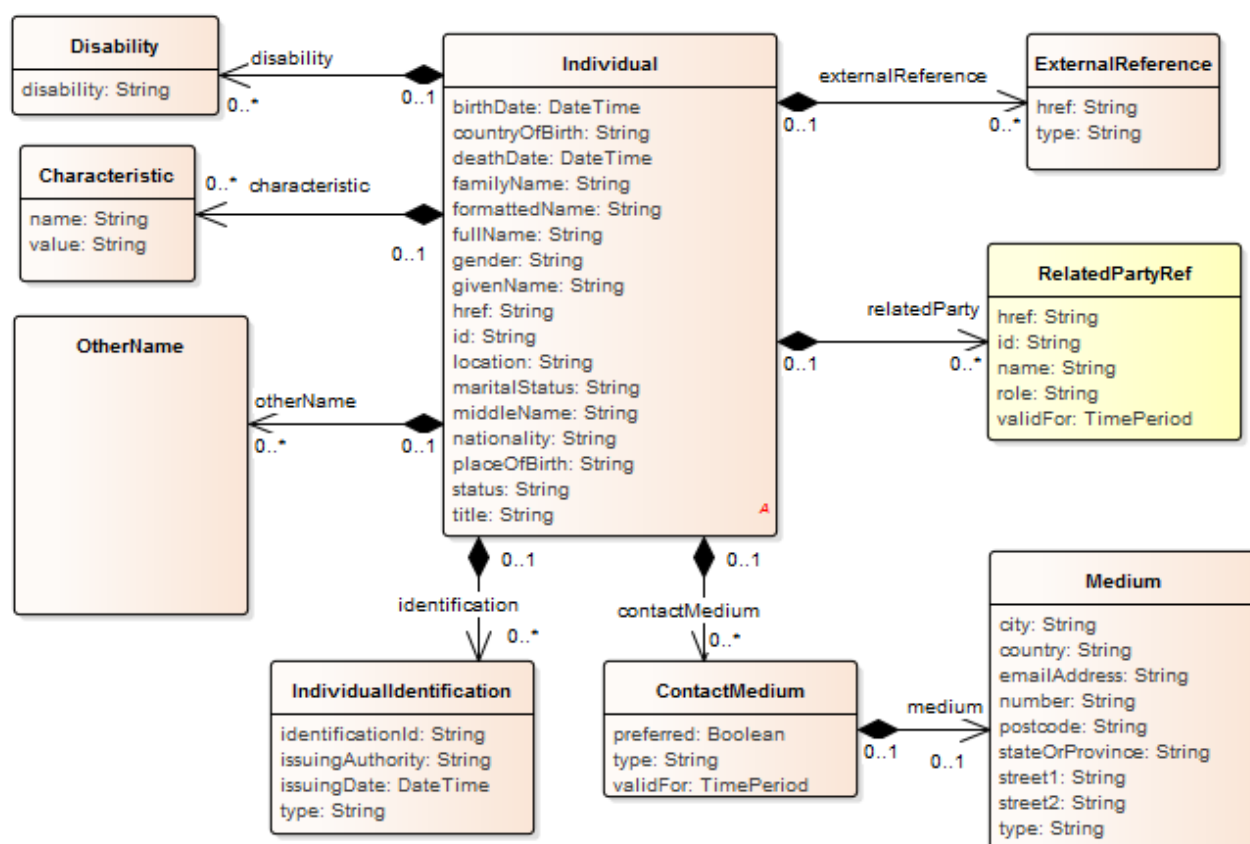
PARTY

The Party module includes resources to manage individuals and organizations.

DIAGRAMS

Individual resource

Organization resource
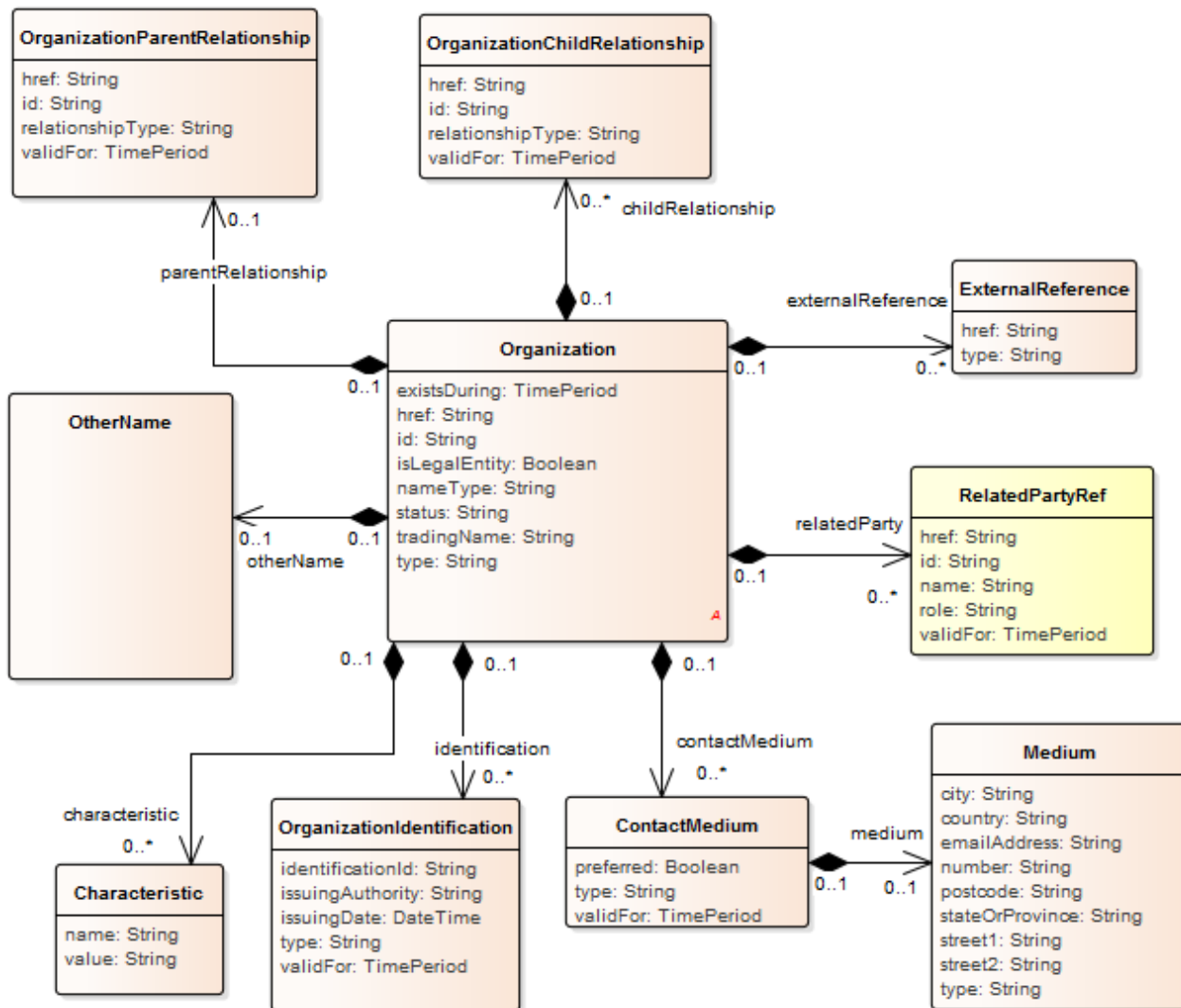
ENTITY CLASSES

Entity	Description
Disability	Lack or inadequate strength or ability
ExternalReference	To manage touch points to external OTT identifiers for the individual or the organization (facebook, google+,...)
Individual	Represents a physical person
IndividualIdentification	Represents our registration of information used as proof of identity by an individual (passport, national identity card, driver's license, social security number, birth certificate)
Organization	Represents a group of people identified by shared interests or purpose. Because of the complex nature of many businesses, both organizations

	and organization units are represented by the same business entity in this model.
OrganizationChildRelationship	Represents the links between organizations: useful to describe an organization structure between headquarters, affiliates,... It indicates the children of the organization
OrganizationIdentification	Represents our registration of information used as proof of identity by an organization
OrganizationParentRelationship	Represents the links between organizations: useful to describe an organization structure between headquarters, affiliates,... It indicates the parent of the organization.
OtherName	To keep track of other names (for example the old name of a woman before marriage or an artist name)

REFERENCE CLASSES

Reference Class	Description/Fields
IssuerRef	Issuer reference. Fields: href, id
PartyRef	Party reference. Fields: description, href, id, name
ReceiverRef	Receiver reference. Fields: href, id
RelatedPartyRef	RelatedParty reference. Fields: href, id, name, role, validFor

PROPERTY DETAILS

Disability	Type	Description
disability	String [1]	Physical or mental handicap

ExternalReference	Type	Description
href	String [1]	External reference
type	String [1]	Reference type

Individual	Type	Description
birthDate	DateTime [1]	Birth date
characteristic	Characteristic [*]	A list of Characteristic sub-objects.
contactMedium	ContactMedium [*]	A list of ContactMedium sub-objects.
countryOfBirth	String [1]	The country of birth
deathDate	DateTime [1]	Death date
disability	Disability [*]	A list of Disability sub-objects.
externalReference	ExternalReference [*]	A list of ExternalReference sub-objects.
familyName	String [1]	Last name
formattedName	String [1]	A formatted name useful for

		specific contexts (chinese, japanese, korean,...)
fullName	String [1]	Full name flatten (first, middle, and last names)
gender	String [1]	Gender
givenName	String [1]	First name
href	String [1]	Reference of the individual
id	String [1]	Unique identifier for the individual
identification	IndividualIdentification [*]	A list of IndividualIdentification sub-objects.
location	String [1]	Temporary current location of the individual (may be used if the individual has approved its sharing)
maritalStatus	String [1]	Marital status (married, divorced, widow...)
middleName	String [1]	Middle name
nationality	String [1]	Nationality
otherName	OtherName [*]	A list of OtherName sub-objects.
placeOfBirth	String [1]	An hyperlink to the place of birth
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
status	String [1]	Status of the individual (Initialized, Validated, Deceased)
title	String [1]	Used for titles (aristocratic, social...): Pr, Dr, Sir...

IndividualIdentification	Type	Description
identificationId	String [1]	Identifier
issuingAuthority	String [1]	Authority which has issued the identifier (social security, town hall...)
issuingDate	DateTime [1]	Date at which the identifier was issued
type	String [1]	Identification type (passport, national identity card, driver's license, social security number, birth certificate)

Organization	Type	Description
characteristic	Characteristic [*]	A list of Characteristic sub-objects.
childRelationship	OrganizationChildRelationship [*]	A list of OrganizationChildRelationship sub-objects.
contactMedium	ContactMedium [*]	A list of ContactMedium sub-objects.
existsDuring	TimePeriod [1]	Details the establishment of the organization and its cessation

externalReference	ExternalReference [*]	A list of ExternalReference sub-objects.
href	String [1]	Reference of the organization
id	String [1]	Unique identifier for the organization
identification	OrganizationIdentification [*]	A list of OrganizationIdentification sub-objects.
isLegalEntity	Boolean [1]	To tag if the organization is a legal entity known by a national referential
nameType	String [1]	Co., Inc., Ltd., Pty Ltd., Plc., Gmbh.
otherName	OtherName [0..1]	An OtherName sub-object.
parentRelationship	OrganizationParentRelationship [0..1]	A OrganizationParentRelationship sub-object.
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
status	String [1]	Status of the organization (initialized, validated, closed)
tradingName	String [1]	The name that the organization (unit) trades under
type	String [1]	Type of the organization (company...)

OrganizationChildRelationship	Type	Description
href	String [1]	Reference of the child organization
id	String [1]	Unique identifier of the child organization
relationshipType	String [1]	Juridical, hierarchical, geographical, functional...
validFor	TimePeriod [1]	The time period the relationship is valid

OrganizationIdentification	Type	Description
identificationId	String [1]	Identifier
issuingAuthority	String [1]	Authority which has issued the identifier (chamber of commerce...)
issuingDate	DateTime [1]	Date at which the identifier was issued
type	String [1]	Type of identification information used to identify the company in a country or internationally
validFor	TimePeriod [1]	The period for which the identification information is valid.

OrganizationParentRelationship	Type	Description
href	String [1]	Reference of the parent organization

id	String [1]	Unique identifier of the parent organization
relationshipType	String [1]	Juridical, hierarchical, geographical, functional...
validFor	TimePeriod [1]	The time period the relationship is valid

OtherName	Type	Description
familyName	String [1]	Last name
formattedName	String [1]	A formatted name useful for specific contexts (chinese, japanese, korean...)
fullName	String [1]	Full name flatten (first, middle, and last name)
givenName	String [1]	First name
middleName	String [1]	Middle name
nameType	String [1]	Co., Inc., Ltd., Plc., Gmbh.
title	String [1]	useful for titles (aristocratic, social...) Dr, Pr, Sir...
tradingName	String [1]	The name that the organization trades under
validFor	TimePeriod [1]	The period for which the other name is valid

JSON SAMPLES

Individual

```
{
    "birthDate": "2016-04-05T00:00",
    "countryOfBirth": "Germany",
    "deathDate": "2016-04-05T00:00",
    "familyName": "Flaubert",
    "formattedName": "",
    "fullName": "",
    "gender": "male",
    "givenName": "Charlie",
    "href": "https://host:port/party/individual/7738",
    "id": "7738",
    "location": "http://goo.gl/maps/l8F9L",
    "maritalStatus": "not married",
    "middleName": "",
    "nationality": "French",
    "placeOfBirth": "http://goo.gl/maps/l8F9L",
    "status": "Initialized",
    "title": "Ing",
    "relatedParty": [
        {
            "href": "https://host:port/partyManagement/organization/2963",
            "id": "2963",
            "name": "Jimmy Doe",
            "role": "bill responsible",
```

```
      "validFor": {
        "startDateTime": "2016-04-03T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "characteristic": [
    [
      {
        "name": "Colour",
        "value": "yellow"
      },
      {
        "name": "Memory",
        "value": "16"
      }
    ]
  ],
  "externalReference": [
    {
      "href": "http://facebook.com/17263635",
      "type": "FacebookID"
    }
  ],
  "identification": [
    {
      "identificationId": "33636363",
      "issuingAuthority": "Prefecture",
      "issuingDate": "2016-04-05T00:00",
      "type": "Passport"
    }
  ],
  "disability": [
    {
      "disability": "d"
    }
  ],
  "otherName": [
    {
      "familyName": "",
      "formattedName": "",
      "fullName": "",
      "givenName": "",
      "middleName": "",
      "nameType": "",
      "title": "",
      "tradingName": "",
      "validFor": {
        "startDateTime": "2016-04-08T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "contactMedium": [
    {
      "preferred": false,
```

```
        "type": "PostalAddress",
        "validFor": {
          "startDateTime": "2016-04-02T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "medium": {
          "city": "Paris",
          "country": "France",
          "emailAddress": "coco.chanel@orange.fr",
          "number": "+33296051563",
          "postcode": "75000",
          "stateOrProvince": "Ile de France",
          "street1": "Rue Flaubert",
          "street2": "",
          "type": "business"
        }
      }
    }
  ]
}
```

Organization

```
{
  "existsDuring": {
    "startDateTime": "2016-04-01T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "href": "https://host:port/party/organization/4046",
  "id": "4046",
  "isLegalEntity": true,
  "nameType": "Plc.",
  "status": "Initialized",
  "tradingName": "Telecom",
  "type": "Association",
  "otherName": {
    "familyName": "",
    "formattedName": "",
    "fullName": "",
    "givenName": "",
    "middleName": "",
    "nameType": "",
    "title": "",
    "tradingName": "",
    "validFor": {
      "startDateTime": "2016-04-01T00:00",
      "endDateTime": "2016-11-01T00:00"
    }
  },
  "externalReference": [
    {
      "href": "http://facebook.com/1000001",
      "type": "FacebookID"
    }
  ],
  "relatedParty": [
```

```
      {
        "href": "https://host:port/partyManagement/organization/8052",
        "id": "8052",
        "name": "Richard Cole",
        "role": "service provider",
        "validFor": {
          "startDateTime": "2016-04-06T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "parentRelationship": {
      "href": "https://host:port/party/organizationParentRelationship/3026",
      "id": "3026",
      "relationshipType": "Juridical",
      "validFor": {
        "startDateTime": "2016-04-02T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    },
    "contactMedium": [
      {
        "preferred": false,
        "type": "PostalAddress",
        "validFor": {
          "startDateTime": "2016-04-06T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "medium": {
          "city": "Bordeaux",
          "country": "France",
          "emailAddress": "coco.chanel@orange.fr",
          "number": "+33296051563",
          "postcode": "22300",
          "stateOrProvince": "Bretagne",
          "street1": "Rue Picasso",
          "street2": "",
          "type": "home"
        }
      }
    ],
    "characteristic": [
      [
        {
          "name": "Colour",
          "value": "white"
        },
        {
          "name": "Memory",
          "value": "32"
        }
      ]
    ],
    "childRelationship": [
      {
        "href": "https://host:port/party/organizationChildRelationship/4600",
```

```
      "id": "4600",
      "relationshipType": "Juridical",
      "validFor": {
        "startDateTime": "2016-04-06T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "identification": [
    {
      "identificationId": "374748328",
      "issuingAuthority": "Embassy",
      "issuingDate": "2016-04-05T00:00",
      "type": "CompanyRegistrationNumber",
      "validFor": {
        "startDateTime": "2016-04-05T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ]
}
```
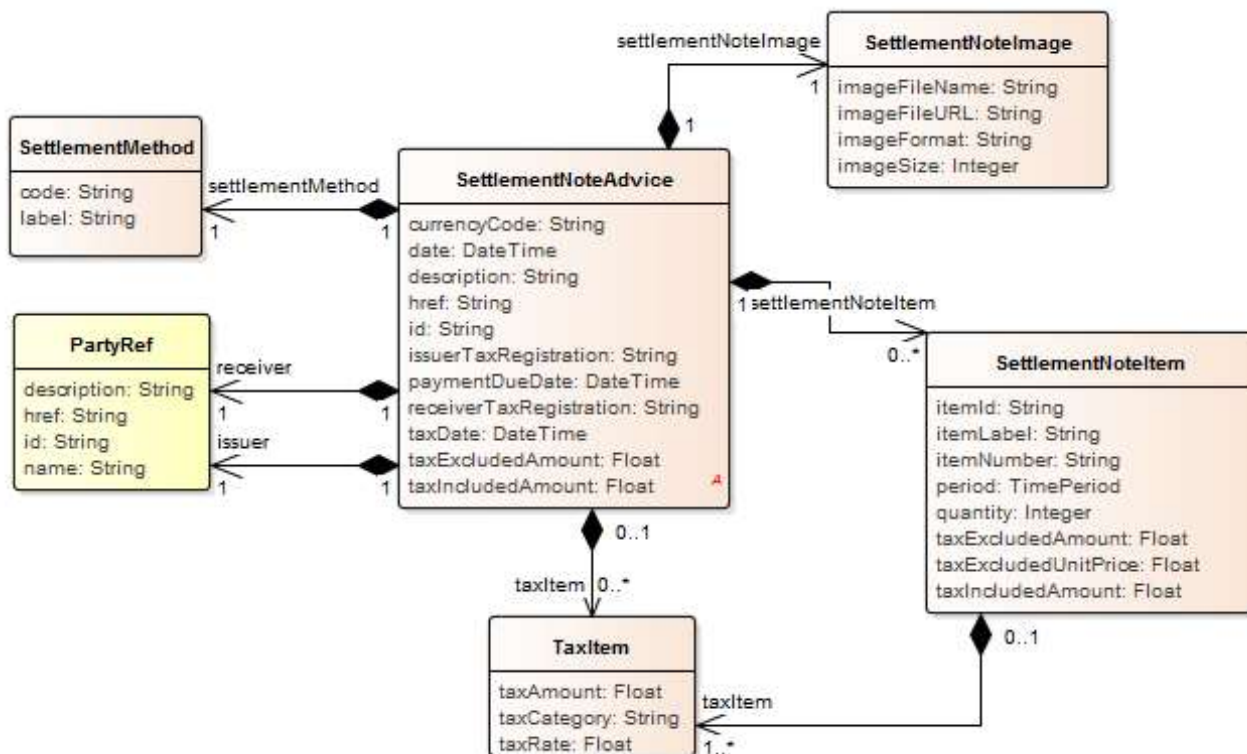
SETTLEMENT NOTE ADVICE

The Settlement Note Advice module describes the concepts involved in settlement note advices.

DIAGRAMS

SettlementNoteAdvice resource

ENTITY CLASSES

Entity	Description
SettlementMethod	Is the way in which the CSP provides the payment
SettlementNoteAdvice	The settlement is about transferring money receiving by a CSP to a partner. The settlement is notified to the partner with a settlement note advice containing details in settlement lines.
SettlementNoteImage	Is the image of the settlement note
SettlementNoteItem	Concerns a product identified by its catalogue reference. It could also follow a period delimited by a start and an end date.
TaxItem	A tax item is created for each tax rate and tax type used in the settlement note.

PROPERTY DETAILS

SettlementMethod	Type	Description
code	String [1]	Code of the settlement method
label	String [1]	A word, term or phrase by which a settlement method is known and distinguished from other settlement method

SettlementNoteAdvice	Type	Description
currencyCode	String [1]	A string used as a code for specifying the currency associated to the given amounts. The ISO4217 norm uses 3 letters to define the currency (for example USD for US dollar or EUR for Euro).
date	DateTime [1]	Creation date of the settlement note advice
description	String [1]	A free description text
href	String [1]	Reference of the settlement note advice
id	String [1]	A unique identifier for the settlement note advice
issuer	PartyRef [1]	A Party reference. (A party represents an organization or an individual.)
issuerTaxRegistration	String [1]	Tax registration number of the issuer
paymentDueDate	DateTime [1]	Date at which the due amount should have been paid to the partner
receiver	PartyRef [1]	A Party reference. (A party represents an organization or an individual.)
receiverTaxRegistration	String [1]	Tax registration number of the receiver
settlementMethod	SettlementMethod [1]	A SettlementMethod sub-object.
settlementNoteImage	SettlementNoteImage [1]	A SettlementNoteImage sub-object.
settlementNoteItem	SettlementNoteItem [*]	A list of SettlementNoteItem sub-objects.
taxDate	DateTime [1]	Date of the tax
taxExcludedAmount	Float [1]	All taxes excluded amount (expressed in the given currency)
taxIncludedAmount	Float [1]	All taxes included amount (expressed in the given currency)
taxItem	TaxItem [*]	A list of TaxItem sub-objects.

SettlementNoteImage	Type	Description
imageFileName	String [1]	The name of the file in which the settlement note image is saved.
imageFileURL	String [1]	The URL of the settlement note image
imageFormat	String [1]	The format of the settlement note image (csv, pdf, xls, txt...)
imageSize	Integer [1]	The size of the settlement note image (in bytes)

SettlementNoteItem	Type	Description
itemId	String [1]	Unique identifier of the settlement note item
itemLabel	String [1]	A free description text for the settlement note item
itemNumber	String [1]	Unique number assigned to the settlement note item
period	TimePeriod [1]	A TimePeriod sub-object.
quantity	Integer [1]	Quantity
taxExcludedAmount	Float [1]	Tax excluded amount equal to quantity * taxExcludedUnitPrice
taxExcludedUnitPrice	Float [1]	Tax excluded unit price to be applied on the given quantity
taxIncludedAmount	Float [1]	All taxes included amount equal to taxExcludedAmount + taxAmount
taxItem	TaxItem [1..*]	A list of TaxItem sub-objects.

TaxItem	Type	Description
taxAmount	Float [1]	A tax item is created for each tax rate and tax type used in the settlement note.
taxCategory	String [1]	A tax item is created for each tax rate and tax type used in the settlement note.
taxRate	Float [1]	The rate of the tax

JSON SAMPLES

SettlementNoteAdvice

```
{
  "currencyCode": "EUR",
  "date": "2016-04-05T00:00",
  "description": "This  settlement note advice ...",
  "href": "https://host:port/settlementNoteAdvice/settlementNoteAdvice/9329",
  "id": "9329",
  "issuerTaxRegistration": "a string ...",
  "paymentDueDate": "2016-04-05T00:00",
  "receiverTaxRegistration": "a string ...",
  "taxDate": "2016-04-05T00:00",
  "taxExcludedAmount": 94.69,
  "taxIncludedAmount": 25.91,
  "settlementMethod": {
    "code": "NET",
    "label": "Netting"
  },
  "settlementNoteImage": {
    "imageFileName": "marriage83",
    "imageFileURL": "http://myphotocloud/xyz/88",
```

```
      "imageFormat": "pdf",
      "imageSize": 732
    },
    "receiver": {
      "description": "This  party ...",
      "href": "https://host:port/partyReferences/partyRef/8238",
      "id": "8238",
      "name": "Booking Corporation"
    },
    "taxItem": [
      {
        "taxAmount": 42.55,
        "taxCategory": "VAT",
        "taxRate": 22.8
      }
    ],
    "issuer": {
      "description": "This  party ...",
      "href": "https://host:port/partyReferences/partyRef/1659",
      "id": "1659",
      "name": "Mobility Assistant Corp"
    },
    "settlementNoteItem": [
      {
        "itemId": "801",
        "itemLabel": "iGirls",
        "itemNumber": 16,
        "period": {
          "startDateTime": "2016-04-04T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "quantity": 3785,
        "taxExcludedAmount": 427.82,
        "taxExcludedUnitPrice": 55.93,
        "taxIncludedAmount": 537.22,
        "taxItem": [
          {
            "taxAmount": 45.38,
            "taxCategory": "VAT",
            "taxRate": 71.03
          }
        ]
      }
    ]
}
```
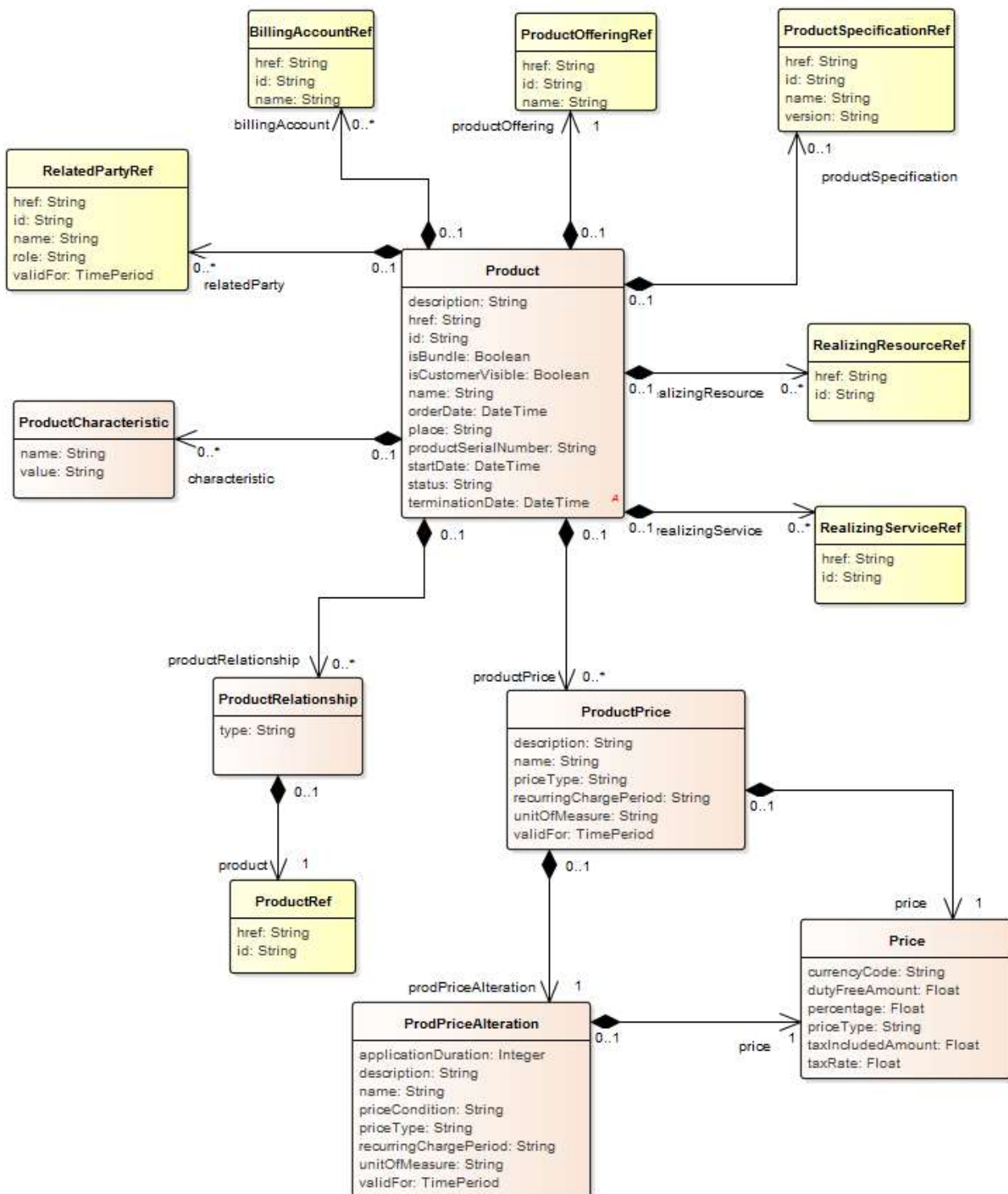
PRODUCT

The Product module includes all the elements needed for managing products owned by customers or partners.

DIAGRAMS

tmførum

Product resource

ENTITY CLASSES

Entity	Description

ProdPriceAlteration	Is an amount, usually of money, that modifies the price charged for a Product.
Product	A product offering procured by a customer or other interested party playing a party role. A product is realized as one or more service(s) and / or resource(s).
ProductCharacteristic	Characteristics of the product to instantiate or to modify
ProductPrice	An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.
ProductRelationship	Linked products to the one instantiate, it can be : "bundled" if the product is a bundle and you want to describe the "bundled" products inside this bundle "reliesOn" if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) "targets" or "isTargeted" (depending on the way of expressing the link) for any other kind of links that may be useful

REFERENCE CLASSES

Reference Class	Description/Fields
ProductRef	Product reference. Fields: href, id, productRelationship, place, characteristic, relatedParty

PROPERTY DETAILS

ProdPriceAlteration	Type	Description
applicationDuration	Integer [1]	Duration during which the ProdPriceAlteration applies on the ProductPrice (for instance 2 months free of charge for the recurring charge)
description	String [1]	A narrative that explains in detail the semantics of this ProdPriceAlteration
name	String [1]	A short descriptive name such as "Monthly discount"
price	Price [1]	A Price sub-object.
priceCondition	String [1]	Condition that triggers the price application
priceType	String [1]	A category that describes the price such as recurring, one shot and so forth.
recurringChargePeriod	String [1]	Could be month, week...
unitOfMeasure	String [1]	Could be minutes, GB...

validFor	TimePeriod [1]	The period for which the ProdPriceAlteration is valid

Product	Type	Description
agreement	AgreementRef [*]	A list of Agreement references.
billingAccount	BillingAccountRef [*]	A list of BillingAccount references.
characteristic	ProductCharacteristic [*]	A list of ProductCharacteristic sub-objects.
description	String [1]	Is the description of the product. It could be copied from the description of the Product Offering.
href	String [1]	Reference of the product
id	String [1]	Unique identifier of the product
isBundle	Boolean [1]	If true, the product is a ProductBundle which is an instantiation of a BundledProductOffering. If false, the product is a ProductComponent which is an instantiation of a SimpleProductOffering.
isCustomerVisible	Boolean [1]	If true, the product is visible by the customer.
name	String [1]	Name of the product. It could be the same as the name of the product offering
orderDate	DateTime [1]	Is the date when the product was ordered
place	String [1]	is a link to the place where the product is provided
productOffering	ProductOfferingRef [1]	A ProductOffering reference. (A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.)
productPrice	ProductPrice [*]	A list of ProductPrice sub-objects.
productRelationship	ProductRelationship [*]	A list of ProductRelationship sub-objects.
productSerialNumber	String [1]	Is the serial number for the product. This is typically applicable to tangible products e.g. Broadband Router.
productSpecification	ProductSpecificationRef [0..1]	A ProductSpecification reference.
realizingResource	RealizingResourceRef [*]	A list of RealizingResource references.
realizingService	RealizingServiceRef [*]	A list of RealizingService references.
relatedParty	RelatedPartyRef [*]	A list of RelatedParty

		references.
startDate	DateTime [1]	Is the date from which the product starts
status	String [1]	Is the lifecycle status of the product.
terminationDate	DateTime [1]	Is the date when the product was terminated

ProductCharacteristic	Type	Description
name	String [1]	Name of the characteristic
value	String [1]	Value of the characteristic

ProductPrice	Type	Description
description	String [1]	A narrative that explains in detail the semantics of this product price.
name	String [1]	A short descriptive name such as "Subscription price".
price	Price [1]	A Price sub-object.
priceType	String [1]	A category that describes the price, such as recurring, discount, allowance, penalty, and so forth.
prodPriceAlteration	ProdPriceAlteration [1]	A ProdPriceAlteration sub-object.
recurringChargePeriod	String [1]	Could be month, week...
unitOfMeasure	String [1]	Could be minutes, GB...
validFor	TimePeriod [1]	The period for which the price is valid.

ProductRelationship	Type	Description
product	ProductRef [1]	A Product reference. (Configure the product characteristics (only configurable characteristics and necessary only if a non default value is selected) and/or identify the product that needs to be modified/deleted May be a bundle product instantiation, in this case, it will contain the list of bundled product to instantiate <u>Nota</u> : Each product to instantiate corresponds to a purchased productOffering. In case of bundles, the order of the list in the productOffering bundle must match the order of the list in the product instance bundle to deliver.)

type	String [1]	Type of the product relationship. It can be : "bundled" if the product is a bundle and you want to describe the "bundled" products inside this bundle "reliesOn" if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) "targets" or "isTargeted" (depending on the way of expressing the link) for any other kind of links that may be useful

JSON SAMPLES

Product

```json
{
  "description": "This  product ...",
  "href": "https://host:port/product/product/1572",
  "id": "1572",
  "isBundle": false,
  "isCustomerVisible": true,
  "name": "Mobile data access",
  "orderDate": "2016-04-05T00:00",
  "place": "http://mymaps.com/YURFY",
  "productSerialNumber": "123456789",
  "startDate": "2016-04-05T00:00",
  "status": "Active",
  "terminationDate": "2016-04-05T00:00",
  "billingAccount": [
    {
      "href": "https://host:port/onboardingManagement/billingAccount/4618",
      "id": "4618",
      "name": "Main Account"
    }
  ],
  "realizingService": [
    {
      "href": "https://host:port/productCatalogManagement/serviceSpecification/2151",
      "id": "2151"
    }
  ],
  "productOffering": {
    "href": "https://host:port/productOffering/productOffering/8998",
    "id": "8998",
    "name": "My Quick BB Offer",
    "bundledProductOffering": [
      {
```

```
              "href": "https://host:port/productOffering/bundledProductOffering/5991",
              "id": "5991",
              "name": "Magic Offer",
              "bundledProductOffering": []
          }
      ]
  },
  "agreement": [
      {
          "href": "https://host:port/onboardingManagement/agreement/6003",
          "id": "6003",
          "name": "Summer Contract Agreement"
      }
  ],
  "characteristic": [
      [
          {
              "name": "Colour",
              "value": "pink"
          },
          {
              "name": "Memory",
              "value": "32"
          }
      ]
  ],
  "productRelationship": [
      {
          "type": "reliesOn",
          "product": {
              "href": "https://host:port/product/product/9395",
              "id": "9395",
              "productRelationship": [
                  {
                      "type": "reliesOn",
                      "product": null
                  }
              ],
              "place": "http://mymaps.com/YURFY",
              "characteristic": [
                  [
                      {
                          "name": "Colour",
                          "value": "black"
                      },
                      {
                          "name": "Memory",
                          "value": "64"
                      }
                  ]
              ],
              "relatedParty": [
                  {
                      "href": "https://host:port/partyManagement/organization/2475",
                      "id": "2475",
                      "name": "John Doe",
```

```
              "role": "seller",
              "validFor": {
                "startDateTime": "2016-04-02T00:00",
                "endDateTime": "2016-11-01T00:00"
              }
            }
          ]
        }
      }
    ],
    "realizingResource": [
      {
        "href": "https://host:port/productCatalogManagement/resourceSpecification/9482",
        "id": "9482"
      }
    ],
    "relatedParty": [
      {
        "href": "https://host:port/partyManagement/organization/8655",
        "id": "8655",
        "name": "Jimmy Doe",
        "role": "employee",
        "validFor": {
          "startDateTime": "2016-04-02T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "productPrice": [
      {
        "description": "This  product price ...",
        "name": "Winter Promotion",
        "priceType": "one time",
        "recurringChargePeriod": "semester",
        "unitOfMeasure": "seconds",
        "validFor": {
          "startDateTime": "2016-04-04T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "prodPriceAlteration": {
          "applicationDuration": 22,
          "description": "This  prod price alteration ...",
          "name": "Shipping Discount",
          "priceCondition": "apply if total amount of the  order is greater than 300.00",
          "priceType": "one time",
          "recurringChargePeriod": "month",
          "unitOfMeasure": "minutes",
          "validFor": {
            "startDateTime": "2016-04-03T00:00",
            "endDateTime": "2016-11-01T00:00"
          },
          "price": {
            "currencyCode": "EUR",
            "dutyFreeAmount": 16.17,
            "percentage": 40.0,
            "priceType": "usage",
```

```
          "taxIncludedAmount": 95.51,
          "taxRate": 11.53
        }
      },
      "price": {
        "currencyCode": "CAD",
        "dutyFreeAmount": 34.53,
        "percentage": 30.0,
        "priceType": "usage",
        "taxIncludedAmount": 98.87,
        "taxRate": 27.35
      }
    }
  ],
  "productSpecification": {
    "href": "https://host:port/productSpecification/productSpecification/9888",
    "id": "9888",
    "name": "Yolande132",
    "version": "1.0"
  }
}
```

PRODUCT SPECIFICATION

The Product Specification module contains all elements used for managing and referring to product specifications.

DIAGRAMS

ProductSpecification resource
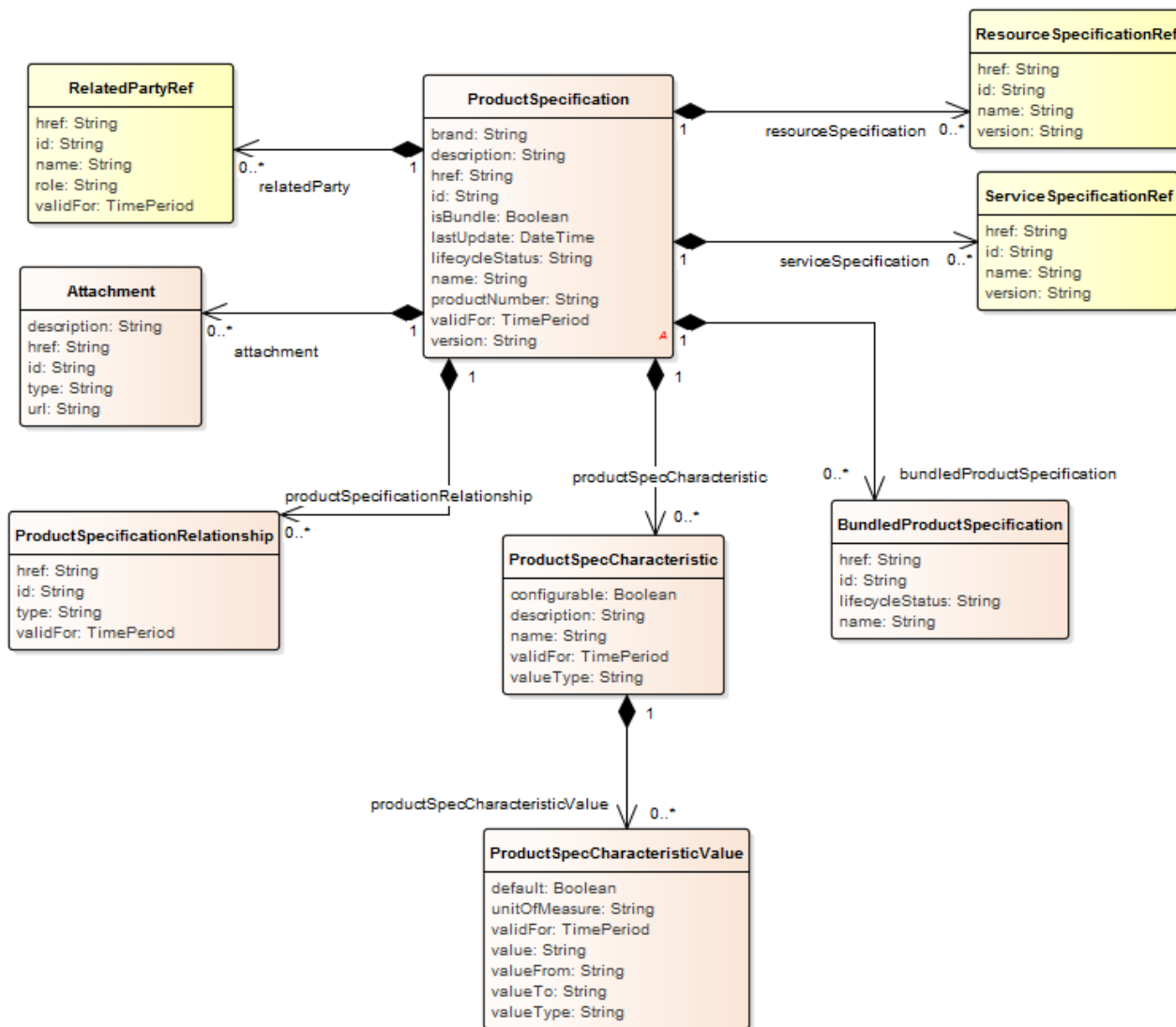
ENTITY CLASSES

Entity	Description
BundledProductSpecification	A type of ProductSpecification that belongs to a grouping of ProductSpecifications made available to the market. It inherits of all attributes of ProductSpecification.
ProductSpecCharRelationship	An aggregation, migration, substitution, dependency or exclusivity relationship between/among productSpecCharacteristics.
ProductSpecCharacteristic	A characteristic quality or distinctive feature of a ProductSpecification. The characteristic can be take on a discrete value, such as color, can take on a range of values, (for example, sensitivity of

	100-240 mV), or can be derived from a formula (for example, usage time (hrs) = 30 - talk time *3). Certain characteristics, such as color, may be configured during the ordering or some other process.
ProductSpecCharacteristicValue	A number or text that can be assigned to a ProductSpecCharacteristic.
ProductSpecification	Is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.
ProductSpecificationRelationship	A migration, substitution, dependency or exclusivity relationship between/among product specifications.

REFERENCE CLASSES

Reference Class	Description/Fields
ProductSpecificationRef	Product specification reference: A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role. Fields: href, id, name, version

PROPERTY DETAILS

BundledProductSpecification	Type	Description
href	String [1]	Reference of the product specification
id	String [1]	Unique identifier of the product specification
lifecycleStatus	String [1]	Used to indicate the current lifecycle status
name	String [1]	Name of the product specification

ProductSpecCharRelationship	Type	Description
type	String [1]	Type of relationship such as aggregation, migration, substitution, dependency, exclusivity
validFor	TimePeriod [1]	The period for which the productSpecCharRelationship is valid

ProductSpecCharacteristic	Type	Description
configurable	Boolean [1]	If true, the Boolean indicates that the productSpecCharacteristic is configurable

description	String [1]	A narrative that explains in detail what the productSpecCharacteristic is
name	String [1]	Name of the productSpecCharacteristic
productSpecCharRelationship	ProductSpecCharRelationship [*]	A list of ProductSpecCharRelationship sub-objects.
productSpecCharacteristicValue	ProductSpecCharacteristicValue [*]	A list of ProductSpecCharacteristicValue sub-objects.
validFor	TimePeriod [1]	The period for which the productSpecCharacteristic is valid
valueType	String [1]	A kind of value that the characteristic can take on, such as numeric, text and so forth

ProductSpecCharacteristicValue	Type	Description
default	Boolean [1]	Indicates if the value is the default value for a characteristic
unitOfMeasure	String [1]	Could be minutes, GB...
validFor	TimePeriod [1]	The period of time for which a value is applicable
value	String [1]	A discrete value that the characteristic can take on
valueFrom	String [1]	The low range value that a characteristic can take on
valueTo	String [1]	The upper range value that a characteristic can take on
valueType	String [1]	A kind of value that the characteristic can take on, such as numeric, text, and so forth

ProductSpecification	Type	Description
attachment	Attachment [*]	A list of Attachment sub-objects.
brand	String [1]	The manufacturer or trademark of the specification
bundledProductSpecification	BundledProductSpecification [*]	A list of BundledProductSpecification sub-objects.
description	String [1]	A narrative that explains in detail what the product specification is
href	String [1]	Reference of the product specification
id	String [1]	Unique identifier of the product specification
isBundle	Boolean [1]	isBundle determines whether a productSpecification represents a single productSpecification (false), or a bundle of productSpecification (true).

lastUpdate	DateTime [1]	Date and time of the last update
lifecycleStatus	String [1]	Used to indicate the current lifecycle status
name	String [1]	Name of the product specification
productNumber	String [1]	An identification number assigned to uniquely identity the specification
productSpecCharacteristic	ProductSpecCharacteristic [*]	A list of ProductSpecCharacteristic sub-objects.
productSpecificationRelationship	ProductSpecificationRelationship [*]	A list of ProductSpecificationRelationship sub-objects.
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
resourceSpecification	ResourceSpecificationRef [*]	A list of ResourceSpecification references.
serviceSpecification	ServiceSpecificationRef [*]	A list of ServiceSpecification references.
validFor	TimePeriod [1]	The period for which the product specification is valid
version	String [1]	Product specification version

ProductSpecificationRelationship	Type	Description
href	String [1]	Reference of the productSpecification
id	String [1]	Unique identifier of the productSpecification
type	String [1]	Type of relationship such as migration, substitution, dependency, exclusivity
validFor	TimePeriod [1]	The period for which the productSpecificationRelationship is valid

---

JSON SAMPLES

ProductSpecification

```
{
  "brand": "Google",
  "description": "This  product specification ...",
  "href": "https://host:port/productSpecification/productSpecification/5431",
  "id": "5431",
  "isBundle": false,
  "lastUpdate": "2016-04-05T00:00",
  "lifecycleStatus": "Launched",
  "name": "Robotics999",
  "productNumber": "WS45-230-FC",
  "validFor": {
    "startDateTime": "2016-04-02T00:00",
    "endDateTime": "2016-11-01T00:00"
```

```json
    },
    "version": "1.0",
    "relatedParty": [
      {
        "href": "https://host:port/partyManagement/organization/1841",
        "id": "1841",
        "name": "Gustave Flaubert",
        "role": "owner",
        "validFor": {
          "startDateTime": "2016-04-06T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "productSpecCharacteristic": [
      {
        "configurable": true,
        "description": "This  product spec characteristic ...",
        "name": "Lights",
        "validFor": {
          "startDateTime": "2016-04-06T00:00",
          "endDateTime": "2016-11-01T00:00"
        },
        "valueType": "string",
        "productSpecCharRelationship": [
          {
            "type": "substitution",
            "validFor": {
              "startDateTime": "2016-04-01T00:00",
              "endDateTime": "2016-11-01T00:00"
            }
          }
        ],
        "productSpecCharacteristicValue": [
          {
            "default": true,
            "unitOfMeasure": "seconds",
            "validFor": {
              "startDateTime": "2016-04-03T00:00",
              "endDateTime": "2016-11-01T00:00"
            },
            "value": "pink",
            "valueFrom": "",
            "valueTo": "",
            "valueType": "string"
          }
        ]
      }
    ],
    "serviceSpecification": [
      {
        "href": "https://host:port/productCatalogManagement/serviceSpecification/3079",
        "id": "3079",
        "name": "Zoulou15",
        "version": "1.5"
      }
```

```
    ],
    "productSpecificationRelationship": [
      {
        "href": "https://host:port/productSpecification/productSpecificationRelationship/5455",
        "id": "5455",
        "type": "dependency",
        "validFor": {
          "startDateTime": "2016-04-01T00:00",
          "endDateTime": "2016-11-01T00:00"
        }
      }
    ],
    "resourceSpecification": [
      {
        "href": "https://host:port/productCatalogManagement/resourceSpecification/2419",
        "id": "2419",
        "name": "Yoyo500",
        "version": "1.0"
      }
    ],
    "attachment": [
      {
        "description": "This  attachment ...",
        "href": "http://hostname:port/documentManagement/attachment/22",
        "id": "22",
        "type": "Document",
        "url": "http://xxxxx"
      }
    ],
    "bundledProductSpecification": [
      {
        "href": "https://host:port/productSpecification/bundledProductSpecification/9444",
        "id": "9444",
        "lifecycleStatus": "Launched",
        "name": "Yolande132"
      }
    ]
}
```
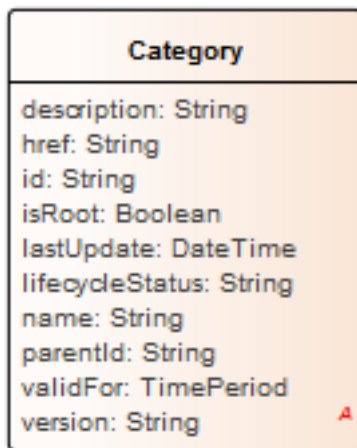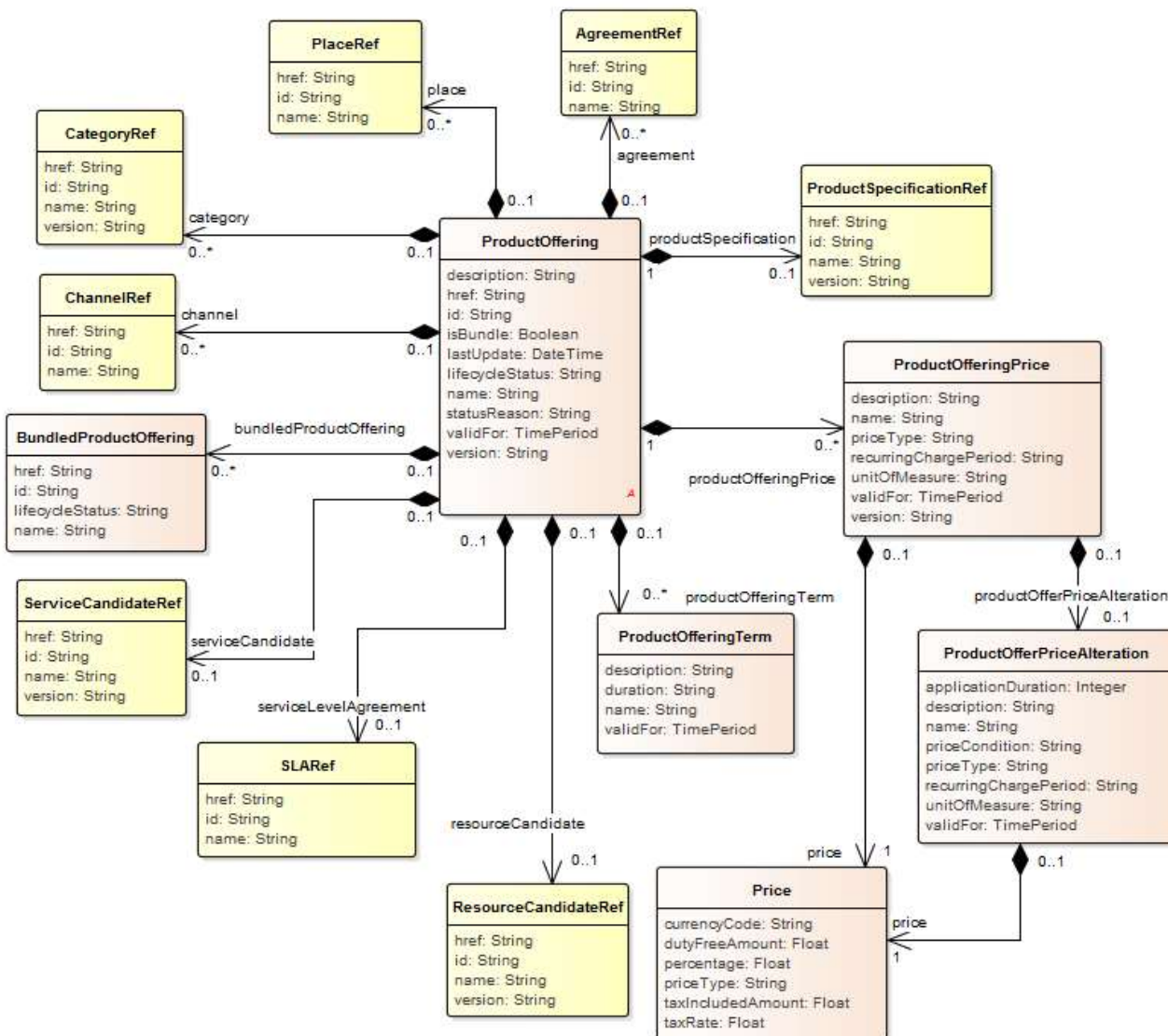
PRODUCT OFFERING

The Product Offering module includes the elements needed to manage and refer to product offers.

DIAGRAMS

Category resource

ProductOffering resource

ENTITY CLASSES

Entity	Description
BundledProductOffering	A type of ProductOffering that belongs to a grouping of ProductOfferings made available to the market. It inherits of all attributes of ProductOffering.
Category	The category resource is used to group product offerings, service and resource candidates in logical containers. Categories can contain other categories and/or product offerings, resource or service candidates.
Price	Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for ProdOfferPriceAlteration.
ProductOfferPriceAlteration	An amount, usually of money, that modifies a price charged for a productOffering.
ProductOffering	Represents entities that are orderable from the provider of the catalog, this resource includes pricing information.
ProductOfferingPrice	Is based on both the basic cost to develop and produce products and the enterprise's policy on revenue targets. This price may be further revised through discounting (prodOfferPriceAlteration). The price, applied for a productOffering may also be influenced by the productOfferingTerm, the customer selected - e.g. a productOffering can be offered with multiple terms, like commitment periods for the contract. The price may be influenced by this productOfferingTerm. A productOffering may be cheaper with a 24 month commitment than with a 12 month commitment.
ProductOfferingTerm	A condition under which a ProductOffering is made available to Customers. For instance, a productOffering can be offered with multiple commitment periods.

REFERENCE CLASSES

Reference Class	Description/Fields
BundledProductOfferingRef	BundledProductOffering Reference. Fields: href, id, name, bundledProductOffering
CategoryRef	Category reference. Fields: href, id, name, version
ChannelRef	Channel reference. Fields: href, id, name
PlaceRef	Place reference. Fields: href, id, name
ProductOfferingRef	ProductOffering reference.

PROPERTY DETAILS

BundledProductOffering	Type	Description
href	String [1]	Unique reference of the BundledProductOffering
id	String [1]	Unique identifier of the BundledProductOffering
lifecycleStatus	String [1]	Used to indicate the current lifecycle status
name	String [1]	Name of the BundledProductOffering

Category	Type	Description
description	String [1]	Description of the category
href	String [1]	Reference of the catalog
id	String [1]	Unique identifier of the category
isRoot	Boolean [1]	If true, this Boolean indicates that the category is a root of categories
lastUpdate	DateTime [1]	Date and time of the last update
lifecycleStatus	String [1]	Used to indicate the current lifecycle status
name	String [1]	Name of the category
parentId	String [1]	Unique identifier of the parent category
validFor	TimePeriod [1]	The period for which the category is valid
version	String [1]	Category version

Price	Type	Description
currencyCode	String [1]	A string used as a code for specifying the currency associated to the given amounts. The ISO4217 norm uses 3 letters to define the currency (for example USD for US dollar or EUR for Euro)
dutyFreeAmount	Float [1]	All taxes excluded amount (expressed in the given currency)
percentage	Float [1]	Percentage to apply for ProdOfferPriceAlteration
priceType	String [1]	Indicates the price type: recurring, one time, usage
taxIncludedAmount	Float [1]	All taxes included amount (expressed in the given currency)
taxRate	Float [1]	Tax rate

ProductOfferPriceAlteration	Type	Description
applicationDuration	Integer [1]	Duration during which the prodOfferPriceAlteration applies on the productOffering (for instance 2 months free of charge for the recurring charge)
description	String [1]	Description of the prodOfferPriceAlteration
name	String [1]	Name of the prodOfferPriceAlteration
price	Price [1]	A Price sub-object.
priceCondition	String [1]	Condition that triggers the price application
priceType	String [1]	Indicates the price type: recurring, one time, usage
recurringChargePeriod	String [1]	Could be month, week...
unitOfMeasure	String [1]	Could be minutes, GB...
validFor	TimePeriod [1]	The period for which the prodOfferPriceAlteration is valid

ProductOffering	Type	Description
agreement	AgreementRef [*]	A list of Agreement references.
bundledProductOffering	BundledProductOffering [*]	A list of BundledProductOffering sub-objects.
category	CategoryRef [*]	A list of Category references.
channel	ChannelRef [*]	A list of Channel references.
description	String [1]	Description of the productOffering
href	String [1]	Reference of the ProductOffering
id	String [1]	Unique identifier of the productOffering
isBundle	Boolean [1]	isBundle determines whether a productOffering represents a single productOffering (false), or a bundle of productOfferings (true).
lastUpdate	DateTime [1]	Date and time of the last update
lifecycleStatus	String [1]	Used to indicate the current lifecycle status
name	String [1]	Name of the productOffering
place	PlaceRef [*]	A list of Place references.
productOfferingPrice	ProductOfferingPrice [*]	A list of ProductOfferingPrice sub-objects.
productOfferingTerm	ProductOfferingTerm [*]	A list of ProductOfferingTerm sub-objects.
productSpecification	ProductSpecificationRef [0..1]	A ProductSpecification reference.
resourceCandidate	ResourceCandidateRef [0..1]	A ResourceCandidate reference. (ResourceCandidate reference: A resource candidate is an entity that makes a

		ResourceSpecification available to a catalog.)
serviceCandidate	ServiceCandidateRef [0..1]	A ServiceCandidate reference. (ServiceCandidate is an entity that makes a ServiceSpecification available to a catalog.)
serviceLevelAgreement	SLARef [0..1]	A SLA reference.
statusReason	String [1]	A string providing a complementary information on the value of the lifecycle status attribute.
validFor	TimePeriod [1]	The period for which the productOffering is valid
version	String [1]	ProductOffering version

ProductOfferingPrice	Type	Description
description	String [1]	Description of the productOfferingPrice
name	String [1]	Name of the productOfferingPrice
price	Price [1]	A Price sub-object.
priceType	String [1]	Indicates the price type: recurring, one time, usage
productOfferPriceAlteration	ProductOfferPriceAlteration [0..1]	A ProductOfferPriceAlteration sub-object.
recurringChargePeriod	String [1]	Could be month, week...
unitOfMeasure	String [1]	Could be minutes, GB...
validFor	TimePeriod [1]	The period for which the productOfferingPrice is valid
version	String [1]	ProductOffering version

ProductOfferingTerm	Type	Description
description	String [1]	Description of the productOfferingTerm
duration	String [1]	Duration of the productOfferingTerm
name	String [1]	Name of the productOfferingTerm
validFor	TimePeriod [1]	The period for which the productOfferingterm is valid

JSON SAMPLES

Category

```
{
  "description": "This category ...",
  "href": "https://host:port/productOffering/category/5874",
  "id": "5874",
```

```
  "isRoot": false,
  "lastUpdate": "2016-04-05T00:00",
  "lifecycleStatus": "Launched",
  "name": "Secure Home",
  "parentId": "395",
  "validFor": {
    "startDateTime": "2016-04-06T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "version": "1.5"
}
```

ProductOffering

```
{
  "description": "This  product offering ...",
  "href": "https://host:port/productOffering/productOffering/4520",
  "id": "4520",
  "isBundle": false,
  "lastUpdate": "2016-04-05T00:00",
  "lifecycleStatus": "Inactive",
  "name": "My Quick BB Offer",
  "statusReason": "",
  "validFor": {
    "startDateTime": "2016-04-05T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "version": "1.1",
  "place": [
    {
      "href": "https://host:port/productOrder/place/6395",
      "id": "6395",
      "name": "Spain"
    }
  ],
  "serviceLevelAgreement": {
    "href": "https://host:port/slaManagement/sla/7493",
    "id": "7493",
    "name": "a string ..."
  },
  "productSpecification": {
    "href": "https://host:port/productSpecification/productSpecification/7702",
    "id": "7702",
    "name": "Robotics999",
    "version": "1.1"
  },
  "channel": [
    {
      "href": "https://host:port/productCatalogManagement/channel/2459",
      "id": "2459",
      "name": "Shop Channel"
    }
  ],
  "serviceCandidate": {
    "href": "https://host:port/productCatalogManagement/serviceCandidate/1392",
```

```json
    "id": "1392",
    "name": "Speed Max",
    "version": "2.1"
  },
  "category": [
    {
      "href": "https://host:port/productOffering/category/9048",
      "id": "9048",
      "name": "Cloud",
      "version": "1.1"
    }
  ],
  "resourceCandidate": {
    "href": "https://host:port/productCatalogManagement/resourceCandidate/4317",
    "id": "4317",
    "name": "Elastic Storage",
    "version": "3.2"
  },
  "productOfferingTerm": [
    {
      "description": "This  product offering term ...",
      "duration": "one month",
      "name": "New Client Condition",
      "validFor": {
        "startDateTime": "2016-04-04T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "productOfferingPrice": [
    {
      "description": "This  product offering price ...",
      "name": "Monthly Price",
      "priceType": "recurring",
      "recurringChargePeriod": "monthly",
      "unitOfMeasure": "seconds",
      "validFor": {
        "startDateTime": "2016-04-02T00:00",
        "endDateTime": "2016-11-01T00:00"
      },
      "version": "1.0",
      "price": {
        "currencyCode": "EUR",
        "dutyFreeAmount": 84.86,
        "percentage": 40.0,
        "priceType": "usage",
        "taxIncludedAmount": 53.35,
        "taxRate": 30.94
      },
      "productOfferPriceAlteration": {
        "applicationDuration": 20,
        "description": "This  product offer price alteration ...",
        "name": "Shipping Discount",
        "priceCondition": "apply if total amount of the  order is greater than 300.00",
        "priceType": "recurring",
        "recurringChargePeriod": "month",
```

```
            "unitOfMeasure": "GB",
            "validFor": {
               "startDateTime": "2016-04-05T00:00",
               "endDateTime": "2016-11-01T00:00"
            },
            "price": {
               "currencyCode": "EUR",
               "dutyFreeAmount": 74.16,
               "percentage": 30.0,
               "priceType": "one time",
               "taxIncludedAmount": 13.88,
               "taxRate": 90.85
            }
         }
      }
   ],
   "agreement": [
      {
         "href": "https://host:port/onboardingManagement/agreement/3477",
         "id": "3477",
         "name": "Winter Contract Agreement"
      }
   ],
   "bundledProductOffering": [
      {
         "href": "https://host:port/productOffering/bundledProductOffering/7013",
         "id": "7013",
         "lifecycleStatus": "Inactive",
         "name": "Robust Offer"
      }
   ]
}
```

PRODUCT ORDER

The Product Order module contain the definition of core resources used by the Order handling process.

DIAGRAMS

ProductOrder resource

ENTITY CLASSES

Entity	Description
OrderItem	An identified part of the order. A product order is decomposed into one or more order items.
Place	Used to defined a place useful for the product (for example a delivery geographical place)
ProductOrder	A Product Order is a type of order which can be used to place an order between a customer and a service provider or between a service provider and a partner and vice versa,

PROPERTY DETAILS

OrderItem	Type	Description
action	String [1]	Can be "add" / "modify" /

		"no_change"/ "delete"
appointment	String [1]	Used to precise that an appointment was set up with a related party for this order item
billingAccount	[*]	A list of sub-objects
id	String [1]	Identifier of the line item (generally it is a sequence number 01, 02, 03, ...)
product	ProductRef [1]	A Product reference. (Configure the product characteristics (only configurable characteristics and necessary only if a non default value is selected) and/or identify the product that needs to be modified/deleted May be a bundle product instantiation, in this case, it will contain the list of bundled product to instantiate <u>Nota</u> : Each product to instantiate corresponds to a purchased productOffering. In case of bundles, the order of the list in the productOffering bundle must match the order of the list in the product instance bundle to deliver.)
productOffering	ProductOfferingRef [1]	A ProductOffering reference. (A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.)
state	String [1]	State of the order item : described in the state machine diagram

Place	Type	Description
href	String [1]	Reference of a place (for instance in google map)
role	String [1]	Role of the place (for instance delivery geographical place)

ProductOrder	Type	Description
category	String [1]	Used to categorize the order from a business perspective that can be useful for the OM system (e.g. "enterprise", "residential", ...)
completionDate	DateTime [1]	Date when the order was completed

description	String [1]	Description of the product order
expectedCompletionDate	DateTime [1]	Expected delivery date amended by the provider
externalId	String [1]	ID given by the consumer and only understandable by him (to facilitate his searches afterwards)
href	String [1]	Hyperlink to access the order
id	String [1]	ID created on repository side (OM system)
note	Note [*]	A list of Note sub-objects.
notificationContact	String [1]	Contact attached to the order to send back information regarding this order
orderDate	DateTime [1]	Date when the order was created
orderItem	OrderItem [1..*]	A list of OrderItem sub-objects.
priority	String [1]	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)
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
requestedCompletionDate	DateTime [1]	Requested delivery date from the requestor perspective
requestedStartDate	DateTime [1]	Order start date wished by the requestor
state	String [1]	Tracks the lifecycle status of the product order, such as Acknowledged, Rejected, InProgress, Pending and so on.

JSON SAMPLES

ProductOrder

```
{
  "category": "Residential",
  "completionDate": "2016-04-05T00:00",
  "description": "This  product order ...",
  "expectedCompletionDate": "2016-04-05T00:00",
  "externalId": "683",
  "href": "https://host:port/productOrder/productOrder/6836",
  "id": "6836",
  "notificationContact": "contact@mycompany.com",
  "orderDate": "2016-04-05T00:00",
  "priority": 2,
  "requestedCompletionDate": "2016-04-05T00:00",
  "requestedStartDate": "2016-04-05T00:00",
  "state": "in progress",
  "note": [
    {
```

```
      "author": "Dr. Jeckill",
      "date": "2016-04-05T00:00",
      "text": "This is quite important"
    }
  ],
  "orderItem": [
    {
      "action": "modify",
      "appointment": "http://www.doodle.com/1WCV5647438",
      "id": "3453",
      "state": "Acknowledged",
      "billingAccount": [
        {}
      ],
      "productOffering": {
        "href": "https://host:port/productOffering/productOffering/6217",
        "id": "6217",
        "name": "Virtual Storage Medium",
        "bundledProductOffering": [
          {
            "href": "https://host:port/productOffering/bundledProductOffering/9267",
            "id": "9267",
            "name": "Magic Offer",
            "bundledProductOffering": []
          }
        ]
      },
      "product": {
        "href": "https://host:port/product/product/8236",
        "id": "8236",
        "productRelationship": [
          {
            "type": "reliesOn",
            "product": {
              "href": "https://host:port/product/product/9089",
              "id": "9089",
              "productRelationship": [],
              "place": "http://mymaps.com/YURFY",
              "characteristic": [
                [
                  {
                    "name": "Colour",
                    "value": "pink"
                  },
                  {
                    "name": "Memory",
                    "value": "32"
                  }
                ]
              ],
              "relatedParty": [
                {
                  "href": "https://host:port/partyManagement/organization/8513",
                  "id": "8513",
                  "name": "John Doe",
                  "role": "bill responsible",
```

```json
                "validFor": {
                  "startDateTime": "2016-04-02T00:00",
                  "endDateTime": "2016-11-01T00:00"
                }
              }
            ]
          }
        }
      ],
      "place": "http://mymaps.com/YURFY",
      "characteristic": [
        [
          {
            "name": "Colour",
            "value": "black"
          },
          {
            "name": "Memory",
            "value": "32"
          }
        ]
      ],
      "relatedParty": [
        {
          "href": "https://host:port/partyManagement/organization/8324",
          "id": "8324",
          "name": "John Doe",
          "role": "owner",
          "validFor": {
            "startDateTime": "2016-04-01T00:00",
            "endDateTime": "2016-11-01T00:00"
          }
        }
      ]
    }
  }
],
"relatedParty": [
  {
    "href": "https://host:port/partyManagement/organization/4651",
    "id": "4651",
    "name": "Richard Cole",
    "role": "customer",
    "validFor": {
      "startDateTime": "2016-04-05T00:00",
      "endDateTime": "2016-11-01T00:00"
    }
  }
]
}
```
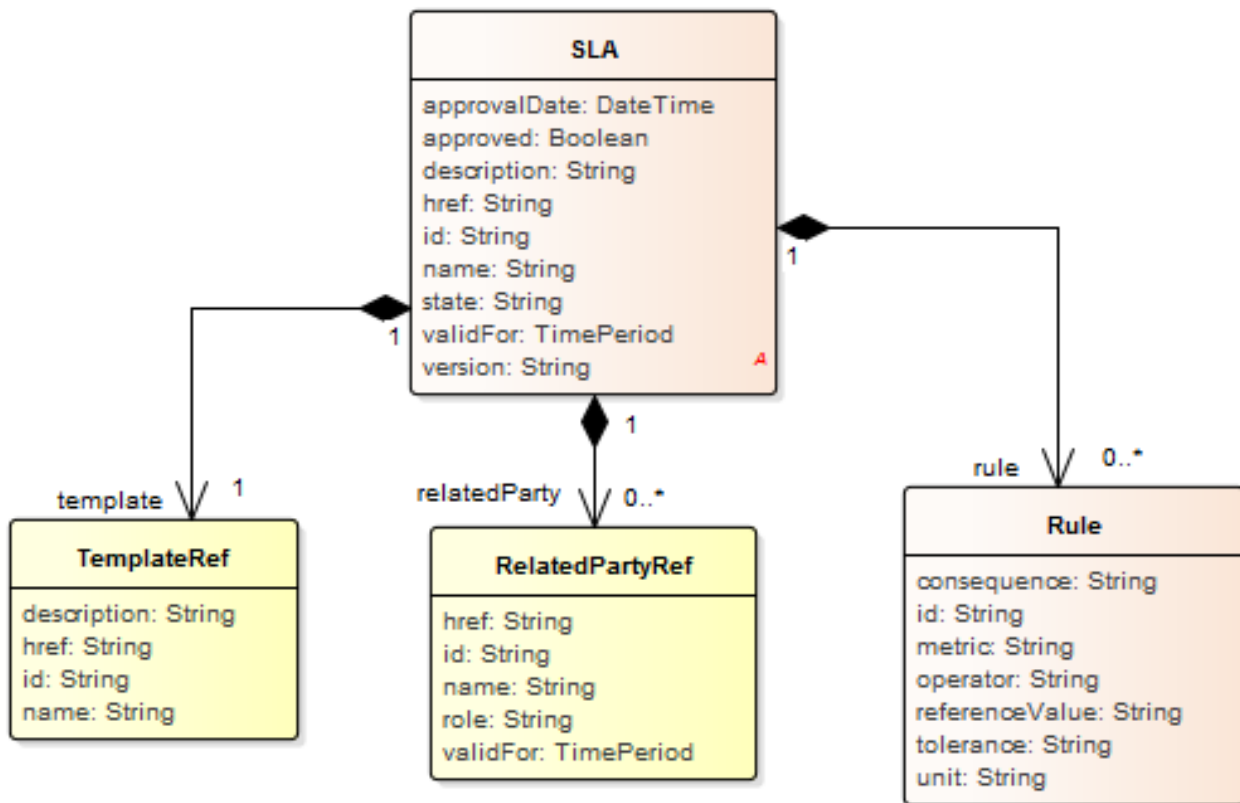
S L A

The SLA module defines the SLA and the SLA violation resources.

DIAGRAMS

SLA resource

SLAViolation resource
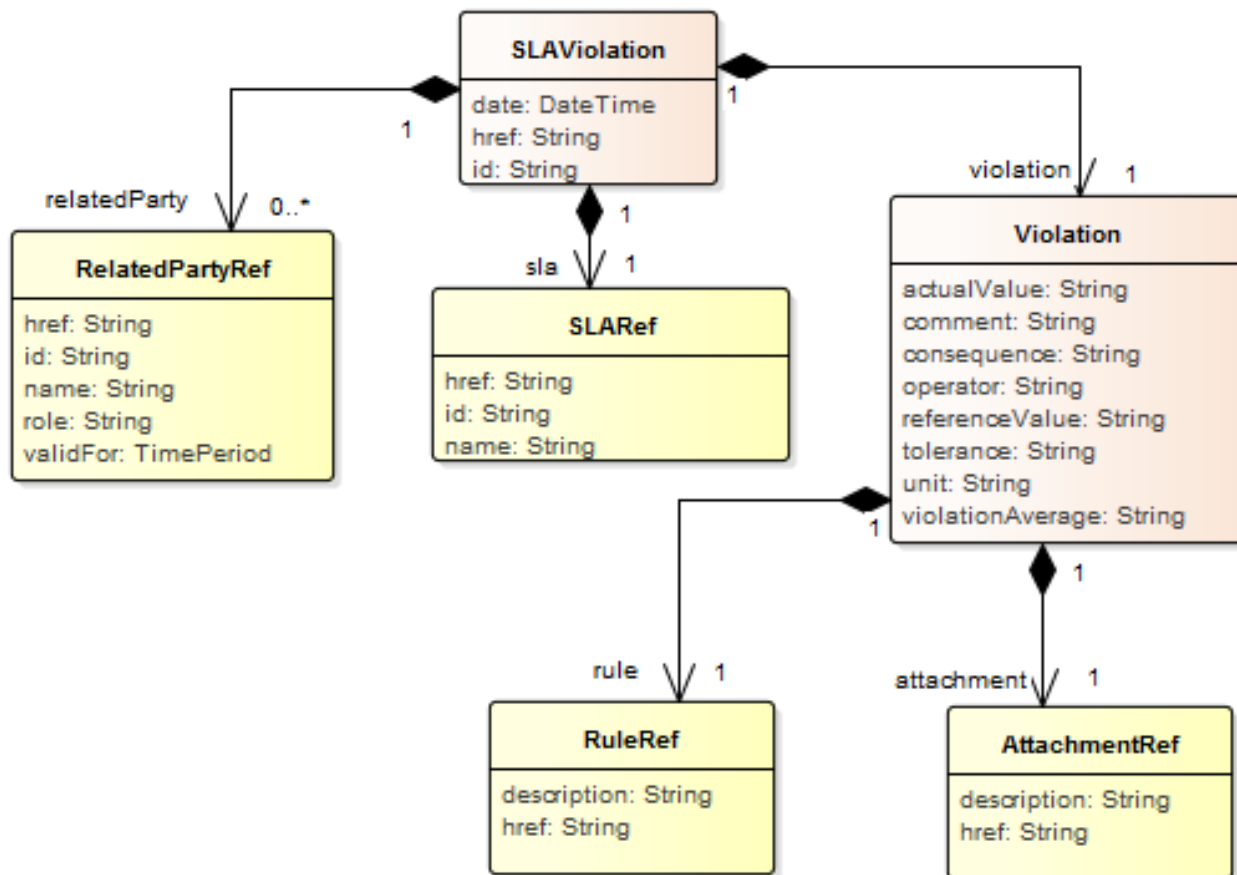
ENTITY CLASSES

Entity	Description
Rule	
SLA	Part of a business agreement between a Service Provider and a Customer, quantitatively specifying the service performance level the Service Provider commits to deliver.
SLAViolation	
Violation	

REFERENCE CLASSES

Reference Class	Description/Fields
RuleRef	Rule reference. Fields: description, href
SLARef	ServiceLevelAgreement reference: A service level agreement (SLA) is a type of agreement that represents a formal negotiated agreement between two parties designed to create a common

	understanding about products, services, priorities, responsibilities, and so forth. Fields: href, id, name
TemplateRef	. Fields: description, href, id, name

PROPERTY DETAILS

Rule	Type	Description
consequence	String [1]	A String sub-object
id	String [1]	A String sub-object
metric	String [1]	A String sub-object
operator	String [1]	A String sub-object
referenceValue	String [1]	A String sub-object
tolerance	String [1]	A String sub-object
unit	String [1]	A String sub-object

SLA	Type	Description
approvalDate	DateTime [1]	A DateTime sub-object
approved	Boolean [1]	A Boolean sub-object
description	String [1]	Description of the Service Level Agreement (SLA)
href	String [1]	Reference of the Service Level Agreement (SLA)
id	String [1]	Unique identifier of the Service Level Agreement (SLA)
name	String [1]	Name of the Service Level Agreement (SLA)
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
rule	Rule [*]	A list of Rule sub-objects.
state	String [1]	State of the Service Level Agreement (SLA)
template	TemplateRef [1]	A Template reference.
validFor	TimePeriod [1]	Period where the clauses of the SLA are applicable
version	String [1]	Version of the Service Level Agreement (SLA)

SLAViolation	Type	Description
date	DateTime [1]	A DateTime sub-object
href	String [1]	A String sub-object
id	String [1]	A String sub-object
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
sla	SLARef [1]	A SLA reference.
violation	Violation [1]	A Violation sub-object.

Violation	Type	Description
actualValue	String [1]	A String sub-object

attachment	AttachmentRef [1]	An Attachment reference.
comment	String [1]	A String sub-object
consequence	String [1]	A String sub-object
operator	String [1]	A String sub-object
referenceValue	String [1]	A String sub-object
rule	RuleRef [1]	A Rule reference. (Rule is a common pattern or Template for the SLA parameters, metrics, and thresholds)
tolerance	String [1]	A String sub-object
unit	String [1]	A String sub-object
violationAverage	String [1]	A String sub-object

JSON SAMPLES

SLA

```
{
  "approvalDate": "2016-04-05T00:00",
  "approved": true,
  "description": "This  s l a ...",
  "href": "https://host:port/sla/sla/4861",
  "id": "4861",
  "name": "a string ...",
  "state": "a string ...",
  "validFor": {
    "startDateTime": "2016-04-05T00:00",
    "endDateTime": "2016-11-01T00:00"
  },
  "version": "1.0",
  "rule": [
    {
      "consequence": "a string ...",
      "id": "2420",
      "metric": "a string ...",
      "operator": "a string ...",
      "referenceValue": "a string …",
      "tolerance": "a string ...",
      "unit": "a string ..."
    }
  ],
  "relatedParty": [
    {
      "href": "https://host:port/partyManagement/organization/3781",
      "id": "3781",
      "name": "John Doe",
      "role": "employee",
      "validFor": {
        "startDateTime": "2016-04-02T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
```

```
"template": {
    "description": "This  template ...",
    "href": "https://host:port/slaManagement/template/5409",
    "id": "5409",
    "name": "VideoSLATemplate"
  }
}
```

SLAViolation

```
{
  "date": "2016-04-05T00:00",
  "href": "https://host:port/sla/slaViolation/8881",
  "id": "8881",
  "relatedParty": [
    {
      "href": "https://host:port/partyManagement/organization/7255",
      "id": "7255",
      "name": "John Doe",
      "role": "customer",
      "validFor": {
        "startDateTime": "2016-04-08T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "violation": {
    "comment": "Availability below agreed level.",
    "referenceValue": "available",
    "violationAverage": "0.1",
    "rule": {
      "href": "http:/hostname:port/slaManagement/rule/4200",
      "description": "availability"
    },
    "consequence": "http://ww.acme.com/contract/clause/42",
    "attachment": {
      "href": "https://foo.bar/screenshot.123",
      "description": "availability statistics for August 2013"
    },
    "actualValue": "available",
    "operator": ".eq",
    "tolerance": "0.05",
    "unit": "hz"
  },
  "sla": {
    "href": "https://host:port/slaManagement/sla/8391",
    "id": "8391",
    "name": "a string ..."
  }
}
```
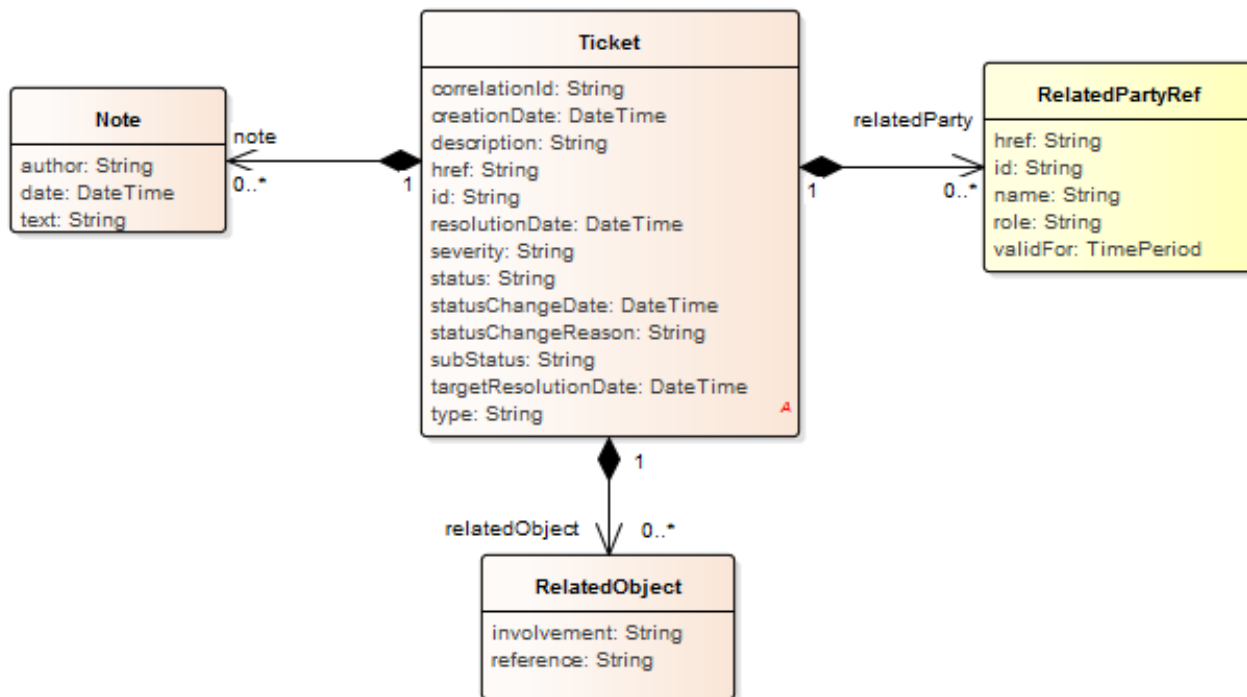
TROUBLE TICKET

The Trouble Ticket module defines the ticket resource used by the problem handling process.

DIAGRAMS

Ticket resource

ENTITY CLASSES

Entity	Description
RelatedObject	Defines objects linked with trouble ticket.
Ticket	A trouble ticket represents a record used for reporting and managing the resolution of resource problems

PROPERTY DETAILS

RelatedObject	Type	Description
involvement	String [1]	Consequence of the ticket on the related object (for instance disputed, adjusted...)
reference	String [1]	Reference of object

Ticket	Type	Description
correlationId	String [1]	Additional identifier coming from

		an external system
creationDate	DateTime [1]	The date on which the trouble was discovered
description	String [1]	Description of the trouble
href	String [1]	Reference of the trouble ticket
id	String [1]	Unique identifier of the trouble ticket
note	Note [*]	A list of Note sub-objects.
relatedObject	RelatedObject [*]	A list of RelatedObject sub-objects.
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
resolutionDate	DateTime [1]	The date on which the service was brought back to its original condition
severity	String [1]	The severity of the trouble. It can be for example : minor, major, critical
status	String [1]	The current status of the Trouble Ticket
statusChangeDate	DateTime [1]	The date of state change
statusChangeReason	String [1]	The reason of state change
subStatus	String [1]	The current sub status of the Trouble Ticket
targetResolutionDate	DateTime [1]	Foreseen trouble resolution date
type	String [1]	Type of trouble ticket

JSON SAMPLES

Ticket

```
{
  "correlationId": "268",
  "creationDate": "2016-04-05T00:00",
  "description": "Compliant over last invoice",
  "href": "https://host:port/troubleTicket/ticket/5192",
  "id": "5192",
  "resolutionDate": "2016-04-05T00:00",
  "severity": "Urgent",
  "status": "Received",
  "statusChangeDate": "2016-04-05T00:00",
  "statusChangeReason": "Test started",
  "subStatus": "",
  "targetResolutionDate": "2016-04-05T00:00",
  "type": "Bug",
  "relatedObject": [
    {
      "involvement": "nochange",
      "reference": "YGAZERTDES76GT54"
    }
  ],
  "note": [
    {
```

```
      "author": "Mr Hide",
      "date": "2016-04-05T00:00",
      "text": "This is quite important"
    }
  ],
  "relatedParty": [
    {
      "href": "https://host:port/partyManagement/organization/5036",
      "id": "5036",
      "name": "John Doe",
      "role": "bill responsible",
      "validFor": {
        "startDateTime": "2016-04-06T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ]
}
```
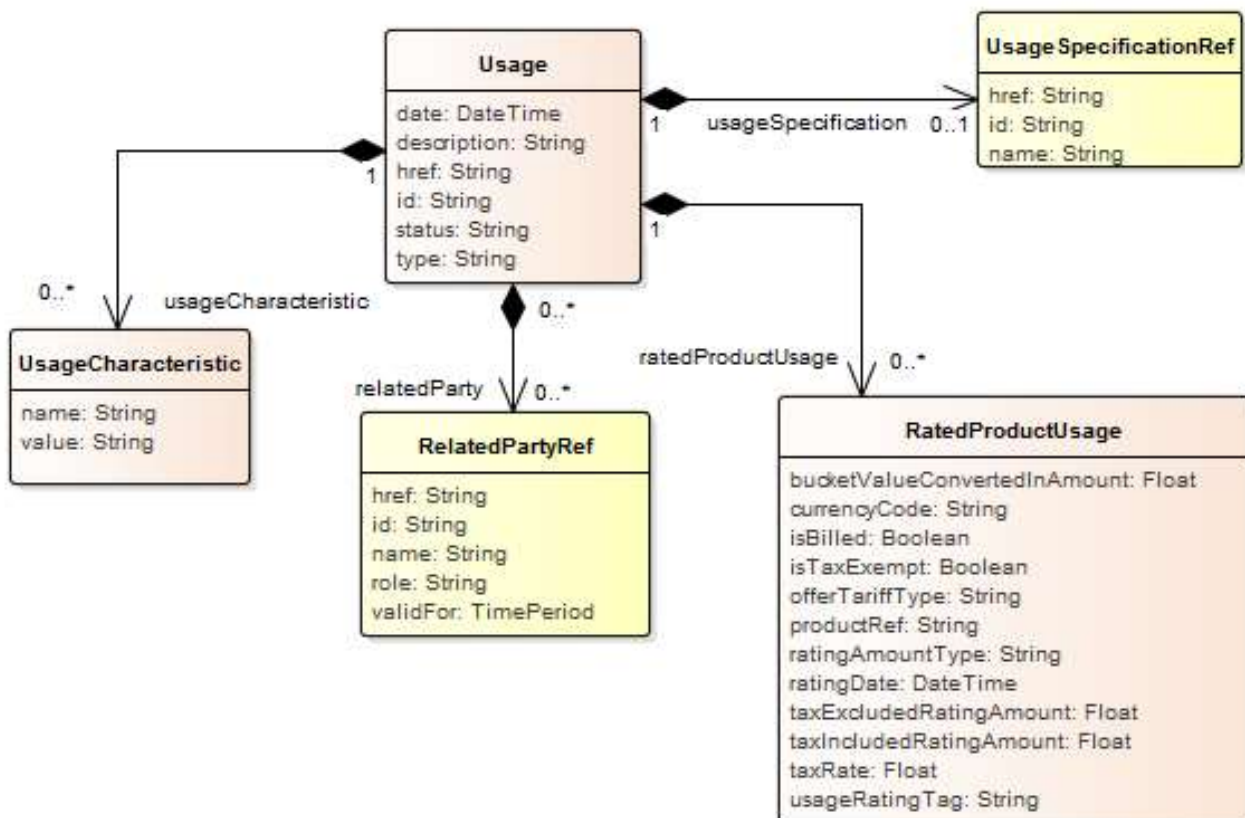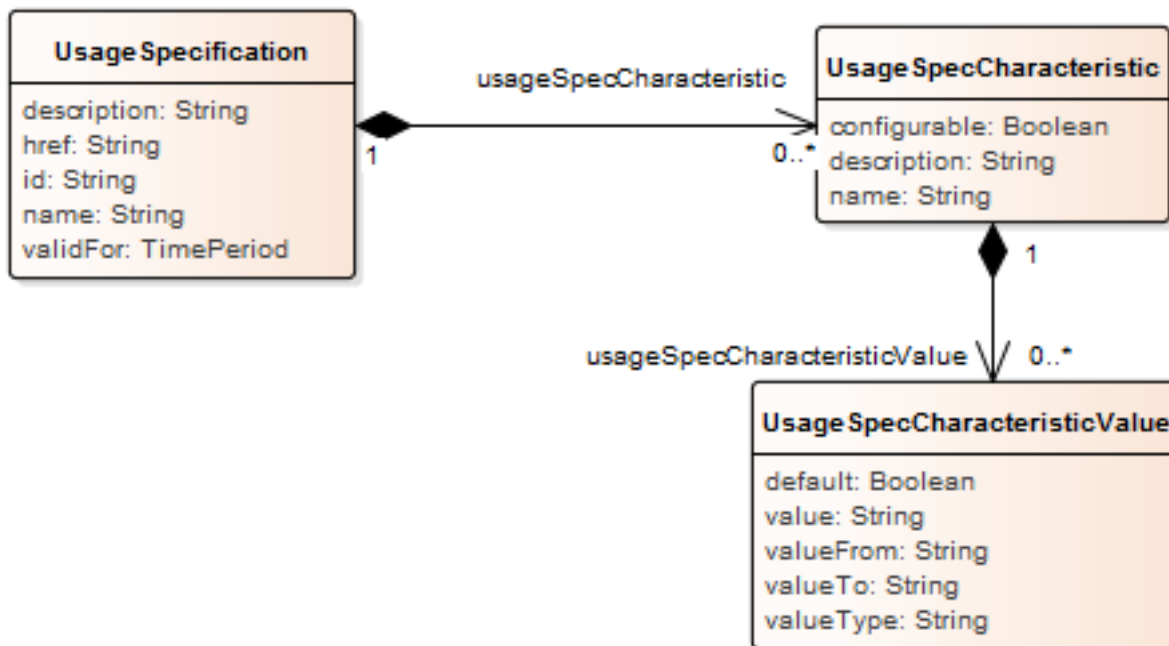
USAGE

The Usage module defines the resources for managing the rated and non rated usages.

DIAGRAMS

Usage resource

UsageSpecification resource

ENTITY CLASSES

Entity	Description
RatedProductUsage	An occurrence of employing a product for its intended purpose with all rating details.
Usage	An occurrence of employing a Product, Service, or Resource for its intended purpose, which is of interest to the business and can have charges applied to it. It is comprised of characteristics, which represent attributes of usage.
UsageCharacteristic	Provides the value of a given characteristic.
UsageSpecCharacteristic	A detailed description of an attribute that defines a particular type of usage, described by its name, category, type, presence and a set of allowed values
UsageSpecCharacteristicValue	A value that can be assigned to a UsageSpecCharacteristic.
UsageSpecification	A detailed description of a usage event that are of interest to the business and can have charges applied to it. It is comprised of characteristics, which define all attributes known for a particular type of usage.

REFERENCE CLASSES

Reference Class	Description/Fields
UsageSpecificationRef	UsageSpecification reference. Fields: href, id, name

PROPERTY DETAILS

RatedProductUsage	Type	Description
bucketValueConvertedInAmount	Float [1]	Monetary value of bucket
currencyCode	String [1]	A string used as a code for specifying the currency associated to the given amounts. The ISO4217 norm uses 3 letters to define the currency (for example USD for US dollar or EUR for Euro)
isBilled	Boolean [1]	Boolean indicating if usage have been billed or not
isTaxExempt	Boolean [1]	Indicates if the rated amount is exempt of tax
offerTariffType	String [1]	Type of tariff applied
productRef	String [1]	Reference of product specification
ratingAmountType	String [1]	Type of amount
ratingDate	DateTime [1]	Date of usage rating
taxExcludedRatingAmount	Float [1]	All taxes excluded rated amount
taxIncludedRatingAmount	Float [1]	All taxes included rated amount
taxRate	Float [1]	Tax rate
usageRatingTag	String [1]	Tag value : 'usage' : the usage is always rated outside a usage bundle 'included usage' : the usage is rated inside a usage bundle 'non included usage' : the usage bundle is exhausted. The usage is rated outside the usage bundle

Usage	Type	Description
date	DateTime [1]	Date of usage
description	String [1]	Description of usage
href	String [1]	Reference of usage
id	String [1]	Usage unique identifier
ratedProductUsage	RatedProductUsage [*]	A list of RatedProductUsage sub-objects.
relatedParty	RelatedPartyRef [*]	A list of RelatedParty references.
status	String [1]	Status of usage
type	String [1]	Type of usage
usageCharacteristic	UsageCharacteristic [*]	A list of UsageCharacteristic sub-objects.
usageSpecification	UsageSpecificationRef [0..1]	A UsageSpecification reference. (UsageSpecification is a detailed

		description of a usage event that are of interest to the business and can have charges applied to it. It is comprised of characteristics, which define all attributes known for a particular type of usage.)

UsageCharacteristic	Type	Description
name	String [1]	The name of the usage characteristic
value	String [1]	A discrete value that the characteristic can take on.

UsageSpecCharacteristic	Type	Description
configurable	Boolean [1]	Boolean indicating if usageSpecCharacteristic is configurable or not
description	String [1]	A narrative that explains in detail what the usage specification characteristic is
name	String [1]	The name of the usage specification characteristic
usageSpecCharacteristicValue	UsageSpecCharacteristicValue [*]	A list of UsageSpecCharacteristicValue sub-objects.

UsageSpecCharacteristicValue	Type	Description
default	Boolean [1]	Indicates if the value is the default value for a characteristic
value	String [1]	A narrative that explains in detail what the usage specification characteristic is
valueFrom	String [1]	The low range value that a characteristic can take on
valueTo	String [1]	The upper range value that a characteristic can take on.
valueType	String [1]	A kind of value that the characteristic can take on, such as numeric, text, and so forth.

UsageSpecification	Type	Description
description	String [1]	A narrative that explains in detail what the usage specification is
href	String [1]	Reference of usage specification
id	String [1]	Usage specification unique identifier
name	String [1]	The name of the usage specification.
usageSpecCharacteristic	UsageSpecCharacteristic [*]	A list of

		UsageSpecCharacteristic sub-objects.
validFor	TimePeriod [1]	The period for which the usage specification is valid

JSON SAMPLES

Usage

```
{
  "date": "2016-04-05T00:00",
  "description": "This  usage ...",
  "href": "https://host:port/usage/usage/8078",
  "id": "8078",
  "status": "Rated",
  "type": "Text",
  "usageSpecification": {
    "href": "https://host:port/usage/usageSpecification/1320",
    "id": "1320",
    "name": "Cloud CPUs"
  },
  "usageCharacteristic": [
    {
      "name": "destinationCountryCode",
      "value": "676123456789"
    }
  ],
  "relatedParty": [
    {
      "href": "https://host:port/partyManagement/organization/6917",
      "id": "6917",
      "name": "Richard Cole",
      "role": "seller",
      "validFor": {
        "startDateTime": "2016-04-01T00:00",
        "endDateTime": "2016-11-01T00:00"
      }
    }
  ],
  "ratedProductUsage": [
    {
      "bucketValueConvertedInAmount": 2.62,
      "currencyCode": "USD",
      "isBilled": false,
      "isTaxExempt": true,
      "offerTariffType": "Normal",
      "productRef": "4534237687",
      "ratingAmountType": "Total",
      "ratingDate": "2016-04-05T00:00",
      "taxExcludedRatingAmount": 96.65,
      "taxIncludedRatingAmount": 79.25,
      "taxRate": 10.0,
      "usageRatingTag": "non included usage"
    }
```

```
    ]
}
```

UsageSpecification

```
{
    "description": "Spec for cloud CPU usage",
    "href": "https://host:port/usage/usageSpecification/6475",
    "id": "6475",
    "name": "Cloud CPUs",
    "validFor": {
        "startDateTime": "2016-04-08T00:00",
        "endDateTime": "2016-11-01T00:00"
    },
    "usageSpecCharacteristic": [
        {
            "configurable": true,
            "description": "This  usage spec characteristic ...",
            "name": "poolNumber",
            "usageSpecCharacteristicValue": [
                {
                    "default": true,
                    "value": "Reserved Gold",
                    "valueFrom": "",
                    "valueTo": "",
                    "valueType": "number"
                }
            ]
        }
    ]
}
```

GENERIC COMMON

Common gathers all entities shared by several packages

ENTITY CLASSES

Entity	Description
Attachment	Complements the description of an element (for instance a product) through video, pictures...
Characteristic	Describes a given characteristic of an object or entity through a name/value pair.
Note	Extra information about the ticket or a product order
TimePeriod	A base / value business entity used to represent a period of time between two timepoints.

REFERENCE CLASSES

Reference Class	Description/Fields
AttachmentRef	Attachment reference. Fields: description, href

PROPERTY DETAILS

Attachment	Type	Description
description	String [1]	A narrative text describing the content of the attachment
href	String [1]	Reference of the attachment
id	String [1]	Unique identifier of the attachment
type	String [1]	Attachment type such as video, picture
url	String [1]	Uniform Resource Locator, is a web page address (a subset of URI)

Characteristic	Type	Description
name	String [1]	Name of the characteristic
value	String [1]	Value of the characteristic

Note	Type	Description
author	String [1]	Author of the note
date	DateTime [1]	Date of the note
text	String [1]	Text of the note

TimePeriod	Type	Description
endDateTime	DateTime [1]	An instant of time, ending at the TimePeriod.
startDateTime	DateTime [1]	An instant of time, starting at the TimePeriod

JSON SAMPLES

The entities defined in this section are all included as sub-objects or as references of other resources. See the sections of these resources for JSON serialization examples.

CONTACT COMMON

Generic package defining general purpose resource attributes

ENTITY CLASSES

Entity	Description
Contact	An individual or an organization used as a contact

	point for a given account and accessed via some contact medium.
ContactMedium	Indicates the contact medium that could be used to contact the party.
Medium	Describes the contact medium that could be used to contact a party (an individual or an organization)

PROPERTY DETAILS

Contact	Type	Description
contactMedium	ContactMedium [*]	A list of ContactMedium sub-objects.
contactName	String [1]	A displayable name for that contact
contactType	String [1]	Type of contact (primary, secondary...)
partyRoleType	String [1]	Identifies what kind of party role type is linked to the contact (a customer account manager...)
relatedParty	RelatedPartyRef [0..1]	A RelatedParty reference. (A related party defines party or party role linked to a specific entity.)
validFor	TimePeriod [1]	Validity period of that contact

ContactMedium	Type	Description
medium	Medium [0..1]	A Medium sub-object.
preferred	Boolean [1]	If true, indicates that is the preferred contact medium
type	String [1]	Type of the contact medium, such as: email address, telephone number, postal address
validFor	TimePeriod [1]	The time period that the contact medium is valid for

Medium	Type	Description
city	String [1]	The city
country	String [1]	The country
emailAddress	String [1]	Full email address in standard format
number	String [1]	Phone number
postcode	String [1]	Postcode
stateOrProvince	String [1]	State or province
street1	String [1]	Describes the street
street2	String [1]	Complementary street description
type	String [1]	Type of medium (fax, mobile phone...)

JSON SAMPLES

The entities defined in this section are all included as sub-objects or as references of other resources. See the sections of these resources for JSON serialization examples.

RESOURCE COMMON

Generic package defining general purpose resource attributes

REFERENCE CLASSES

Reference Class	Description/Fields
RealizingResourceRef	RealizingResource reference. Fields: href, id
ResourceCandidateRef	ResourceCandidate reference: A resource candidate is an entity that makes a ResourceSpecification available to a catalog. Fields: href, id, name, version
ResourceSpecificationRef	Resource Specification reference: The ResourceSpecification is required to realize a ProductSpecification. Fields: href, id, name, version

JSON SAMPLES

The entities defined in this section are all included as sub-objects or as references of other resources. See the sections of these resources for JSON serialization examples.

SERVICE COMMON

Generic package defining general purpose resource attributes

ENTITY CLASSES

Entity	Description
ServiceInfo	Contains information on a given service, its identifier and its type.

REFERENCE CLASSES

Reference Class	Description/Fields
RealizingServiceRef	RealizingService reference. Fields: href, id
ServiceCandidateRef	ServiceCandidate reference. Fields: href, id, name, version

ServiceSpecificationRef	Service specification reference: ServiceSpecification(s) required to realize a ProductSpecification. Fields: href, id, name, version

PROPERTY DETAILS

ServiceInfo	Type	Description
id	String [1]	Identifier of the service
type	String [1]	Type of the service identifier (e.g. mobile number)

JSON SAMPLES

The entities defined in this section are all included as sub-objects or as references of other resources. See the sections of these resources for JSON serialization examples.

ACKNOWLEDGEMENTS

VERSION HISTORY

Version Number	Date	Modified by	Description
Version 2.0.0	15/04/2016	Pierre Gauthier TM Forum	Final version
Version 2.0.1	10/06/2016	Alicja Kawecki TM Forum	Updated cover, header, footer; minor formatting/style corrections prior to publishing for Fx16
Version 2.0.2	03/10/2016	Alicja Kawecki TM Forum	Updated cover and Notice to reflect TM Forum Approved status

RELEASE HISTORY

Release Number	Date	Release led by:	Description
Release 1.0	15/11/2015	Pierre Gauthier TM Forum pgauthier@tmforum.org Mariano Belaunde Orange mariano.belaunde@orange.com	First Release of the Document
Release 2.0	15/04/2016	Pierre Gauthier TM Forum pgauthier@tmforum.org Mariano Belaunde Orange mariano.belaunde@orange.com	Second Release of the Document

CONTRIBUTORS TO DOCUMENT

All persons involved in API specifications have directly or indirectly contributed to the content of the API Data Model described in this document.

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