



## ***Framework Specification***

# **ODE Data Model**

**TMF625**

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## Data Model Detail

This document provides an overview of the data model.

### ODE model

Type:	<u>Package</u>
Package:	Model
Detail:	<i>Created on 01/10/2014. Last modified on 27/11/2014.</i>
Notes:	

### Billing Management

Type:	<u>Package</u>
Package:	ODE model
Detail:	<i>Created on 02/10/2014. Last modified on 14/11/2014.</i>
Notes:	The billing management package includes the resources used by the billing process and the resources used by the settlement process.

#### AppliedCustomerBillingCharge resource

*Created By:* yvaf6294 on 02/10/2014

*Last Modified:* 18/11/2014, *Version:* 1.0

UML representation of the AppliedCustomerBillingCharge resource

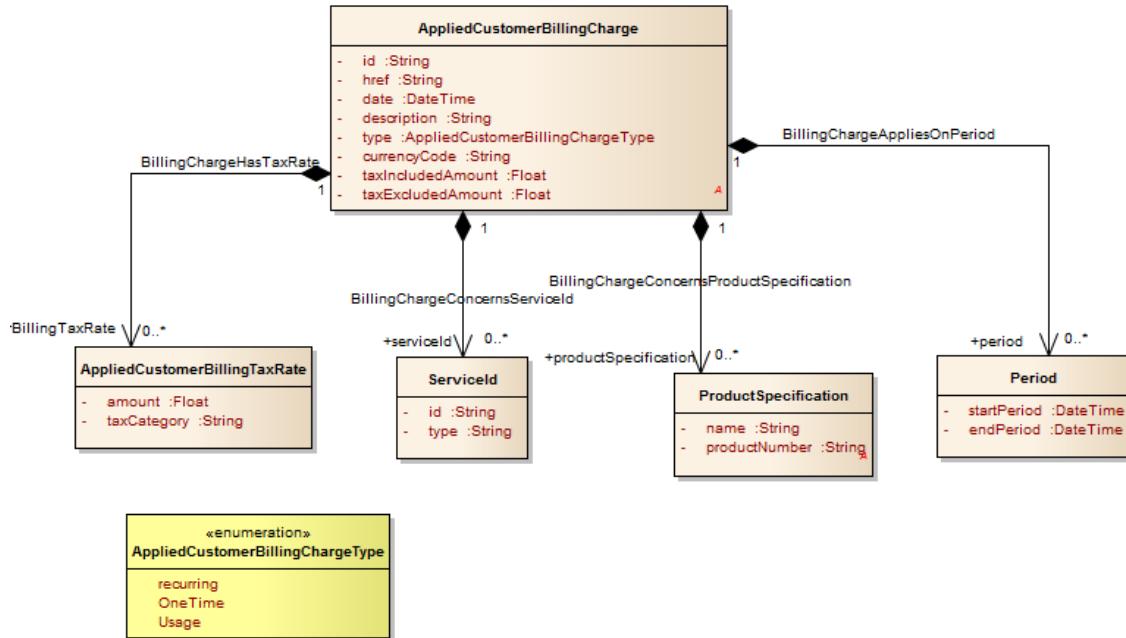


Figure: 1

#### BillingAccount resource

*Created By:* yvaf6294 on 02/10/2014

*Last Modified:* 19/11/2014, *Version:* 1.0

## UML representation of BillingAccount

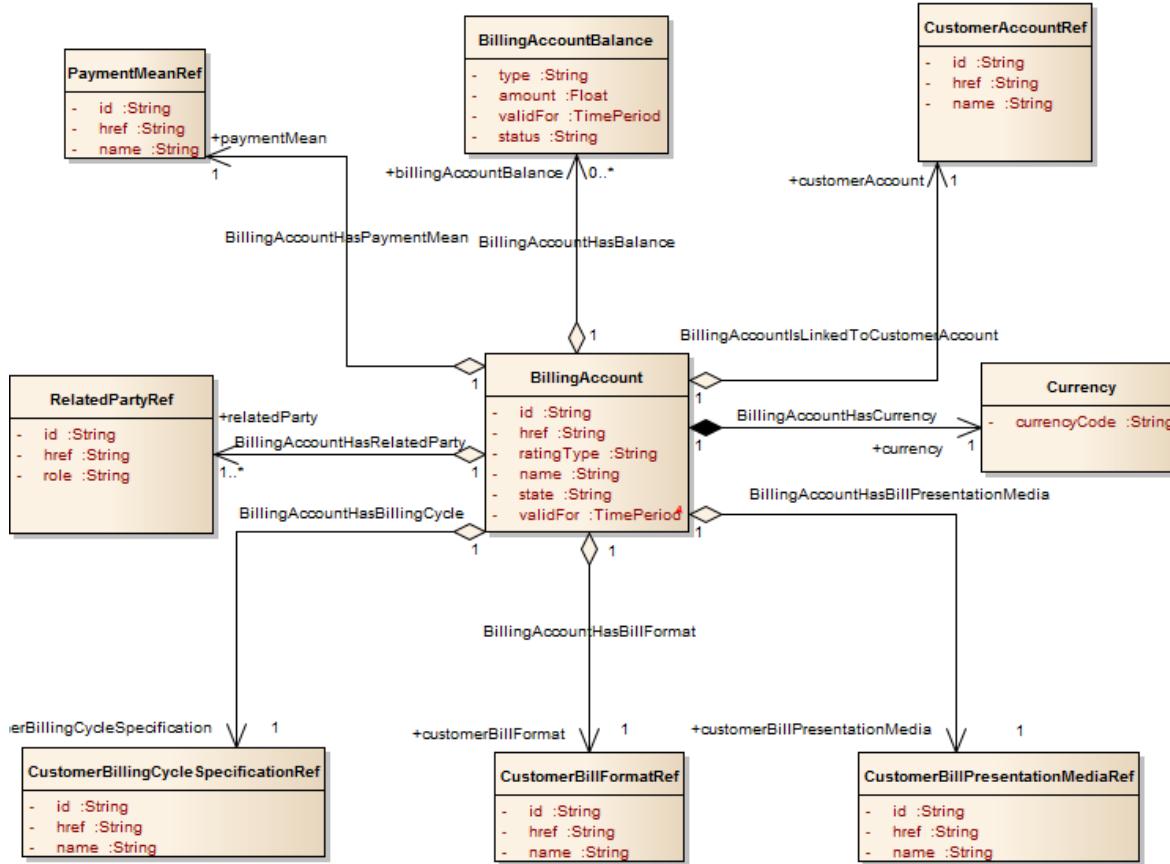


Figure: 2

**BillingAccount notification resource***Created By:* yvaf6294 on 02/10/2014*Last Modified:* 13/11/2014, *Version:*1.0

UML representation of the BillingAccount notification resource

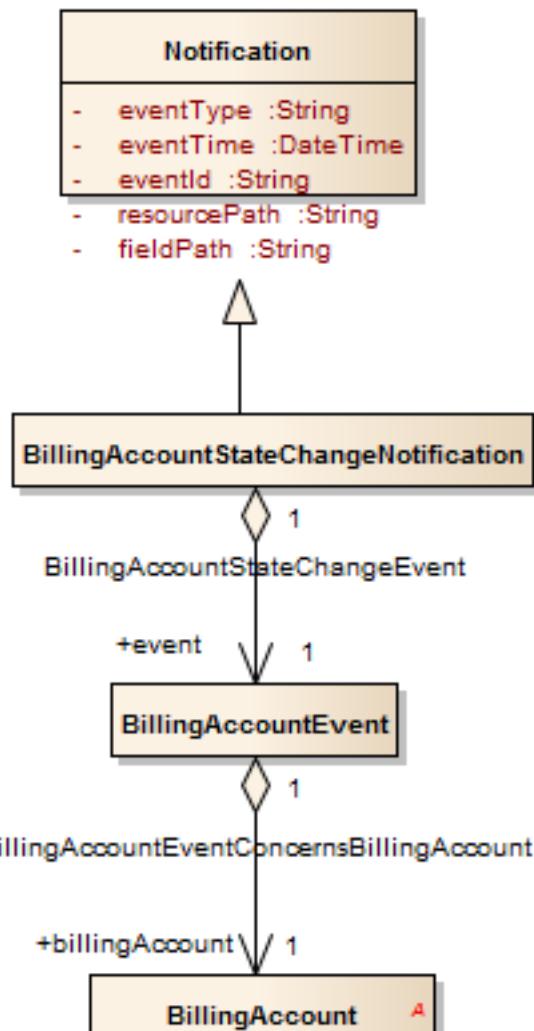


Figure: 3

**CustomerBillFormat resource**

*Created By:* yvaf6294 on 06/11/2014

*Last Modified:* 13/11/2014, *Version:* 1.0

UML representation of the CustomerBillFormat resource



Figure: 4

**CustomerBillPresentationMedia resource**

*Created By:* yvaf6294 on 06/11/2014

*Last Modified:* 13/11/2014, *Version:* 1.0

UML representation of the CustomerBillPresentationMedia resource



Figure: 5

#### **CustomerBillingCycleSpecification resource**

*Created By:* yvaf6294 on 06/11/2014

*Last Modified:* 13/11/2014, *Version:*1.0

UML representation of CustomerBillingCycleSpecification resource

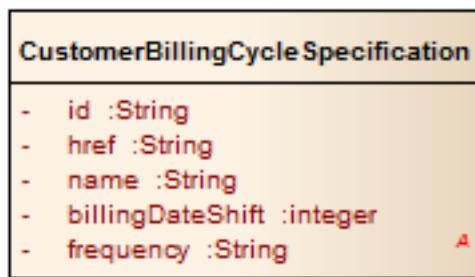


Figure: 6

#### **SettlementNoteAdvice resource**

*Created By:* yvaf6294 on 02/10/2014

*Last Modified:* 13/11/2014, *Version:*1.0

UML representation of SettlementNoteAdvice resource

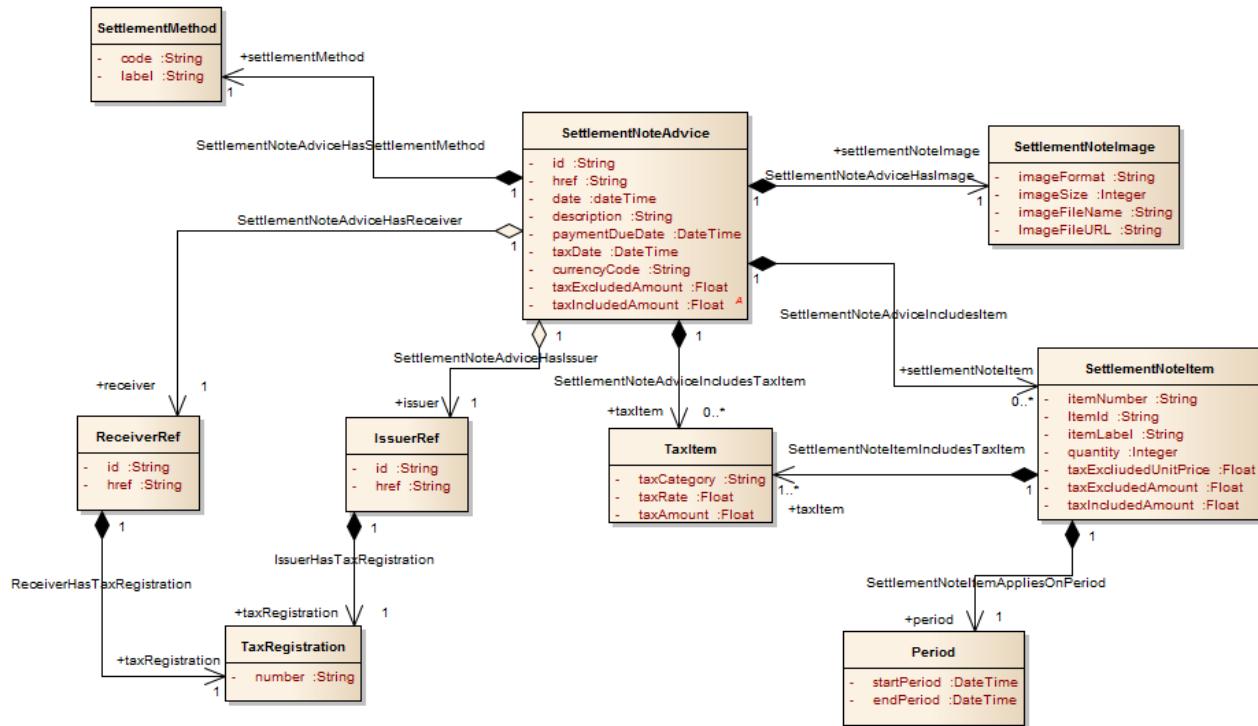


Figure: 7

### SettlementNoteAdvice notification resource

*Created By:* yvaf6294 on 02/10/2014

*Last Modified:* 13/11/2014, *Version:* 1.0

UML representation of SettlementNoteAdvice notification resource

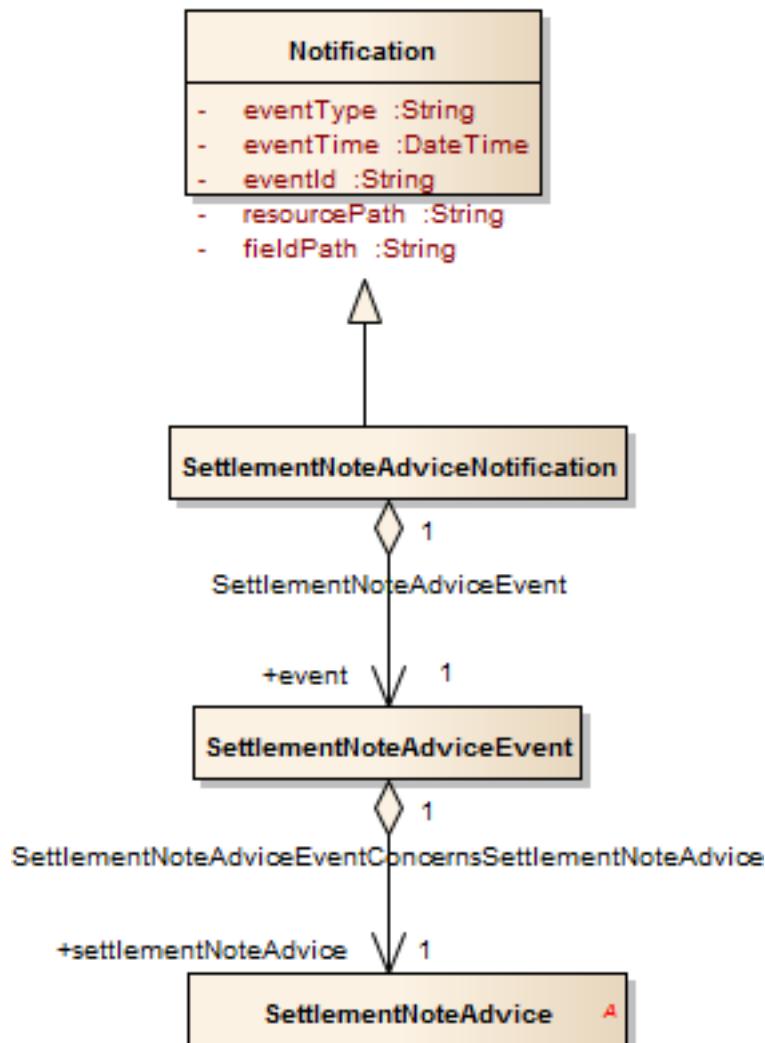


Figure: 8

### BillingAccount lifecycle

*Created By:* yvaf6294 on 13/10/2014  
*Last Modified:* 17/11/2014, *Version:*1.0  
UML representation of the BillingAccount lifecycle

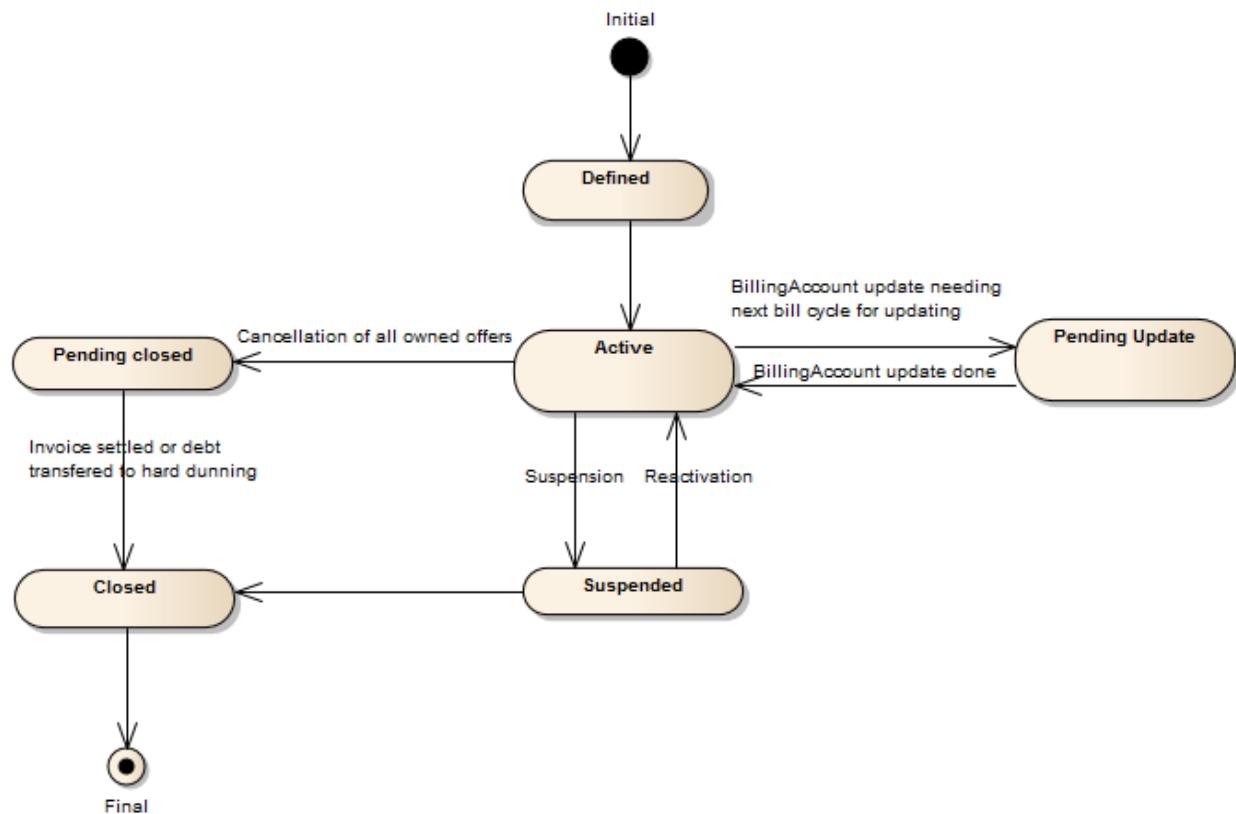


Figure: 9

## AppliedCustomerBillingCharge

**Database:** Java, **Stereotype:** , **Package:** Billing Management  
**Detail:** Created on 02/10/2014. Last modified on 14/11/2014.  
**Notes:** An amount, usually of money, for which a person or an organization is financially liable.

### Columns

Name	Type	Notes
id	String	Unique identifier of the applied customer billing charge
href	String	Reference of the applied customer billing charge
date	DateTime	Creation date of the applied customer billing charge
description	String	Additional data to be displayed on the customer bill for this applied customer billing charge
type	AppliedCustomerBillingChargeType	Type of the applied customer billing charge (recurring, one time or usage) necessary to find the category of the invoice where the charge has to be displayed.
currencyCode	String	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).

taxIncludedAmount	Float	All taxes included amount to be charged on the customer bill (expressed in the given currency)
taxExcludedAmount	Float	Tax excluded amount to be charged on the customer bill (expresses in the given currency).

### *Relationships*

Columns	Association	Notes
BillingChargeAppliesOnPeriod	<b>0..*</b> Period.period <b>1</b> AppliedCustomerBillingCharge.	
BillingChargeConcernsProductSpecification	<b>0..*</b> ProductSpecification.productSpecification <b>1</b> AppliedCustomerBillingCharge.	
BillingChargeConcernsServiceId	<b>0..*</b> ServiceId.serviceId <b>1</b> AppliedCustomerBillingCharge.	
BillingChargeHasTaxRate	<b>0..*</b> AppliedCustomerBillingTaxRate.appliedCustomerBillingTaxRate <b>1</b> AppliedCustomerBillingCharge.	

### AppliedCustomerBillingCharge (JSON)

```
{
  "id": "25",
  "href": "http://serverlocation:port/BillingManagement/appliedCustomerBillingCharge/25",
  "date": "2013-04-19T16:42:23.0Z",
  "description": "Partner Premium monthly fee",
  "type": "Recurring",
  "currencyCode": "USD",
  "taxIncludedAmount": 2.4,
  "taxExcludedAmount": 2,
  "appliedCustomerBillingTaxRate": [
    {
      "amount": 0.4,
      "taxCategory": "VAT"
    }
  ],
  "serviceId": [
    {
      "id": "0601020304",
      "type": "Mobile number"
    }
  ],
  "productSpecification": [
    {
      "name": "Partner Premium",
      "productNumber": "P001"
    }
  ],
  "period": [
    {
      "startPeriod": "2013-10-01T00:00:00.0Z",
      "endPeriod": "2013-10-31T00:00:00.0Z"
    }
  ]
}
```

{}

## AppliedCustomerBillingChargeType

*Database:* Java, *Stereotype:* «enumeration», *Package:* Billing Management

*Detail:* Created on 02/10/2014. Last modified on 02/10/2014.

*Notes:*

### Columns

Name	Type	Notes
recurring		
OneTime		
Usage		

## AppliedCustomerBillingTaxRate

*Database:* Java, *Stereotype:* , *Package:* Billing Management

*Detail:* Created on 02/10/2014. Last modified on 07/11/2014.

*Notes:* An amount of money levied on the price of a product by a legislative body.

### Columns

Name	Type	Notes
amount	Float	Tax amount
taxCategory	String	A categorization of the tax rate

### Relationships

Columns	Association	Notes
BillingChargeHasTaxRate	<b>0..*</b> AppliedCustomerBillingTaxRate.appliedCustomerBillingTaxRate <b>1</b> AppliedCustomerBillingCharge.	

## BillingAccount

*Database:* Java, *Stereotype:* , *Package:* Billing Management

*Detail:* Created on 02/10/2014. Last modified on 19/11/2014.

*Notes:* A detailed description of a customer's bill structure

### Columns

Name	Type	Notes
id	String	Unique identifier of the billing account
href	String	Reference of the billing account
ratingType	String	Rating type (prepaid, postpaid) of the billing account
name	String	A short descriptive name
state	String	Used to track the lifecycle state
validFor	TimePeriod	The period for which the billing account is valid

### Relationships

Columns	Association	Notes
BillingAccountEventConcernsBillingAccount	<b>1</b> BillingAccount.billingAccount <b>1</b> BillingAccountEvent.	
BillingAccountHasBalance	<b>0..*</b> BillingAccountBalance.billingAccountBalance <b>1</b> BillingAccount.	
BillingAccountHasBillFormat	<b>1</b> CustomerBillFormatRef.customerBillFormat <b>1</b> BillingAccount.	
BillingAccountHasBillingCycle	<b>1</b> CustomerBillingCycleSpecificationRef.customerBillingCycleSpecification <b>1</b> BillingAccount.	
BillingAccountHasBillPresentationMedia	<b>1</b> CustomerBillPresentationMediaRef.customerBillPresentationMedia <b>1</b> BillingAccount.	
BillingAccountHasCurrency	<b>1</b> Currency.currency <b>1</b> BillingAccount.	
BillingAccountHasPaymentMean	<b>1</b> PaymentMeanRef.paymentMean <b>1</b> BillingAccount.	
BillingAccountHasRelatedParty	<b>1..*</b> RelatedPartyRef.relatedParty <b>1</b> BillingAccount.	
BillingAccountIsLinkedToCustomerAccount	<b>1</b> CustomerAccountRef.customerAccount <b>1</b> BillingAccount.	

### BillingAccount (JSON)

```
{
  "id": "65",
  "href": "http://serverlocation:port/billingManagement/billingAccount/65",
  "ratingType": "postpaid",
  "name": "my personal Billing Account",
  "state": "Active",
  "validFor": {
    "startDateTime": "2013-04-19T16:42:23.0Z"
  },
  "customerAccount": {
    "id": "15",
    "href": "http://serverlocation:port/customerManagement/customerAccount/15",
    "name": "Customer Account xxx"
  },
  "customerBillingCycleSpecification": {
    "id": "26",
    "href": "http://serverlocation:port/billingManagement/customerBillingCycleSpecification/26",
    "name": "Monthly billing on the 15"
  },
  "customerBillFormat": {
    "id": "23",
    "href": "http://serverlocation:port/billingManagement/customerBillFormat/23",
    "name": "Detailed invoice"
  },
}
```

```

"customerBillPresentationMedia": {
    "id": "25",
    "href": "http://serverlocation:port/billingManagement/customerBillPresentationMedia/25",
    "name": "Electronic invoice"
},
"currency": {
    "currencyCode": "EUR"
},
"billingAccountBalance": [
    {
        "type": "ReceivableBalance",
        "amount": 52.3,
        "validFor": {
            "startDateTime": "2013-04-19T16:42:23.0Z",
            "endDateTime": "2013-06-19T00:00:00.0Z"
        },
        "status": "Due"
    }
],
"relatedParty": [
    {
        "id": "1",
        "href": "http://serverlocation:port/partyManagement/partyRole/1",
        "role": "bill receiver"
    },
    {
        "id": "5",
        "href": "http://serverlocation:port/partyManagement/partyRole/5",
        "role": "bill responsible"
    }
],
"paymentMean": {
    "id": "45",
    "href": "http://serverlocation:port/customerManagement/paymentMean/45",
    "name": "my favourite payment mean"
}
}

```

## BillingAccountBalance

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 02/10/2014. Last modified on 07/11/2014.  
*Notes:* A detailed description of a customer's bill structure

### Columns

Name	Type	Notes
type	String	Type of the balance
amount	Float	Balance amount
validFor	TimePeriod	Balance validity period
status	String	Balance status

### **Relationships**

Columns	Association	Notes
BillingAccountHasBalance	<b>0..*</b> BillingAccountBalance.billingAccountBalance <b>1</b> BillingAccount.	

## **BillingAccountEvent**

*Database:*Java, *Stereotype:* , *Package:* Billing Management*Detail:**Created on* 02/10/2014. *Last modified on* 13/11/2014.*Notes:*

The billingAccount event is generated each time the billing account state is updated.

### **Relationships**

Columns	Association	Notes
BillingAccountEventConcernsBillingAccount	<b>1</b> BillingAccount.billingAccount <b>1</b> BillingAccountEvent.	
BillingAccountStateChangeEvent	<b>1</b> BillingAccountEvent.event <b>1</b> BillingAccountStateChangeNotification.	

## **BillingAccountStateChangeNotification**

*Database:*Java, *Stereotype:* , *Package:* Billing Management*Detail:**Created on* 02/10/2014. *Last modified on* 13/11/2014.*Notes:*

BillingAccountStateChange notification is sent to each listener who has subscribed to receive it.

### **Relationships**

Columns	Association	Notes
	BillingAccountStateChangeNotification.Notification.	
BillingAccountStateChangeEvent	<b>1</b> BillingAccountEvent.event <b>1</b> BillingAccountStateChangeNotification.	

## **CustomerBillFormat**

*Database:*Java, *Stereotype:* , *Package:* Billing Management*Detail:**Created on* 06/11/2014. *Last modified on* 14/11/2014.*Notes:*

A detailed description of the way in which a customer's bill is presented.

### **Columns**

Name	Type	Notes
id	String	Unique identifier of the customer bill format
href	String	Reference of the customer bill format
name	String	A short descriptive name

CustomerBillFormat (JSON)

```
{
  "id": "23",
  "href": "http://serverlocation:port/billingManagement/customerBillFormat/23",
  "name": "Detailed invoice"
}
```

## CustomerBillPresentationMedia

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 06/11/2014. Last modified on 14/11/2014.  
*Notes:* A mean of communicating a customer bill, supported by the associated bill format. For example, post mail, email, web page.

### Columns

Name	Type	Notes
id	String	Unique identifier of the customer bill presentation media
href	String	Reference of the customer bill presentation media
name	String	A short descriptive name

### CustomerBillPresentationMedia (JSON)

```
{
  "id": "25",
  "href": "http://serverlocation:port/billingManagement/customerBillPresentationMedia/25",
  "name": "Electronic invoice"
}
```

## CustomerBillingCycleSpecification

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 06/11/2014. Last modified on 14/11/2014.  
*Notes:* A detailed description of when to initiate a billing cycle and the various sub steps of a billing cycle.

### Columns

Name	Type	Notes
id	String	Unique identifier of the customer billing cycle specification
href	String	Reference of the customer billing cycle specification
name	String	A short descriptive name
billingDateShift	integer	An offset of a billing date. The offset is expressed as number of days with regard to the start of the billing period.
frequency	String	Frequency of the billing cycle (monthly for instance)

### CustomerBillingCycleSpecification (JSON)

```
{
  "id": "26",
  "href": "http://serverlocation:port/billingManagement/customerBillingCycleSpecification/26",
  "name": "Monthly billing on the 15",
  "billingDateShift": 15,
  "frequency": "monthly"
}
```

## SettlementMethod

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 02/10/2014. Last modified on 07/11/2014.  
*Notes:* Is the way in which the CSP provides the payment

### Columns

Name	Type	Notes
code	String	Code of the settlement method
label	String	A word, term or phrase by which a settlement method is known and distinguished from other settlement method

### Relationships

Columns	Association	Notes
SettlementNoteAdviceHasSettlementMethod	<b>1</b> SettlementMethod.settlementMethod <b>1</b> SettlementNoteAdvice.	

## SettlementNoteAdvice

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 02/10/2014. Last modified on 14/11/2014.  
*Notes:* 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.

### Columns

Name	Type	Notes
id	String	A unique identifier for the settlement note advice
href	String	Reference of the settlement note advice
date	dateTime	Creation date of the settlement note advice
description	String	A free description text
paymentDueDate	DateTime	Date at which the due amount should have been paid to the partner
taxDate	DateTime	Date of the tax
currencyCode	String	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).
taxExcludedAmount	Float	All taxes excluded amount (expressed in the given currency)
taxIncludedAmount	Float	All taxes included amount (expressed in the given currency)

		currency)
--	--	-----------

### Relationships

Columns	Association	Notes
SettlementNoteAdviceEventConcernsSettlementNoteAdvice	<b>1</b> SettlementNoteAdvice.settlementNoteAdvice <b>1</b> SettlementNoteAdviceEvent.	
SettlementNoteAdviceHasImage	<b>1</b> SettlementNoteImage.settlementNoteImage <b>1</b> SettlementNoteAdvice.	
SettlementNoteAdviceHasIssuer	<b>1</b> IssuerRef.issuer <b>1</b> SettlementNoteAdvice.	
SettlementNoteAdviceHasReceiver	<b>1</b> ReceiverRef.receiver <b>1</b> SettlementNoteAdvice.	
SettlementNoteAdviceHasSettlementMethod	<b>1</b> SettlementMethod.settlementMethod <b>1</b> SettlementNoteAdvice.	
SettlementNoteAdviceIncludesItem	<b>0..*</b> SettlementNoteItem.settlementNoteItem <b>1</b> SettlementNoteAdvice.	
SettlementNoteAdviceIncludesTaxItem	<b>0..*</b> TaxItem.taxItem <b>1</b> SettlementNoteAdvice.	

### SettlementNoteAdvice (JSON)

```
{
  "id": "26",
  "href": "http://serverlocation:port/BillingManagement/settlementNoteAdvice/26",
  "date": "2013-04-19T16:42:23.0Z",
  "description": "Settlement note â€“ From 2013/10/01 to 2013/10/31",
  "paymentDueDate": "2013-04-19T16:42:23.0Z",
  "taxDate": "2013-04-19T16:42:23.0Z",
  "currencyCode": "EUR",
  "taxExcludedAmount": 89933.25,
  "taxIncludedAmount": 107560.16,
  "taxItem": [
    {
      "taxCategory": "VAT",
      "taxRate": 19.6,
      "taxAmount": 17626.91
    }
  ],
  "settlementMethod": {
    "code": "NET",
    "label": "Netting"
  },
  "receiver": {
    "id": "63796",
    "href": "http://serverlocation:port/PartyManagement/partyRole/63796",
    "taxRegistration": {
      "number": "FR12345678912"
    }
  },
  "issuer": {
    "id": "0800",
    "href": "http://serverlocation:port/PartyManagement/partyRole/0800",
    "taxRegistration": {
      ...
    }
  }
}
```

```
        "number": "FR98765432178"
    },
    "settlementNoteImage": {
        "imageFormat": "pdf",
        "imageSize": 130,
        "imageFileName": "BungiornoFrance-2013October-1234",
        "imageFileURL":
"http://serverlocation:port/SettlementNoteImage/RQAAAABAAAAAAALryCQAbAAAAMAAxAF8ASQBuAHMAdA
BhAGwAb"
    },
    "settlementNoteItem": [
        {
            "itemNumber": "1",
            "itemId": "0815",
            "itemLabel": "Achats Gamifive",
            "quantity": 34873,
            "taxExcludedUnitPrice": 1.463,
            "taxExcludedAmount": 51019.2,
            "taxIncludedAmount": 61018.96,
            "taxItem": [
                {
                    "taxCategory": "VAT",
                    "taxRate": 19.6,
                    "taxAmount": 9999.76
                }
            ],
            "period": {
                "startPeriod": "2013-10-01T00:00:00.0Z",
                "endPeriod": "2013-10-31T00:00:00.0Z"
            },
            "productSpecification": {
                "name": "Gamifive",
                "productNumber": "17060"
            }
        },
        {
            "itemNumber": "2",
            "itemId": "0816",
            "itemLabel": "Achats iGirls TV",
            "quantity": 19001,
            "taxExcludedUnitPrice": 2.048,
            "taxExcludedAmount": 38914.05,
            "taxIncludedAmount": 46541.2,
            "period": {
                "startPeriod": "2013-10-01T00:00:00.0Z",
                "endPeriod": "2013-10-31T00:00:00.0Z"
            },
            "productSpecification": {
                "name": "iGirls TV",
                "productNumber": "17063"
            }
        }
    ]
}
```

```

    ]
}
```

## SettlementNoteAdviceEvent

*Database:*

Java, *Stereotype:* , *Package:* Billing Management

*Detail:*

*Created on* 02/10/2014. *Last modified on* 13/11/2014.

*Notes:*

The SettlementNoteAdvice event is generated each time a settlement note is created.

### Relationships

Columns	Association	Notes
SettlementNoteAdviceEvent	<b>1</b> SettlementNoteAdviceEvent.event <b>1</b> SettlementNoteAdviceNotification.	
SettlementNoteAdviceEventConcernsS ettlementNoteAdvice	<b>1</b> SettlementNoteAdvice.settlementNoteAdvice <b>1</b> SettlementNoteAdviceEvent.	

## SettlementNoteAdviceNotification

*Database:*

Java, *Stereotype:* , *Package:* Billing Management

*Detail:*

*Created on* 02/10/2014. *Last modified on* 13/11/2014.

*Notes:*

The SettlementNoteAdvice notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	SettlementNoteAdviceNotification. Notification.	
SettlementNoteAdviceEvent	<b>1</b> SettlementNoteAdviceEvent.event <b>1</b> SettlementNoteAdviceNotification.	

## SettlementNoteImage

*Database:*

Java, *Stereotype:* , *Package:* Billing Management

*Detail:*

*Created on* 02/10/2014. *Last modified on* 07/11/2014.

*Notes:*

Is the image of the settlement note

### Columns

Name	Type	Notes
imageFormat	String	The format of the settlement note image (csv, pdf, xls, txt...)
imageSize	Integer	The size of the settlement note image (in bytes)
imageFileName	String	The name of the file in which the settlement note image is saved.
ImageFileURL	String	The URL of the settlement note image

### Relationships

Columns	Association	Notes
---------	-------------	-------

Columns	Association	Notes
SettlementNoteAdviceHasImage	<b>1</b> SettlementNoteImage.settlementNoteImage <b>1</b> SettlementNoteAdvice.	

## SettlementNoteItem

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 02/10/2014. Last modified on 07/11/2014.  
*Notes:* Concerns a product identified by its catalogue reference. It could also follow a period delimited by a start and an end date.

### Columns

Name	Type	Notes
itemNumber	String	Unique number assigned to the settlement note item
ItemId	String	Unique identifier of the settlement note item
itemLabel	String	A free description text for the settlement note item
quantity	Integer	Quantity
taxExcludedUnitPrice	Float	Tax excluded unit price to be applied on the given quantity
taxExcludedAmount	Float	Tax excluded amount equal to quantity * taxExcludedUnitPrice
taxIncludedAmount	Float	All taxes included amount equal to taxExcludedAmount + taxAmount

### Relationships

Columns	Association	Notes
SettlementNoteAdviceIncludesItem	<b>0..*</b> SettlementNoteItem.settlementNoteItem <b>1</b> SettlementNoteAdvice.	
SettlementNoteItemAppliesOnPeriod	<b>1</b> Period.period <b>1</b> SettlementNoteItem.	
SettlementNoteItemIncludesTaxItem	<b>1..*</b> TaxItem.taxItem <b>1</b> SettlementNoteItem.	

## TaxItem

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 02/10/2014. Last modified on 07/11/2014.  
*Notes:* A tax item is created for each tax rate and tax type used in the settlement note.

### Columns

Name	Type	Notes
taxCategory	String	Tax category (for example VAT)
taxRate	Float	Tax rate
taxAmount	Float	Tax amount

### Relationships

Columns	Association	Notes
SettlementNoteAdviceIncludesTaxItem	<b>0..*</b> TaxItem.taxItem <b>1</b> SettlementNoteAdvice.	

Columns	Association	Notes
SettlementNoteItemIncludesTaxItem	<b>1..*</b> TaxItem.taxItem <b>1</b> SettlementNoteItem.	

## TaxRegistration

Database: Java, *Stereotype:* , *Package:* Billing Management  
 Detail: Created on 02/10/2014. Last modified on 07/11/2014.  
 Notes: The CSP and the partner could be registered with a tax number in a tax registration system.

### Columns

Name	Type	Notes
number	String	Tax registration number

### Relationships

Columns	Association	Notes
IssuerHasTaxRegistration	<b>1</b> TaxRegistration.taxRegistration <b>1</b> IssuerRef.	
ReceiverHasTaxRegistration	<b>1</b> TaxRegistration.taxRegistration <b>1</b> ReceiverRef.	

## Active

Database: Java, *Stereotype:* , *Package:* Billing Management  
 Detail: Created on 13/10/2014. Last modified on 13/10/2014.  
 Notes:

### Relationships

Columns	Association	Notes
	Defined. Active.	
BillingAccount update done	Pending Update. Active.	
BillingAccount update needing next bill cycle for updating	Active. Pending Update.	
Cancellation of all owned offers	Active. Pending closed.	
Reactivation	Suspended. Active.	
Suspension	Active. Suspended.	

## Closed

Database: Java, *Stereotype:* , *Package:* Billing Management  
 Detail: Created on 13/10/2014. Last modified on 13/10/2014.  
 Notes:

**Relationships**

Columns	Association	Notes
	Closed. Final.	
	Suspended. Closed.	
Invoice settled or debt transferred to hard dunning	Pending closed. Closed.	

**Defined**

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 13/10/2014. Last modified on 13/10/2014.  
*Notes:*

**Relationships**

Columns	Association	Notes
	Initial. Defined.	
	Defined. Active.	

**Pending Update**

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 13/10/2014. Last modified on 13/10/2014.  
*Notes:*

**Relationships**

Columns	Association	Notes
BillingAccount update done	Pending Update. Active.	
BillingAccount update needing next bill cycle for updating	Active. Pending Update.	

**Pending closed**

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 13/10/2014. Last modified on 13/10/2014.  
*Notes:*

**Relationships**

Columns	Association	Notes
Cancellation of all owned offers	Active. Pending closed.	

Columns	Association	Notes
Invoice settled or debt transferred to hard dunning	Pending closed. Closed.	

## Suspended

*Database:* Java, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 13/10/2014. Last modified on 13/10/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
	Suspended. Closed.	
Reactivation	Suspended. Active.	
Suspension	Active. Suspended.	

## Final

*Database:* <none>, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 13/10/2014. Last modified on 13/10/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
	Closed. Final.	

## Initial

*Database:* <none>, *Stereotype:* , *Package:* Billing Management  
*Detail:* Created on 13/10/2014. Last modified on 13/10/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
	Initial. Defined.	

## Common

*Type:* **Package**  
*Package:* ODE model  
*Detail:* Created on 01/10/2014. Last modified on 13/11/2014.

*Notes:* Common gathers all entities shared by several packages

### ExportJob resource

*Created By:* yvaf6294 on 13/11/2014

*Last Modified:* 13/11/2014, *Version:*1.0

UML representation of the ExportJob resource



Figure: 10

### ImportJob resource

*Created By:* yvaf6294 on 13/11/2014

*Last Modified:* 13/11/2014, *Version:*1.0

UML representation of ImportJob resource

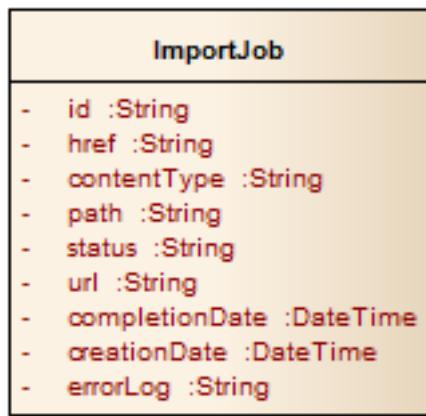


Figure: 11

### Job notification resource

*Created By:* yvaf6294 on 13/11/2014

*Last Modified:* 13/11/2014, *Version:*1.0

UML representation of the Job notification resource

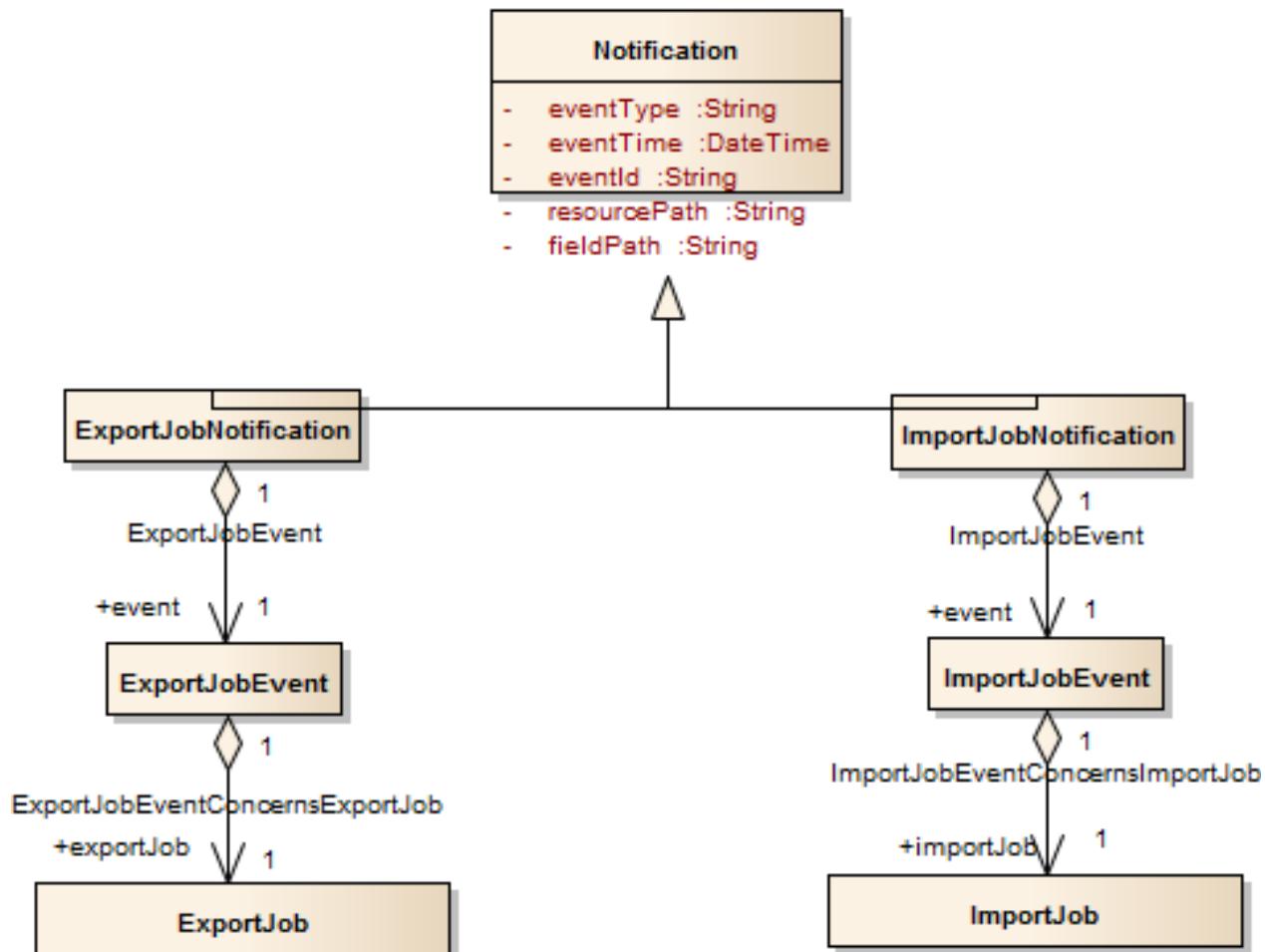


Figure: 12

## AlarmRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 04/12/2014. Last modified on 04/12/2014.  
*Notes:* Alarm reference

### Columns

Name	Type	Notes
id	String	Identifier of the alarm
href	String	Reference of the alarm

### Relationships

Columns	Association	Notes
EquipmentHasAlarm	0..* AlarmRef.supportingAlarm 0..* Equipment.	

## AsapRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 04/12/2014. Last modified on 04/12/2014.  
*Notes:* Alarm Severity Assignment Profile reference

#### Columns

Name	Type	Notes
id	String	Unique identifier of ASAP
href	String	Reference of the ASAP

#### Relationships

Columns	Association	Notes
EquipmentHasAsap	<b>0..1</b> AsapRef.asap <b>0..*</b> Equipment.	

## AttachmentRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 10/10/2014. Last modified on 27/11/2014.  
*Notes:* Attachement reference. Attachement describes a product through video, pictures...

#### Columns

Name	Type	Notes
href	String	
description	String	

#### Relationships

Columns	Association	Notes
ViolationHasAttachment	<b>1</b> AttachmentRef.attachment <b>1</b> Violation.	

## BillingAccountRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 19/11/2014. Last modified on 19/11/2014.  
*Notes:* BillingAccount reference. A BillingAccount is a detailed description of a customer's bill structure.

#### Columns

Name	Type	Notes
id	String	Unique identifier of the billing account
href	String	Reference of the billing account
name	String	Name of the billing account

#### Relationships

Columns	Association	Notes
OIHasBillingAccount	<b>0..*</b> BillingAccountRef.billingAccount <b>1</b> OrderItem.	
ProductHasBillingAccount	<b>0..*</b> BillingAccountRef.billingAccount <b>1</b> Product.	

## BundledProductOfferingRef

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 19/11/2014. Last modified on 19/11/2014.  
**Notes:** BundledProductOffering Reference. A type of ProductOffering that belongs to a grouping of ProductOfferings made available to the market. It inherits of all attributes of ProductOffering.

### Relationships

Columns	Association	Notes
	BundledProductOfferingRef. ProductOfferingRef.	
POHasBundledProductOffering	<b>0..*</b> BundledProductOfferingRef.bundledProduct Offering <b>1..*</b> ProductOfferingRef.	

## CategoryRef

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 17/11/2014. Last modified on 19/11/2014.  
**Notes:** 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.

### Columns

Name	Type	Notes
id	String	Unique reference of the category
href	String	Unique reference of the category
version	String	Category version
name	String	Name of the category

### Relationships

Columns	Association	Notes
CatalogHasCategory	<b>0..*</b> CategoryRef.category <b>1</b> Catalog.	
POHasCategory	<b>0..*</b> CategoryRef.category <b>1</b> ProductOffering.	

## ChannelRef

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 17/11/2014. Last modified on 19/11/2014.  
**Notes:** Channel reference. The channel defines the channel for selling product offerings.

### Columns

Name	Type	Notes
id	String	Unique identifier of the channel
href	String	Reference of the channel
name	String	Name of the channel

### Relationships

Columns	Association	Notes
POHasChannel	<b>0..*</b> ChannelRef.channel <b>1</b> ProductOffering.	

## Characteristic

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* *Created on* 01/10/2014. *Last modified on* 13/11/2014.

*Notes:* Describes the characteristics of an individual or an organization such as individual hobbies, center of interests.

### Columns

Name	Type	Notes
name	String	Name of the characteristic
value	String	Value of the characteristic

### Relationships

Columns	Association	Notes
	Customer. Characteristic.	
CustomerHasCharacteristic	<b>0..*</b> Characteristic.characteristic <b>1</b> Customer.	
IndividualHasCharacteristic	<b>0..*</b> Characteristic.characteristic <b>1</b> Individual.	
OrganizationHasCharacteristic	<b>0..*</b> Characteristic.characteristic <b>1</b> Organization.	

## Contact

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* *Created on* 01/10/2014. *Last modified on* 14/11/2014.

*Notes:* An individual or an organization used as a contact point for a customer account and accessed via some contact medium.

### Columns

Name	Type	Notes
contactType	String	Type of contact (primary, secondary...)
validFor	TimePeriod	Validity period of that contact
contactName	String	A displayable name for that contact
partyRoleType	String	Identifies what kind of party role type is linked to the contact (a customer account manager...)

### Relationships

Columns	Association	Notes
ContactConcernsRelatedParty	<b>0..1</b> RelatedPartyRef.relatedParty <b>0..*</b> Contact.	
ContactHasContactMedium	<b>0..*</b> ContactMedium.contactMedium <b>0..1</b> Contact.	

Columns	Association	Notes
CustomerAccountHasContact	<b>0..*</b> Contact.contact <b>1</b> CustomerAccount.	

## ContactMedium

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.

*Notes:* Indicates the contact medium that could be used to contact the customer.

### Columns

Name	Type	Notes
preferred	Boolean	If true, indicates that is the preferred contact medium
type	String	Email address, telephone number, postal address
validFor	TimePeriod	The time period that the contact medium is valid for

### Relationships

Columns	Association	Notes
ContactHasContactMedium	<b>0..*</b> ContactMedium.contactMedium <b>0..1</b> Contact.	
ContactMediumIsDescribedByMedium	<b>0..1</b> Medium.medium <b>0..1</b> ContactMedium.	
CustomerOwnsContactMedium	<b>0..*</b> ContactMedium.contactMedium <b>1</b> Customer.	
IndividualHasContactMedium	<b>0..*</b> ContactMedium.contactMedium <b>1</b> Individual.	
OrganizationHasContactMedium	<b>0..*</b> ContactMedium.contactMedium <b>1</b> Organization.	

## Currency

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 02/10/2014. Last modified on 07/11/2014.

*Notes:* A base / Value business entity used to represent currency

### Columns

Name	Type	Notes
currencyCode	String	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).

### Relationships

Columns	Association	Notes
BillingAccountHasCurrency	<b>1</b> Currency.currency <b>1</b> BillingAccount.	

## CustomerAccountRef

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 01/10/2014. Last modified on 19/11/2014.  
**Notes:** CustomerAccount reference. CustomerAccount is used to represent an account for the customer to manage the billing aspects.

### Columns

Name	Type	Notes
id	String	Unique identifier of the customer account
href	String	Unique reference of the customer account
name	String	Name of the customer account
description	String	Detailed description of the customer account
status	String	The condition of the account, such as due, paid, in arrears, in collection

### Relationships

Columns	Association	Notes
BillingAccountIsLinkedToCustomerAccount	<b>1</b> CustomerAccountRef.customerAccount <b>1</b> BillingAccount.	
CustomerAccountRelationshipConcernsCustomerAccount	<b>0..*</b> CustomerAccountRef.customerAccount <b>1</b> CustomerAccountRelationship.	
CustomerOwnsCustomerAccount	<b>0..*</b> CustomerAccountRef.customerAccount <b>1</b> Customer.	

## CustomerBillFormatRef

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 02/10/2014. Last modified on 19/11/2014.  
**Notes:** Customer bill format reference. Customer bill format is a detailed description of the way in which a customer's bill is presented.

### Columns

Name	Type	Notes
id	String	Unique identifier of the customer bill format
href	String	Reference of the customer bill format
name	String	A short descriptive name

### Relationships

Columns	Association	Notes
BillingAccountHasBillFormat	<b>1</b> CustomerBillFormatRef.customerBillFormat <b>1</b> BillingAccount.	

## CustomerBillPresentationMediaRef

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 02/10/2014. Last modified on 19/11/2014.  
**Notes:** Customer bill presentation media reference. CustomerBillPresentationMedia is a mean of communicating a customer bill, supported by the associated bill format. For example, post mail, email, web page.

**Columns**

Name	Type	Notes
id	String	Unique identifier of the customer bill presentation media
href	String	Reference of the customer bill presentation media
name	String	A short descriptive name

**Relationships**

Columns	Association	Notes
BillingAccountHasBillPresentationMedia	<b>1</b> CustomerBillPresentationMediaRef.customer BillPresentationMedia <b>1</b> BillingAccount.	

## CustomerBillingCycleSpecificationRef

**Database:** Java, **Stereotype:** , **Package:** Common**Detail:** *Created on 02/10/2014. Last modified on 19/11/2014.***Notes:** CustomerBillingCycleSpecification reference. CustomerBillingCycleSpecification is a detailed description of when to initiate a billing cycle and the various sub steps of a billing cycle.**Columns**

Name	Type	Notes
id	String	Unique identifier of the customer billing cycle specification
href	String	Reference of the customer billing cycle specification
name	String	A short descriptive name

**Relationships**

Columns	Association	Notes
BillingAccountHasBillingCycle	<b>1</b> CustomerBillingCycleSpecificationRef.customerBillingCycleSpecification <b>1</b> BillingAccount.	

## CustomerRef

**Database:** Java, **Stereotype:** , **Package:** Common**Detail:** *Created on 01/10/2014. Last modified on 19/11/2014.***Notes:** Customer reference. A customer is a person or an organization that buys products or services from the enterprise or receives free offers or services. This is modeled as a party playing the role of customer.**Columns**

Name	Type	Notes
id	String	Unique identifier of the customer
href	String	Unique reference of the customer
name	String	Displayable name
description	String	Detailed description of the customer

### Relationships

Columns	Association	Notes
CustomerAccountIsOwnedByCustomer	<b>0..1</b> CustomerRef.customer <b>0..*</b> CustomerAccount.	

## EquipmentRef

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 03/12/2014. Last modified on 03/12/2014.

*Notes:* EquipmentRef is a reference to the physical equipment that supports the TPE

### Columns

Name	Type	Notes
id	String	Identifier of the equipment
href	String	Reference of the equipment

### Relationships

Columns	Association	Notes
TPEHasSupportingEquipment	<b>0..*</b> EquipmentRef.supportingEquipment <b>1</b> TerminationPointEncapsulation.	

## ExportJob

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 13/11/2014. Last modified on 13/11/2014.

*Notes:* Represents a task used to export resources to a file

### Columns

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

### Relationships

Columns	Association	Notes
ExportJobEventConcernsExportJob	<b>1</b> ExportJob.exportJob <b>1</b> ExportJobEvent.	

## ExportJobEvent

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 13/11/2014. Last modified on 13/11/2014.  
*Notes:* The ExportJobEvent is generated each time an ExportJob task has been created.

### Relationships

Columns	Association	Notes
ExportJobEvent	<b>1</b> ExportJobEvent.event <b>1</b> ExportJobNotification.	
ExportJobEventConcernsExportJob	<b>1</b> ExportJob.exportJob <b>1</b> ExportJobEvent.	

## ExportJobNotification

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 13/11/2014. Last modified on 13/11/2014.  
*Notes:* This notification is sent to each listener who has subscribed to receive ExportJob notifications

### Relationships

Columns	Association	Notes
	ExportJobNotification. Notification.	
ExportJobEvent	<b>1</b> ExportJobEvent.event <b>1</b> ExportJobNotification.	

## ImportJob

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 13/11/2014. Last modified on 13/11/2014.  
*Notes:* Represents a task used to import resources from a file

### Columns

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

### Relationships

Columns	Association	Notes
---------	-------------	-------

Columns	Association	Notes
ImportJobEventConcernsImportJob	<b>1</b> ImportJob.importJob <b>1</b> ImportJobEvent.	

## ImportJobEvent

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 13/11/2014. Last modified on 13/11/2014.

*Notes:* TheImportJobEvent is generated each time an ImportJob task has been created.

### Relationships

Columns	Association	Notes
ImportJobEvent	<b>1</b> ImportJobEvent.event <b>1</b> ImportJobNotification.	
ImportJobEventConcernsImportJob	<b>1</b> ImportJob.importJob <b>1</b> ImportJobEvent.	

## ImportJobNotification

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 13/11/2014. Last modified on 13/11/2014.

*Notes:* This notification is sent to each listener who has subscribed to receive ImportJob notifications

### Relationships

Columns	Association	Notes
	ImportJobNotification. Notification.	
ImportJobEvent	<b>1</b> ImportJobEvent.event <b>1</b> ImportJobNotification.	

## IssuerRef

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 02/10/2014. Last modified on 19/11/2014.

*Notes:* Issuer reference. The issuer is the party role who will issue the settlement note.

### Columns

Name	Type	Notes
id	String	Identifier of the issuer
href	String	Reference of the issuer

### Relationships

Columns	Association	Notes
IssuerHasTaxRegistration	<b>1</b> TaxRegistration.taxRegistration <b>1</b> IssuerRef.	
SettlementNoteAdviceHasIssuer	<b>1</b> IssuerRef.issuer <b>1</b> SettlementNoteAdvice.	

## Medium

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 01/10/2014. Last modified on 12/11/2014.  
**Notes:** Describes the contact medium that could be used to contact the customer

### Columns

Name	Type	Notes
city	String	City
country	String	Country
emailAddress	String	Full email address in standard format
type	String	Type of medium (fax, mobile phone...)
number	String	Phone number
postcode	String	Postcode
stateOrProvince	String	State or province
street1	String	Describes the street
street2	String	Complementary street description

### Relationships

Columns	Association	Notes
ContactMediumIsDescribedByMedium	<b>0..1</b> Medium.medium <b>0..1</b> ContactMedium.	

## Note

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 10/10/2014. Last modified on 19/11/2014.  
**Notes:** Extra information about the ticket or a product order

### Columns

Name	Type	Notes
date	DateTime	Date of the note
author	String	Author of the note
text	String	Text of the note

### Relationships

Columns	Association	Notes
POHasNote	<b>0..*</b> Note.note <b>1</b> ProductOrder.	
TicketHasNote	<b>0..*</b> Note.note <b>1</b> Ticket.	

## Notification

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 01/10/2014. Last modified on 14/11/2014.  
**Notes:** The notification is sent to each listener who has subscribed to receive it.

### Columns

Name	Type	Notes
eventType	String	Type of event
eventTime	DateTime	Creation date of the event
eventId	String	Identifier of the event
resourcePath	String	To indicate which entity is concerned
fieldPath	String	details which field is missing, its structure is quite similar to GET filter criteria

### Relationships

Columns	Association	Notes
	CustomerCreateNotification. Notification.	
	CustomerUpdateNotification. Notification.	
	CustomerDeleteNotification. Notification.	
	CustomerAccountCreateNotification. Notification.	
	CustomerAccountUpdateNotification. Notification.	
	CustomerAccountDeleteNotification. Notification.	
	PaymentMeanCreateNotification. Notification.	
	PaymentMeanUpdateNotification. Notification.	
	PaymentMeanDeleteNotification. Notification.	
	IndividualCreateNotification. Notification.	
	IndividualUpdateNotification. Notification.	
	IndividualDeleteNotification. Notification.	
	OrganizationCreateNotification. Notification.	
	OrganizationUpdateNotification. Notification.	
	OrganizationDeleteNotification. Notification.	
	BillingAccountStateChangeNotification. Notification.	
	SettlementNoteAdviceNotification. Notification.	
	SLAViolationCreateNotification. Notification.	
	TicketStateChangeNotification. Notification.	
	TicketUpdateNotification. Notification.	
	TicketClearanceRequestNotification. Notification.	

Columns	Association	Notes
	TicketInformationRequiredNotification. Notification.	
	ExportJobNotification. Notification.	
	ImportJobNotification. Notification.	
	CatalogChangeNotification. Notification.	
	CatalogChangeBatchNotification. Notification.	
	ProductOrderCreationNotification. Notification.	
	ProductOrderRemoveNotification. Notification.	
	ProductOrderStateChangeNotification. Notification.	
	ProductOrderValueChangeNotification. Notification.	
n.	ProductOrderInformationRequiredNotificatio n. Notification.	
	ProductCreationNotification. Notification.	
	ProductStatusChangeNotification. Notification.	
	ProductValueChangeNotification. Notification.	
	ProductDeletionNotification. Notification.	
	ProductBatchNotification. Notification.	
	ResourceCreationNotification. Notification.	
	ResourceStateChange. Notification.	
	ResourceValueChangeNotification. Notification.	
	ResourceDeletionNotification. Notification.	

## PaymentMeanRef

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 01/10/2014. Last modified on 14/11/2014.  
**Notes:** PaymentMean reference. PaymentMean defines a specific mean of payment (e.g direct debit with all details associated).

### Columns

Name	Type	Notes
id	String	Unique identifier of the payment mean
href	String	Reference of the payment mean

name	String	Name of the payment mean
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**Relationships**

Columns	Association	Notes
BillingAccountHasPaymentMean	<b>1</b> PaymentMeanRef.paymentMean <b>1</b> BillingAccount.	
CustomerOwnsPaymentMean	<b>0..*</b> PaymentMeanRef.paymentMean <b>1</b> Customer.	
PaymentPlanHasPaymentMean	<b>1</b> PaymentMeanRef.paymentMean <b>0..*</b> PaymentPlan.	

## Period

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 02/10/2014. Last modified on 07/11/2014.  
*Notes:* Defines the period of a recurring charge

**Columns**

Name	Type	Notes
startPeriod	DateTime	Start date of the period
endPeriod	DateTime	end date of the period

**Relationships**

Columns	Association	Notes
BillingChargeAppliesOnPeriod	<b>0..*</b> Period.period <b>1</b> AppliedCustomerBillingCharge.	
SettlementNoteItemAppliesOnPeriod	<b>1</b> Period.period <b>1</b> SettlementNoteItem.	

## PlaceRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 17/11/2014. Last modified on 19/11/2014.  
*Notes:* Place reference. Place defines the places where the product offerings are sold.

**Columns**

Name	Type	Notes
id	String	Unique identifier of the place
href	String	Unique reference of the place
name	String	Name of the place

**Relationships**

Columns	Association	Notes
POHasPlace	<b>0..*</b> PlaceRef.place <b>1</b> ProductOffering.	

## ProductOfferingRef

*Database:* Java, *Stereotype:* , *Package:* Common

**Detail:** *Created on 19/11/2014. Last modified on 19/11/2014.*

**Notes:** ProductOffering reference. A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

#### Columns

Name	Type	Notes
id	String	Unique identifier of the product offering
href	String	Reference of the product offering
name	String	Name of the product offering

#### Relationships

Columns	Association	Notes
	BundledProductOfferingRef. ProductOfferingRef.	
OIHasProductOffering	<b>1</b> ProductOfferingRef.productOffering <b>0..*</b> OrderItem.	
POHasBundledProductOffering	<b>0..*</b> BundledProductOfferingRef.bundledProductOffering <b>1..*</b> ProductOfferingRef.	
ProductHasProductOffering	<b>1</b> ProductOfferingRef.productOffering <b>0..*</b> Product.	

## ProductRef

**Database:** Java, **Stereotype:** , **Package:** Common

**Detail:** *Created on 20/11/2014. Last modified on 20/11/2014.*

**Notes:** 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

Nota : 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.

#### Columns

Name	Type	Notes
id	String	Unique identifier of the product
href	String	Reference of the product

#### Relationships

Columns	Association	Notes
OIHasProduct	<b>1</b> ProductRef.product <b>0..*</b> OrderItem.	
ProductHasCharacteristic	<b>0..*</b> ProductCharacteristic.characteristic <b>1</b> ProductRef.	
ProductHasPlace	<b>0..1</b> Place.place <b>0..*</b> ProductRef.	
ProductHasProductRelationship	<b>0..*</b> ProductRelationship.productRelationship <b>1</b> ProductRef.	
ProductHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty	

Columns	Association	Notes
	<b>0..*</b> ProductRef.	
ProductRelationshipConcernsProduct	<b>1</b> ProductRef.product <b>0..*</b> ProductRelationship.	

## ProductSpecificationRef

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 17/11/2014. Last modified on 21/11/2014.

*Notes:* 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.

### Columns

Name	Type	Notes
id	String	Unique identifier of the product specification
href	String	Reference of the product specification
version	String	Version of the product specification
name	String	Name of the product specification

### Relationships

Columns	Association	Notes
POHasProductSpecification	<b>0..1</b> ProductSpecificationRef.productSpecification n <b>1</b> ProductOffering.	
ProductHasProductSpecification	<b>1</b> ProductSpecificationRef.productSpecification n <b>1</b> Product.	

## RealizingResourceRef

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 26/11/2014. Last modified on 28/11/2014.

*Notes:* RealizingResource reference. RealizingResource is a link to the resource that realizes the product.

### Columns

Name	Type	Notes
id	String	Unique identifier of the resource
href	String	Reference of the resource

### Relationships

Columns	Association	Notes
ProductHasResource	<b>0..*</b> RealizingResourceRef.realizingResource <b>1</b> Product.	

## RealizingServiceRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 26/11/2014. Last modified on 28/11/2014.  
*Notes:* RealizingService reference. RealizingService is a link to the service that realizes the product.

#### Columns

Name	Type	Notes
id	String	Unique identifier of the service
href	String	Reference of the service

#### Relationships

Columns	Association	Notes
ProductHasService	<b>0..*</b> RealizingServiceRef.realizingService <b>1</b> Product.	

## ReceiverRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 02/10/2014. Last modified on 19/11/2014.  
*Notes:* Receiver reference. The receiver is the party role who will receive the settlement note.

#### Columns

Name	Type	Notes
id	String	Identifier of the receiver
href	String	Reference of the receiver

#### Relationships

Columns	Association	Notes
ReceiverHasTaxRegistration	<b>1</b> TaxRegistration.taxRegistration <b>1</b> ReceiverRef.	
SettlementNoteAdviceHasReceiver	<b>1</b> ReceiverRef.receiver <b>1</b> SettlementNoteAdvice.	

## RelatedPartyRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 01/10/2014. Last modified on 21/11/2014.  
*Notes:* RelatedParty reference. RelatedParty defines party or party role linked to a specific entity.

#### Columns

Name	Type	Notes
id	String	Unique identifier of a related party
href	String	Reference of the related party, could be a party reference or a partyRole reference
role	String	Role of the related party.
name	String	Name of the related party
validFor	TimePeriod	Validity period of the related party

#### Relationships

Columns	Association	Notes

Columns	Association	Notes
BillingAccountHasRelatedParty	<b>1..*</b> RelatedPartyRef.relatedParty <b>1</b> BillingAccount.	
CatalogHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> Catalog.	
ContactConcernsRelatedParty	<b>0..1</b> RelatedPartyRef.relatedParty <b>0..*</b> Contact.	
CustomerHasRelatedParty	<b>1</b> RelatedPartyRef.relatedParty <b>1</b> Customer.	
IndividualHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> Individual.	
OrganizaionHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> Organization.	
PaymentMeanConcernsRelatedParty	<b>0..1</b> RelatedPartyRef.relatedParty <b>1</b> PaymentMean.	
POHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>0..*</b> ProductOrder.	
ProductHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>0..*</b> ProductRef.	
ProductHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedparty <b>0..*</b> Product.	
PSHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> ProductSpecification.	
SLAHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> ServiceLevelAgreement.	
SLAViolationHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> SLAViolation.	
TicketHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> Ticket.	
UsageHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>0..*</b> Usage.	

## ResourceBaseRef

**Database:** Java, **Stereotype:** , **Package:** Common  
**Detail:** Created on 03/12/2014. Last modified on 03/12/2014.  
**Notes:** ResourceBase reference. ResourceBase is an abstract resource that does not support any uniform creation or operation.

### Columns

Name	Type	Notes
id	String	Identifier of the ResourceBase
href	String	Reference of the ResourceBase

### Relationships

Columns	Association	Notes
ResourceBaseRelationshipHasResourceBase	<b>1</b> ResourceBaseRef.resourceBaseRef <b>0..*</b> ResourceBaseRelationship.	

## ResourceCandidateRef

**Database:** Java, **Stereotype:** , **Package:** Common

*Detail:* Created on 17/11/2014. Last modified on 19/11/2014.

*Notes:* ResourceCandidate reference: A resource candidate is an entity that makes a ResourceSpecification available to a catalog.

#### Columns

Name	Type	Notes
id	String	Unique identifier of the resource candidate
href	String	Reference of the resource candidate
version	String	Version of the resource candidate
name	String	Name of the resource candidate

#### Relationships

Columns	Association	Notes
POHasResourceCandidate	<b>0..1</b> ResourceCandidateRef.resourceCandidate <b>1</b> ProductOffering.	

## ResourceSpecificationRef

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 18/11/2014. Last modified on 04/12/2014.

*Notes:* Resource Specification reference: The ResourceSpecification is required to realize a ProductSpecification.

#### Columns

Name	Type	Notes
id	String	Unique identifier of the resource specification
href	String	Reference of the resource specification
name	String	Name of the requiredResourceSpecification
version	String	Resource specification version

#### Relationships

Columns	Association	Notes
PSHasResourceSpecification	<b>0..*</b> ResourceSpecificationRef.resourceSpecification <b>1</b> ProductSpecification.	
ResourceBaseHasResourceSpecification	<b>0..1</b> ResourceSpecificationRef.resourceSpecification <b>1</b> ResourceBase.	

## RuleRef

*Database:* Java, *Stereotype:* , *Package:* Common

*Detail:* Created on 10/10/2014. Last modified on 27/11/2014.

*Notes:* Rule reference. Rule is a common pattern or Template for the SLA parameters, metrics, and thresholds

#### Columns

Name	Type	Notes
href	String	

description	String	
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**Relationships**

Columns	Association	Notes
ViolationHasRule	<b>1</b> RuleRef.rule <b>1</b> Violation.	

## SLARef

*Database:*Java, *Stereotype:* , *Package:* Common*Detail:**Created on* 10/10/2014. *Last modified on* 27/11/2014.*Notes:*

SLA reference. SLA is part of a business agreement between a Service Provider and a Customer, quantitatively specifying the service performance level the Service Provider commits to deliver.

**Columns**

Name	Type	Notes
href	String	
description	String	

**Relationships**

Columns	Association	Notes
SLAViolationConcernsSLA	<b>1</b> SLARef.sla <b>1</b> SLAViolation.	

## ServiceCandidateRef

*Database:*Java, *Stereotype:* , *Package:* Common*Detail:**Created on* 17/11/2014. *Last modified on* 19/11/2014.*Notes:*

ServiceCandidate reference. ServiceCandidate is an entity that makes a ServiceSpecification available to a catalog.

**Columns**

Name	Type	Notes
id	String	Unique identifier of the service candidate
href	String	Unique reference of the service candidate
version	String	Version of the service candidate
name	String	Name of the service candidate

**Relationships**

Columns	Association	Notes
POHasServiceCandidate	<b>0..1</b> ServiceCandidateRef.serviceCandidate <b>1</b> ProductOffering.	

## ServiceId

*Database:*Java, *Stereotype:* , *Package:* Common*Detail:**Created on* 02/10/2014. *Last modified on* 07/11/2014.*Notes:*

Defines the identifier of the service.

**Columns**

Name	Type	Notes
id	String	Identifier of the service
type	String	Type of the service identifier (e.g. mobile number)

**Relationships**

Columns	Association	Notes
BillingChargeConcernsServiceId	<b>0..*</b> ServiceId.serviceId <b>1</b> AppliedCustomerBillingCharge.	

## ServiceLevelAgreementRef

Database: Java, *Stereotype:* , *Package:* Common

Detail: Created on 17/11/2014. Last modified on 19/11/2014.

Notes: ServiceLevelAgreement reference: A service level agreement (SLA) is a type of agreement that represents a formal negotiated agreement between two parties designed to create a common understanding about products, services, priorities, responsibilities, and so forth. The SLA is a set of appropriate procedures and targets formally or informally agreed between parties in order to achieve and maintain specified Quality of Service.

**Columns**

Name	Type	Notes
id	String	Unique identifier of service level agreement
href	String	Reference of the service level agreement
name	String	Name of the service level agreement

**Relationships**

Columns	Association	Notes
POHasServiceLevelAgreement	<b>1</b> ServiceLevelAgreementRef.serviceLevelAgreement <b>1</b> ProductOffering.	

## ServiceSpecificationRef

Database: Java, *Stereotype:* , *Package:* Common

Detail: Created on 18/11/2014. Last modified on 19/11/2014.

Notes: Service specification reference: ServiceSpecification(s) required to realize a ProductSpecification.

**Columns**

Name	Type	Notes
id	String	Unique identifier of the service specification
href	String	Reference of the serviceSpecification
name	String	Name of the requiredServiceSpecification
version	String	Service specification version

**Relationships**

Columns	Association	Notes
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Columns	Association	Notes
PSHasServiceSpecification	<b>0..*</b> ServiceSpecificationRef.serviceSpecification <b>1</b> ProductSpecification.	

## TemplateRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 10/10/2014. Last modified on 19/11/2014.  
*Notes:*

### Columns

Name	Type	Notes
id	String	
href	String	
name	String	
description	String	

### Relationships

Columns	Association	Notes
SLAHasTemplate	<b>1</b> TemplateRef.template <b>1</b> ServiceLevelAgreement.	

## TimePeriod

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 03/12/2014. Last modified on 03/12/2014.  
*Notes:* A base / value business entity used to represent a period of time between two timepoints.

### Columns

Name	Type	Notes
startDate	DateTime	An instant of time, starting at the TimePeriod
endDate	DateTime	An instant of time, ending at the TimePeriod.

## UsageSpecificationRef

*Database:* Java, *Stereotype:* , *Package:* Common  
*Detail:* Created on 24/11/2014. Last modified on 24/11/2014.  
*Notes:* 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.

### Columns

Name	Type	Notes
name	String	The name of the usage specification
id	String	Usage specification unique identifier
href	String	Reference of usage specification

### Relationships

Columns	Association	Notes
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Columns	Association	Notes
UsageHasUsageSpecification	<p><b>0..1</b> UsageSpecificationRef.usageSpecification</p> <p><b>1</b> Usage.</p>	

## Customer Management

Type: **Package**

Package: ODE model

Detail: Created on 01/10/2014. Last modified on 14/11/2014.

Notes: The Customer Management package manages the customers, their customer accounts and their payment means.

### Customer ressource

Created By: yvaf6294 on 01/10/2014

Last Modified: 14/11/2014, Version: 1.0

UML representation of a customer resource

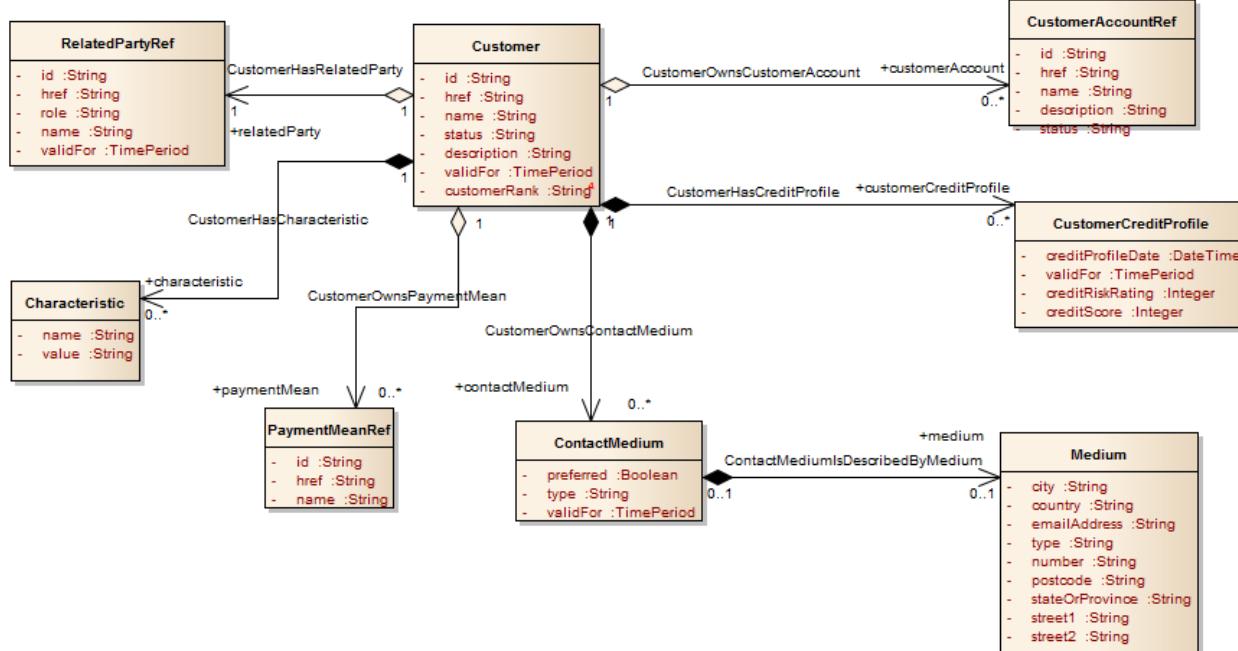


Figure: 13

### Customer notification resource

Created By: yvaf6294 on 01/10/2014

Last Modified: 14/11/2014, Version: 1.0

UML representation of a customer notification resource

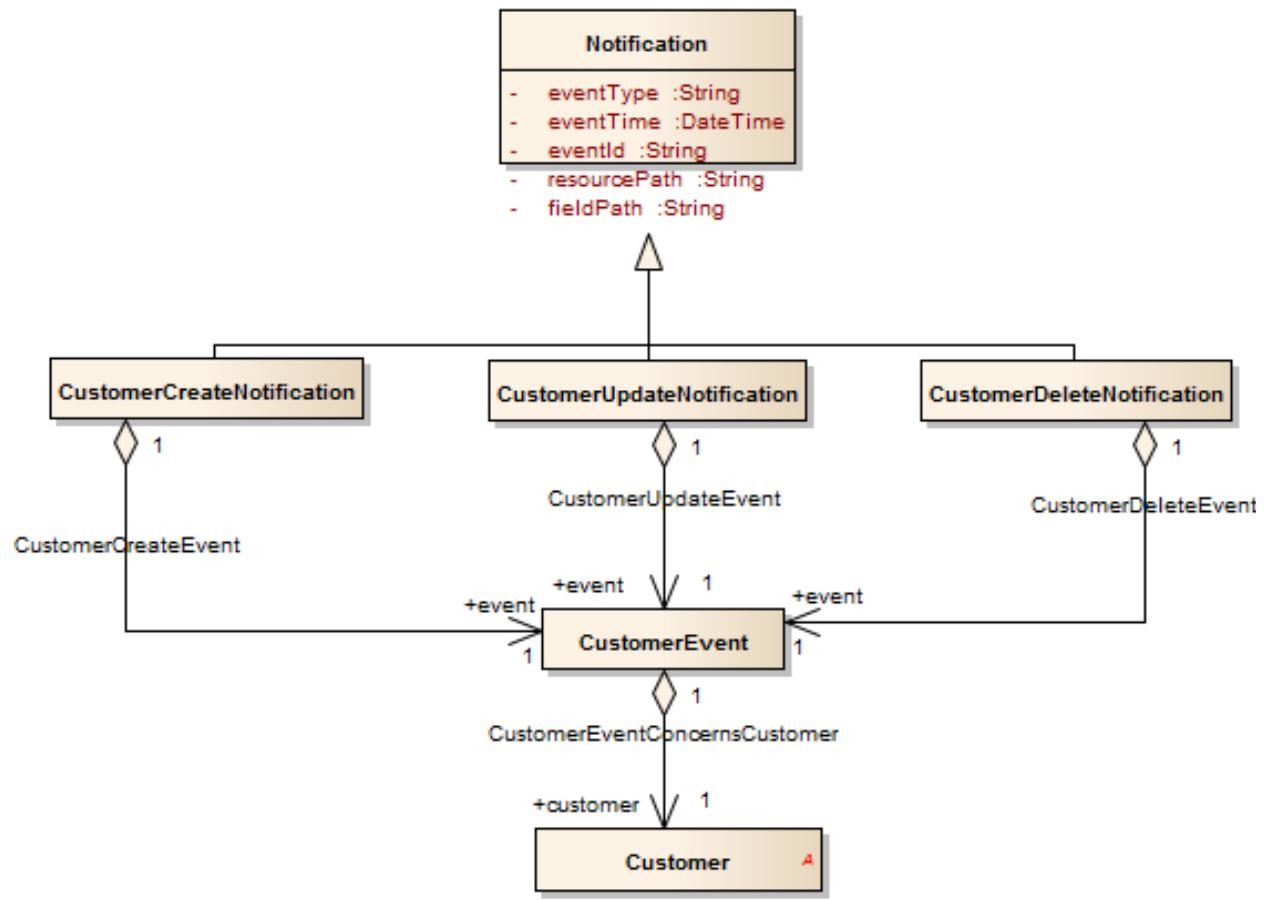


Figure: 14

### CustomerAccount resource

*Created By:* yvaf6294 on 01/10/2014

*Last Modified:* 14/11/2014, *Version:* 1.0

UML representation of a customer account resource

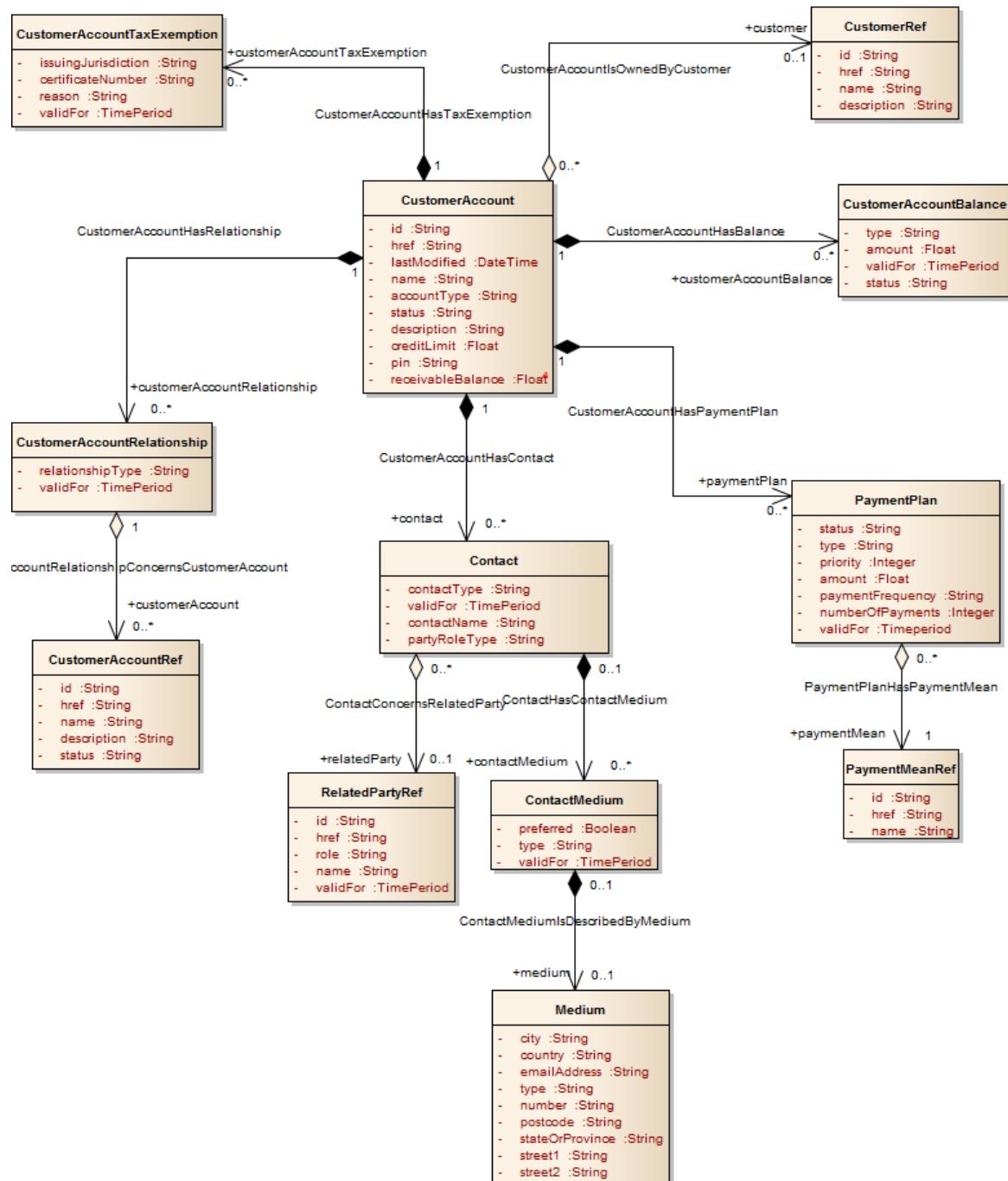


Figure: 15

## **CustomerAccount notification resource**

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*Created By:* yvaf6294 on 01/10/2014

Last Modified: 14/11/2014, Version: 1.0

UML representation of a customer account notification resource

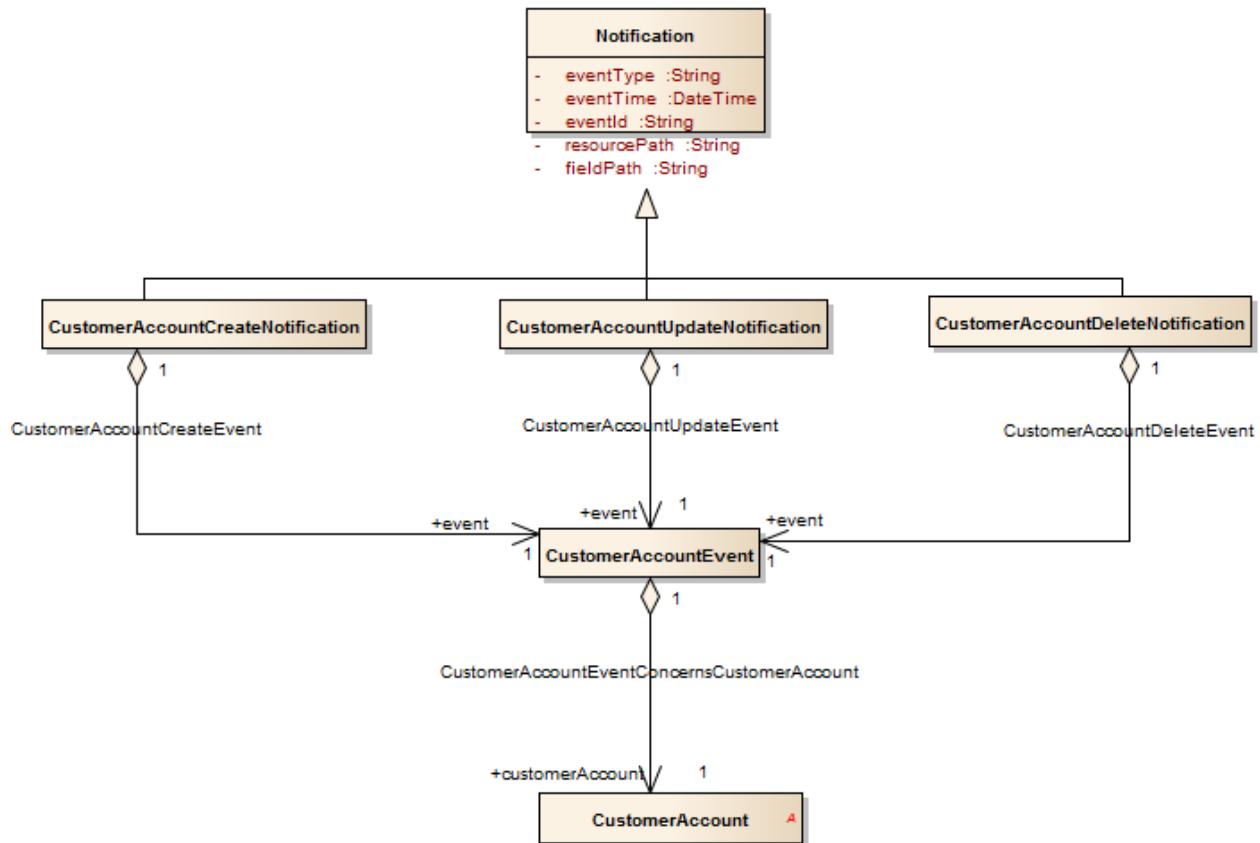


Figure: 16

### PaymentMean resource

*Created By:* yvaf6294 on 01/10/2014

*Last Modified:* 14/11/2014, *Version:*1.0

UML representation of a payment mean resource

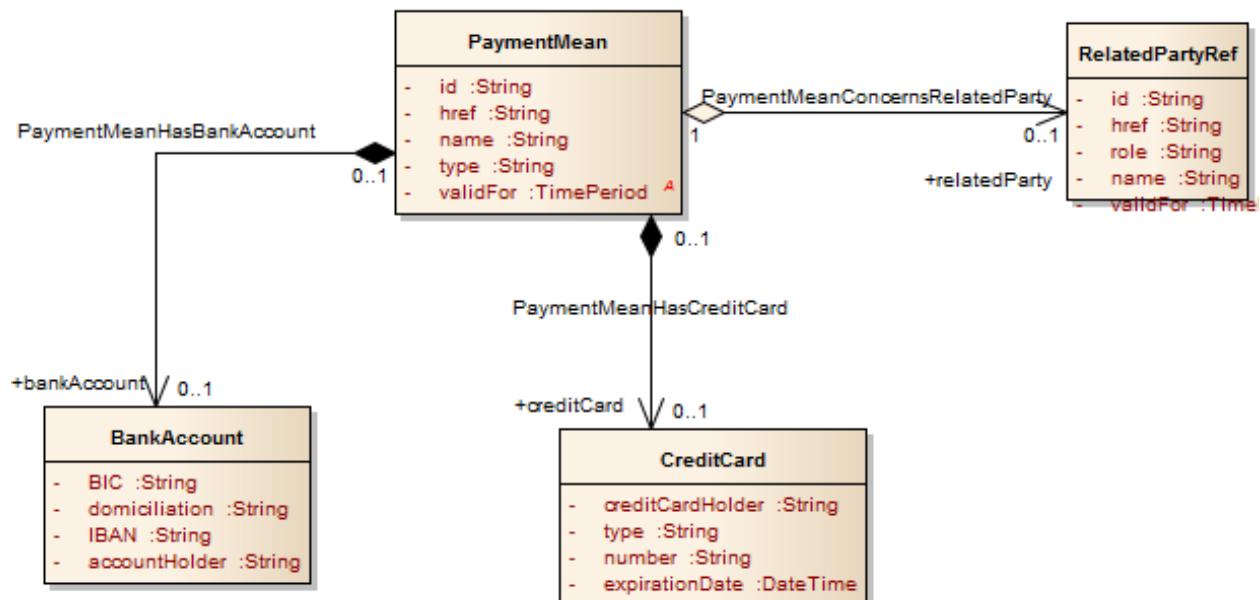


Figure: 17

**PaymentMean notification resource**

Created By: yvaf6294 on 01/10/2014

Last Modified: 14/11/2014, Version: 1.0

UML representation of a payment mean notification resource

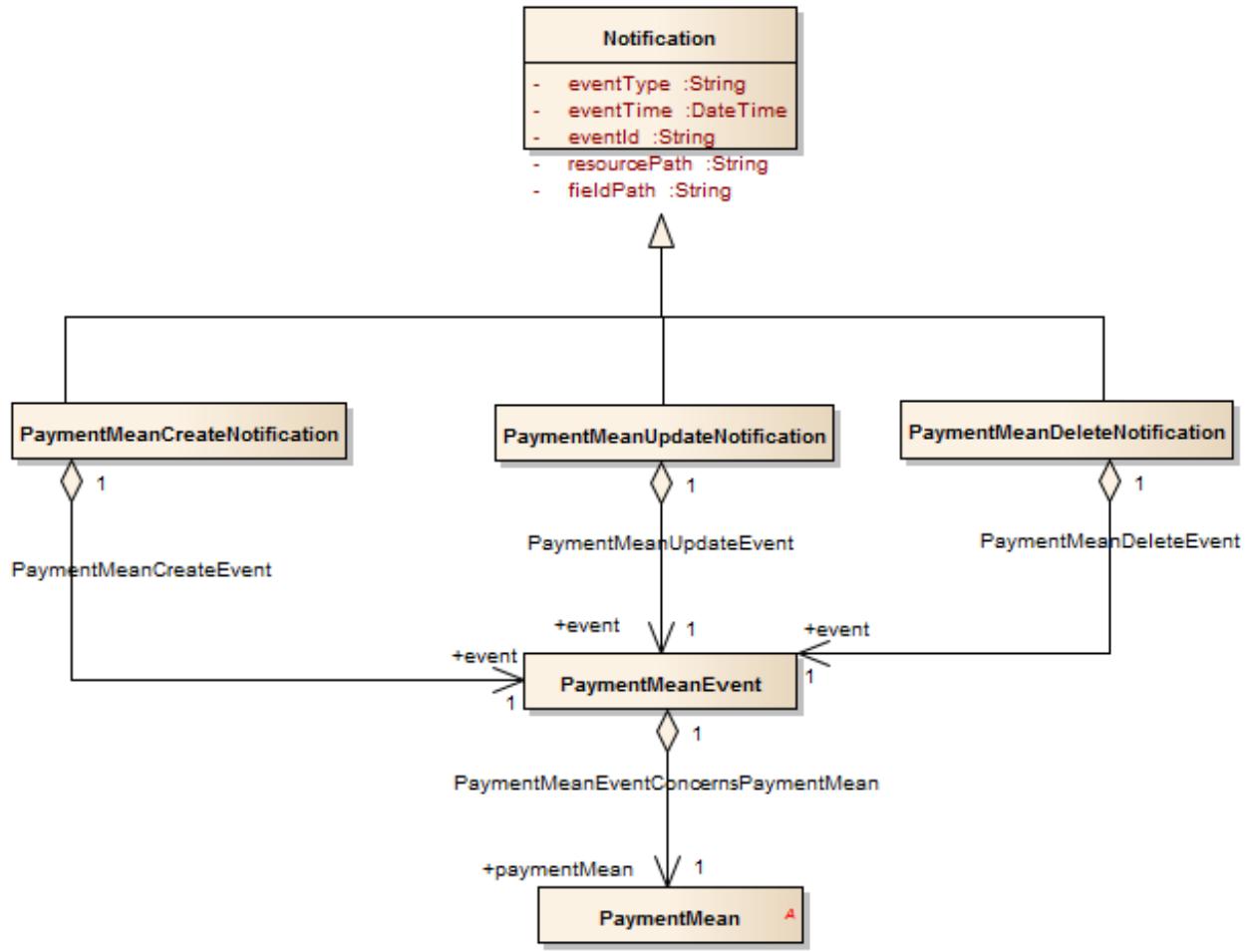


Figure: 18

**BankAccount**

Database: Java, Stereotype: , Package: Customer Management

Detail: Created on 01/10/2014. Last modified on 14/11/2014.

Notes: Describes the information of a bank account

**Columns**

Name	Type	Notes
BIC	String	Identifier of the bank according to its international code
domiciliation	String	Address of the bank agency which manages the bank account
IBAN	String	International format to describe a bank account

accountHolder	String	Name of the holder of the bank account
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**Relationships**

Columns	Association	Notes
PaymentMeanHasBankAccount	<b>0..1</b> BankAccount.bankAccount <b>0..1</b> PaymentMean.	

## CreditCard

*Database:* Java, *Stereotype:* , *Package:* Customer Management

*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.

*Notes:* Describes the credit card information

**Columns**

Name	Type	Notes
creditCardHolder	String	Name of the credit card holder
type	String	Credit card type (Mastercard, Visa,...)
number	String	Card number
expirationDate	DateTime	Expiration date of the card

**Relationships**

Columns	Association	Notes
PaymentMeanHasCreditCard	<b>0..1</b> CreditCard.creditCard <b>0..1</b> PaymentMean.	

## Customer

*Database:* Java, *Stereotype:* , *Package:* Customer Management

*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.

*Notes:* A person or an organization that buys products and services from the enterprise or receives free offers or services. This is modeled as a party playing the role of customer. A customer is a type of party role.

**Columns**

Name	Type	Notes
id	String	Unique identifier of the customer
href	String	Unique reference of the customer.
name	String	Displayable name
status	String	Used to track the lifecycle status, e.g. existing, prospective or former customer
description	String	Detailed description of the customer
validFor	TimePeriod	To manage startDate and endDate of customer states
customerRank	String	Relative importance of this customer compared to other customers

**Relationships**

Columns	Association	Notes
	Customer. Characteristic.	

Columns	Association	Notes
CustomerEventConcernsCustomer	<b>1</b> Customer.customer <b>1</b> CustomerEvent.	
CustomerHasCharacteristic	<b>0..*</b> Characteristic.characteristic <b>1</b> Customer.	
CustomerHasCreditProfile	<b>0..*</b> CustomerCreditProfile.customerCreditProfile <b>1</b> Customer.	
CustomerHasRelatedParty	<b>1</b> RelatedPartyRef.relatedParty <b>1</b> Customer.	
CustomerOwnsContactMedium	<b>0..*</b> ContactMedium.contactMedium <b>1</b> Customer.	
CustomerOwnsCustomerAccount	<b>0..*</b> CustomerAccountRef.customerAccount <b>1</b> Customer.	
CustomerOwnsPaymentMean	<b>0..*</b> PaymentMeanRef.paymentMean <b>1</b> Customer.	

## Customer (JSON)

```
{
  "id": "c1234",
  "href": "http://serverlocation:port/customerManagement/customer/c1234",
  "name": "DisplayName",
  "status": "Active",
  "description": "Description string",
  "validFor": {
    "startDateTime": "2013-06-19T04:00:00.0Z",
    "endDateTime": "2013-04-19T20:42:23.0Z"
  },
  "customerRank": "3",
  "relatedParty": {
    "id": "1",
    "href": "http://serverlocation:port/partyManagement/individual/1",
    "role": "customer",
    "name": "John Doe"
  },
  "characteristic": [
    {
      "name": "characteristicname1",
      "value": "characteristicvalue1"
    },
    {
      "name": "characteristicname2",
      "value": "characteristicvalue2"
    }
  ],
  "contactMedium": [
    {
      "type": "Email",
      "validFor": {
        "startDateTime": "2013-04-19T20:42:23.0Z"
      },
      "medium": {
        "emailAddress": "abc@tmforum.com"
      }
    }
  ]
}
```

```
        },
        {
            "type": "PostalAddress",
            "validFor": {
                "startDateTime": "2013-04-19T20:42:23.0Z"
            },
            "medium": {
                "city": "Wien",
                "country": "Austria",
                "postcode": "1020",
                "stateOrProvince": "Quebec",
                "street1": "Lassallestrasse7",
                "street2": ""
            }
        },
        {
            "type": "TelephoneNumber",
            "validFor": {
                "startDateTime": "2013-04-19T20:42:23.0Z"
            },
            "medium": {
                "type": "mobile",
                "number": "+436641234567"
            }
        },
        {
            "preferred": true,
            "type": "TelephoneNumber",
            "validFor": {
                "startDateTime": "2013-04-19T20:42:23.0Z"
            },
            "medium": {
                "type": "business",
                "number": "+436641234567"
            }
        }
    ],
    "customerAccount": [
        {
            "id": "1",
            "href": "http://serverlocation:port/customerManagement/customerAccount/1",
            "name": "CustomerAccount1",
            "description": "CustomerAccountDesc1",
            "status": "Active"
        },
        {
            "id": "2",
            "href": "http://serverlocation:port/customerManagement/customerAccount/2",
            "name": "CustomerAccount2",
            "description": "CustomerAccountDesc2",
            "status": "Active"
        }
    ]
},
```

```

"customerCreditProfile": [
    {
        "creditProfileDate": "2013-04-19T20:42:23.0Z",
        "validFor": {
            "startDateTime": "2013-04-19T20:42:23.0Z",
            "endDateTime": "2013-06-19T04:00:00.0Z"
        },
        "creditRiskRating": 1,
        "creditScore": 1
    },
    {
        "creditProfileDate": "2013-04-19T20:42:23.0Z",
        "validFor": {
            "startDateTime": "2013-04-19T20:42:23.0Z",
            "endDateTime": "2013-06-19T04:00:00.0Z"
        },
        "creditRiskRating": 1,
        "creditScore": 1
    }
],
"paymentMean": [
    {
        "id": "45",
        "href": "http://serverlocation:port/customerManagement/paymentMean/45",
        "name": "my favourite payment mean"
    },
    {
        "id": "64",
        "href": "http://serverlocation:port/customerManagement/paymentMean/64",
        "name": "my credit card payment mean"
    }
]
}

```

## CustomerAccount

**Database:** Java, **Stereotype:** , **Package:** Customer Management  
**Detail:** Created on 01/10/2014. Last modified on 14/11/2014.  
**Notes:** Is used to represent an account for the customer to manage the billing aspects.

### Columns

Name	Type	Notes
id	String	Unique identifier of the customer account
href	String	Unique reference of the customer account
lastModified	DateTime	Date of last modification of the customer account
name	String	Name of the customer account
accountType	String	A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics.
status	String	The condition of the account, such as due, paid, in arrears, in collection.
description	String	Detailed description of the customer account

creditLimit	Float	The maximum amount of money that may be charged on an account
pin	String	A multi digit personal identification number that is used
receivableBalance	Float	Overall receivable balance for the customer account

### **Relationships**

Columns	Association	Notes
CustomerAccountEventConcernsCustomerAccount	<b>1</b> CustomerAccount.customerAccount <b>1</b> CustomerAccountEvent.	
CustomerAccountHasBalance	<b>0..*</b> CustomerAccountBalance.customerAccount Balance <b>1</b> CustomerAccount.	
CustomerAccountHasContact	<b>0..*</b> Contact.contact <b>1</b> CustomerAccount.	
CustomerAccountHasPaymentPlan	<b>0..*</b> PaymentPlan.paymentPlan <b>1</b> CustomerAccount.	
CustomerAccountHasRelationship	<b>0..*</b> CustomerAccountRelationship.customerAccountRelationship <b>1</b> CustomerAccount.	
CustomerAccountHasTaxExemption	<b>0..*</b> CustomerAccountTaxExemption.customerAccountTaxExemption <b>1</b> CustomerAccount.	
CustomerAccountIsOwnedByCustomer	<b>0..1</b> CustomerRef.customer <b>0..*</b> CustomerAccount.	

### CustomerAccount (JSON)

```
{
  "id": "ca1234",
  "href": "http://serverlocation:port/customerManagement/customerAccount/ca1234",
  "lastModified": "2014-09-24T18:27:37.059899Z",
  "name": "sampleaccount",
  "accountType": "Residential",
  "status": "in progress",
  "description": "Description string",
  "creditLimit": 1212121,
  "pin": "pin0",
  "receivableBalance": 52.3,
  "customerAccountTaxExemption": [
    {
      "issuingJurisdiction": "SampleJurisdiction",
      "certificateNumber": "CATaxExemption1",
      "reason": "Reason",
      "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z",
        "endDateTime": "2013-06-19T00:00:00.0Z"
      }
    },
  ]
}
```

```
{
    "issuingJurisdiction": "SampleJurisdiction",
    "certificateNumber": "CATaxExemption1",
    "reason": "Reason",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z",
        "endDateTime": "2013-06-19T00:00:00.0Z"
    }
},
"customerAccountRelationship": [
    {
        "relationshipType": "Type xx",
        "validFor": {
            "startDateTime": "2013-04-19T16:42:23.0Z",
            "endDateTime": "2013-06-19T00:00:00.0Z"
        },
        "customerAccount": [
            {
                "id": "1",
                "href": "http://serverlocation:port/customerManagement/customerAccount/1",
                "name": "CustomerAccount1",
                "description": "CustomerAccountDesc1"
            }
        ]
    }
],
"contact": [
    {
        "contactType": "primary",
        "validFor": {
            "startDateTime": "2013-04-19T16:42:23.0Z",
            "endDateTime": "2013-06-19T00:00:00.0Z"
        },
        "contactName": "DisplayName",
        "partyRoleType": "CustomerAccountRepresentative",
        "contactMedium": [
            {
                "type": "Email",
                "medium": {
                    "emailAddress": "abc@tmforum.com"
                }
            },
            {
                "type": "PostalAddress",
                "medium": {
                    "city": "Wien",
                    "country": "Austria",
                    "postcode": "1020",
                    "stateOrProvince": "Quebec",
                    "street1": "Lassallestrasse7"
                }
            }
        ]
    }
]
```

```
        },
        {
            "type": "TelephoneNumber",
            "medium": {
                "type": "mobile",
                "number": "+436641234567"
            }
        },
        {
            "preferred": true,
            "type": "TelephoneNumber",
            "medium": {
                "type": "business",
                "number": "+436641234567"
            }
        }
    ],
    "relatedParty": [
        {
            "id": "1",
            "href": "http://serverlocation:port/partyManagement/individual/1",
            "role": "customer"
        }
    ],
    "customer": {
        "id": "1",
        "href": "http://serverlocation:port/customerManagement/customer/1",
        "name": "Customer1",
        "description": "CustomerDesc1"
    },
    "customerAccountBalance": [
        {
            "type": "ReceivableBalance",
            "amount": 52.3,
            "validFor": {
                "startDateTime": "2013-04-19T16:42:23.0Z",
                "endDateTime": "2013-06-19T00:00:00.0Z"
            },
            "status": "Due"
        },
        {
            "type": "DepositBalance",
            "amount": 52.3,
            "validFor": {
                "startDateTime": "2013-04-19T16:42:23.0Z",
                "endDateTime": "2013-06-19T00:00:00.0Z"
            },
            "status": "Paid"
        }
    ],
    "paymentPlan": [
        {
            "status": "Effective",
            "planType": "Recurring"
        }
    ]
}
```

```

        "type": "Type1",
        "priority": 1,
        "amount": 15.3,
        "paymentFrequency": "monthly",
        "numberOfPayments": 4,
        "validFor": {
            "startDateTime": "2013-04-19T16:42:23.0Z",
            "endDateTime": "2013-06-19T00:00:00.0Z"
        }
    },
    {
        "status": "Ineffective",
        "type": "Type2",
        "priority": 2,
        "amount": 20,
        "paymentFrequency": "monthly",
        "numberOfPayments": 2,
        "validFor": {
            "startDateTime": "2013-04-19T16:42:23.0Z",
            "endDateTime": "2013-06-19T00:00:00.0Z"
        },
        "paymentMean": {
            "id": "70",
            "href": "http://serverlocation:port/customerManagement/paymentMean/70"
        }
    }
]
}

```

## CustomerAccountBalance

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* Balances linked to the customer account

### Columns

Name	Type	Notes
type	String	Type of the balance : deposit balance, disputed balance, loyalty balance, receivable balance...
amount	Float	Balance amount
validFor	TimePeriod	Balance validity period
status	String	Due, paid...

### Relationships

Columns	Association	Notes
CustomerAccountHasBalance	<p><b>0..*</b></p> <p>CustomerAccountBalance.customerAccount</p> <p>Balance <b>1</b> CustomerAccount.</p>	

## CustomerAccountCreateNotification

**Database:** Java, **Stereotype:** , **Package:** Customer Management  
**Detail:** Created on 01/10/2014. Last modified on 14/11/2014.  
**Notes:** The CustomerAccountCreate notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	CustomerAccountCreateNotification. Notification.	
CustomerAccountCreateEvent	<b>1</b> CustomerAccountEvent.event <b>1</b> CustomerAccountCreateNotification.	

## CustomerAccountDeleteNotification

**Database:** Java, **Stereotype:** , **Package:** Customer Management  
**Detail:** Created on 01/10/2014. Last modified on 14/11/2014.  
**Notes:** The CustomerAccountDelete notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	CustomerAccountDeleteNotification. Notification.	
CustomerAccountDeleteEvent	<b>1</b> CustomerAccountEvent.event <b>1</b> CustomerAccountDeleteNotification.	

## CustomerAccountEvent

**Database:** Java, **Stereotype:** , **Package:** Customer Management  
**Detail:** Created on 01/10/2014. Last modified on 14/11/2014.  
**Notes:** The CustomerAccount event is generated each time a customer account is created, updated, or deleted.

### Relationships

Columns	Association	Notes
CustomerAccountCreateEvent	<b>1</b> CustomerAccountEvent.event <b>1</b> CustomerAccountCreateNotification.	
CustomerAccountDeleteEvent	<b>1</b> CustomerAccountEvent.event <b>1</b> CustomerAccountDeleteNotification.	
CustomerAccountEventConcernsCustomerAccount	<b>1</b> CustomerAccount.customerAccount <b>1</b> CustomerAccountEvent.	
CustomerAccountUpdateEvent	<b>1</b> CustomerAccountEvent.event <b>1</b> CustomerAccountUpdateNotification.	

## CustomerAccountRelationship

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* Significant connection between customer accounts

#### Columns

Name	Type	Notes
relationshipType	String	Type of relationship
validFor	TimePeriod	Validity period of that relationship

#### Relationships

Columns	Association	Notes
CustomerAccountHasRelationship	<b>0..*</b> CustomerAccountRelationship.customerAccountRelationship <b>1</b> CustomerAccount.	
CustomerAccountRelationshipConcernsCustomerAccount	<b>0..*</b> CustomerAccountRef.customerAccount <b>1</b> CustomerAccountRelationship.	

## CustomerAccountTaxExemption

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* Proof of freedom from taxes imposed by a taxing jurisdiction

#### Columns

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

#### Relationships

Columns	Association	Notes
CustomerAccountHasTaxExemption	<b>0..*</b> CustomerAccountTaxExemption.customerAccountTaxExemption <b>1</b> CustomerAccount.	

## CustomerAccountUpdateNotification

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* The CustomerAccountUpdate notification is sent to each listener who has subscribed to receive it.

#### Relationships

Columns	Association	Notes

Columns	Association	Notes
	CustomerAccountUpdateNotification. Notification.	
CustomerAccountUpdateEvent	<b>1</b> CustomerAccountEvent.event <b>1</b> CustomerAccountUpdateNotification.	

## CustomerCreateNotification

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* *Created on* 01/10/2014. *Last modified on* 04/12/2014.  
*Notes:* The CustomerCreate notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	CustomerCreateNotification. Notification.	
CustomerCreateEvent	<b>1</b> CustomerEvent.event <b>1</b> CustomerCreateNotification.	

## CustomerCreditProfile

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* *Created on* 01/10/2014. *Last modified on* 14/11/2014.  
*Notes:* Credit profile for the customer (containing credit scoring, ...). By default only the current credit profile is retrieved. It can be used as a list to give the customer credit profiles history, the first one in the list will be the current one.

### Columns

Name	Type	Notes
creditProfileDate	DateTime	The date the profile was established
validFor	TimePeriod	The period for which the profile is valid
creditRiskRating	Integer	This is an integer whose value is used to rate the risk
creditScore	Integer	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.

### Relationships

Columns	Association	Notes
CustomerHasCreditProfile	<b>0..*</b> CustomerCreditProfile.customerCreditProfile <b>1</b> Customer.	

## CustomerDeleteNotification

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* *Created on* 01/10/2014. *Last modified on* 14/11/2014.  
*Notes:* The CustomerDelete notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	CustomerDeleteNotification. Notification.	
CustomerDeleteEvent	<b>1</b> CustomerEvent.event <b>1</b> CustomerDeleteNotification.	

## CustomerEvent

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* The Customer event is generated each time a customer has been created, updated, or deleted.

### Relationships

Columns	Association	Notes
CustomerCreateEvent	<b>1</b> CustomerEvent.event <b>1</b> CustomerCreateNotification.	
CustomerDeleteEvent	<b>1</b> CustomerEvent.event <b>1</b> CustomerDeleteNotification.	
CustomerEventConcernsCustomer	<b>1</b> Customer.customer <b>1</b> CustomerEvent.	
CustomerUpdateEvent	<b>1</b> CustomerEvent.event <b>1</b> CustomerUpdateNotification.	

## CustomerUpdateNotification

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* The CustomerUpdate notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	CustomerUpdateNotification. Notification.	
CustomerUpdateEvent	<b>1</b> CustomerEvent.event <b>1</b> CustomerUpdateNotification.	

## PaymentMean

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* Defines a specific mean of payment (e.g. direct debit with all details associated)

### Columns

Name	Type	Notes
id	String	Unique identifier of the payment mean

href	String	Unique reference of the payment mean
name	String	Name of the payment mean
type	String	Type of the payment mean
validFor	TimePeriod	Validity period of the payment mean

### Relationships

Columns	Association	Notes
PaymentMeanConcernsRelatedParty	<b>0..1</b> RelatedPartyRef.relatedParty <b>1</b> PaymentMean.	
PaymentMeanEventConcernsPayment Mean	<b>1</b> PaymentMean.paymentMean <b>1</b> PaymentMeanEvent.	
PaymentMeanHasBankAccount	<b>0..1</b> BankAccount.bankAccount <b>0..1</b> PaymentMean.	
PaymentMeanHasCreditCard	<b>0..1</b> CreditCard.creditCard <b>0..1</b> PaymentMean.	

### PaymentMean (JSON)

```
{
  "id": "45",
  "href": "http://serverlocation:port/customerManagement/paymentMean/45",
  "name": "My favourite payment mean",
  "validFor": {
    "startDateTime": "2013-04-19T16:42:23.0Z",
    "endDateTime": "2013-06-19T00:00:00.0Z"
  },
  "type": "BankAccountDebit",
  "bankAccount": {
    "BIC": "PSSTFRPPPAR",
    "domiciliation": "LaBanquePostale-75900ParisCedex15",
    "IBAN": "FR4620061009010835927F33098",
    "accountHolder": "Mr.GustaveFlaubert"
  },
  "relatedParty": {
    "id": "1",
    "href": "http://serverlocation:port/partyManagement/individual/1",
    "role": "customer",
    "name": "Gustave Flaubert"
  }
}
```

```
{
  "id": "70",
  "href": "http://serverlocation:port/customerManagement/paymentMean/70",
  "name": "My credit card payment mean",
  "validFor": {
    "startDateTime": "2013-04-19T16:42:23.0Z"
  },
  "type": "CreditCard",
  "creditCard": {
```

```

    "creditCardHolder": "Mr.GustaveFlaubert",
    "type": "Visa",
    "number": "xxxxxx1234",
    "expirationDate": "2014-09-30T00:00:00.0Z"
},
"relatedParty": {
    "id": "1",
    "href": "http://serverlocation:port/partyManagement/individual/1",
    "role": "customer",
    "name": "Gustave Flaubert"
}
}
}

```

## PaymentMeanCreateNotification

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* The PaymentMeanCreate notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	PaymentMeanCreateNotification. Notification.	
PaymentMeanCreateEvent	<b>1</b> PaymentMeanEvent.event <b>1</b> PaymentMeanCreateNotification.	

## PaymentMeanDeleteNotification

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* The PaymentMeanDelete notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	PaymentMeanDeleteNotification. Notification.	
PaymentMeanDeleteEvent	<b>1</b> PaymentMeanEvent.event <b>1</b> PaymentMeanDeleteNotification.	

## PaymentMeanEvent

*Database:* Java, *Stereotype:* , *Package:* Customer Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* The PaymentMean event is generated each time a payment mean is created, updated, or deleted.

### Relationships

Columns	Association	Notes
PaymentMeanCreateEvent	<b>1</b> PaymentMeanEvent.event <b>1</b> PaymentMeanCreateNotification.	
PaymentMeanDeleteEvent	<b>1</b> PaymentMeanEvent.event <b>1</b> PaymentMeanDeleteNotification.	
PaymentMeanEventConcernsPayment Mean	<b>1</b> PaymentMean.paymentMean <b>1</b> PaymentMeanEvent.	
PaymentMeanUpdateEvent	<b>1</b> PaymentMeanEvent.event <b>1</b> PaymentMeanUpdateNotification.	

## PaymentMeanUpdateNotification

*Database:* Java, *Stereotype:* , *Package:* Customer Management

*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.

*Notes:* The PaymentMeanUpdate notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	PaymentMeanUpdateNotification. Notification.	
PaymentMeanUpdateEvent	<b>1</b> PaymentMeanEvent.event <b>1</b> PaymentMeanUpdateNotification.	

## PaymentPlan

*Database:* Java, *Stereotype:* , *Package:* Customer Management

*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.

*Notes:* Defines a plan for payment (when a customer wants to spread his payments)

### Columns

Name	Type	Notes
status	String	Status of the payment plan (effective, ineffective)
type	String	Type of payment plan
priority	Integer	Priority of the payment plan
amount	Float	Amount paid
paymentFrequency	String	Monthly, bimonthly
numberOfPayments	Integer	Number of payments used to spread the global payment
validFor	Timeperiod	Validity period of the payment plan

### Relationships

Columns	Association	Notes
CustomerAccountHasPaymentPlan	<b>0..*</b> PaymentPlan.paymentPlan <b>1</b> CustomerAccount.	
PaymentPlanHasPaymentMean	<b>1</b> PaymentMeanRef.paymentMean <b>0..*</b> PaymentPlan.	

## Party Management

**Type:** Package  
**Package:** ODE model  
**Detail:** Created on 01/10/2014. Last modified on 13/11/2014.  
**Notes:** The Party Management package includes resources to manage individuals and organizations.

### Individual resource

Created By: yvaf6294 on 01/10/2014  
 Last Modified: 13/11/2014, Version: 1.0  
 UML representation of the Individual resource

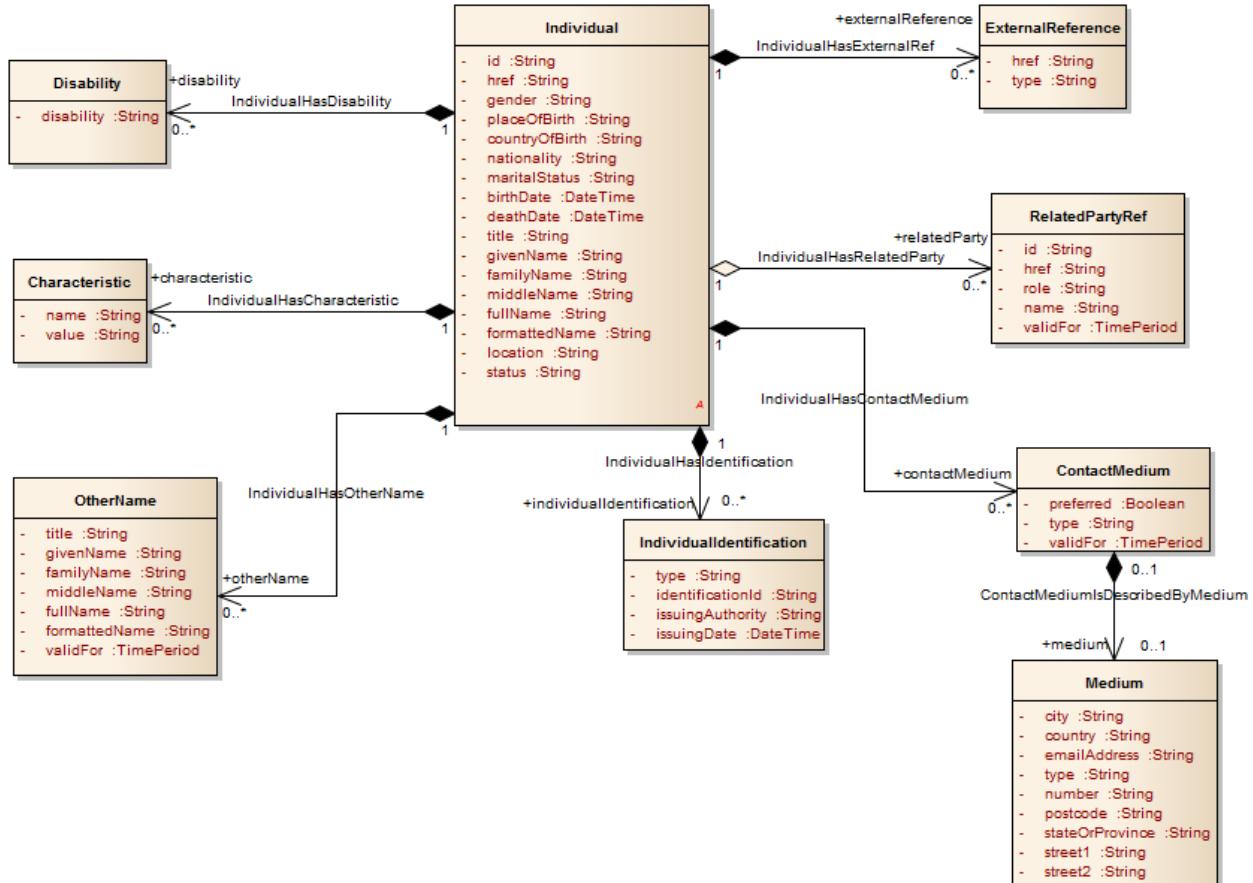


Figure: 19

### Individual notification resource

Created By: yvaf6294 on 02/10/2014  
 Last Modified: 13/11/2014, Version: 1.0

UML representation of the Individual notification resource

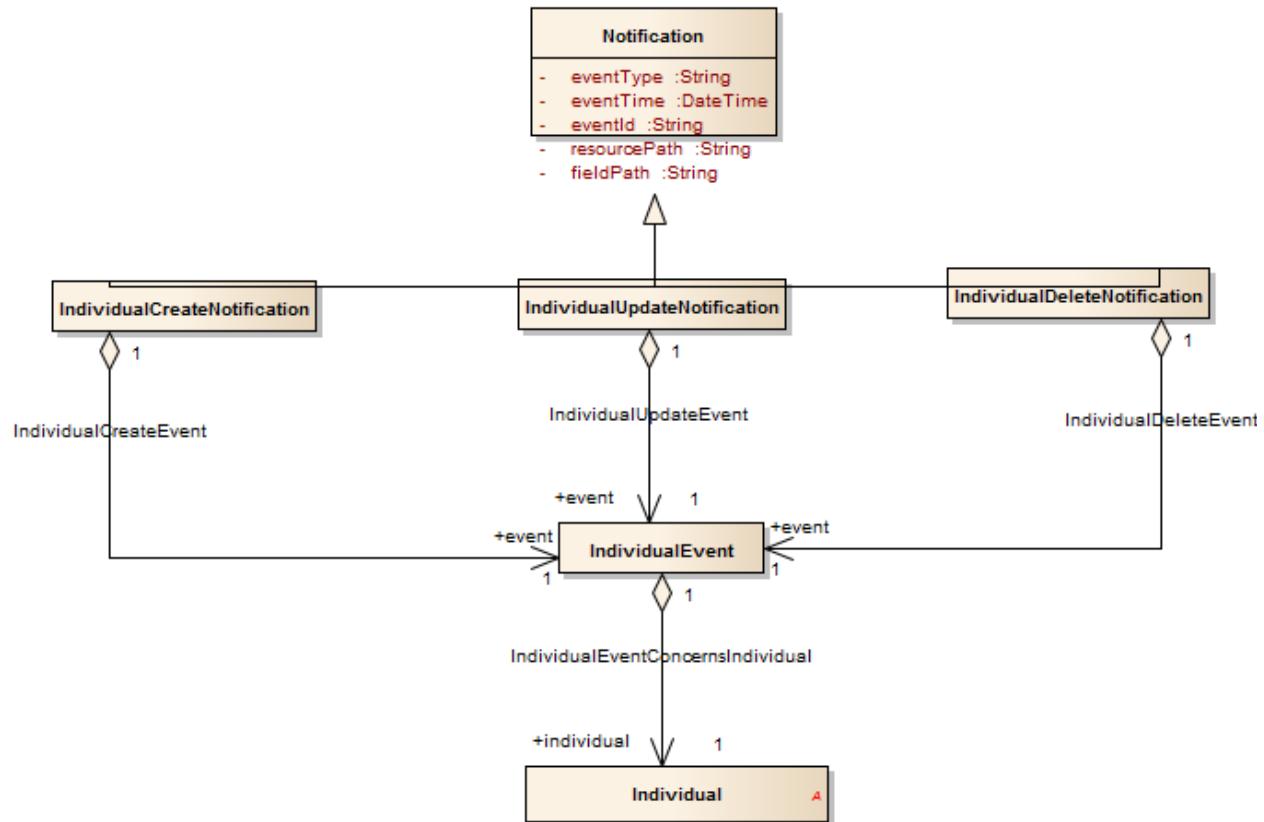


Figure: 20

### Organization resource

*Created By:* yvaf6294 on 01/10/2014

*Last Modified:* 13/11/2014, *Version:* 1.0

UML representation of the Organization resource

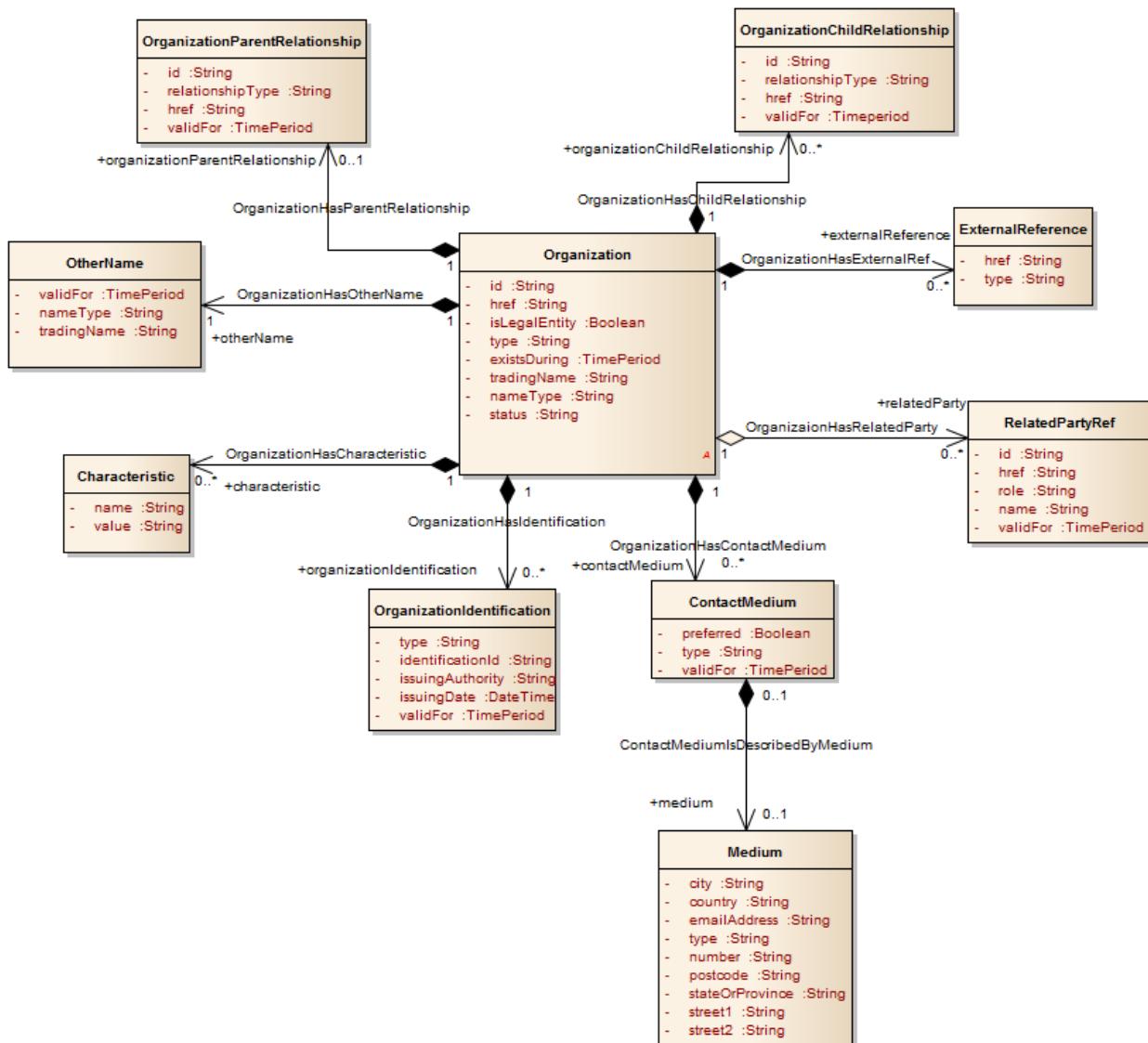


Figure: 21

### Organization notification resource

*Created By:* yvaf6294 on 02/10/2014

*Last Modified:* 13/11/2014, *Version:* 1.0

UML representation of the Organization notification resource

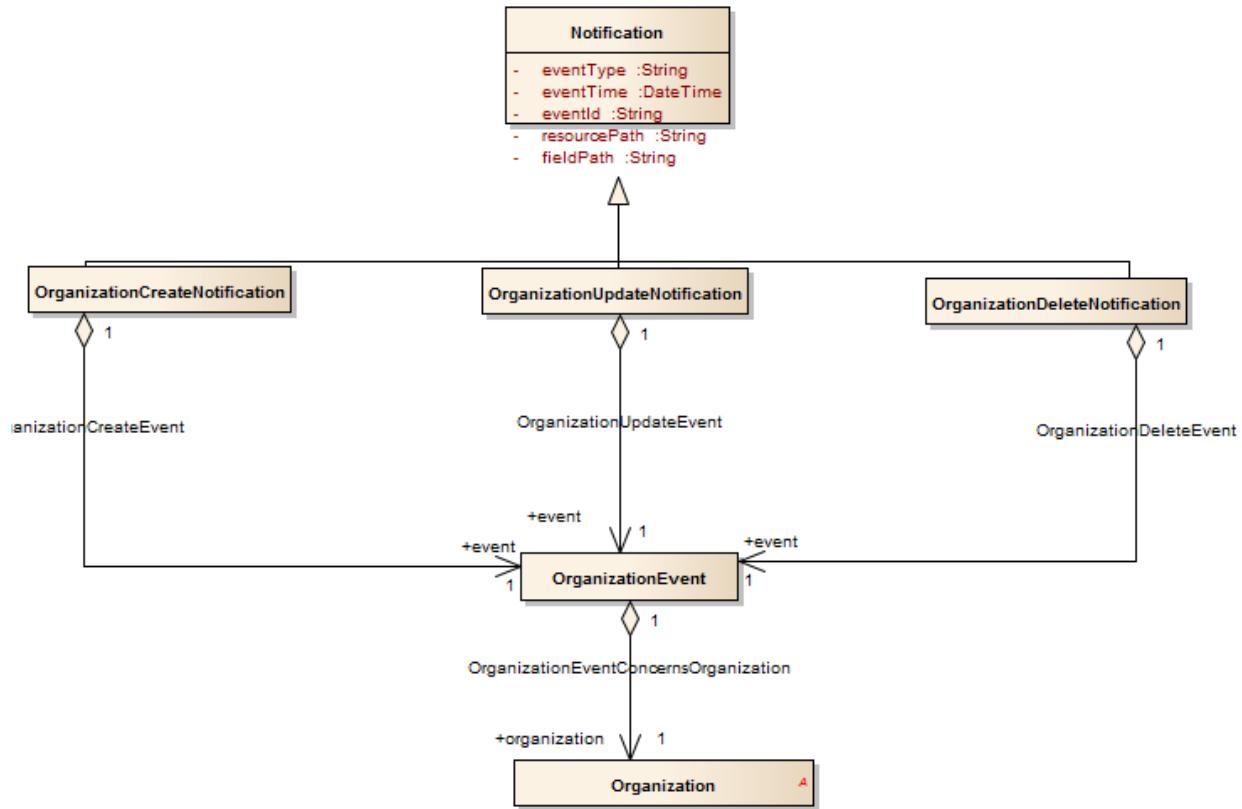


Figure: 22

## Disability

*Database:* Java, *Stereotype:* , *Package:* Party Management  
*Detail:* Created on 01/10/2014. Last modified on 12/11/2014.  
*Notes:* Lack or inadequate strength or ability

### Columns

Name	Type	Notes
disability	String	Physical or mental handicap

### Relationships

Columns	Association	Notes
IndividualHasDisability	0..* Disability.disability 1 Individual.	

## ExternalReference

*Database:* Java, *Stereotype:* , *Package:* Party Management  
*Detail:* Created on 01/10/2014. Last modified on 12/11/2014.  
*Notes:* To manage touch points to external OTT identifiers for the individual or the organization (facebook, google+,...)

### Columns

Name	Type	Notes
href	String	External reference
type	String	Reference type

### Relationships

Columns	Association	Notes
IndividualHasExternalRef	<b>0..*</b> ExternalReference.externalReference <b>1</b> Individual.	
OrganizationHasExternalRef	<b>0..*</b> ExternalReference.externalReference <b>1</b> Organization.	

## Individual

*Database:* Java, *Stereotype:* , *Package:* Party Management  
*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.  
*Notes:* Represents a physical person

### Columns

Name	Type	Notes
id	String	Unique identifier for the individual
href	String	Reference of the individual
gender	String	Gender
placeOfBirth	String	An hyperlink to the place of birth
countryOfBirth	String	The country of birth
nationality	String	Nationality
maritalStatus	String	Marital status (married, divorced, widow...)
birthDate	DateTime	Birth date
deathDate	DateTime	Death date
title	String	Used for titles (aristocratic, social...): Pr, Dr, Sir...
givenName	String	First name
familyName	String	Last name
middleName	String	Middle name
fullName	String	Full name flatten (first, middle, and last names)
formattedName	String	A formatted name useful for specific contexts (chinese, japonese, korean,...)
location	String	Temporary current location of the individual (may be used if the individual has approved its sharing)
status	String	Status of the individual (Initialized, Validated, Deceased)

### Relationships

Columns	Association	Notes
IndividualEventConcernsIndividual	<b>1</b> Individual.individual <b>1</b> IndividualEvent.	
IndividualHasCharacteristic	<b>0..*</b> Characteristic.characteristic <b>1</b> Individual.	
IndividualHasContactMedium	<b>0..*</b> ContactMedium.contactMedium <b>1</b> Individual.	
IndividualHasDisability	<b>0..*</b> Disability.disability <b>1</b> Individual.	

Columns	Association	Notes
IndividualHasExternalRef	<b>0..*</b> ExternalReference.externalReference <b>1</b> Individual.	
IndividualHasIdentification	<b>0..*</b> IndividualIdentification.individualIdentification <b>1</b> Individual.	
IndividualHasOtherName	<b>0..*</b> OtherName.otherName <b>1</b> Individual.	
IndividualHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> Individual.	

## Individual (JSON)

```
{
  "id": "i42",
  "href": "http://serverlocation:port/partyManagement/individual/i42",
  "gender": "male",
  "placeOfBirth": "http://goo.gl/maps/l8F9L",
  "countryOfBirth": "Austria",
  "nationality": "Canadian",
  "maritalStatus": "never married",
  "disability": [
    {
      "disability": "blind"
    }
  ],
  "birthDate": "1961-03-05T00:00:00.0Z",
  "characteristic": [
    {
      "name": "hobby",
      "value": "hockey"
    },
    {
      "name": "",
      "value": ""
    }
  ],
  "title": "",
  "givenName": "John",
  "familyName": "Smith",
  "middleName": "",
  "fullName": "",
  "formattedName": "",
  "otherName": [
    {
      "title": "",
      "givenName": "",
      "familyName": "",
      "middleName": "",
      "fullName": "",
      "formattedName": "",
      "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z",
        "endDateTime": null
      }
    }
  ]
}
```

```
        "endDateTime": "2013-06-19T00:00:00.0Z"
    }
}
],
"location": "http://goo.gl/maps/l8F9L",
"status": "Initialized",
"individualIdentification": [
{
    "type": "Passport",
    "identificationId": "73736625252",
    "issuingAuthority": "",
    "issuingDate": "2013-06-19T00:00:00.0Z"
},
{
    "type": "SocialSecurityNumber",
    "identificationId": "33636363",
    "issuingAuthority": "",
    "issuingDate": "2013-06-19T00:00:00.0Z"
}
],
"externalReference": [
{
    "href": "http://facebook.com/17263635",
    "type": "FacebookID"
},
{
    "href": "http://google.com/17263635",
    "type": "GoogleID"
}
],
"relatedParty": [
{
    "id": "1",
    "href": "http://serverlocation:port/partyManagement/organization/1",
    "role": "Employee",
    "name": "Richard Cole",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z",
        "endDateTime": "2013-06-19T00:00:00.0Z"
    }
}
],
"contactMedium": [
{
    "type": "Email",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z"
    },
    "medium": {
        "emailAddress": "abc@tmforum.com"
    }
},
{

```

```

        "type": "PostalAddress",
        "validFor": {
            "startDateTime": "2013-04-19T16:42:23.0Z"
        },
        "medium": {
            "city": "Wien",
            "country": "Austria",
            "postcode": "1020",
            "stateOrProvince": "Quebec",
            "street1": "Lassallestrasse7",
            "street2": ""
        }
    },
    {
        "type": "TelephoneNumber",
        "validFor": {
            "startDateTime": "2013-04-19T16:42:23.0Z"
        },
        "medium": {
            "type": "mobile",
            "number": "+436641234567"
        }
    },
    {
        "preferred": true,
        "type": "TelephoneNumber",
        "validFor": {
            "startDateTime": "2013-04-19T16:42:23.0Z"
        },
        "medium": {
            "type": "business",
            "number": "+436641234567"
        }
    }
]
}

```

## IndividualIdentification

**Database:** Java, **Stereotype:** , **Package:** Party Management  
**Detail:** Created on 01/10/2014. Last modified on 12/11/2014.  
**Notes:** 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)

### Columns

Name	Type	Notes
type	String	Identification type (passport, national identity card, driver's license, social security number, birth certificate)
identificationId	String	Identifier
issuingAuthority	String	Authority which has issued the identifier (social

		security, town hall...)
issuingDate	DateTime	Date at which the identifier was issued

**Relationships**

Columns	Association	Notes
IndividualHasIdentification	<b>0..*</b> on <b>1</b> IndividualIdentification.individualIdentification <b>1</b> Individual.	

## IndividualCreateNotification

*Database:* Java, *Stereotype:* , *Package:* Party Management*Detail:* *Created on 02/10/2014. Last modified on 13/11/2014.**Notes:* The IndividualCreate notification is sent to each listener who has subscribed to receive it.**Relationships**

Columns	Association	Notes
	IndividualCreateNotification.Notification.	
IndividualCreateEvent	<b>1</b> IndividualEvent.event <b>1</b> IndividualCreateNotification.	

## IndividualDeleteNotification

*Database:* Java, *Stereotype:* , *Package:* Party Management*Detail:* *Created on 02/10/2014. Last modified on 13/11/2014.**Notes:* The IndividualDelete notification is sent to each listener who has subscribed to receive it.**Relationships**

Columns	Association	Notes
	IndividualDeleteNotification.Notification.	
IndividualDeleteEvent	<b>1</b> IndividualEvent.event <b>1</b> IndividualDeleteNotification.	

## IndividualUpdateNotification

*Database:* Java, *Stereotype:* , *Package:* Party Management*Detail:* *Created on 02/10/2014. Last modified on 13/11/2014.**Notes:* The IndividualUpdate notification is sent to each listener who has subscribed to receive it.**Relationships**

Columns	Association	Notes
	IndividualUpdateNotification.	

Columns	Association	Notes
	Notification.	
IndividualUpdateEvent	<b>1</b> IndividualEvent.event <b>1</b> IndividualUpdateNotification.	

## IndividualEvent

*Database:* Java, *Stereotype:* , *Package:* Party Management

*Detail:* Created on 02/10/2014. Last modified on 18/11/2014.

*Notes:* The Individual event is generated each time an individual is created, updated or deleted.

### Relationships

Columns	Association	Notes
IndividualCreateEvent	<b>1</b> IndividualEvent.event <b>1</b> IndividualCreateNotification.	
IndividualDeleteEvent	<b>1</b> IndividualEvent.event <b>1</b> IndividualDeleteNotification.	
IndividualEventConcernsIndividual	<b>1</b> Individual.individual <b>1</b> IndividualEvent.	
IndividualUpdateEvent	<b>1</b> IndividualEvent.event <b>1</b> IndividualUpdateNotification.	

## Organization

*Database:* Java, *Stereotype:* , *Package:* Party Management

*Detail:* Created on 01/10/2014. Last modified on 14/11/2014.

*Notes:* 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.

### Columns

Name	Type	Notes
id	String	Unique identifier for the organization
href	String	Reference of the organization
isLegalEntity	Boolean	To tag if the organization is a legal entity known by a national referential
type	String	Type of the organization (company...)
existsDuring	TimePeriod	Details the establishment of the organization and its cessation
tradingName	String	The name that the organization (unit) trades under
nameType	String	Co., Inc., Ltd., Pty Ltd., Plc., Gmbh.
status	String	Status of the organization (initialized, validated, closed)

### Relationships

Columns	Association	Notes
OrganizaionHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> Organization.	
OrganizationEventConcernsOrganizatio	<b>1</b> Organization.organization	

Columns	Association	Notes
n	<b>1</b> OrganizationEvent.	
OrganizationHasCharacteristic	<b>0..*</b> Characteristic.characteristic <b>1</b> Organization.	
OrganizationHasChildRelationship	<b>0..*</b> OrganizationChildRelationship.organization ChildRelationship <b>1</b> Organization.	
OrganizationHasContactMedium	<b>0..*</b> ContactMedium.contactMedium <b>1</b> Organization.	
OrganizationHasExternalRef	<b>0..*</b> ExternalReference.externalReference <b>1</b> Organization.	
OrganizationHasIdentification	<b>0..*</b> OrganizationIdentification.organizationIdentification <b>1</b> Organization.	
OrganizationHasOtherName	<b>1</b> OtherName.otherName <b>1</b> Organization.	
OrganizationHasParentRelationship	<b>0..1</b> OrganizationParentRelationship.organization ParentRelationship <b>1</b> Organization.	

## Organization (JSON)

```
{
  "id": "128",
  "href": "http://serverlocation:port/partyManagement/organization/128",
  "isLegalEntity": true,
  "type": "Company",
  "existsDuring": {
    "startDate": "2013-04-19T16:42:23.0Z"
  },
  "tradingName": "Telekom",
  "nameType": "Co.",
  "status": "Initialized",
  "otherName": {
    "nameType": "Co.",
    "tradingName": "Orange",
    "validFor": {
      "startDateTime": "2013-04-19T16:42:23.0Z",
      "endDateTime": "2013-06-19T00:00:00.0Z"
    }
  },
  "characteristic": {
    "name": "industry",
    "value": "telecom"
  },
  "organizationIdentification": {
    "type": "CompanyRegistrationNumber",
    "identificationId": "374748328",
    "issuingAuthority": "",
    "issuingDate": "2013-06-19T00:00:00.0Z",
    "registrationNumber": "374748328"
  }
}
```

```
"validFor": {
    "startDateTime": "2013-04-19T16:42:23.0Z",
    "endDateTime": "2013-06-19T00:00:00.0Z"
}
},
"externalReference": [
{
    "href": "http://facebook.com/17263635",
    "type": "FacebookID"
},
{
    "href": "http://google.com/17263635",
    "type": "GoogleID"
}
],
"relatedParty": {
    "id": "12",
    "href": "http://serverlocation:port/partyManagement/organization/12",
    "role": "Vendor",
    "name": "Richard Cole",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z",
        "endDateTime": "2013-06-19T00:00:00.0Z"
    }
},
"organizationParentRelationship": {
    "relationshipType": "Juridical",
    "id": "13",
    "href": "http://serverlocation:port/partyManagement/organization/13",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z",
        "endDateTime": "2013-06-19T00:00:00.0Z"
    }
},
"organizationChildRelationship": {
    "relationshipType": "Juridical",
    "id": "16",
    "href": "http://serverlocation:port/partyManagement/organization/16",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z",
        "endDateTime": "2013-06-19T00:00:00.0Z"
    }
},
"contactMedium": [
{
    "type": "Email",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z"
    },
    "medium": {
        "emailAddress": "abc@tmforum.com"
    }
}
],
```

```
{
    "type": "PostalAddress",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z"
    },
    "medium": {
        "city": "Wien",
        "country": "Austria",
        "postcode": "1020",
        "stateOrProvince": "Quebec",
        "street1": "Lassallestrasse7",
        "street2": ""
    }
},
{
    "type": "TelephoneNumber",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z"
    },
    "medium": {
        "type": "mobile",
        "number": "+436641234567"
    }
},
{
    "preferred": true,
    "type": "TelephoneNumber",
    "validFor": {
        "startDateTime": "2013-04-19T16:42:23.0Z"
    },
    "medium": {
        "type": "business",
        "number": "+436641234567"
    }
}
]
```

## OrganizationChildRelationship

*Database:* Java, *Stereotype:* , *Package:* Party Management

*Detail:* Created on 02/10/2014. Last modified on 12/11/2014.

*Notes:* Represents the links between organizations: useful to describe an organization structure between headquarters, affiliates,... It indicates the children of the organization

### Columns

Name	Type	Notes
id	String	Unique identifier of the child organization
relationshipType	String	Juridical, hierarchical, geographical, functional...
href	String	Reference of the child organization
validFor	Timeperiod	The time period the relationship is valid

**Relationships**

Columns	Association	Notes
OrganizationHasChildRelationship	<b>0..*</b> OrganizationChildRelationship.organization <b>1</b> ChildRelationship <b>1</b> Organization.	

## OrganizationCreateNotification

*Database:* Java, *Stereotype:* , *Package:* Party Management

*Detail:* *Created on* 02/10/2014. *Last modified on* 13/11/2014.

*Notes:* The OrganizationCreate notification is sent to each listener who has subscribed to receive it.

**Relationships**

Columns	Association	Notes
	OrganizationCreateNotification. Notification.	
OrganizationCreateEvent	<b>1</b> OrganizationEvent.event <b>1</b> OrganizationCreateNotification.	

## OrganizationDeleteNotification

*Database:* Java, *Stereotype:* , *Package:* Party Management

*Detail:* *Created on* 02/10/2014. *Last modified on* 13/11/2014.

*Notes:* The OrganizationDelete notification is sent to each listener who has subscribed to receive it.

**Relationships**

Columns	Association	Notes
	OrganizationDeleteNotification. Notification.	
OrganizationDeleteEvent	<b>1</b> OrganizationEvent.event <b>1</b> OrganizationDeleteNotification.	

## OrganizationUpdateNotification

*Database:* Java, *Stereotype:* , *Package:* Party Management

*Detail:* *Created on* 02/10/2014. *Last modified on* 13/11/2014.

*Notes:* The OrganizationUpdate notification is sent to each listener who has subscribed to receive it.

**Relationships**

Columns	Association	Notes
	OrganizationUpdateNotification. Notification.	
OrganizationUpdateEvent	<b>1</b> OrganizationEvent.event <b>1</b> OrganizationUpdateNotification.	

## OrganizationEvent

**Database:** Java, **Stereotype:** , **Package:** Party Management  
**Detail:** Created on 02/10/2014. Last modified on 13/11/2014.  
**Notes:** The Organization event is generated each time an organization has been created, changed or removed.

### Relationships

Columns	Association	Notes
OrganizationCreateEvent	<b>1</b> OrganizationEvent.event <b>1</b> OrganizationCreateNotification.	
OrganizationDeleteEvent	<b>1</b> OrganizationEvent.event <b>1</b> OrganizationDeleteNotification.	
OrganizationEventConcernsOrganization	<b>1</b> Organization.organization <b>1</b> OrganizationEvent.	
OrganizationUpdateEvent	<b>1</b> OrganizationEvent.event <b>1</b> OrganizationUpdateNotification.	

## OrganizationIdentification

**Database:** Java, **Stereotype:** , **Package:** Party Management  
**Detail:** Created on 02/10/2014. Last modified on 12/11/2014.  
**Notes:** Represents our registration of information used as proof of identity by an organization

### Columns

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

### Relationships

Columns	Association	Notes
OrganizationHasIdentification	<b>0..*</b> OrganizationIdentification.organizationIdentification <b>1</b> Organization.	

## OrganizationParentRelationship

**Database:** Java, **Stereotype:** , **Package:** Party Management  
**Detail:** Created on 02/10/2014. Last modified on 12/11/2014.  
**Notes:** Represents the links between organizations: useful to describe an organization structure between

headquarters, affiliates,... It indicates the parent of the organization.

#### Columns

Name	Type	Notes
id	String	Unique identifier of the parent organization
relationshipType	String	Juridical, hierarchical, geographical, functional...
href	String	Reference of the parent organization
validFor	TimePeriod	The time period the relationship is valid

#### Relationships

Columns	Association	Notes
OrganizationHasParentRelationship	<b>0..1</b> OrganizationParentRelationship.organization <b>1</b> ParentRelationship Organization.	

## OtherName

**Database:** Java, **Stereotype:** , **Package:** Party Management  
**Detail:** *Created on 01/10/2014. Last modified on 12/11/2014.*  
**Notes:** To keep track of other names (for example the old name of a woman before marriage or an artist name)

#### Columns

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

#### Relationships

Columns	Association	Notes
IndividualHasOtherName	<b>0..*</b> <b>1</b> OtherName.otherName Individual.	
OrganizationHasOtherName	<b>1</b> OtherName.otherName <b>1</b> Organization.	

## Product Catalog Management

**Type:** **Package**  
**Package:** ODE model  
**Detail:** *Created on 02/10/2014. Last modified on 17/11/2014.*  
**Notes:** The Product Catalog management allows the management of the entire lifecycle of the catalog elements, the consultation of catalog elements during several processes such as ordering process,

campaign management, sales management...

### Catalog resource

*Created By:* yvaf6294 on 17/11/2014

*Last Modified:* 17/11/2014, *Version:*1.0

UML representation of the Catalog resource

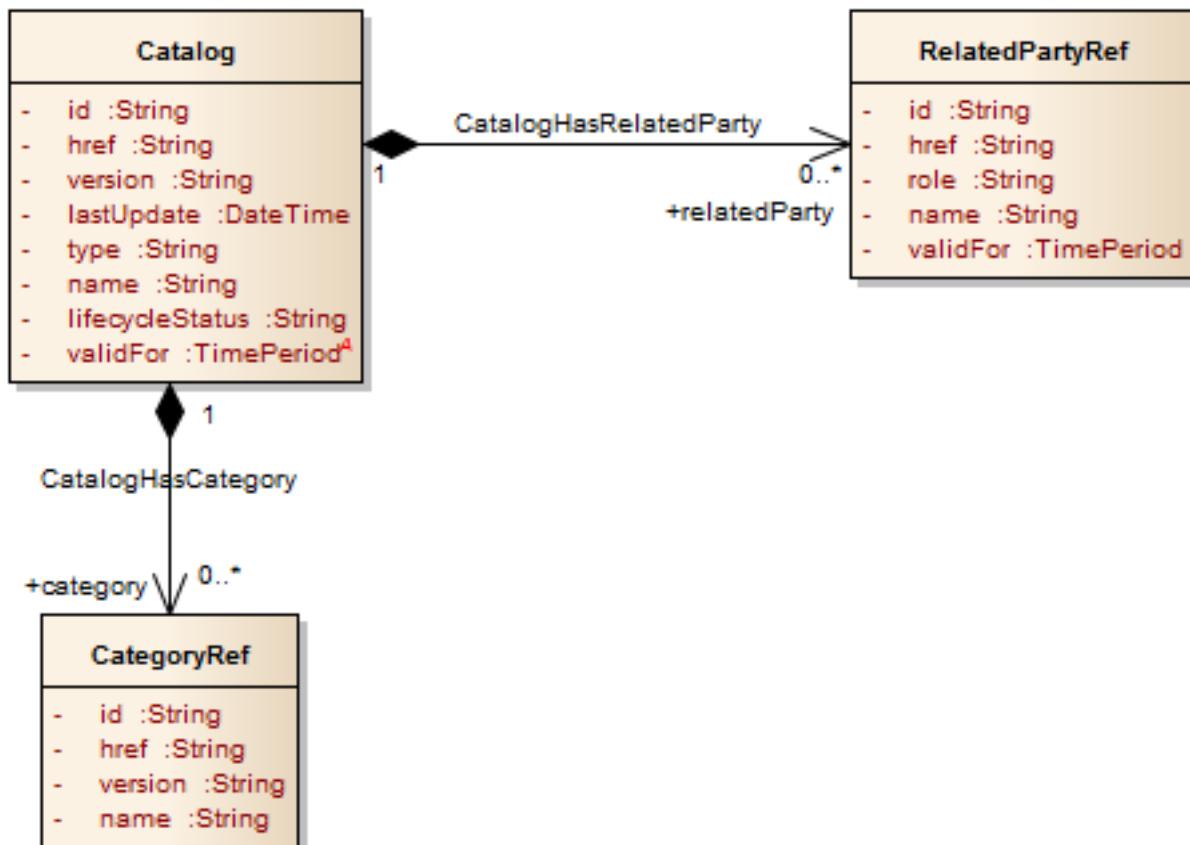


Figure: 23

### Catalog notification resource

*Created By:* yvaf6294 on 18/11/2014

*Last Modified:* 18/11/2014, *Version:*1.0

UML representation of the Catalog notification resource

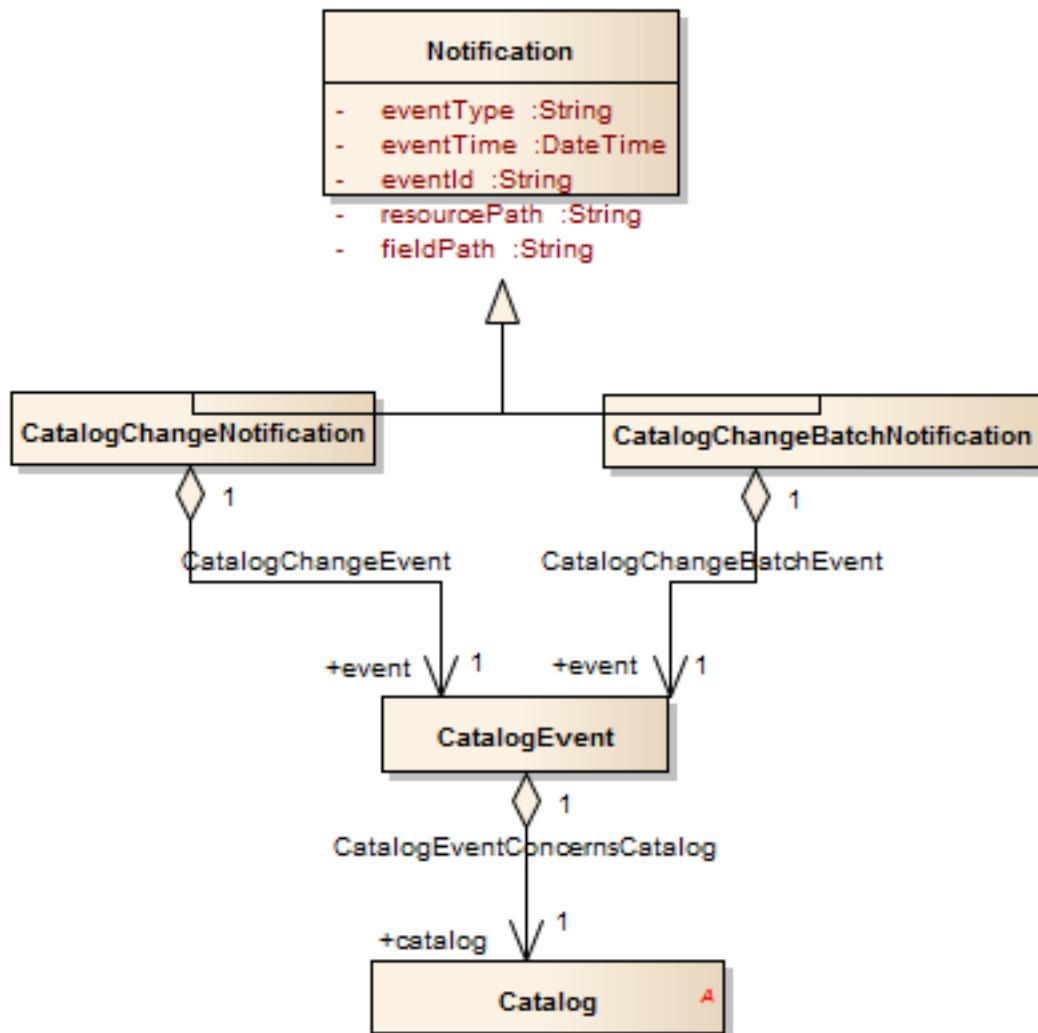


Figure: 24

**Category resource**

*Created By:* yvaf6294 on 17/11/2014

*Last Modified:* 18/11/2014, *Version:* 1.0

UML representation of the category resource

Category
- id :String - href :String - lastUpdate :DateTime - version :String - lifecycleStatus :String - validFor :TimePeriod - parentId :String - isRoot :Boolean - name :String - description :String A

Figure: 25

**ProductOffering resource**

*Created By:* yvaf6294 on 17/11/2014

*Last Modified:* 26/11/2014, *Version:*1.0

UML representation of the ProductOffering resource

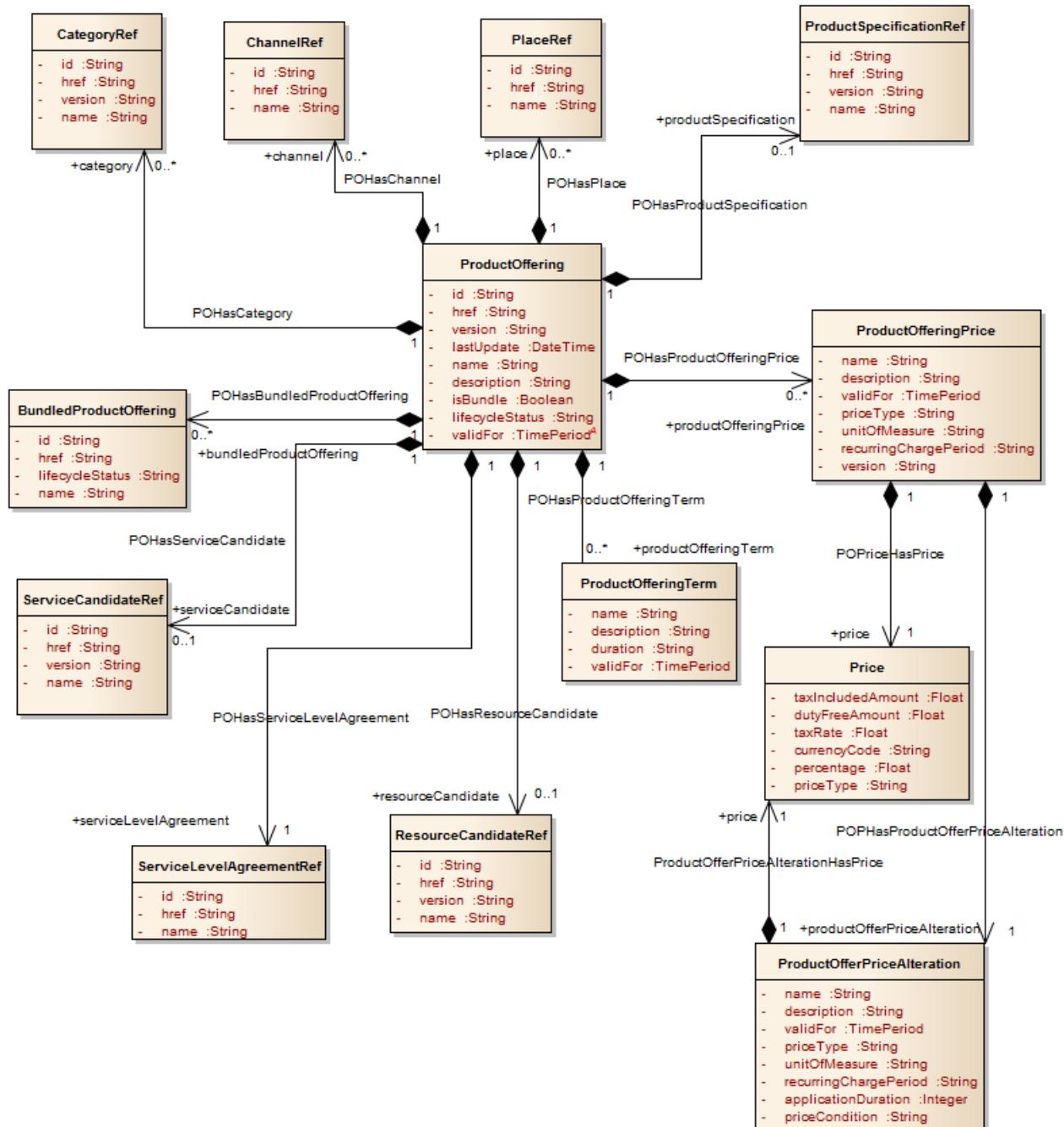


Figure: 26

### ProductSpecification resource

*Created By:* yvaf6294 on 17/11/2014

*Last Modified:* 18/11/2014, *Version:*1.0

UML representation of the ProductSpecification resource

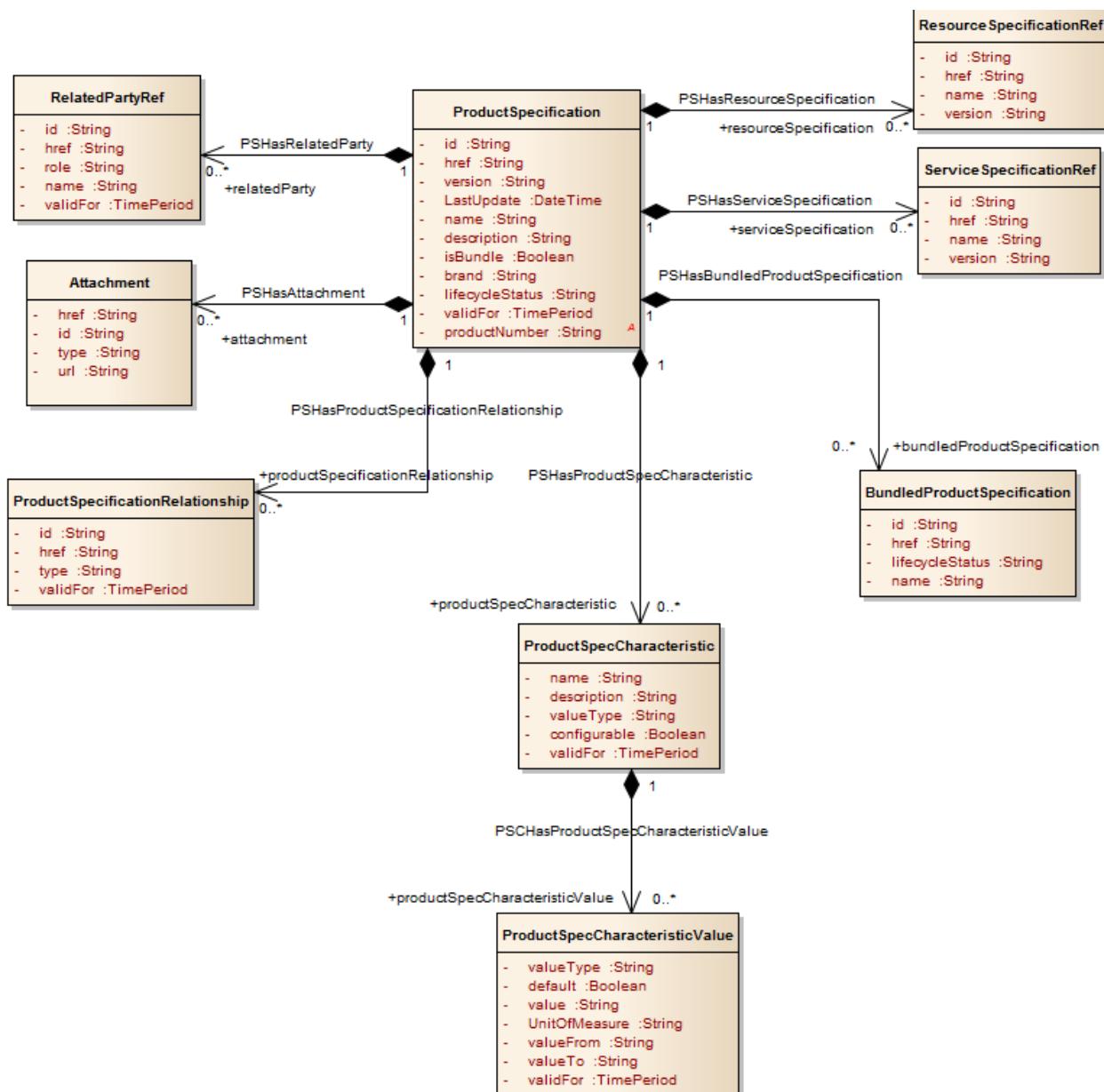


Figure: 27

### Product Lifecycle

*Created By:* yvaf6294 on 17/11/2014

*Last Modified:* 17/11/2014, *Version:*1.0

UML representation of Product Lifecycle Management

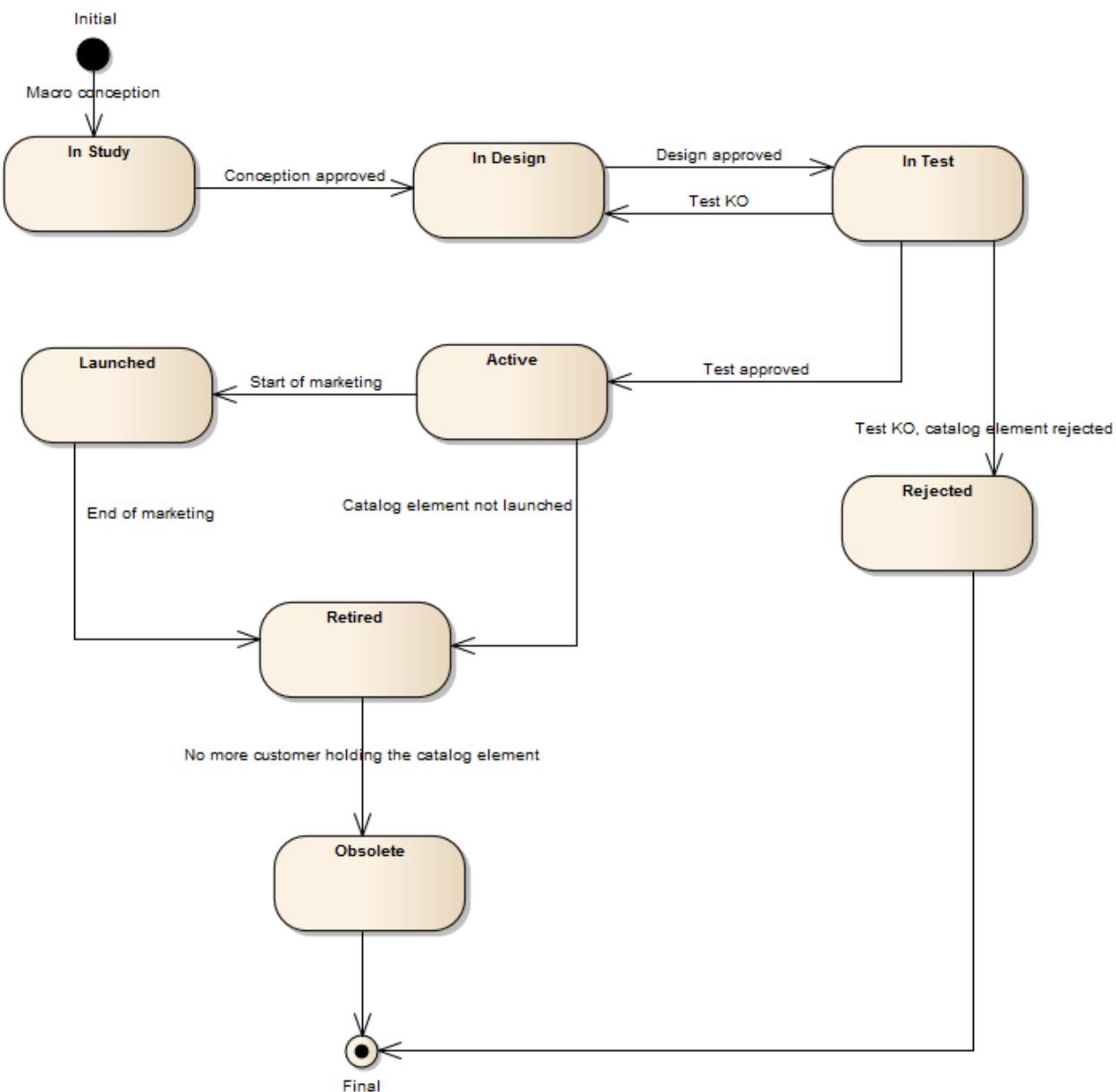


Figure: 28

## Attachment

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** Created on 17/11/2014. Last modified on 17/11/2014.  
**Notes:** Describes a product through video, pictures...

### Columns

Name	Type	Notes
href	String	Reference of the attachment
id	String	Unique identifier of the attachment
type	String	Attachment type such as video, picture

url	String	Uniform Resource Locator, is a web page address (a subset of URI)
-----	--------	---

**Relationships**

Columns	Association	Notes
PSHasAttachment	<b>0..*</b> Attachment.attachment <b>1</b> ProductSpecification.	

## BundledProductOffering

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* *Created on* 17/11/2014. *Last modified on* 19/11/2014.

*Notes:* A type of ProductOffering that belongs to a grouping of ProductOfferings made available to the market. It inherits of all attributes of ProductOffering.

**Columns**

Name	Type	Notes
id	String	Unique identifier of the BundledProductOffering
href	String	Unique reference of the BundledProductOffering
lifecycleStatus	String	Used to indicate the current lifecycle status
name	String	Name of the BundledProductOffering

**Relationships**

Columns	Association	Notes
POHasBundledProductOffering	<b>0..*</b> BundledProductOffering.bundledProductOffering <b>1</b> ProductOffering.	

## BundledProductSpecification

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* *Created on* 18/11/2014. *Last modified on* 18/11/2014.

*Notes:* A type of ProductSpecification that belongs to a grouping of ProductSpecifications made available to the market. It inherits of all attributes of ProductSpecification.

**Columns**

Name	Type	Notes
id	String	Unique identifier of the product specification
href	String	Reference of the product specification
lifecycleStatus	String	Used to indicate the current lifecycle status
name	String	Name of the product specification

**Relationships**

Columns	Association	Notes
PSHasBundledProductSpecification	<b>0..*</b> BundledProductSpecification.bundledProductSpecification <b>1</b> ProductSpecification.	

## Catalog

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** *Created on 17/11/2014. Last modified on 18/11/2014.*  
**Notes:** Is a collection of Product Offerings, intended for a specific DistributionChannel, enhanced with additional information such as SLA parameters, invoicing and shipping details.

### Columns

Name	Type	Notes
id	String	Unique identifier of the Catalog
href	String	Unique reference of the catalog
version	String	Catalog version
lastUpdate	DateTime	Date and time of the last update
type	String	Indicates if the catalog is a product, service or resource catalog
name	String	Name of the catalog
lifecycleStatus	String	Used to indicate the current lifecycle status
validFor	TimePeriod	The period for which the catalog is valid

### Relationships

Columns	Association	Notes
CatalogEventConcernsCatalog	<b>1</b> Catalog.catalog <b>1</b> CatalogEvent.	
CatalogHasCategory	<b>0..*</b> CategoryRef.category <b>1</b> Catalog.	
CatalogHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> Catalog.	

### Catalog (JSON)

```
{
  "id": "10",
  "href": "http://serverlocation:port/catalogManagement/catalog/10",
  "version": "2.0",
  "lastUpdate": "2013-04-19T16:42:23.0Z",
  "type": "Product Catalog",
  "category": [
    {
      "id": "12",
      "href": "http://serverlocation:port/catalogManagement/category/12",
      "version": "2.0",
      "name": "Cloud offerings"
    }
  ],
  "name": "Catalog Wholesale Business",
  "lifecycleStatus": "Active",
  "validFor": {
    "startDateTime": "2013-04-19T16:42:23.0Z",
    "endDateTime": "2013-06-19T00:00:00.0Z"
  },
}
```

```

"relatedParty":
[
  {
    "id": "1234",
    "href": "http://serverLocation:port/partyManagement/partyRole/1234",
    "role": "Owner"
  },
  {
    "role": "Reviser",
    "name": "Roger Collins"
  }
]
}

```

## CatalogChangeBatchNotification

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management  
*Detail:* Created on 18/11/2014. Last modified on 18/11/2014.  
*Notes:* TheCatalogChangeBatch notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	CatalogChangeBatchNotification. Notification.	
CatalogChangeBatchEvent	<b>1</b> CatalogEvent.event <b>1</b> CatalogChangeBatchNotification.	

## CatalogChangeNotification

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management  
*Detail:* Created on 18/11/2014. Last modified on 18/11/2014.  
*Notes:* TheCatalogChange notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	CatalogChangeNotification. Notification.	
CatalogChangeEvent	<b>1</b> CatalogEvent.event <b>1</b> CatalogChangeNotification.	

## CatalogEvent

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management  
*Detail:* Created on 18/11/2014. Last modified on 18/11/2014.  
*Notes:* The Catalog event is generated each time a catalog is updated.

### Relationships

Columns	Association	Notes
CatalogChangeBatchEvent	<b>1</b> CatalogEvent.event <b>1</b> CatalogChangeBatchNotification.	
CatalogChangeEvent	<b>1</b> CatalogEvent.event <b>1</b> CatalogChangeNotification.	
CatalogEventConcernsCatalog	<b>1</b> Catalog.catalog <b>1</b> CatalogEvent.	

## Category

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* *Created on* 17/11/2014. *Last modified on* 17/11/2014.

*Notes:* 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.

### Columns

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

### Category (JSON)

```
{
  "id": "42",
  "href": "http://serverlocation:port/catalogManagement/category/42",
  "lastUpdate": "2013-04-19T16:42:23.0Z",
  "version": "2.0",
  "lifecycleStatus": "Active",
  "validFor": {
    "startDateTime": "2013-04-19T16:42:23.0Z"
  },
  "parentId": "41",
  "isRoot": false,
  "name": "Cloud Services",
  "description": "A category to hold all available cloud service offers"
}
```

Or for a root category (e.g. no parent)

```
{
    "id": "42",
    "href": "http://serverlocation:port/catalogManagement/category/42",
    "lastUpdate": "2013-04-19T16:42:23.0Z",
    "version": "2.0",
    "lifecycleStatus": "Active",
    "validFor":
    {
        "startDateTime": "2013-04-19T16:42:23.0Z"
    },
    "parentId": "41",
    "isRoot": true,
    "name": "Cloud Services",
    "description": "A category to hold all available cloud service offers"
}
```

## Price

*Database:*

Java, *Stereotype:* , *Package:* Product Catalog Management

*Detail:*

*Created on* 17/11/2014. *Last modified on* 17/11/2014.

*Notes:*

Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for ProdOfferPriceAlteration.

### Columns

Name	Type	Notes
taxIncludedAmount	Float	All taxes included amount (expressed in the given currency)
dutyFreeAmount	Float	All taxes excluded amount (expressed in the given currency)
taxRate	Float	Tax rate
currencyCode	String	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)
percentage	Float	Percentage to apply for ProdOfferPriceAlteration
priceType	String	Indicates the price type: recurring, one time, usage

### Relationships

Columns	Association	Notes
POPriceHasPrice	<b>1</b> Price.price <b>1</b> ProductOfferingPrice.	
ProdPriceAlterationHasPrice	<b>1</b> Price.price <b>1</b> ProdPriceAlteration.	
ProductOfferPriceAlterationHasPrice	<b>1</b> Price.price <b>1</b> ProductOfferPriceAlteration.	
ProductPriceHasPrice	<b>1</b> Price.price <b>1</b> ProductPrice.	

## ProductOfferPriceAlteration

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management

**Detail:** *Created on 17/11/2014. Last modified on 17/11/2014.*

**Notes:** An amount, usually of money, that modifies a price charged for a productOffering.

### Columns

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

### Relationships

Columns	Association	Notes
POPHasProductOfferPriceAlteration	<b>1</b> ProductOfferPriceAlteration.productOfferPriceAlteration <b>1</b> ProductOfferingPrice.	
ProductOfferPriceAlterationHasPrice	<b>1</b> Price.price <b>1</b> ProductOfferPriceAlteration.	

## ProductOffering

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management

**Detail:** *Created on 17/11/2014. Last modified on 17/11/2014.*

**Notes:** Represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

### Columns

Name	Type	Notes
id	String	Unique identifier of the productOffering
href	String	Reference of the ProductOffering
version	String	ProductOffering version
lastUpdate	DateTime	Date and time of the last update
name	String	Name of the productOffering
description	String	Description of the productOffering
isBundle	Boolean	isBundle determines whether a productOffering represents a single productOffering (false), or a bundle of productOfferings (true).
lifecycleStatus	String	Used to indicate the current lifecycle status
validFor	TimePeriod	The period for which the productOffering is valid

### Relationships

Columns	Association	Notes
POHasBundledProductOffering	<b>0..*</b> 1 BundledProductOffering.bundledProductOffering ProductOffering.	
POHasCategory	<b>0..*</b> 1 CategoryRef.category ProductOffering.	
POHasChannel	<b>0..*</b> 1 ChannelRef.channel ProductOffering.	
POHasPlace	<b>0..*</b> 1 PlaceRef.place ProductOffering.	
POHasProductOfferingPrice	<b>0..*</b> 1 ProductOfferingPrice.productOfferingPrice ProductOffering.	
POHasProductOfferingTerm	<b>0..*</b> 1 ProductOfferingTerm.productOfferingTerm ProductOffering.	
POHasProductSpecification	<b>0..1</b> n 1 ProductSpecificationRef.productSpecification ProductOffering.	
POHasResourceCandidate	<b>0..1</b> 1 ResourceCandidateRef.resourceCandidate ProductOffering.	
POHasServiceCandidate	<b>0..1</b> 1 ServiceCandidateRef.serviceCandidate ProductOffering.	
POHasServiceLevelAgreement	<b>1</b> ServiceLevelAgreementRef.serviceLevelAgreement 1 ProductOffering.	

### ProductOffering (JSON)

```
{
  "id": "42",
  "href": "http://serverlocation:port/productCatalogManagement/productOffering/42",
  "version": "2.0",
  "lastUpdate": "2013-04-19T16:42:23.0Z",
  "name": "Virtual Storage Medium",
  "description": "Virtual Storage Medium",
  "isBundle": true,
  "lifecycleStatus": "Active",
  "validFor": [
    {
      "startDateTime": "2013-04-19T16:42:23.0Z",
      "endDateTime": "2013-06-19T00:00:00.0Z"
    }
  ],
  "category": [
    {
      "id": "12",
      "href": "http://serverlocation:port/catalogManagement/category/12",
      "version": "2.0",
      "name": "Cloud offerings"
    }
  ]
}
```

```
],
"channel": [
  {
    "id": "13",
    "href": "http://serverlocation:port/marketSales/channel/13",
    "name": "Online Channel"
  }
],
"place": [
  {
    "id": "12",
    "href": "http://serverlocation:port/marketSales/place/12",
    "name": "France"
  }
],
"bundledProductOffering": [
  {
    "id": "15",
    "href": "http://serverlocation:port/productCatalogManagement/productOffering/15",
    "lifecycleStatus": "Active",
    "name": "Offering 15"
  },
  {
    "id": "64",
    "href": "http://serverlocation:port/productCatalogManagement/productOffering/64",
    "lifecycleStatus": "Active",
    "name": "Offering 64"
  }
],
"serviceLevelAgreement": [
  {
    "id": "28",
    "href": "http://serverlocation:port/slaManagement/serviceLevelAgreement/28",
    "name": "Standard SLA"
  }
],
"productSpecification": [
  {
    "id": "13",
    "href": "http://serverlocation:port/productCatalogManagement/productSpecification/13",
    "version": "2.0",
    "name": "specification product 1"
  }
]
```

```
        },  
  
        "serviceCandidate":  
        {  
            "id": "13",  
            "href":  
"http://serverlocation:port/serviceCatalogManagement/serviceCandidate/13",  
            "version": "2.0",  
            "name": "specification service 1"  
        },  
  
        "resourceCandidate":  
        {  
            "id": "13",  
            "href":  
"http://serverlocation:port/resourceCatalogManagement/resourceCandidate/13",  
            "version": "2.0",  
            "name": "specification resource 1"  
        },  
  
        "productOfferingTerm":  
        [  
            {  
                "  
                    "name": "12 Month",  
                    "description": "12 month contract",  
                    "duration": "12",  
                    "validFor":  
                    {  
                        "  
                            "startDateTime": "2013-04-19T16:42:23.0Z",  
                            "endDateTime": "2013-06-19T00:00:00.0Z"  
                        }  
                }  
            ],  
  
        "productOfferingPrice":  
        [  
            {  
  
                "name": "Monthly Price",  
                "description": "monthlyprice",  
                "validFor":  
                {  
                    "  
                        "startDateTime": "2013-04-19T16:42:23.0Z",  
                        "endDateTime": "2013-06-19T00:00:00.0Z"  
                    },  
  
                    "priceType": "recurring",  
                    "unitOfMeasure": "",  
                    "price":  
                    {  
                        "  
                            "taxIncludedAmount": 12,  
                            "dutyFreeAmount": 10,  
                            "taxRate": 20,  
                            "taxType": "VAT"  
                        }  
                }  
            }  
        ]  
    }  
}
```

```
        "currencyCode": "EUR",
        "percentage": 0
    },
    "recurringChargePeriod": "monthly"
},
{
    "name": "Usage Price",
    "description": "usageprice",
    "validFor":
    {
        "startDateTime": "2013-04-19T16:42:23.0Z",
        "endDateTime": "2013-06-19T00:00:00.0Z"
    },
    "priceType": "usage",
    "unitOfMeasure": "second",
    "price":
    {
        "taxIncludedAmount": 12,
        "dutyFreeAmount": 10,
        "taxRate": 20,
        "currencyCode": "EUR",
        "percentage": 0
    },
    "recurringChargePeriod": "",
    "productOfferPriceAlteration":
    {
        "name": "Shipping Discount",
        "description": "One time shipping discount",
        "validFor":
        {
            "startDateTime": "2013-04-19T16:42:23.0Z"
        },
        "priceType": "One Time discount",
        "unitOfMeasure": "",
        "price":
        {
            "percentage": 100
        },
        "recurringChargePeriod": "",
        "priceCondition": "apply if total amount of the order is greater than
300.00"
    }
}
]
```

## ProductOfferingPrice

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** *Created on 17/11/2014. Last modified on 17/11/2014.*  
**Notes:** 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.

### Columns

Name	Type	Notes
name	String	Name of the productOfferingPrice
description	String	Description of the productOfferingPrice
validFor	TimePeriod	The period for which the productOfferingPrice is valid
priceType	String	Indicates the price type: recurring, one time, usage
unitOfMeasure	String	Could be minutes, GB...
recurringChargePeriod	String	Could be month, week...
version	String	ProductOffering version

### Relationships

Columns	Association	Notes
POHasProductOfferingPrice	<b>0..*</b> ProductOfferingPrice.productOfferingPrice <b>1</b> ProductOffering.	
POPHasProductOfferPriceAlteration	<b>1</b> ProductOfferPriceAlteration.productOfferPriceAlteration <b>1</b> ProductOfferingPrice.	
POPPriceHasPrice	<b>1</b> Price.price <b>1</b> ProductOfferingPrice.	

## ProductOfferingTerm

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** *Created on 17/11/2014. Last modified on 17/11/2014.*  
**Notes:** A condition under which a ProductOffering is made available to Customers. For instance, a productOffering can be offered with multiple commitment periods.

### Columns

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

### Relationships

Columns	Association	Notes
---------	-------------	-------

Columns	Association	Notes
POHasProductOfferingTerm	<b>0..*</b> ProductOfferingTerm.productOfferingTerm <b>1</b> ProductOffering.	

## ProductSpecCharRelationship

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* Created on 18/11/2014. Last modified on 18/11/2014.

*Notes:* An aggregation, migration, substitution, dependency or exclusivity relationship between/among productSpecCharacteristics.

### Columns

Name	Type	Notes
type	String	Type of relationship such as aggregation, migration, substitution, dependency, exclusivity
validFor	TimePeriod	The period for which the productSpecCharRelationship is valid

### Relationships

Columns	Association	Notes
PSCHasProductSpecCharRelationship	<b>0..*</b> ProductSpecCharRelationship.productSpecCharRelationship <b>1</b> ProductSpecCharacteristic.	

## ProductSpecCharacteristic

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* Created on 18/11/2014. Last modified on 18/11/2014.

*Notes:* 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.

### Columns

Name	Type	Notes
name	String	Name of the productSpecCharacteristic
description	String	A narrative that explains in detail what the productSpecCharacteristic is
valueType	String	A kind of value that the characteristic can take on, such as numeric, text and so forth
configurable	Boolean	If true, the Boolean indicates that the productSpecCharacteristic is configurable
validFor	TimePeriod	The period for which the productSpecCharacteristic is valid

### Relationships

Columns	Association	Notes
PSCHasProductSpecCharacteristicValue	<b>0..*</b> ProductSpecCharacteristicValue.productSpec	

Columns	Association	Notes
PSCHasProductSpecCharRelationship	CharacteristicValue 1 ProductSpecCharacteristic.  0..* ProductSpecCharRelationship.productSpecCharRelationship 1 ProductSpecCharacteristic.	
PSHasProductSpecCharacteristic	0..* ProductSpecCharacteristic.productSpecCharacteristic 1 ProductSpecification.	

## ProductSpecCharacteristicValue

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* Created on 18/11/2014. Last modified on 18/11/2014.

*Notes:* A number or text that can be assigned to a ProductSpecCharacteristic.

### Columns

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

### Relationships

Columns	Association	Notes
PSCHasProductSpecCharacteristicValue	0..* ProductSpecCharacteristicValue.productSpecCharacteristicValue 1 ProductSpecCharacteristic.	

## ProductSpecification

*Database:* Java, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* Created on 17/11/2014. Last modified on 18/11/2014.

*Notes:* 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.

### Columns

Name	Type	Notes
id	String	Unique identifier of the product specification
href	String	Reference of the product specification
version	String	Product specification version

LastUpdate	DateTime	Date and time of the last update
name	String	Name of the product specification
description	String	A narrative that explains in detail what the product specification is
isBundle	Boolean	isBundle determines whether a productSpecification represents a single productSpecification (false), or a bundle of productSpecification (true).
brand	String	The manufacturer or trademark of the specification
lifecycleStatus	String	Used to indicate the current lifecycle status
validFor	TimePeriod	The period for which the product specification is valid
productNumber	String	An identification number assigned to uniquely identify the specification

### **Relationships**

Columns	Association	Notes
BillingChargeConcernsProductSpecification	<b>0..*</b> ProductSpecification.productSpecification <b>1</b> AppliedCustomerBillingCharge.	
PSHasAttachment	<b>0..*</b> Attachment.attachment <b>1</b> ProductSpecification.	
PSHasBundledProductSpecification	<b>0..*</b> BundledProductSpecification.bundledProductSpecification <b>1</b> ProductSpecification.	
PSHasProductSpecCharacteristic	<b>0..*</b> ProductSpecCharacteristic.productSpecCharacteristic <b>1</b> ProductSpecification.	
PSHasProductSpecificationRelationship	<b>0..*</b> ProductSpecificationRelationship.productSpecificationRelationship <b>1</b> ProductSpecification.	
PSHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> ProductSpecification.	
PSHasResourceSpecification	<b>0..*</b> ResourceSpecificationRef.resourceSpecification <b>1</b> ProductSpecification.	
PSHasServiceSpecification	<b>0..*</b> ServiceSpecificationRef.serviceSpecification <b>1</b> ProductSpecification.	

### ProductSpecification (JSON)

```
{
  "id": "22",
  "href": "http://serverlocation:port/productCatalogManagement/productSpecification/22",
  "productNumber": "I42-340-DX",
  "version": "2.0",
  "lastUpdate": "2013-04-19T16:42:23.0Z",
  "name": "iPhone 42",
}
```

```
"description": "Siri works on this iPhone",
"isBundle": true,
"brand": "Apple",
"lifecycleStatus": "Active",
"validFor":
{
    "startDateTime": "2013-06-19T00:00:00.0Z",
    "endDateTime": "2013-04-19T16:42:23.0Z"
},
"relatedParty":
[
    {
        "id": "1234",
        "href": "http://serverLocation:port/partyManagement/partyRole/1234",
        "role": "Owner"
    }
],
"attachment":
[
    {
        "id": "22",
        "href": "http://serverlocation:port/documentManagement/attachment/22",
        "type": "Picture",
        "url": "http://xxxxx"
    }
],
"bundledProductSpecification":
[
    {
        "id": "15",
        "href": "http://serverlocation:port/productCatalogManagement/productSpecification/15",
        "lifecycleStatus": "Active",
        "name": "Product specification 15"
    },
    {
        "id": "64",
        "href": "http://serverlocation:port/productCatalogManagement/productSpecification/64",
        "lifecycleStatus": "Active",
        "name": "Product specification 64"
    }
],
```

```
"productSpecificationRelationship":  
[  
    {  
  
        "id": "23",  
        "href":  
        "http://serverlocation:port/productCatalogManagement/productSpecification/23",  
        "type": "dependency",  
        "validFor":  
        {  
            "startDateTime": "2013-04-19T16:42:23.0Z"  
        }  
    }  
],  
  
"serviceSpecification":  
[  
    {  
        "id": "13",  
        "href":  
        "http://serverlocation:port/serviceCatalogManagement/serviceSpecification/13",  
        "name": "specification 13",  
        "version": "1.1"  
    }  
],  
  
"resourceSpecification":  
[  
    {  
        "id": "13",  
        "href":  
        "http://serverlocation:port/resourceCatalogManagement/resourceSpecification/13",  
        "name": "specification 13",  
        "version": "1.1"  
    }  
],  
  
"productSpecCharacteristic":  
[  
    {  
  
        "name": "Screen Size",  
        "description": "Screen size",  
        "valueType": "number",  
        "configurable": false,  
        "productSpecCharacteristicValue":  
        [  
            {  
                "valueType": "number",  
                "default": true,  
                "value": "4.2",  
                "unitOfMeasure": "inches",  
                "valueFrom": "",  
                "valueTo": ""  
            }  
        ]  
    }  
]
```

```
        "validFor":
        {
            "startDateTime": "2013-04-19T16:42:23.0Z"
        }
    ],
    "validFor":
    {
        "startDateTime": "2013-04-19T16:42:23.0Z"
    }
},
{
    "name": "Colour",
    "description": "Colour",
    "valueType": "string",
    "configurable": true,
    "ProductSpecCharacteristicValue":
    [
        {
            "valueType": "string",
            "default": true,
            "value": "Black",
            "unitOfMeasure": "",
            "valueFrom": "",
            "valueTo": "",
            "validFor":
            {
                "startDateTime": "2013-04-19T16:42:23.0Z"
            }
        },
        {
            "valueType": "string",
            "default": false,
            "value": "White",
            "unitOfMeasure": "",
            "valueFrom": "",
            "valueTo": "",
            "validFor":
            {
                "startDateTime": "2013-04-19T16:42:23.0Z"
            }
        }
    ],
    "validFor":
    {
        "startDateTime": "2013-04-19T16:42:23.0Z"
    }
}
]
```

{}

## ProductSpecificationRelationship

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** Created on 18/11/2014. Last modified on 18/11/2014.  
**Notes:** A migration, substitution, dependency or exclusivity relationship between/among product specifications.

### Columns

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

### Relationships

Columns	Association	Notes
PSHasProductSpecificationRelationships p	0..* ProductSpecificationRelationship.productSpecificationRelationship 1 ProductSpecification.	

## Active

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** Created on 17/11/2014. Last modified on 17/11/2014.  
**Notes:** Then either the test is OK and then its status is changed to 'Active' or the test is KO and its status is 'Rejected'. When a catalog element is in a 'Active' status it means it has been validated and tested, but it is still not available for customers.

### Relationships

Columns	Association	Notes
Catalog element not launched	Active. Retired.	
Start of marketing	Active. Launched.	
Test approved	In Test. Active.	

## In Design

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** Created on 17/11/2014. Last modified on 17/11/2014.  
**Notes:** When the conception of the catalog element is accepted its status is changed to 'In Design'.

### Relationships

Columns	Association	Notes
Conception approved	In Study. In Design.	
Design approved	In Design. In Test.	
Test KO	In Test. In Design.	

## In Study

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** *Created on 17/11/2014. Last modified on 17/11/2014.*  
**Notes:** When the macro conception of a catalog element is started the first status of the later is 'In Study'

### Relationships

Columns	Association	Notes
Conception approved	In Study. In Design.	
Macro conception	Initial. In Study.	

## In Test

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** *Created on 17/11/2014. Last modified on 17/11/2014.*  
**Notes:** If the design is approved its status is changed to 'In Test'.

### Relationships

Columns	Association	Notes
Design approved	In Design. In Test.	
Test approved	In Test. Active.	
Test KO	In Test. In Design.	
Test KO, catalog element rejected	In Test. Rejected.	

## Launched

**Database:** Java, **Stereotype:** , **Package:** Product Catalog Management  
**Detail:** *Created on 17/11/2014. Last modified on 17/11/2014.*  
**Notes:** When the beginning of marketing is reached, its status is changed to 'Launched'. At this moment customers can buy it.

### **Relationships**

Columns	Association	Notes
End of marketing	Launched. Retired.	
Start of marketing	Active. Launched.	

## **Obsolete**

**Database:**Java, *Stereotype:* , *Package:* Product Catalog Management**Detail:***Created on 17/11/2014. Last modified on 17/11/2014.***Notes:**

When no more customer holds the catalog element, its status is changed to 'Obsolete' meaning it can be removed from the catalog.

### **Relationships**

Columns	Association	Notes
	Obsolete. Final.	
No more customer holding the catalog element	Retired. Obsolete.	

## **Rejected**

**Database:**Java, *Stereotype:* , *Package:* Product Catalog Management**Detail:***Created on 17/11/2014. Last modified on 17/11/2014.***Notes:**

Then either the test is OK and then its status is changed to 'Active' or the test is KO and its status is 'Rejected'. The Rejected status is a final status.

### **Relationships**

Columns	Association	Notes
	Rejected. Final.	
Test KO, catalog element rejected	In Test. Rejected.	

## **Retired**

**Database:**Java, *Stereotype:* , *Package:* Product Catalog Management**Detail:***Created on 17/11/2014. Last modified on 17/11/2014.***Notes:**

If the catalog element is not launched, its status is changed to 'Retired'. The same status is achieved when a catalog element reaches the end of marketing.

### **Relationships**

Columns	Association	Notes

Columns	Association	Notes
Catalog element not launched	Active. Retired.	
End of marketing	Launched. Retired.	
No more customer holding the catalog element	Retired. Obsolete.	

## Final

*Database:* <none>, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* Created on 17/11/2014. Last modified on 17/11/2014.

*Notes:*

### Relationships

Columns	Association	Notes
	Obsolete. Final.	
	Rejected. Final.	

## Initial

*Database:* <none>, *Stereotype:* , *Package:* Product Catalog Management

*Detail:* Created on 17/11/2014. Last modified on 17/11/2014.

*Notes:*

### Relationships

Columns	Association	Notes
Macro conception	Initial. In Study.	

## Product Inventory Management

*Type:*

### Package

*Package:* ODE model

*Detail:* Created on 20/11/2014. Last modified on 21/11/2014.

*Notes:*

The Product Inventory management package allows the management of products owned by customers or partners.

### Product resource

*Created By:* yvaf6294 on 21/11/2014

*Last Modified:* 28/11/2014, *Version:* 1.0

UML representation of the Product resource

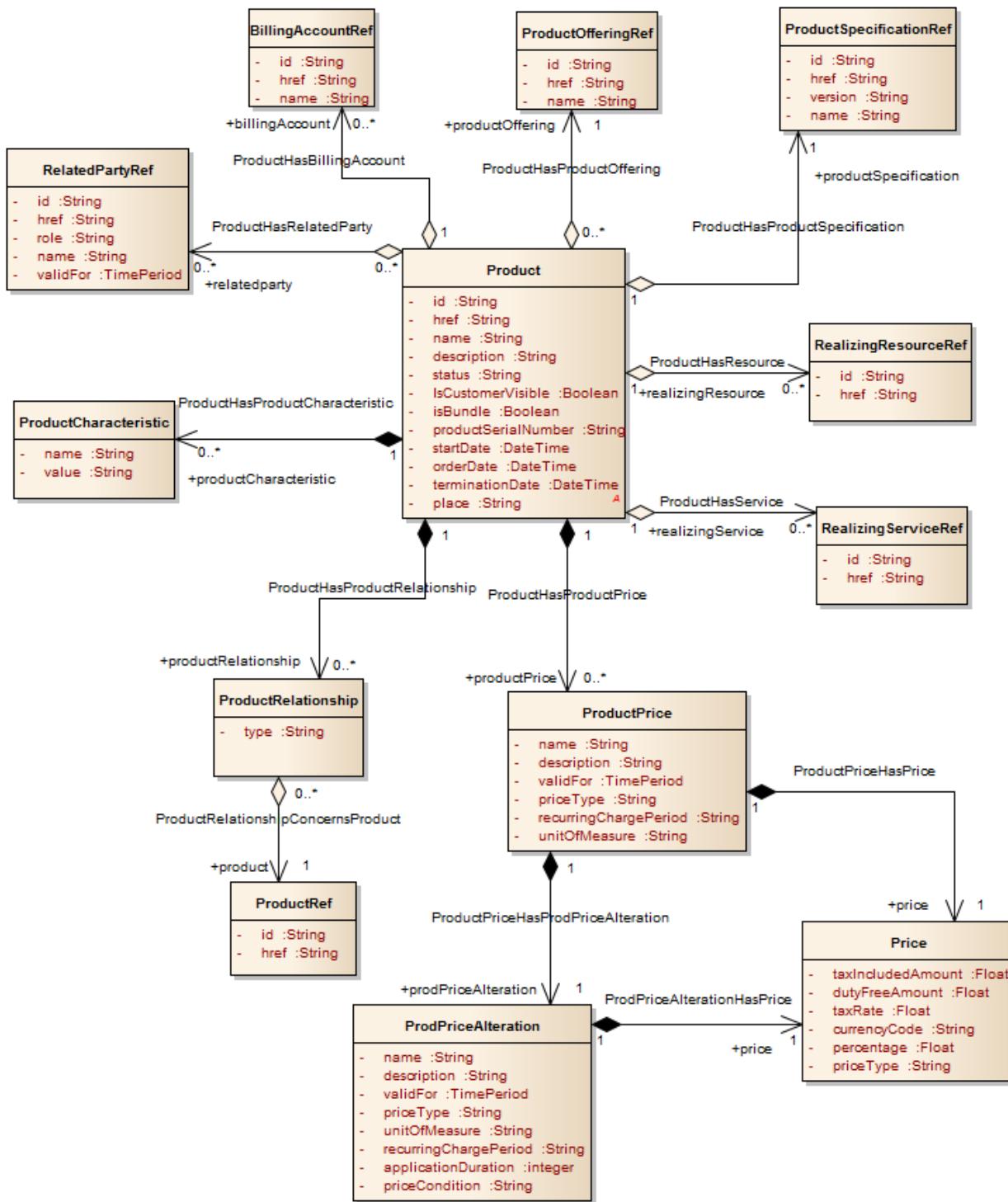


Figure: 29

## **Product notification resource**

---

*Created By:* yvaf6294 on 27/11/2014

Last Modified: 27/11/2014, Version: 1.0

### UML representation of the Product Notification resource

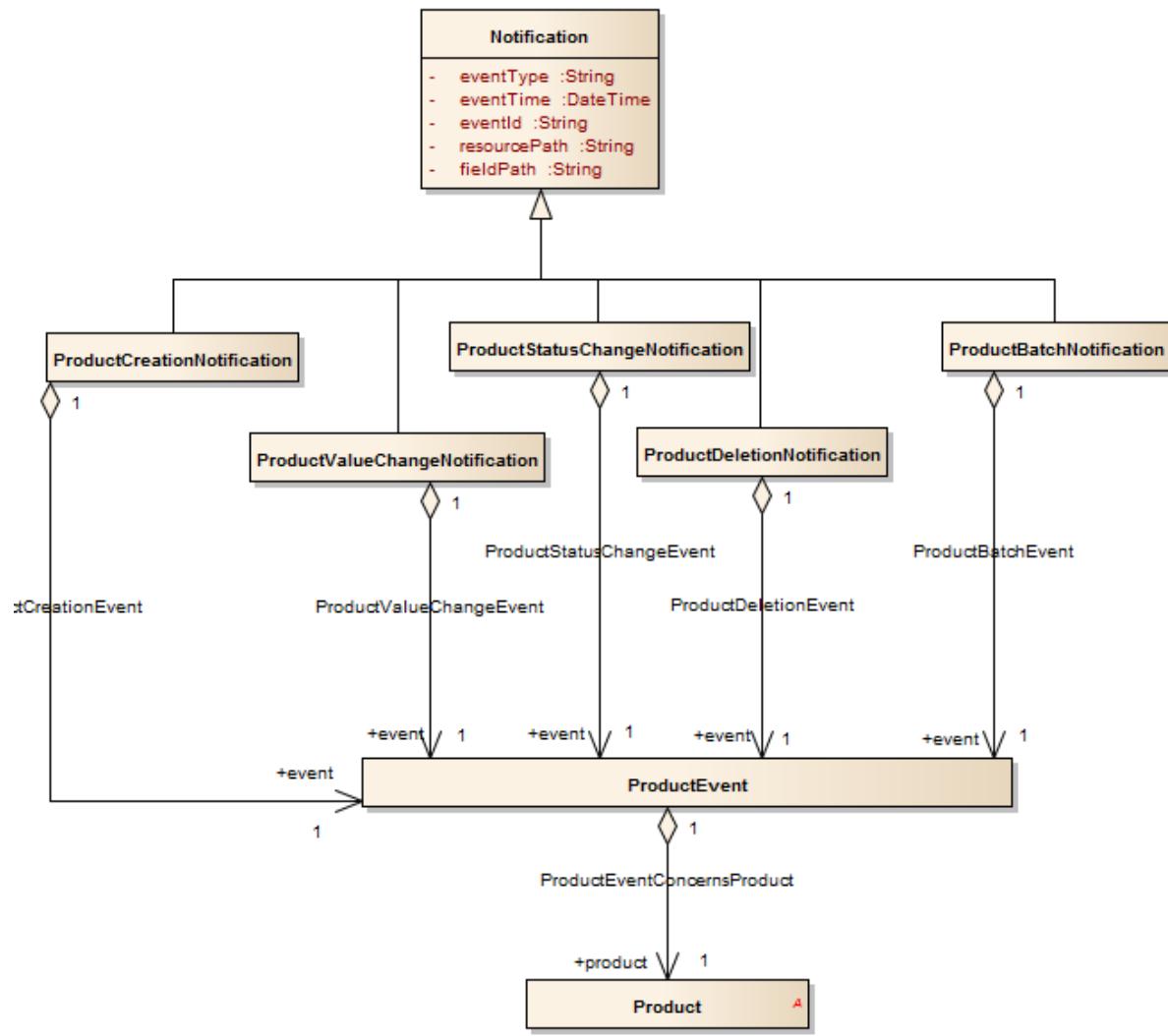


Figure: 30

### Product Lifecycle

*Created By:* yvaf6294 on 26/11/2014

*Last Modified:* 26/11/2014, *Version:* 1.0

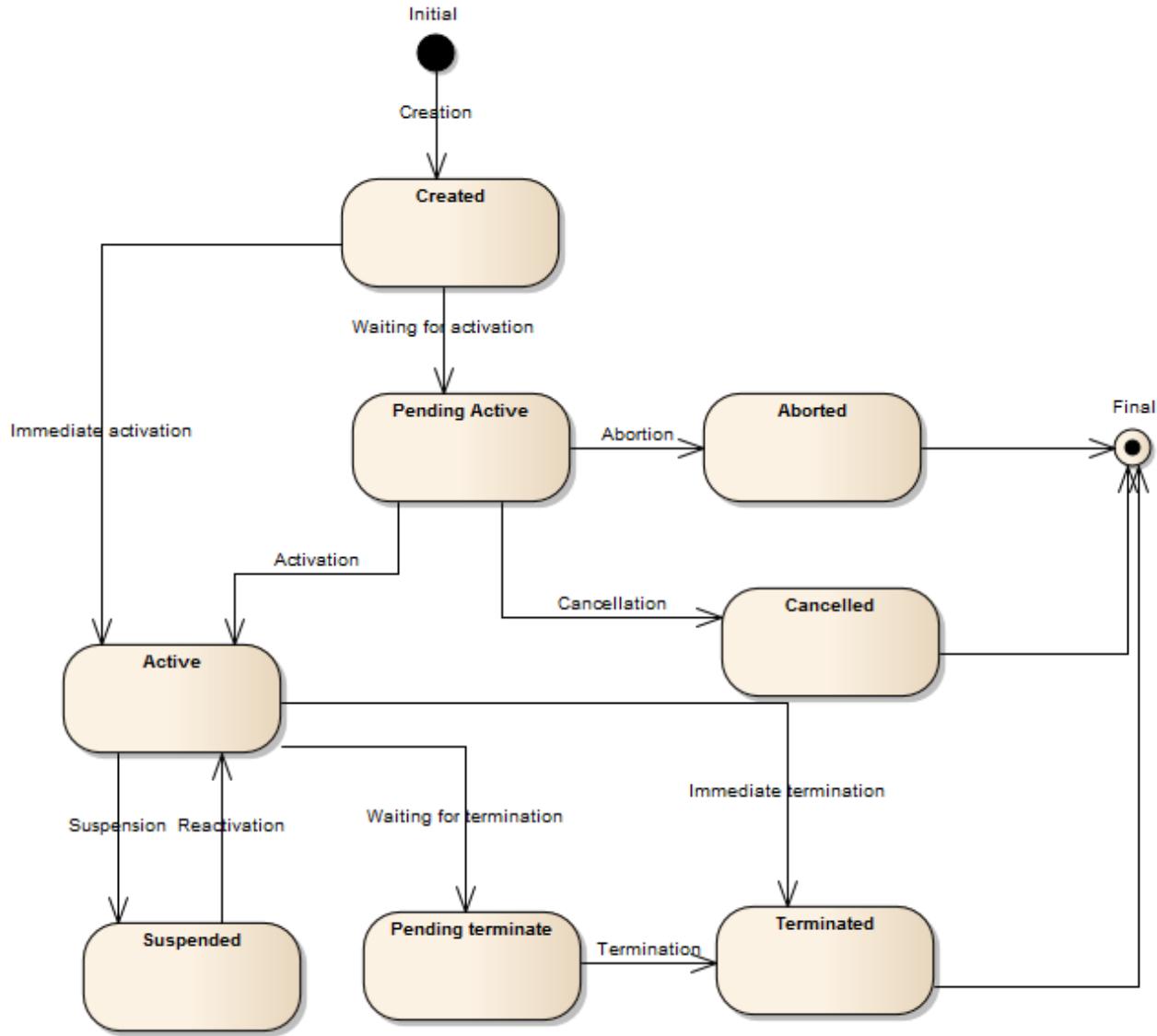


Figure: 31

## ProdPriceAlteration

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* Created on 26/11/2014. Last modified on 26/11/2014.

*Notes:* Is an amount, usually of money, that modifies the price charged for a Product.

### Columns

Name	Type	Notes
name	String	A short descriptive name such as "Monthly discount"
description	String	A narrative that explains in detail the semantics of this ProdPriceAlteration
validFor	TimePeriod	The period for which the ProdPriceAlteration is valid
priceType	String	A category that describes the price such as

		recurring, one shot and so forth.
unitOfMeasure	String	Could be minutes, GB...
recurringChargePeriod	String	Could be month, week...
applicationDuration	integer	Duration during which the ProdPriceAlteration applies on the ProductPrice (for instance 2 months free of charge for the recurring charge)
priceCondition	String	Condition that triggers the price application

#### Relationships

Columns	Association	Notes
ProdPriceAlterationHasPrice	<b>1</b> Price.price <b>1</b> ProdPriceAlteration.	
ProductPriceHasProdPriceAlteration	<b>1</b> ProdPriceAlteration.prodPriceAlteration <b>1</b> ProductPrice.	

## Product

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* Created on 21/11/2014. Last modified on 27/11/2014.

*Notes:* 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).

#### Columns

Name	Type	Notes
id	String	Unique identifier of the product
href	String	Reference of the product
name	String	Name of the product. It could be the same as the name of the product offering
description	String	Is the description of the product. It could be copied from the description of the Product Offering.
status	String	Is the lifecycle status of the product.
IsCustomerVisible	Boolean	If true, the product is visible by the customer.
isBundle	Boolean	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.
productSerialNumber	String	Is the serial number for the product. This is typically applicable to tangible products e.g. Broadband Router.
startDate	DateTime	Is the date from which the product starts
orderDate	DateTime	Is the date when the product was ordered
terminationDate	DateTime	Is the date when the product was terminated
place	String	is a link to the place where the product is provided

#### Relationships

Columns	Association	Notes
ProductEventConcernsProduct	<b>1</b> Product.product <b>1</b> ProductEvent.	
ProductHasBillingAccount	<b>0..*</b> BillingAccountRef.billingAccount	

Columns	Association	Notes
	<b>1</b> Product.	
ProductHasProductCharacteristic	<b>0..*</b> ProductCharacteristic.productCharacteristic <b>1</b> Product.	
ProductHasProductOffering	<b>1</b> ProductOfferingRef.productOffering <b>0..*</b> Product.	
ProductHasProductPrice	<b>0..*</b> ProductPrice.productPrice <b>1</b> Product.	
ProductHasProductRelationship	<b>0..*</b> ProductRelationship.productRelationship <b>1</b> Product.	
ProductHasProductSpecification	<b>1</b> ProductSpecificationRef.productSpecification <b>n</b> <b>1</b> Product.	
ProductHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedparty <b>0..*</b> Product.	
ProductHasResource	<b>0..*</b> RealizingResourceRef.realizingResource <b>1</b> Product.	
ProductHasService	<b>0..*</b> RealizingServiceRef.realizingService <b>1</b> Product.	

## Product (JSON)

```
{
  "id": "42",
  "href": "http://server:port/inventoryManagement/product/42",
  "name": "Broadband",
  "description": "Description of the instantiated broadband product",
  "status": "active",
  "isCustomerVisible": "true",
  "isBundle" : "true",
  "productSerialNumber": "Not useful in this case, we are describing a service...",
  "startDate": "2013-07-21T08:16:39-04:00",
  "orderDate": "2013-07-21T06:16:39-04:00",
  "terminationDate": "",
  "place": "http://map.google.com/.../1234112GDE",
  "productOffering": {
    "id": "4",
    "href": "http://server:port/catalogManagement/productOffering/4",
    "name": "My Quick BB Offer"
  },
  "productSpecification": {
  }
}
```

```
"id": "4",
"href": "http://server:port/catalogManagement/ productSpecification /42"
},
"productCharacteristic": [
{
"name": "speed",
"value": "16M"
}
],
"productRelationship": [
{
"type": "targets",
"product": [
{
"id": "59",
"href": "http://server:port/inventoryManagement/product/59"
}
]
},
"billingAccount": [
{
"id": "678",
"href": "http://server:port/billingManagement/billingAccount/678",
"name": "My billing account"
}
],
"relatedParty": [
{
"id": "42",
"role": "partner",
"href": "http://serverlocation:port/partnerManagement/partner/42"
}
],
"resource": [
{
"id": "not useful in this case, we are describing a service...",
"href": "not useful in this case, we are describing a service..."
}
]
},
```

```
"service": [
    {
        "id": "46779",
        "href": "http://server:port/inventoryManagement/service/46779"
    }
],
"productPrice" : [
    {
        "name" : "Monthly price",
        "description" : "Monthly price for recurring charges",
        "validFor":
            {
                "startDateTime": "2013-04-19T16:42:23-04:00",
                "endDateTime": ""
            },
        "priceType": "recurring",
        "recurringChargePeriod": "monthly",
        "unitOfMeasure": "",
        "price":
            {
                "taxIncludedAmount": "12",
                "dutyFreeAmount": "10",
                "taxRate": "20",
                "currency": "USD"
            },
        "prodPriceAlteration":
            {
                "name": "Monthly discount",
                "description": "Monthly discount applying on recurring charges",
                "validFor":
                    {
                        "startDateTime": "2013-04-19T16:42:23-04:00"
                    },
                "priceType": "Monthly discount",
                "unitOfMeasure": "",
                "recurringChargePeriod": "",
                "applicationDuration": "1",
                "priceCondition": "apply if subscription before end of november 2014",
                "price":
```

```

    {
      "percentage": "10"
    }
}
]
}

```

## ProductBatchNotification

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* *Created on* 27/11/2014. *Last modified on* 27/11/2014.

*Notes:* The ProductBatch notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	ProductBatchNotification. Notification.	
ProductBatchEvent	<b>1</b> ProductEvent.event <b>1</b> ProductBatchNotification.	

## ProductCharacteristic

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* *Created on* 20/11/2014. *Last modified on* 21/11/2014.

*Notes:* Characteristics of the product to instantiate or to modify

### Columns

Name	Type	Notes
name	String	Name of the characteristic
value	String	Value of the characteristic

### Relationships

Columns	Association	Notes
ProductHasCharacteristic	<b>0..*</b> ProductCharacteristic.characteristic <b>1</b> ProductRef.	
ProductHasProductCharacteristic	<b>0..*</b> ProductCharacteristic.productCharacteristic <b>1</b> Product.	

## ProductCreationNotification

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* *Created on* 27/11/2014. *Last modified on* 27/11/2014.

*Notes:* The ProductCreation notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	ProductCreationNotification. Notification.	
ProductCreationEvent	<b>1</b> ProductEvent.event <b>1</b> ProductCreationNotification.	

## ProductDeletionNotification

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* Created on 27/11/2014. Last modified on 27/11/2014.

*Notes:* The ProductDeletion notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	ProductDeletionNotification. Notification.	
ProductDeletionEvent	<b>1</b> ProductEvent.event <b>1</b> ProductDeletionNotification.	

## ProductEvent

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* Created on 27/11/2014. Last modified on 27/11/2014.

*Notes:* The Product event is generated each time a product has been created, updated or deleted.

### Relationships

Columns	Association	Notes
ProductBatchEvent	<b>1</b> ProductEvent.event <b>1</b> ProductBatchNotification.	
ProductCreationEvent	<b>1</b> ProductEvent.event <b>1</b> ProductCreationNotification.	
ProductDeletionEvent	<b>1</b> ProductEvent.event <b>1</b> ProductDeletionNotification.	
ProductEventConcernsProduct	<b>1</b> Product.product <b>1</b> ProductEvent.	
ProductStatusChangeEvent	<b>1</b> ProductEvent.event <b>1</b> ProductStatusChangeNotification.	
ProductValueChangeEvent	<b>1</b> ProductEvent.event <b>1</b> ProductValueChangeNotification.	

## ProductPrice

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* Created on 26/11/2014. Last modified on 27/11/2014.

*Notes:* 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.

#### Columns

Name	Type	Notes
name	String	A short descriptive name such as "Subscription price".
description	String	A narrative that explains in detail the semantics of this product price.
validFor	TimePeriod	The period for which the price is valid.
priceType	String	A category that describes the price, such as recurring, discount, allowance, penalty, and so forth.
recurringChargePeriod	String	Could be month, week...
unitOfMeasure	String	Could be minutes, GB...

#### Relationships

Columns	Association	Notes
ProductHasProductPrice	<b>0..*</b> ProductPrice.productPrice <b>1</b> Product.	
ProductPriceHasPrice	<b>1</b> Price.price <b>1</b> ProductPrice.	
ProductPriceHasProdPriceAlteration	<b>1</b> ProdPriceAlteration.prodPriceAlteration <b>1</b> ProductPrice.	

## ProductRelationship

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management

*Detail:* Created on 20/11/2014. Last modified on 21/11/2014.

*Notes:* 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

#### Columns

Name	Type	Notes
type	String	Type of the product relationship. It can be : <input type="checkbox"/> “bundled” if the product is a bundle and you want to describe the “bundled” products inside this bundle <input type="checkbox"/> “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

#### Relationships

Columns	Association	Notes
---------	-------------	-------

Columns	Association	Notes
ProductHasProductRelationship	<b>0..*</b> ProductRelationship.productRelationship <b>1</b> ProductRef.	
ProductHasProductRelationship	<b>0..*</b> ProductRelationship.productRelationship <b>1</b> Product.	
ProductRelationshipConcernsProduct	<b>1</b> ProductRef.product <b>0..*</b> ProductRelationship.	

## ProductStatusChangeNotification

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management  
*Detail:* Created on 27/11/2014. Last modified on 27/11/2014.  
*Notes:* The ProductStatusChange notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	ProductStatusChangeNotification.Notification.	
ProductStatusChangeEvent	<b>1</b> ProductEvent.event <b>1</b> ProductStatusChangeNotification.	

## ProductValueChangeNotification

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management  
*Detail:* Created on 27/11/2014. Last modified on 27/11/2014.  
*Notes:* The ProductValueChange notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	ProductValueChangeNotification.Notification.	
ProductValueChangeEvent	<b>1</b> ProductEvent.event <b>1</b> ProductValueChangeNotification.	

## Aborted

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management  
*Detail:* Created on 26/11/2014. Last modified on 26/11/2014.  
*Notes:* Activation aborted for technical / internal reasons

### Relationships

Columns	Association	Notes
	Aborted. Final.	
Abortion	Pending Active. Aborted.	

## Active

**Database:** Java, **Stereotype:** , **Package:** Product Inventory Management  
**Detail:** Created on 26/11/2014. Last modified on 26/11/2014.  
**Notes:** Active for customer use of product

### Relationships

Columns	Association	Notes
Activation	Pending Active. Active.	
Immediate activation	Created. Active.	
Immediate termination	Active. Terminated.	
Reactivation	Suspended. Active.	
Suspension	Active. Suspended.	
Waiting for termination	Active. Pending terminate.	

## Cancelled

**Database:** Java, **Stereotype:** , **Package:** Product Inventory Management  
**Detail:** Created on 26/11/2014. Last modified on 26/11/2014.  
**Notes:** Activation aborted by customer / legal request

### Relationships

Columns	Association	Notes
	Cancelled. Final.	
Cancellation	Pending Active. Cancelled.	

## Created

**Database:** Java, **Stereotype:** , **Package:** Product Inventory Management  
**Detail:** Created on 26/11/2014. Last modified on 26/11/2014.  
**Notes:** No identified status yet - newly injected into the target system

### Relationships

Columns	Association	Notes
Creation	Initial. Created.	
Immediate activation	Created.	

Columns	Association	Notes
	Active.	
Waiting for activation	Created. Pending Active.	

## Pending Active

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management  
*Detail:* Created on 26/11/2014. Last modified on 26/11/2014.  
*Notes:* Prepared, but not active for customer yet

### Relationships

Columns	Association	Notes
Abortion	Pending Active. Aborted.	
Activation	Pending Active. Active.	
Cancellation	Pending Active. Cancelled.	
Waiting for activation	Created. Pending Active.	

## Pending terminate

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management  
*Detail:* Created on 26/11/2014. Last modified on 26/11/2014.  
*Notes:* To be terminated, but still in use

### Relationships

Columns	Association	Notes
Termination	Pending terminate. Terminated.	
Waiting for termination	Active. Pending terminate.	

## Suspended

*Database:* Java, *Stereotype:* , *Package:* Product Inventory Management  
*Detail:* Created on 26/11/2014. Last modified on 26/11/2014.  
*Notes:* Temporary suspension, not usable for customer, typically because of barring caused by payment / dunning issues or customer request

### Relationships

Columns	Association	Notes
Reactivation	Suspended. Active.	

Columns	Association	Notes
Suspension	Active. Suspended.	

## Terminated

**Database:** Java, **Stereotype:** , **Package:** Product Inventory Management  
**Detail:** *Created on 26/11/2014. Last modified on 26/11/2014.*  
**Notes:** No longer active for customer

### Relationships

Columns	Association	Notes
	Terminated. Final.	
Immediate termination	Active. Terminated.	
Termination	Pending terminate. Terminated.	

## Final

**Database:** <none>, **Stereotype:** , **Package:** Product Inventory Management  
**Detail:** *Created on 26/11/2014. Last modified on 26/11/2014.*  
**Notes:**

### Relationships

Columns	Association	Notes
	Aborted. Final.	
	Cancelled. Final.	
	Terminated. Final.	

## Initial

**Database:** <none>, **Stereotype:** , **Package:** Product Inventory Management  
**Detail:** *Created on 26/11/2014. Last modified on 26/11/2014.*  
**Notes:**

### Relationships

Columns	Association	Notes
Creation	Initial. Created.	

## Product Order Management

Type: **Package**

Package: ODE model

Detail: Created on 19/11/2014. Last modified on 19/11/2014.

Notes: The Product Order management package manages the Product Order resource used by the Order handling process.

### Product Order resource

Created By: yvaf6294 on 19/11/2014

Last Modified: 20/11/2014, Version: 1.0

UML representation of the ProductOrder resource

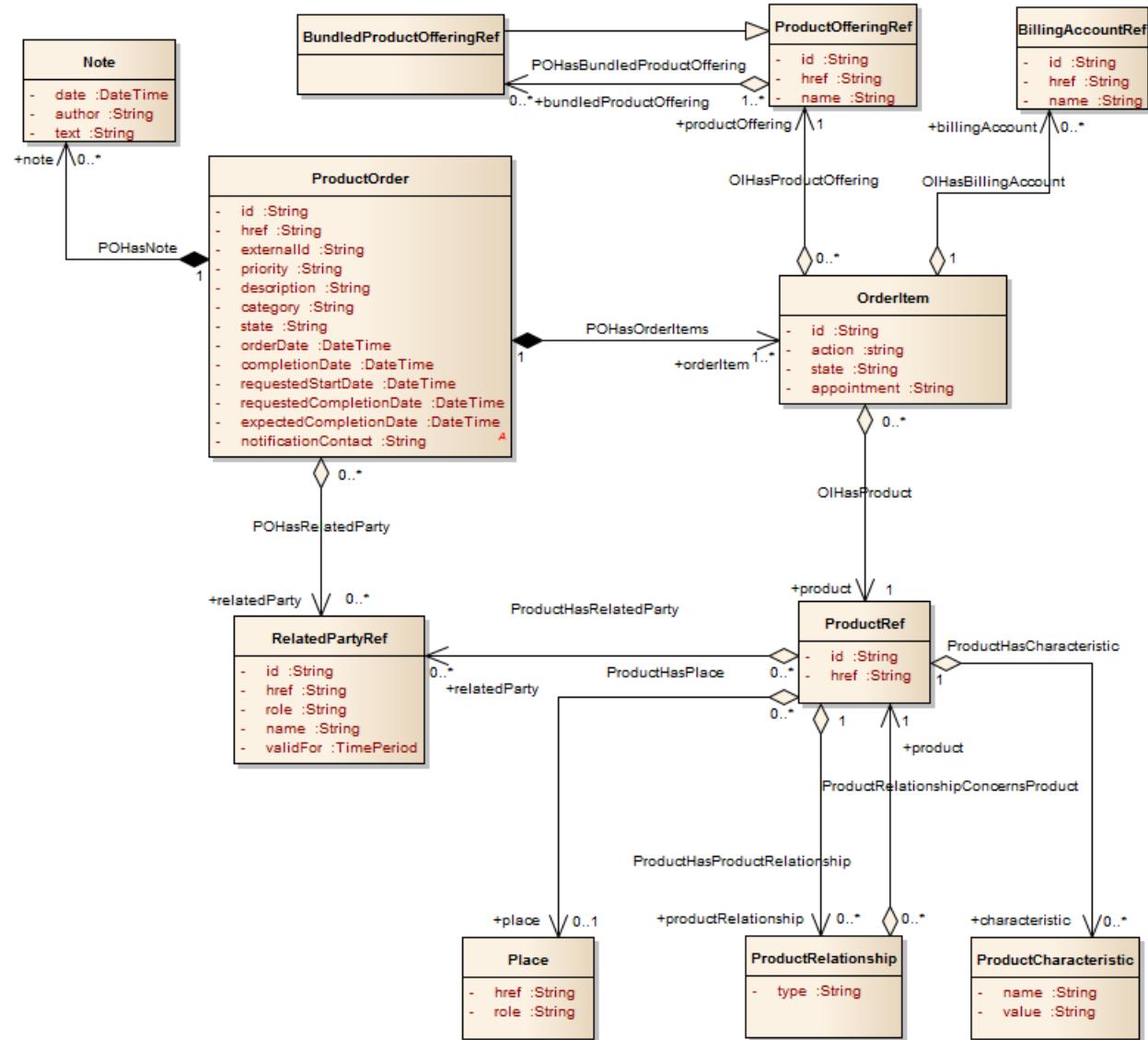


Figure: 32

### Product Order Notification resource

Created By: yvaf6294 on 20/11/2014

Last Modified: 20/11/2014, Version: 1.0

UML representation of ProductOrder notification resource

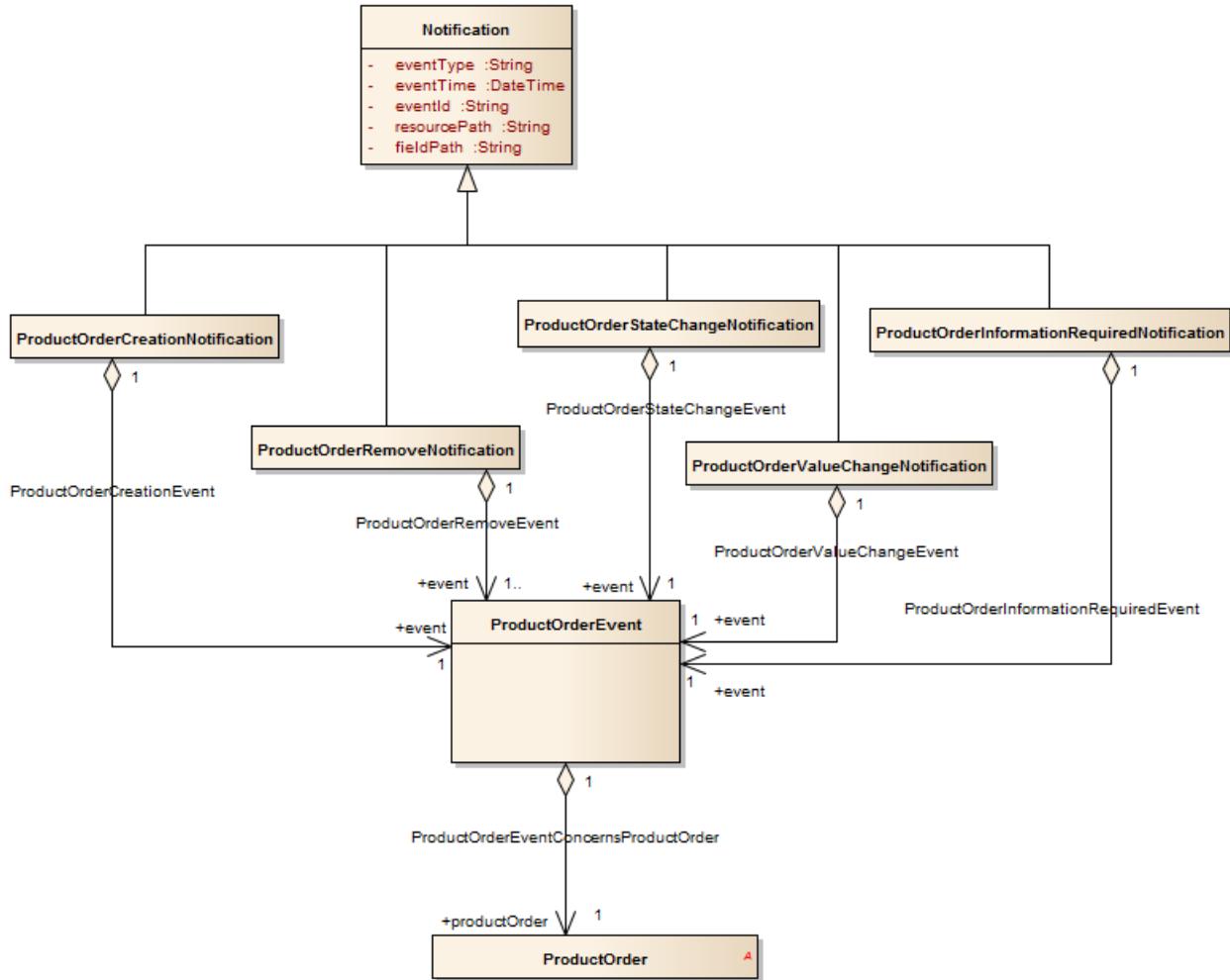


Figure: 33

### ProductOrder Lifecycle

*Created By:* yvaf6294 on 19/11/2014  
*Last Modified:* 19/11/2014, *Version:* 1.0  
 UML representation of the ProductOrder lifecycle

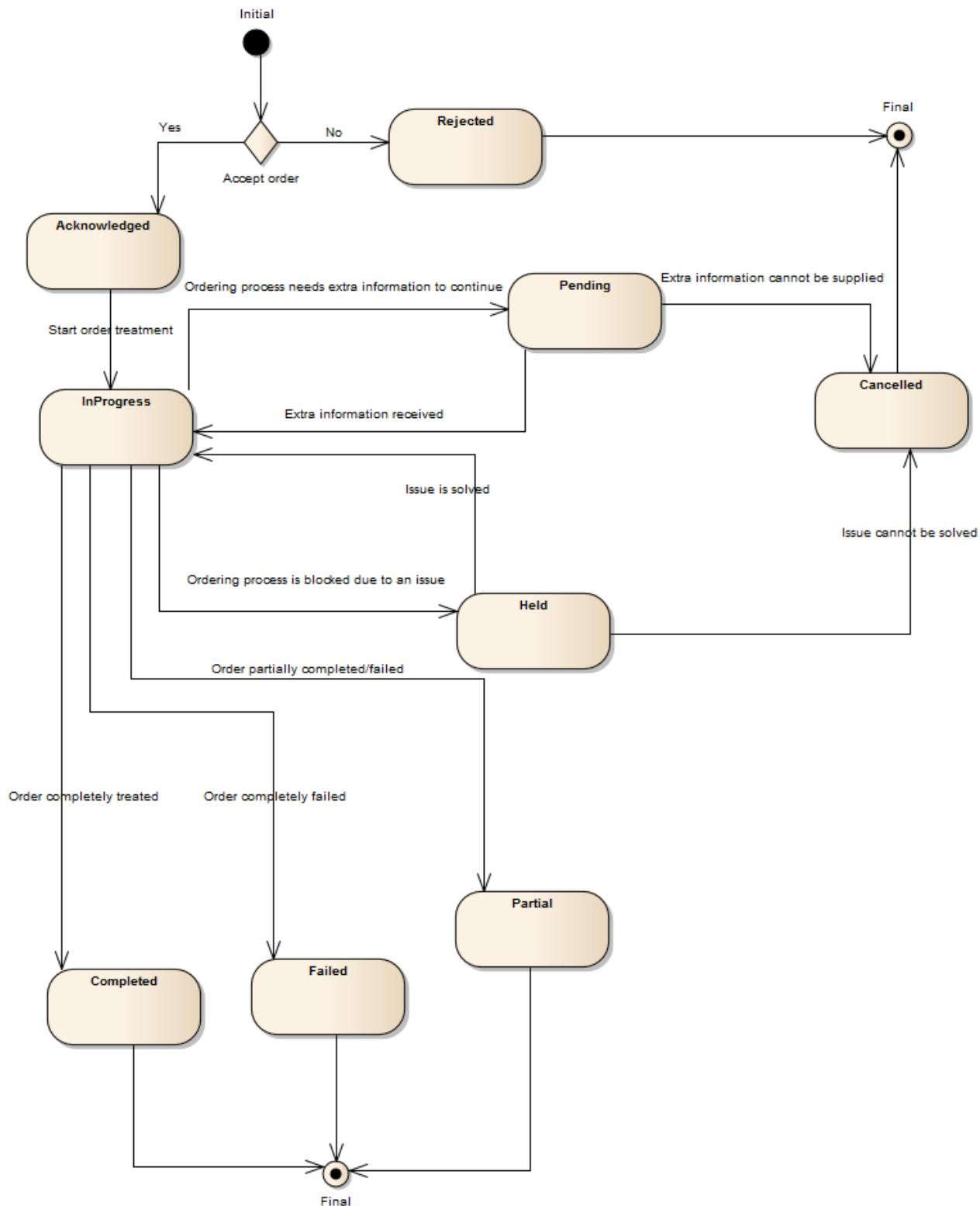


Figure: 34

## OrderItem

*Database:* Java, *Stereotype:* , *Package:* Product Order Management

*Detail:* Created on 19/11/2014. Last modified on 19/11/2014.

*Notes:*

### Columns

Name	Type	Notes
id	String	Identifier of the line item (generally it is a sequence number 01, 02, 03, ...)
action	string	Can be “add” / “modify” / “no_change”/ “delete”
state	String	State of the order item : described in the state machine diagram
appointment	String	Used to precise that an appointment was set up with a related party for this order item

### Relationships

Columns	Association	Notes
OIHasBillingAccount	<b>0..*</b> BillingAccountRef.billingAccount <b>1</b> OrderItem.	
OIHasProduct	<b>1</b> ProductRef.product <b>0..*</b> OrderItem.	
OIHasProductOffering	<b>1</b> ProductOfferingRef.productOffering <b>0..*</b> OrderItem.	
POHasOrderItems	<b>1..*</b> OrderItem.orderItem <b>1</b> ProductOrder.	

## Place

*Database:* Java, *Stereotype:* , *Package:* Product Order Management

*Detail:* Created on 20/11/2014. Last modified on 20/11/2014.

*Notes:* Used to defined a place useful for the product (for example a delivery geographical place)

### Columns

Name	Type	Notes
href	String	Reference of a place (for instance in google map)
role	String	Role of the place (for instance delivery geographical place)

### Relationships

Columns	Association	Notes
ProductHasPlace	<b>0..1</b> Place.place <b>0..*</b> ProductRef.	

## ProductOrder

*Database:* Java, *Stereotype:* , *Package:* Product Order Management

*Detail:* Created on 19/11/2014. Last modified on 20/11/2014.

*Notes:* 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,

### Columns

Name	Type	Notes
id	String	ID created on repository side (OM system)
href	String	Hyperlink to access the order
externalId	String	ID given by the consumer and only understandable by him (to facilitate his searches afterwards)
priority	String	A way that can be used by consumers to prioritize orders in OM system (from 0 to 4 : 0 is the highest priority, and 4 the lowest)
description	String	Description of the product order
category	String	Used to categorize the order from a business perspective that can be useful for the OM system (e.g. "enterprise", "residential", ...)
state	String	State of the order : described in the state-machine diagram
orderDate	DateTime	Date when the order was created
completionDate	DateTime	Date when the order was completed
requestedStartDate	DateTime	Order start date wished by the requestor
requestedCompletionDate	DateTime	Requested delivery date from the requestor perspective
expectedCompletionDate	DateTime	Expected delivery date amended by the provider
notificationContact	String	Contact attached to the order to send back information regarding this order

### Relationships

Columns	Association	Notes
POHasNote	<b>0..*</b> Note.note <b>1</b> ProductOrder.	
POHasOrderItems	<b>1..*</b> OrderItem.orderItem <b>1</b> ProductOrder.	
POHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>0..*</b> ProductOrder.	
ProductOrderEventConcernsProductOrder	<b>1</b> ProductOrder.productOrder <b>1</b> ProductOrderEvent.	

### ProductOrder (JSON)

```
{
  "id": "42",
  "href": "http://serverlocation:port/orderManagement/productOrder/42",
  "externalId": "NiceNameForTheConsumer_42",
  "priority": "1",
  "description": "A wonderful 42 order for brand new products",
  "category": "residential",
  "state": "InProgress",
  "orderDate": "2013-04-12T16:42:23-04:00",
  "completionDate": "2013-04-19T16:42:23-04:00",
  "requestedStartDate": "2013-04-12T16:42:23-04:00",
```

```
"requestedCompletionDate":"2013-04-19T16:42:23-04:00",
"expectedCompletionDate":"2013-04-19T16:42:23-04:00",
"notificationContact":"emailAddr-myAddress@hotmail.com",
"note": [
  {
    "text": "A free text detailing the note",
    "date": "2013-04-12T16:42:23-04:00",
    "author": "name"
  }
],
"relatedParty": [
  {
    "role": "customer",
    "id": "345221",
    "href": "http://serverlocation:port/partyManagement/customer/345221"
    "name": "John Doe"
  },
  {
    "role": "partner",
    "id": "42",
    "href": "http://serverlocation:port/partyManagement/partner/42"
  },
  {
    "role": "seller",
    "id": "4563",
    "href": "http://serverlocation:port/partnerManagement/partner/4563"
  }
],
"orderItem": [
  {
    "id": "1",
    "action": "add",
    "state": "Acknowledged",
    "billingAccount": [
      {
        "id": "123456",
        "href": "http://serverlocation:port/billingManagement/billingAccount/123456"
      }
    ],
    "appointment": "http://www.doodle.com/1WCV5647438",
    "productOffering": {
      "id": "42",
      "href": "http://serverlocation:port/catalogManagement/productOffering/42"
    }
  }
]
```

```
"product":{  
  "place":{  
    "href":"http://map.google.com/.../1234112GDE",  
    "role":"DeliveryPlace"  
  },  
  "productCharacteristic": [  
    {  
      "name":"Colour",  
      "value":"White"  
    },  
    {  
      "name":"Memory",  
      "value": "16"  
    }  
  ]  
},  
{  
  "id": "2",  
  "action": "modify",  
  "state": "InProgress",  
  "productOffering": {  
    "id": "43",  
    "href": "http://serverlocation: port/catalogManagement/productOffering/43"  
  },  
  "product": {  
    "id": "456",  
    "href": "http://serverlocation: port/inventoryManagement/product/456",  
    "productCharacteristic": [  
      {  
        "name": "anotherCharacteristic",  
        "value": "itsValue"  
      }  
    ],  
    "relatedParty": [  
      {  
        "role": "user",  
        "id": "5667443",  
        "href": "http://serverlocation:port/partyManagement/user/5667443"  
        "name": "Jimmy Doe"  
      }  
    ]  
  }  
}
```

```
        }
    },
    {
        "id":"3",
        "action":"add",
        "state":"InProgress",
        "billingAccount":[{
            "id":"123456",
            "href":"http://serverlocation:port/billingManagement/billingAccount/123456"
        }],
        "productOffering":{
            "id":"51",
            "href":"http://serverlocation:port/catalogManagement/productOffering/51"
        },
        "product":{
            "id":"511",
            "href":"http://serverlocation:port/inventoryManagement/product/456",
            "productCharacteristic":[
                {
                    "name":"anotherCharacteristic",
                    "value":"itsValue"
                }
            ],
            "productRelationship":[
                {
                    "type":"reliesOn",
                    "product":{
                        "productCharacteristic":[
                            {
                                "name":"MSISDN",
                                "value":"003467488299002"
                            }
                        ]
                    }
                }
            ]
        }
    },
    {
        "id":"4",
        "action":"add",
        "state":"InProgress",
```

```
"billingAccount": [{  
    "id": "1789",  
    "href": "http://serverlocation:port/billingManagement/billingAccount/1789"  
}],  
"productOffering": {  
    "id": "44",  
    "href": "http://serverlocation:port/catalogManagement/productOffering/Bundle44",  
    "bundledProductOffering": [  
        {  
            "id": "BundledPSTN444",  
            "href": "http://serverlocation:port/catalogManagement/productOffering/BundledPSTN444"  
        },  
  
        {  
            "id": "Bundled Mobile443",  
            "href": "http://serverlocation:port/catalogManagement/productOffering/BundledMobile443"  
        }  
    ]  
},  
"product": {  
    "productRelationship": [  
        {  
            "type": "bundled",  
            "product": {  
                "productCharacteristic": [  
                    {  
                        "name": "PSTNNumber",  
                        "value": "003427488299002"  
                    }  
                ]  
            }  
        },  
        {  
            "type": "bundled",  
            "product": {  
                "productCharacteristic": [  
                    {  
                        "name": "MobileNumber",  
                        "value": "003464553000300"  
                    }  
                ]  
            }  
        }  
    ]  
}
```

```

    ]
}
]
}
}
```

## ProductOrderEvent

*Database:* Java, *Stereotype:* , *Package:* Product Order Management  
*Detail:* Created on 20/11/2014. Last modified on 20/11/2014.  
*Notes:* The ProductOrder event is generated each time a product order is created, updated or an information is required.

### Relationships

Columns	Association	Notes
ProductOrderCreationEvent	<b>1</b> ProductOrderEvent.event <b>1</b> ProductOrderCreationNotification.	
ProductOrderEventConcernsProductOrder	<b>1</b> ProductOrder.productOrder <b>1</b> ProductOrderEvent.	
ProductOrderInformationRequiredEvent	<b>1</b> ProductOrderEvent.event <b>1</b> ProductOrderInformationRequiredNotification.	
ProductOrderRemoveEvent	<b>1..</b> ProductOrderEvent.event <b>1</b> ProductOrderRemoveNotification.	
ProductOrderStateChangeEvent	<b>1</b> ProductOrderEvent.event <b>1</b> ProductOrderStateChangeNotification.	
ProductOrderValueChangeEvent	<b>1</b> ProductOrderEvent.event <b>1</b> ProductOrderValueChangeNotification.	

## ProductOrderCreationNotification

*Database:* Java, *Stereotype:* , *Package:* Product Order Management  
*Detail:* Created on 20/11/2014. Last modified on 20/11/2014.  
*Notes:* The ProductOrderCreation notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	ProductOrderCreationNotification.Notification.	
ProductOrderCreationEvent	<b>1</b> ProductOrderEvent.event <b>1</b> ProductOrderCreationNotification.	

## ProductOrderInformationRequiredNotification

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 20/11/2014. Last modified on 20/11/2014.  
**Notes:** The ProductOrderInformationRequired notification is sent to each listener who has subscribed to receive it.

#### **Relationships**

Columns	Association	Notes
	n. ProductOrderInformationRequiredNotification.	
ProductOrderInformationRequiredEvent	1 ProductOrderEvent.event 1 n. ProductOrderInformationRequiredNotification.	

## ProductOrderRemoveNotification

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 20/11/2014. Last modified on 20/11/2014.  
**Notes:** The ProductOrderRemove notification is sent to each listener who has subscribed to receive it.

#### **Relationships**

Columns	Association	Notes
	ProductOrderRemoveNotification.	
ProductOrderRemoveEvent	1.. ProductOrderEvent.event 1 ProductOrderRemoveNotification.	

## ProductOrderStateChangeNotification

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 20/11/2014. Last modified on 20/11/2014.  
**Notes:** The ProductOrderStateChange notification is sent to each listener who has subscribed to receive it.

#### **Relationships**

Columns	Association	Notes
	ProductOrderStateChangeNotification.	
ProductOrderStateChangeEvent	1 ProductOrderEvent.event 1 ProductOrderStateChangeNotification.	

## ProductOrderValueChangeNotification

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 20/11/2014. Last modified on 20/11/2014.

**Notes:** The ProductOrderValueChange notification is sent to each listener who has subscribed to receive it.

#### Relationships

Columns	Association	Notes
	ProductOrderValueChangeNotification. Notification.	
ProductOrderValueChangeEvent	1 ProductOrderEvent.event 1 ProductOrderValueChangeNotification.	

## Acknowledged

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 19/11/2014. Last modified on 19/11/2014.  
**Notes:** The *Acknowledged* state is where an order has been received and has passed message and basic business validations.

#### Relationships

Columns	Association	Notes
Start order treatment	Acknowledged. InProgress.	
Yes	Accept order. Acknowledged.	

## Cancelled

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 19/11/2014. Last modified on 19/11/2014.  
**Notes:** The *Cancelled* state is where an In-Flight Order has been successfully cancelled.

#### Relationships

Columns	Association	Notes
	Cancelled. Final.	
Extra information cannot be supplied	Pending. Cancelled.	
Issue cannot be solved	Held. Cancelled.	

## Completed

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 19/11/2014. Last modified on 19/11/2014.  
**Notes:** The *Completed* state is where an order has complete provision and the service is now active.

### Relationships

Columns	Association	Notes
	Completed. Final.	
Order completely treated	InProgress. Completed.	

## Failed

*Database:* Java, *Stereotype:* , *Package:* Product Order Management  
*Detail:* Created on 19/11/2014. Last modified on 19/11/2014.  
*Notes:* All Order items have failed which results in the entire Order has Failed.

### Relationships

Columns	Association	Notes
	Failed. Final.	
Order completely failed	InProgress. Failed.	

## Held

*Database:* Java, *Stereotype:* , *Package:* Product Order Management  
*Detail:* Created on 19/11/2014. Last modified on 19/11/2014.  
*Notes:* The Held state is used when an order cannot be progressed due to an issue. SP has temporarily delayed completing an order to resolve an infrastructure shortfall to facilitate supply of order. Upon resolution of the issue, the order will continue to progress.

### Relationships

Columns	Association	Notes
Issue cannot be solved	Held. Cancelled.	
Issue is solved	Held. InProgress.	
Ordering process is blocked due to an issue	InProgress. Held.	

## InProgress

*Database:* Java, *Stereotype:* , *Package:* Product Order Management  
*Detail:* Created on 19/11/2014. Last modified on 19/11/2014.  
*Notes:* The In Progress state is where an order has passed the Order Feasibility check successfully and service delivery has started.

### Relationships

Columns	Association	Notes
Extra information received	Pending. InProgress.	
Issue is solved	Held. InProgress.	
Order completely failed	InProgress. Failed.	
Order completely treated	InProgress. Completed.	
Order partially completed/failed	InProgress. Partial.	
Ordering process is blocked due to an issue	InProgress. Held.	
Ordering process needs extra information to continue	InProgress. Pending.	
Start order treatment	Acknowledged. InProgress.	

## Partial

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 19/11/2014. Last modified on 19/11/2014.  
**Notes:** Some Order items have failed and some have succeeded so the entire Order is in a *Partial* state.  
 This provides support for partial Failure of an Order

### Relationships

Columns	Association	Notes
	Partial. Final.	
Order partially completed/failed	InProgress. Partial.	

## Pending

**Database:** Java, **Stereotype:** , **Package:** Product Order Management  
**Detail:** Created on 19/11/2014. Last modified on 19/11/2014.  
**Notes:** The *Pending* state is used when an order is currently in a waiting stage for an action/activity to be completed before the order can progress further, pending order amend or cancel assessment. In situations where Access Seeker action is required, an “information required” notification will be issued on transition into this state.

A pending stage can lead into auto cancellation of an order, if no action is taken within the defined timeframes to be described under the Agreement.

### Relationships

Columns	Association	Notes
Extra information cannot be supplied	Pending. Cancelled.	

Columns	Association	Notes
Extra information received	Pending. InProgress.	
Ordering process needs extra information to continue	InProgress. Pending.	

## Rejected

*Database:* Java, *Stereotype:* , *Package:* Product Order Management

*Detail:* *Created on* 19/11/2014. *Last modified on* 19/11/2014.

*Notes:* The *Rejected* state is where:

- An order failed the Order Feasibility check
- Invalid information is provided through the order request
- The order request fails to meet business rules for ordering.

### Relationships

Columns	Association	Notes
	Rejected. Final.	
No	Accept order. Rejected.	

## Accept order

*Database:* <none>, *Stereotype:* , *Package:* Product Order Management

*Detail:* *Created on* 19/11/2014. *Last modified on* 19/11/2014.

*Notes:*

### Relationships

Columns	Association	Notes
	Initial. Accept order.	
No	Accept order. Rejected.	
Yes	Accept order. Acknowledged.	

## Final

*Database:* <none>, *Stereotype:* , *Package:* Product Order Management

*Detail:* *Created on* 19/11/2014. *Last modified on* 19/11/2014.

*Notes:*

### Relationships

Columns	Association	Notes

Columns	Association	Notes
	Completed. Final.	
	Failed. Final.	
	Partial. Final.	

## Final

*Database:* <none>, *Stereotype:* , *Package:* Product Order Management  
*Detail:* Created on 19/11/2014. Last modified on 19/11/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
	Rejected. Final.	
	Cancelled. Final.	

## Initial

*Database:* <none>, *Stereotype:* , *Package:* Product Order Management  
*Detail:* Created on 19/11/2014. Last modified on 19/11/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
	Initial. Accept order.	

## Resource Inventory Management

*Type:* **Package**  
*Package:* ODE model  
*Detail:* Created on 28/11/2014. Last modified on 04/12/2014.  
*Notes:* The Resource Inventory packages manages logical and physical resources.

### Equipment resource

*Created By:* yvaf6294 on 04/12/2014  
*Last Modified:* 04/12/2014, *Version:* 1.0  
 UML representation of the Equipment resource

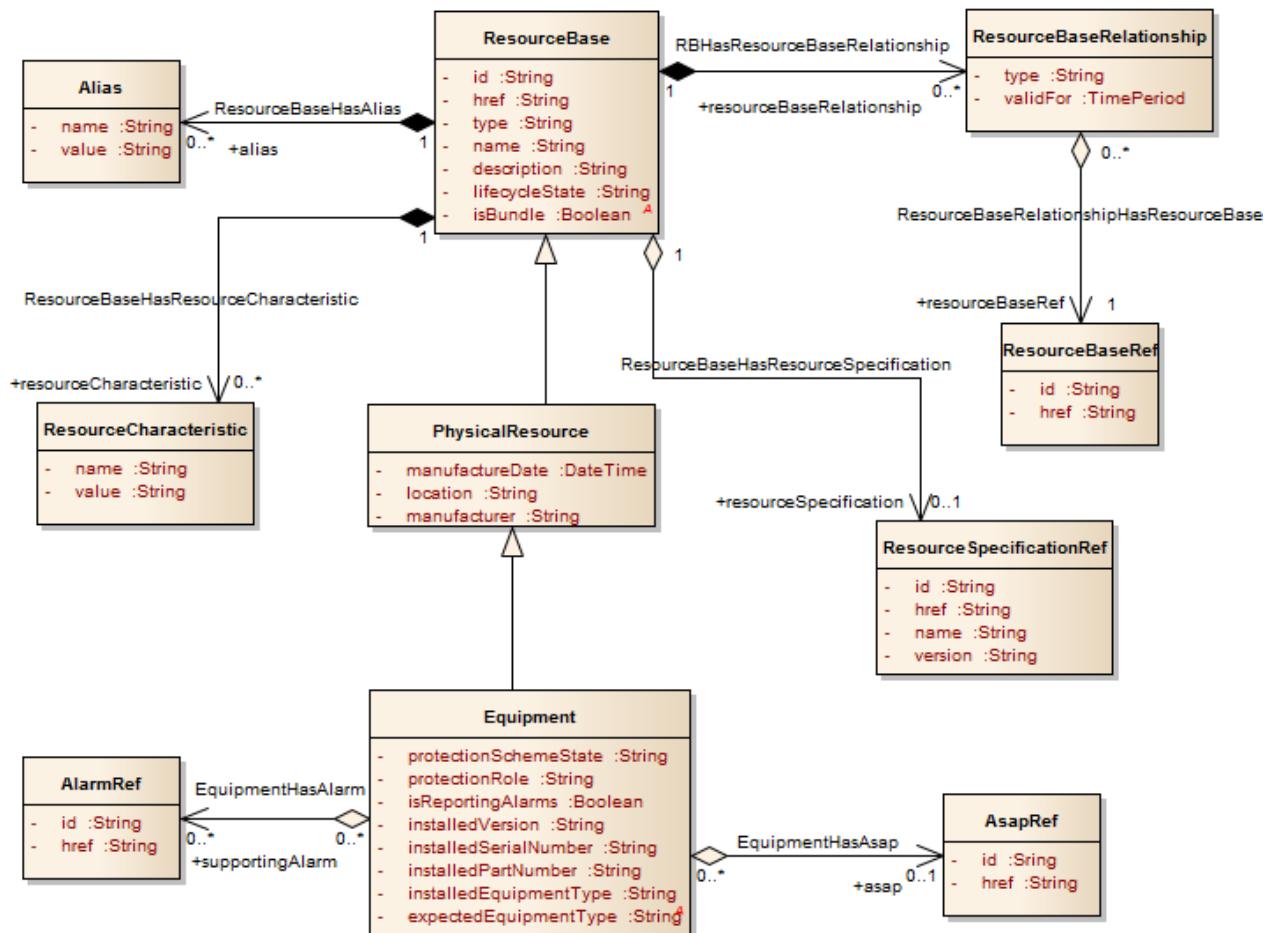


Figure: 35

### LogicalResource resource

*Created By:* yvaf6294 on 03/12/2014

*Last Modified:* 03/12/2014, *Version:* 1.0

UML representation of the LogicalResource resource

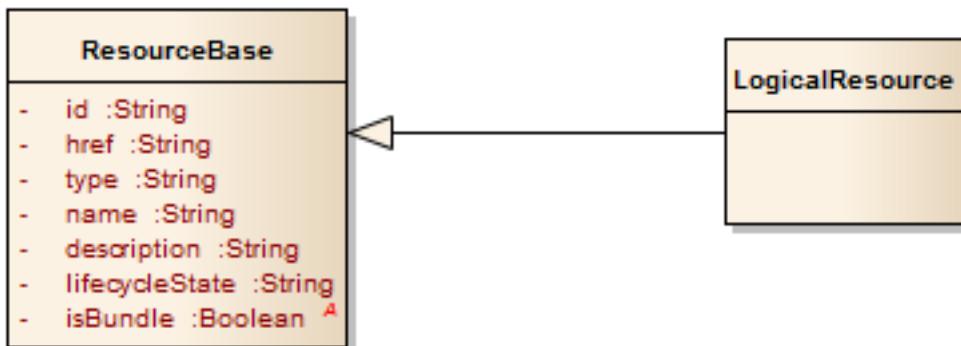


Figure: 36

### PhysicalResource resource

*Created By:* yvaf6294 on 03/12/2014

*Last Modified:* 03/12/2014, *Version:*1.0  
 UML representation of the PhysicalResource resource

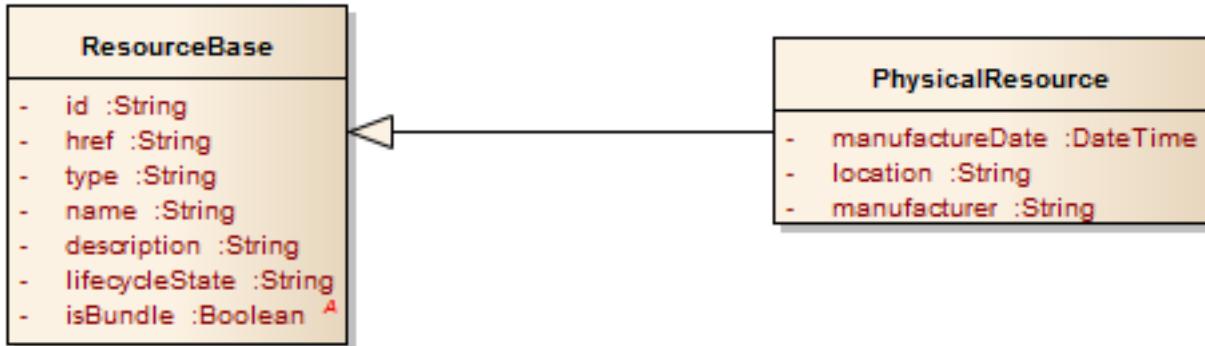


Figure: 37

### ResourceBase resource

*Created By:* yvaf6294 on 28/11/2014

*Last Modified:* 04/12/2014, *Version:*1.0

UML representation of the ResourceBase resource

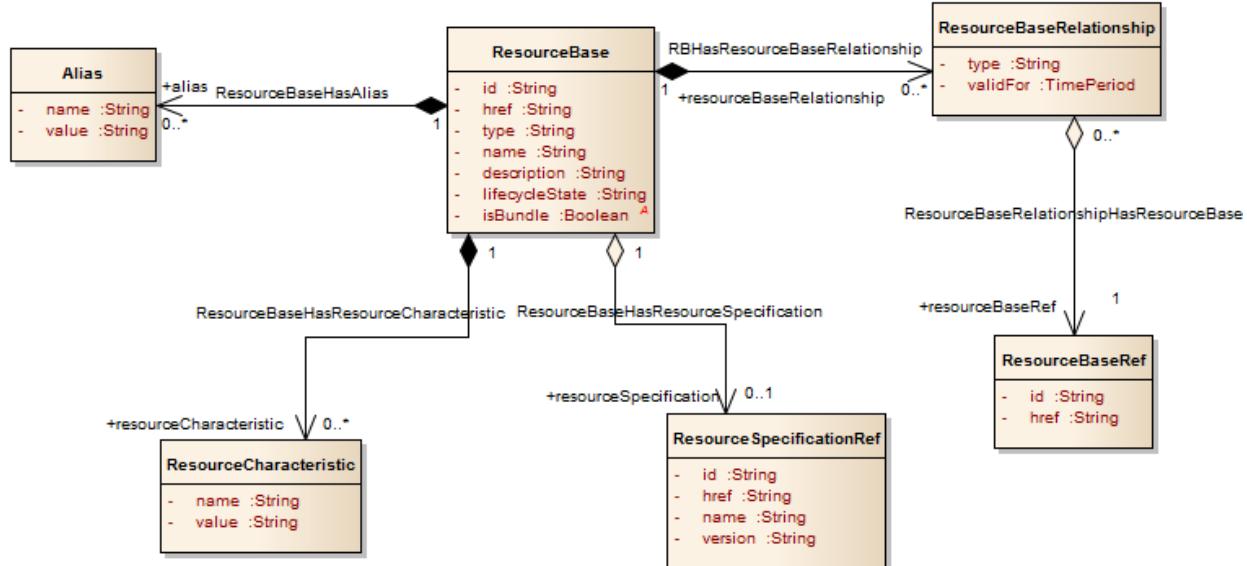


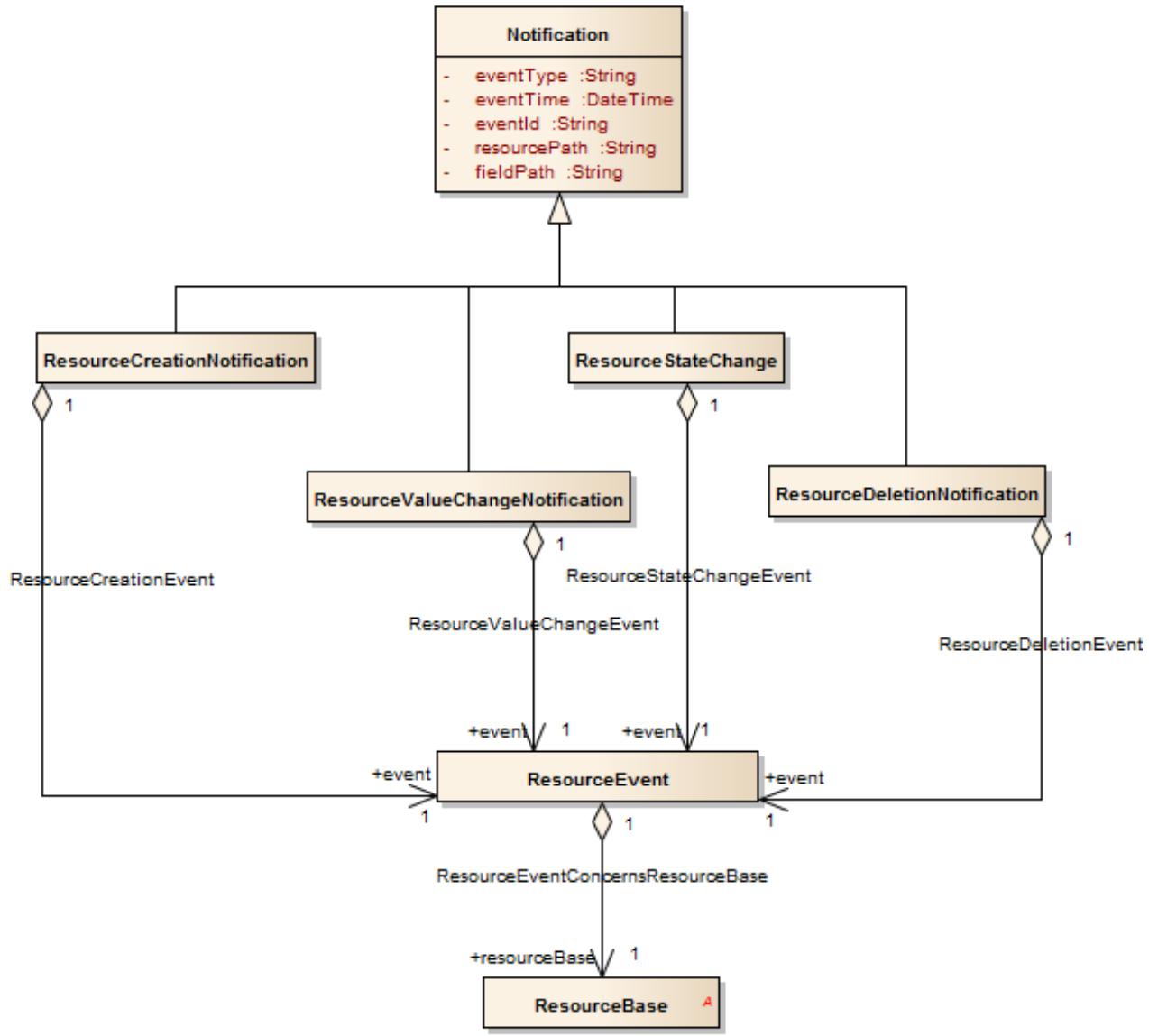
Figure: 38

### ResourceBase notification resource

*Created By:* yvaf6294 on 04/12/2014

*Last Modified:* 04/12/2014, *Version:*1.0

UML representation of the ResourceBase notification resource



### TerminationPointEncapsulation resource

*Created By:* yvaf6294 on 03/12/2014

*Last Modified:* 04/12/2014, *Version:* 1.0

UML representation of the TerminationPointEncapsulation resource

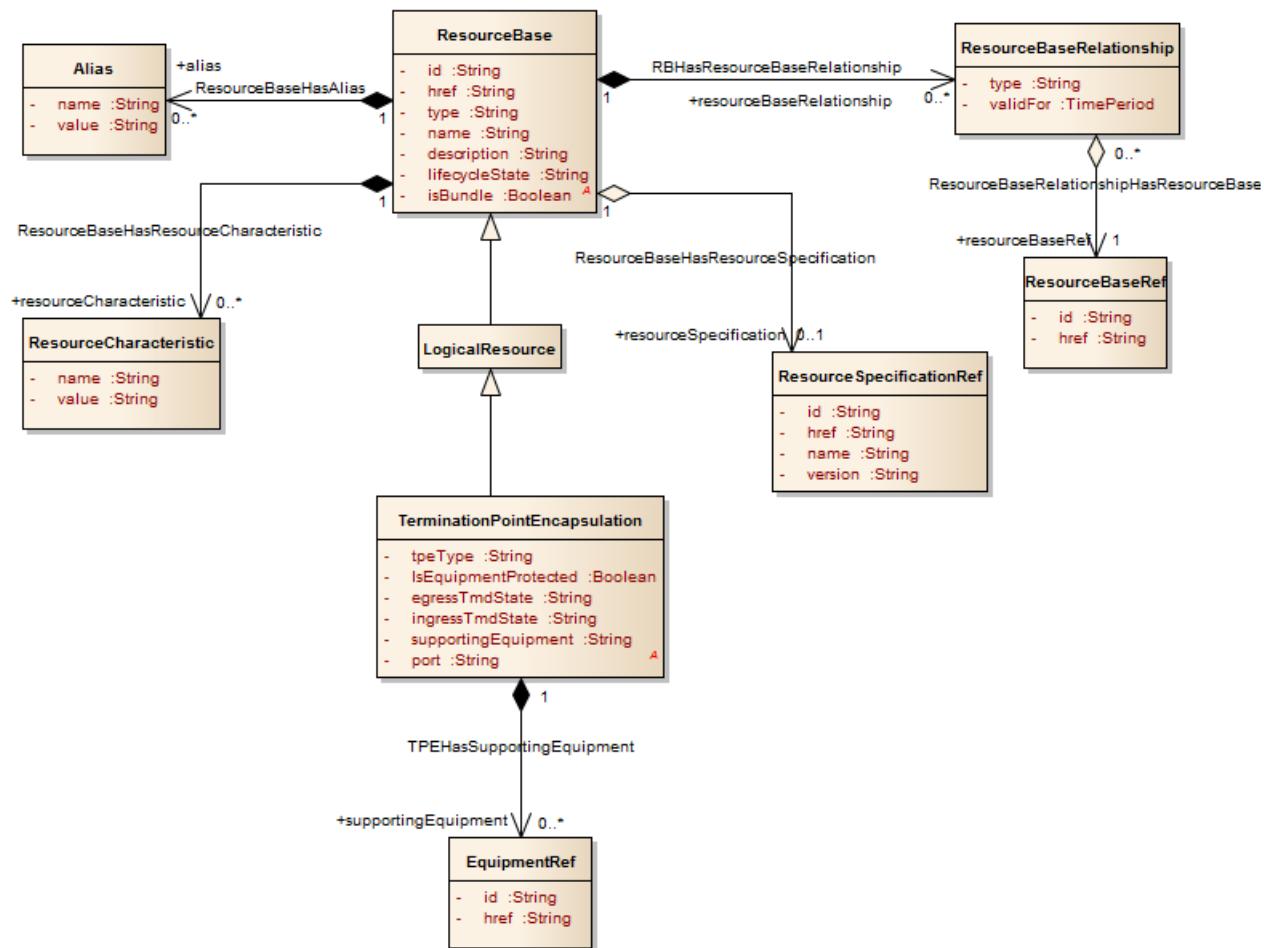


Figure: 40

### TopologicalLink resource

*Created By:* yvaf6294 on 03/12/2014

*Last Modified:* 04/12/2014, *Version:* 1.0

UML representation of the TopologicalLink resource

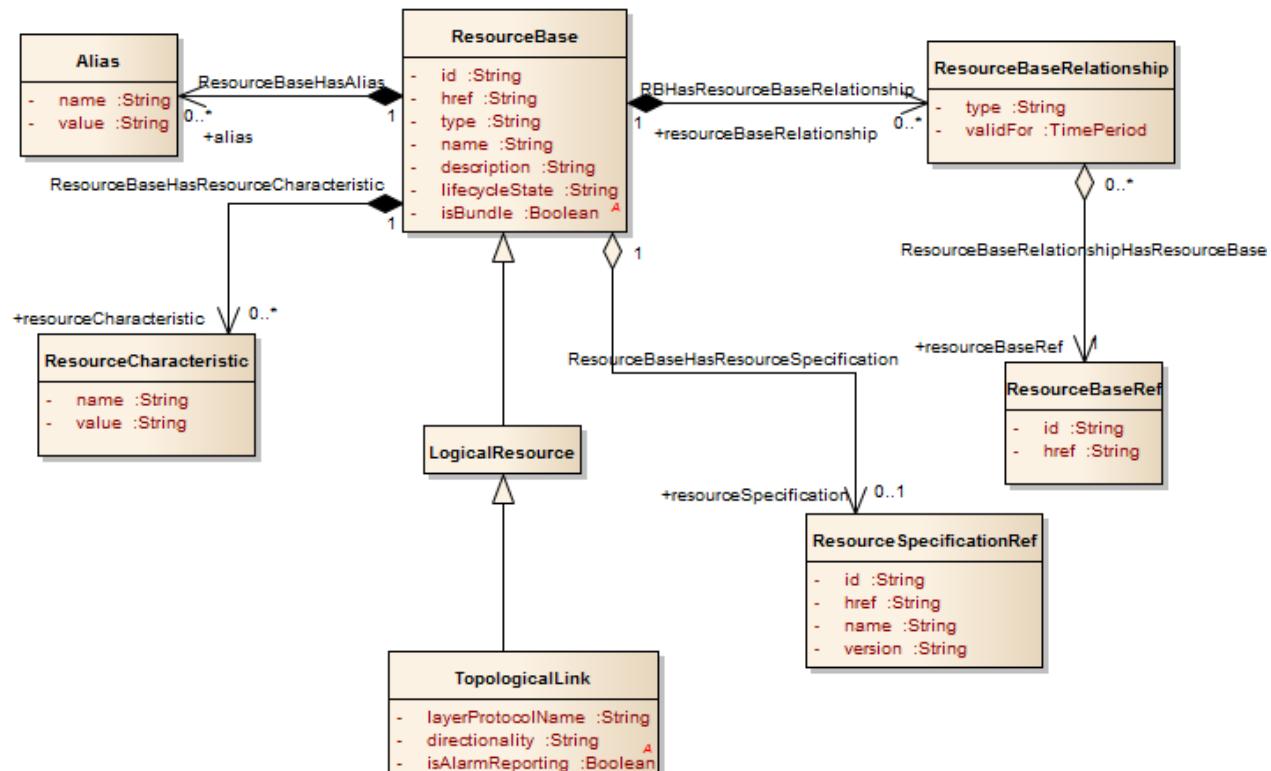


Figure: 41

### ResourceBase lifecycle

*Created By:* yvaf6294 on 04/12/2014

*Last Modified:* 04/12/2014, *Version:*1.0

UML representation of the ResourceBase lifecycle

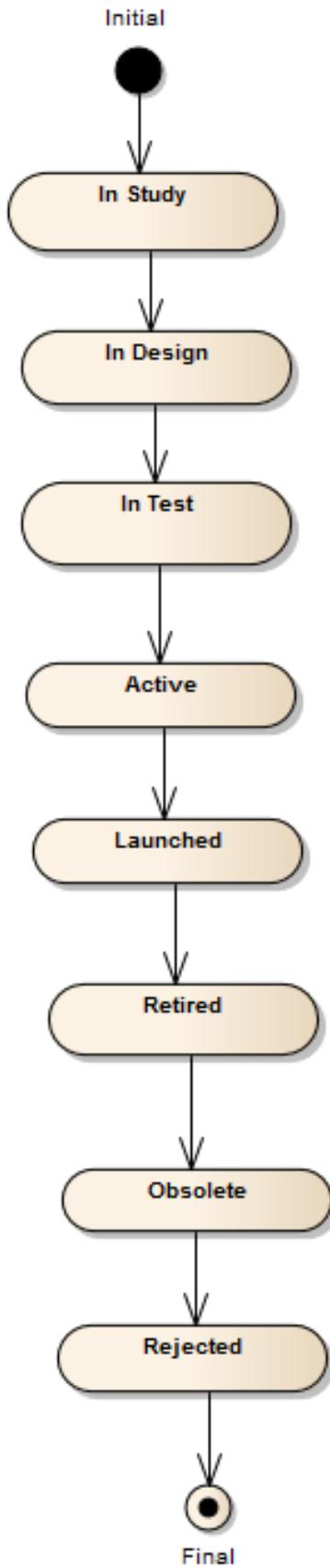


Figure: 42

## Alias

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 03/12/2014. Last modified on 03/12/2014.*  
**Notes:** A list of named aliases. The behavior is equivalent to a MAP data structure where only one entry for any given value of "name" can exist.

### Columns

Name	Type	Notes
name	String	Name of the alias
value	String	Value of the alias

### Relationships

Columns	Association	Notes
ResourceBaseHasAlias	0..* Alias.alias 1 ResourceBase.	

## Equipment

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 04/12/2014. Last modified on 04/12/2014.*  
**Notes:** The EQUIPMENT is an example of a physical resource.

### Columns

Name	Type	Notes
protectionSchemeState	String	This attribute identifies the individual lock of this equipment. In case the equipment is not protected, the value "UNKNOWN" shall also be used.
protectionRole	String	This attribute defines the protection role that this equipment plays. In case the equipment is not protected, the value "NOT_APPLICABLE" shall be used.
isReportingAlarms	Boolean	This attribute provides an indication of whether alarm reporting for this Equipment is enabled (true) or disabled (false).
installedVersion	String	This attribute identifies the vendor's resource version of the installed equipment.
installedSerialNumber	String	This attribute contains the vendor's serial number of the installed equipment. Unique, if no default is provided. At least one serial number has to be provided.
installedPartNumber	String	This attribute identifies the vendor's resource Part Number (PN) of the installed equipment. If PN is not available empty string shall be used. If the part and serial number are both non-null then the part+serial number together shall be unique.
installedEquipmentType	String	This attribute identifies the type of the installed resource. For example, "Fan" or "STM16" for the Equipment class and "Line EQUIPMENT" for the

		Equipment Holder class.) The installed equipment type is invariant for the lifetime of the hardware. This is an empty string if there is no expected equipment.
expectedEquipmentType	String	This attribute identifies the type of the expected resource. For example, "Fan" or "STM16" for the Equipment class and "Line EQUIPMENT" for the Equipment Holder class.) This is an empty string if there is no expected equipment.

### Relationships

Columns	Association	Notes
	Equipment. PhysicalResource.	
EquipmentHasAlarm	<b>0..*</b> AlarmRef.supportingAlarm <b>0..*</b> Equipment.	
EquipmentHasAsap	<b>0..1</b> AsapRef.asap <b>0..*</b> Equipment.	

Equipment (JSON)

```
{
    "id": "654632131645",
    "href":
    "http://server/api/inventory/resource/equipment/654632131645",
    "type": "equipment",
    "name": "1-MAIN",
    "description": "",
    "lifecycleState": "",
    "isBundle": "false",
    "location": "",
    "manufacturer": "Cisco Systems",
    "manufactureDate": "2007-04-12",
    "protectionSchemeState": "",
    "protectionRole": "",
    "isReportingAlarms": "True",
    "installedVersion": {},
    "installedSerialNumber": "",
    "installedPartNumber": [],
    "installedEquipmentType": [],
    "expectedEquipmentType": "",
    "alias": [
        {
            "name" : "userLabel",
            "value" : "main comms EQUIPMENT"
        }
    ],
    "resourceCharacteristic": []
}
```

```

    "resourceSpecification": [],
    "supportingAlarm": [
        {
            "id": "12",
            "href": "http://server/api/alarm/12",
        }
    ],
    "asap": [
        {
            "id": "45",
            "href": "http://server/api/asap/45",
        }
    ]
}

```

## LogicalResource

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 03/12/2014. Last modified on 03/12/2014.*  
**Notes:** Logic resource is an abstract resource that does not support any uniform creation or operation. At this time it

### Relationships

Columns	Association	Notes
	LogicalResource. ResourceBase.	
	TerminationPointEncapsulation. LogicalResource.	
	TopologicalLink. LogicalResource.	

## PhysicalResource

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 03/12/2014. Last modified on 03/12/2014.*  
**Notes:** Physical resource is an abstract resource that does not support any uniform creation or operation.

### Columns

Name	Type	Notes
manufactureDate	DateTime	The date/time of manufacture
location	String	A textual description of the location of the equipment. Can be used to store an association to a location in systems that support location management.
manufacturer	String	The name of the manufacture

### Relationships

Columns	Association	Notes
	PhysicalResource. ResourceBase.	
	Equipment. PhysicalResource.	

## ResourceBase

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management

*Detail:* *Created on* 28/11/2014. *Last modified on* 04/12/2014.

*Notes:* Resource base is an abstract resource that does not support any uniform creation or operation. The following is only used for documentation purposes. The intent is to describe the common set of attributes shared by all concrete resources (e.g. TPE, EQUIPMENT) in the inventory.

### Columns

Name	Type	Notes
id	String	Identifier of an instance of the resource. Required to be unique within the resource type. Used in URIs as the identifier for specific instances of a type.
href	String	The URI for the object itself.
type	String	Name of the resource type
name	String	A string used to give a name to the resource
description	String	free-text description of the resource
lifecycleState	String	The life cycle state of the resource.
isBundle	Boolean	Is this a bundle of resources

### Relationships

Columns	Association	Notes
	LogicalResource. ResourceBase.	
	PhysicalResource. ResourceBase.	
RBHasResourceBaseRelationship	<b>0..*</b> ResourceBaseRelationship.resourceBaseRelationship <b>1</b> ResourceBase.	
ResourceBaseHasAlias	<b>0..*</b> Alias.alias <b>1</b> ResourceBase.	
ResourceBaseHasResourceCharacteristic	<b>0..*</b> ResourceCharacteristic.resourceCharacteristic <b>1</b> ResourceBase.	
ResourceBaseHasResourceSpecification	<b>0..1</b> ResourceSpecificationRef.resourceSpecification <b>1</b> ResourceBase.	
ResourceEventConcernsResourceBase	<b>1</b> ResourceBase.resourceBase <b>1</b> ResourceEvent.	

ResourceBase (JSON)

```
{
    "id": "<<value>>",
    "href": "<<value>>",
    "type": "<<value>>",
    "name": "<<value>>",
    "description": "<<value>>",
    "lifecycleState": "<<value>>",
    "isBundle": "<<value>>",
    "alias": [
        {
            "name": "<<value>>",
            "value": "<<value>>"
        }
    ],
    "resourceCharacteristic": [
        {
            "name": "<<value>>",
            "value": "<<value>>"
        }
    ],
    "resourceSpecification": {
        "id": "<<value>>",
        "href": "<<value>>"
    },
    "resourceBaseRelationship": [
        {
            "type": "<<value>>",
            "validFor": "<<value>>",
            "ResourceBase":
            {
                "id": "<<value>>",
                "href": "<<value>>"
            }
        }
    ]
}
```

## ResourceBaseRelationship

*Database:*

Java, *Stereotype:* , *Package:* Resource Inventory Management

*Detail:*

*Created on 03/12/2014. Last modified on 04/12/2014.*

*Notes:*

Link between ResourceBase. It can be 'Bundled' if the ResourceBase is a bundle and you want to describe the bundled ResourceBases.

### Columns

Name	Type	Notes
------	------	-------

type	String	Type of relationship. For instance, bundled.
validFor	TimePeriod	The validity period of the relationship

**Relationships**

Columns	Association	Notes
RBHasResourceBaseRelationship	<b>0..*</b> ResourceBaseRelationship.resourceBaseRelationship <b>1</b> ResourceBase.	
ResourceBaseRelationshipHasResourceBase	<b>1</b> ResourceBaseRef.resourceBaseRef <b>0..*</b> ResourceBaseRelationship.	

## ResourceCharacteristic

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management  
*Detail:* Created on 03/12/2014. Last modified on 04/12/2014.  
*Notes:* A name/value pair list used to store instance specific values of attributes found in association resource specifications. The behavior is equivalent to a MAP data structure where only one entry for any given value of "name" can exist.

**Columns**

Name	Type	Notes
name	String	Name of the resource characteristic
value	String	Value of the resource characteristic

**Relationships**

Columns	Association	Notes
ResourceBaseHasResourceCharacteristic	<b>0..*</b> ResourceCharacteristic.resourceCharacteristic <b>1</b> ResourceBase.	

## ResourceCreationNotification

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management  
*Detail:* Created on 04/12/2014. Last modified on 04/12/2014.  
*Notes:* The ResourceCreation notification is sent to each listener who has subscribed to receive it.

**Relationships**

Columns	Association	Notes
	ResourceCreationNotification.Notification.	
ResourceCreationEvent	<b>1</b> ResourceEvent.event <b>1</b> ResourceCreationNotification.	

## ResourceDeletionNotification

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management

*Detail:* Created on 04/12/2014. Last modified on 04/12/2014.  
*Notes:* The ResourceDeletion notification is sent to each listener who has subscribed to receive it.

#### **Relationships**

Columns	Association	Notes
	ResourceDeletionNotification. Notification.	
ResourceDeletionEvent	1 ResourceEvent.event 1 ResourceDeletionNotification.	

## **ResourceEvent**

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management  
*Detail:* Created on 04/12/2014. Last modified on 04/12/2014.  
*Notes:* The Resource event is generated each time a ResourceBase has been created, updated, or deleted.

#### **Relationships**

Columns	Association	Notes
ResourceCreationEvent	1 ResourceEvent.event 1 ResourceCreationNotification.	
ResourceDeletionEvent	1 ResourceEvent.event 1 ResourceDeletionNotification.	
ResourceEventConcernsResourceBase	1 ResourceBase.resourceBase 1 ResourceEvent.	
ResourceStateChangeEvent	1 ResourceEvent.event 1 ResourceStateChange.	
ResourceValueChangeEvent	1 ResourceEvent.event 1 ResourceValueChangeNotification.	

## **ResourceStateChange**

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management  
*Detail:* Created on 04/12/2014. Last modified on 04/12/2014.  
*Notes:* The ResourceState notification is sent to each listener who has subscribed to receive it.

#### **Relationships**

Columns	Association	Notes
	ResourceStateChange. Notification.	
ResourceStateChangeEvent	1 ResourceEvent.event 1 ResourceStateChange.	

## **ResourceValueChangeNotification**

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management  
*Detail:* Created on 04/12/2014. Last modified on 04/12/2014.

**Notes:** The ResourceValueChange notification is sent to each listener who has subscribed to receive it.

#### Relationships

Columns	Association	Notes
	ResourceValueChangeNotification. Notification.	
ResourceValueChangeEvent	<b>1</b> ResourceEvent.event <b>1</b> ResourceValueChangeNotification.	

## TerminationPointEncapsulation

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management

*Detail:* Created on 03/12/2014. Last modified on 03/12/2014.

*Notes:* TerminationPointEncapsulation is an example of a logical resource

#### Columns

Name	Type	Notes
tpeType	String	This attribute represents the name of the specification that describes the construction of the TPE emphasizing for example the access to the TPE and whether it is associated with a physical port directly or not. Amongst other things this attribute would identify whether the TPE is a PTP, CTP or FTP.
IsEquipmentProtected	Boolean	This attribute indicates whether or not the TPE is supported by a protected equipment.
egressTmdState	String	This attribute contains the state of consistency between a TPE and its associated egress TransmissionDescriptor.
ingressTmdState	String	This attribute contains the state of consistency between a TPE and its associated ingress TransmissionDescriptor
supportingEquipment	String	This attribute contains a reference to the physical equipment that supports the TPE.
port	String	This attribute contains the name of the port associated with the TPE.

#### Relationships

Columns	Association	Notes
	TerminationPointEncapsulation. LogicalResource.	
TPEHasSupportingEquipment	<b>0..*</b> EquipmentRef.supportingEquipment <b>1</b> TerminationPointEncapsulation.	

#### TerminationPointEncapsulation (JSON)

```
{
  "id": "",  

  "href": "",  

  "type": "",  

  "name": "",  

  "tpeType": "",  

  "isEquipmentProtected": false,  

  "ingressTmdState": "",  

  "egressTmdState": "",  

  "supportingEquipment": "",  

  "port": ""
}
```

```
"name": "",  
"description": "",  
"lifecycleState": "",  
"isBundle": false,  
"tpeType": "",  
"isEquipmentProtected": false,  
"egressTmdState": "",  
"ingressTmdState": "",  
"port": "",  
"alias": [  
    {  
        "name": "<<value>>",  
        "value": "<<value>>"  
    }  
,  
    "resourceCharacteristic": [  
        {  
            "name": "<<value>>",  
            "value": "<<value>>"  
        }  
,  
        "resourceSpecification": {  
            "id": "<<value>>",  
            "href": "<<value>>"  
        },  
        "resourceBaseRelationship": [  
            {  
                "type": "<<value>>",  
                "validFor": "<<value>>",  
                "ResourceBase":  
                    {  
                        "id": "<<value>>",  
                        "href": "<<value>>"  
                    }  
            }  
,  
            "supportingEquipment": [  
                {  
                    "id": "<<value>>",  
                    "href": "<<value>>"  
                }  
            ]  
        }  
    ]  
}
```

## TopologicalLink

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management

**Detail:** Created on 03/12/2014. Last modified on 03/12/2014.

**Notes:** The Topological Link is an example of a logical resource.

### Columns

Name	Type	Notes
layerProtocolName	String	Each entry provides the name and potentially additional information such as version number for (one of) the protocol(s)/layer(s) that the TL supports. Syntax and semantic to be specified
directionality	String	This attribute represents the directionality of the TL.
isAlarmReporting	Boolean	The attribute represents the alarm reporting state (true or false).

### Relationships

Columns	Association	Notes
	TopologicalLink. LogicalResource.	

### TopologicalLink (JSON)

```
{
  "id": "1",
  "href": "http://server/api/inventory/topologicalLink/1",
  "type": "topologicalLink",
  "name": "tl-8965214",
  "isBundle": "false",
  "layerProtocolName": [],
  "directionality": "Bidirectional",
  "isAlarmReporting": false,
  "resourceBaseRelationship": [
    {
      "type": "AEND",
      "ResourceBase": [
        {
          "id": "1",
          "href": "http://server/api/inventory/tpe/1",
        }
      ],
    },
    {
      "type": "ZEND",
      "ResourceBase": [
        {
          "id": "1",
          "href": "http://server/api/inventory/tpe/1",
        }
      ],
    }
  ]
}
```

```

    ]
}
```

## Active

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 04/12/2014. Last modified on 04/12/2014.*  
**Notes:**

### Relationships

Columns	Association	Notes
	In Test. Active.	
	Active. Launched.	

## In Design

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 04/12/2014. Last modified on 04/12/2014.*  
**Notes:**

### Relationships

Columns	Association	Notes
	In Study. In Design.	
	In Design. In Test.	

## In Study

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 04/12/2014. Last modified on 04/12/2014.*  
**Notes:**

### Relationships

Columns	Association	Notes
	Initial. In Study.	
	In Study. In Design.	

## In Test

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 04/12/2014. Last modified on 04/12/2014.*  
**Notes:**

#### Relationships

Columns	Association	Notes
	In Design. In Test.	
	In Test. Active.	

## Launched

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 04/12/2014. Last modified on 04/12/2014.*  
**Notes:**

#### Relationships

Columns	Association	Notes
	Active. Launched.	
	Launched. Retired.	

## Obsolete

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 04/12/2014. Last modified on 04/12/2014.*  
**Notes:**

#### Relationships

Columns	Association	Notes
	Retired. Obsolete.	
	Obsolete. Rejected.	

## Rejected

**Database:** Java, **Stereotype:** , **Package:** Resource Inventory Management  
**Detail:** *Created on 04/12/2014. Last modified on 04/12/2014.*  
**Notes:**

#### Relationships

Columns	Association	Notes
	Obsolete. Rejected.	
	Rejected. Final.	

## Retired

*Database:* Java, *Stereotype:* , *Package:* Resource Inventory Management  
*Detail:* *Created on 04/12/2014. Last modified on 04/12/2014.*  
*Notes:*

### Relationships

Columns	Association	Notes
	Launched. Retired.	
	Retired. Obsolete.	

## Final

*Database:* <none>, *Stereotype:* , *Package:* Resource Inventory Management  
*Detail:* *Created on 04/12/2014. Last modified on 04/12/2014.*  
*Notes:*

### Relationships

Columns	Association	Notes
	Rejected. Final.	

## Initial

*Database:* <none>, *Stereotype:* , *Package:* Resource Inventory Management  
*Detail:* *Created on 04/12/2014. Last modified on 04/12/2014.*  
*Notes:*

### Relationships

Columns	Association	Notes
	Initial. In Study.	

## SLA Management

*Type:* **Package**  
*Package:* ODE model  
*Detail:* *Created on 10/10/2014. Last modified on 19/11/2014.*

*Notes:* The SLA management package manages the SLA and the SLA violation resources.

### SLA resource

*Created By:* yvaf6294 on 10/10/2014

*Last Modified:* 19/11/2014, *Version:*1.0

UML representation of the SLA resource

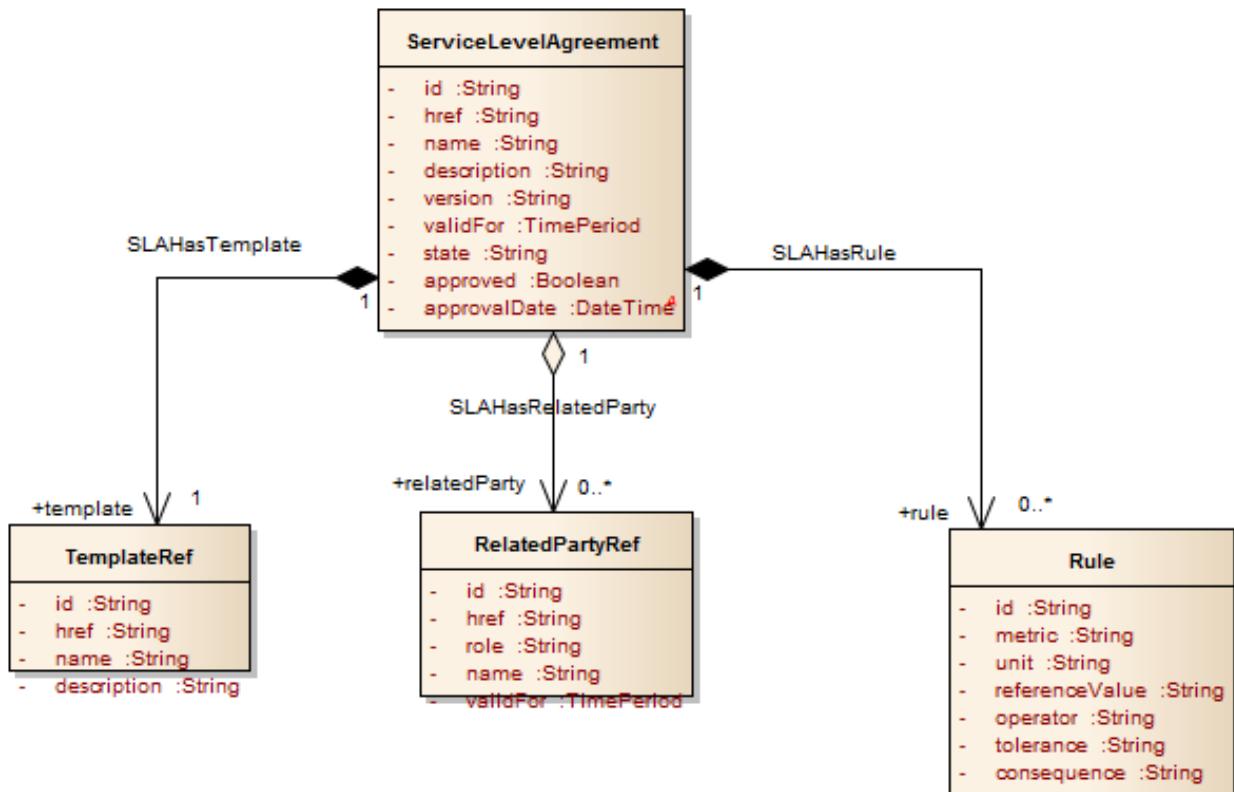


Figure: 43

### SLAViolation resource

*Created By:* yvaf6294 on 10/10/2014

*Last Modified:* 19/11/2014, *Version:*1.0

UML representation of SLA violation resource

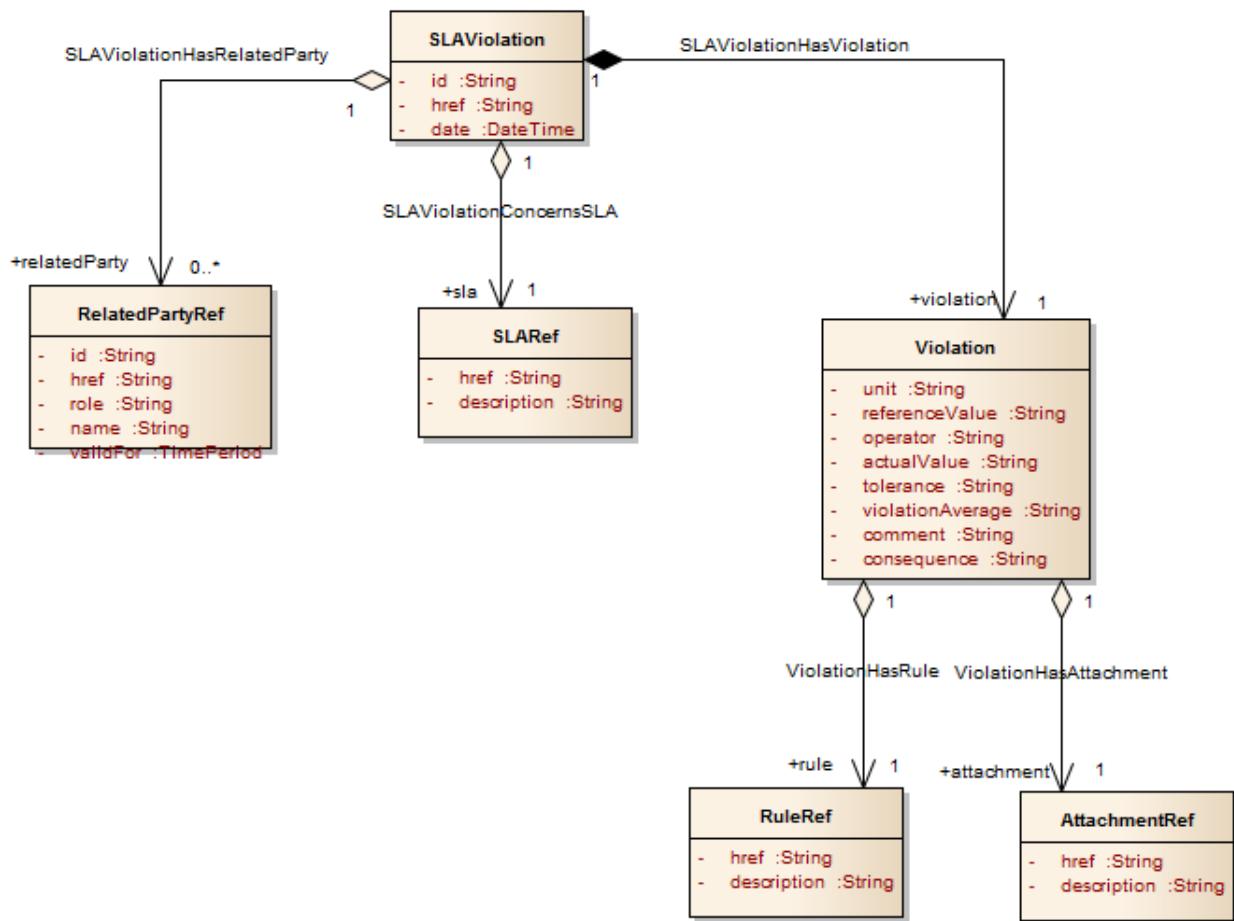


Figure: 44

### SLAViolation notification resource

*Created By:* yvaf6294 on 10/10/2014

*Last Modified:* 19/11/2014, *Version:* 1.0

UML representation of SLA violation notification resource

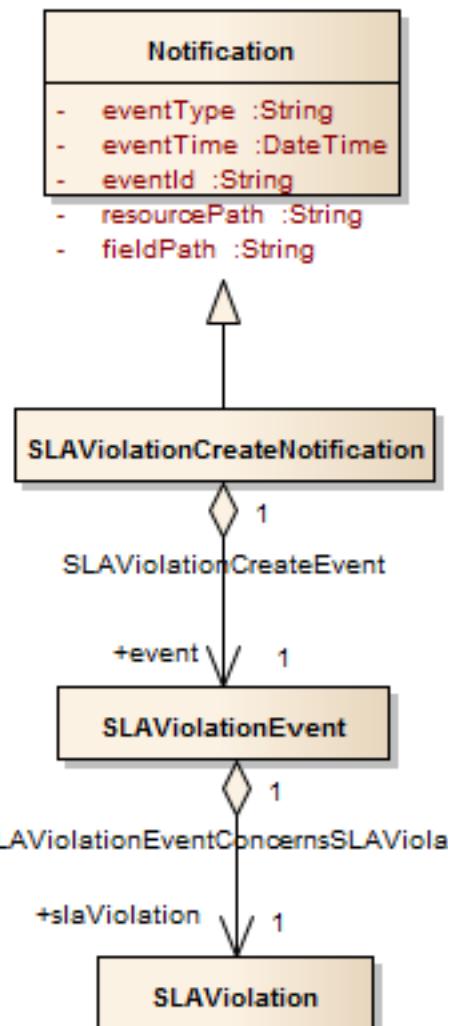


Figure: 45

## Rule

*Database:*

Java, *Stereotype:* , *Package:* SLA Management

*Detail:*

Created on 10/10/2014. Last modified on 10/10/2014.

*Notes:*

### Columns

Name	Type	Notes
id	String	
metric	String	
unit	String	
referenceValue	String	
operator	String	
tolerance	String	
consequence	String	

### Relationships

Columns	Association	Notes
SLAHasRule	<b>0..*</b> Rule.rule <b>1</b> ServiceLevelAgreement.	

## SLAViolation

*Database:* Java, *Stereotype:* , *Package:* SLA Management  
*Detail:* Created on 10/10/2014. Last modified on 10/10/2014.  
*Notes:*

### Columns

Name	Type	Notes
id	String	
href	String	
date	DateTime	

### Relationships

Columns	Association	Notes
SLAViolationConcernsSLA	<b>1</b> SLARef.sla <b>1</b> SLAViolation.	
SLAViolationEventConcernsSLAViolation	<b>1</b> SLAViolation.slaViolation <b>1</b> SLAViolationEvent.	
SLAViolationHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> SLAViolation.	
SLAViolationHasViolation	<b>1</b> Violation.violation <b>1</b> SLAViolation.	

## SLAViolationCreateNotification

*Database:* Java, *Stereotype:* , *Package:* SLA Management  
*Detail:* Created on 10/10/2014. Last modified on 10/10/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
	SLAViolationCreateNotification.Notification.	
SLAViolationCreateEvent	<b>1</b> SLAViolationEvent.event <b>1</b> SLAViolationCreateNotification.	

## SLAViolationEvent

*Database:* Java, *Stereotype:* , *Package:* SLA Management  
*Detail:* Created on 10/10/2014. Last modified on 10/10/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
SLAViolationCreateEvent	<b>1</b> SLAViolationEvent.event <b>1</b> SLAViolationCreateNotification.	
SLAViolationEventConcernsSLAViolation	<b>1</b> SLAViolation.slaViolation <b>1</b> SLAViolationEvent.	

## ServiceLevelAgreement

*Database:* Java, *Stereotype:* , *Package:* SLA Management

*Detail:* *Created on* 10/10/2014. *Last modified on* 19/11/2014.

*Notes:* Part of a business agreement between a Service Provider and a Customer, quantitatively specifying the service performance level the Service Provider commits to deliver.

### Columns

Name	Type	Notes
id	String	Unique identifier of the Service Level Agreement (SLA)
href	String	Reference of the Service Level Agreement (SLA)
name	String	Name of the Service Level Agreement (SLA)
description	String	Description of the Service Level Agreement (SLA)
version	String	Version of the Service Level Agreement (SLA)
validFor	TimePeriod	Period where the clauses of the SLA are applicable
state	String	State of the Service Level Agreement (SLA)
approved	Boolean	
approvalDate	DateTime	

### Relationships

Columns	Association	Notes
SLAHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> ServiceLevelAgreement.	
SLAHasRule	<b>0..*</b> Rule.rule <b>1</b> ServiceLevelAgreement.	
SLAHasTemplate	<b>1</b> TemplateRef.template <b>1</b> ServiceLevelAgreement.	

### ServiceLevelAgreement (JSON)

```
{
  "id": "123444",
  "href": "http/www.acme.com/SlaManagement/sla/123444",
  "name": "HighSpeedDataSLA",
  "description": "SLA for high speed data.",
  "version": "0.1",
  "validFor": {
    "startDateTime": "2013-04-19T16:42:23.0Z",
    "endDateTime": "2013-04-21T09:43:54.0Z"
  },
  "relatedParty": ...
}
```

```
[  
  {  
    "id": "1",  
    "href": "http://serverLocation:port/partyManagement/party/1",  
    "role": "SLAProvider"  
  },  
  
  {  
    "id": "2",  
    "href": "http://serverLocation:port/partyManagement/party/2",  
    "role": "SLAConsumer"  
  },  
  
  {  
    "id": "3",  
    "href": "http://serverLocation:port/partyManagement/party/3",  
    "role": "SLAAuditor"  
  },  
  
  {  
    "id": "4",  
    "href": "http://serverLocation:port/partyManagement/party/4",  
    "role": "SLABusinessBroker"  
  },  
  
  {  
    "id": "5",  
    "href": "http://serverLocation:port/partyManagement/party/5",  
    "role": "SLATechnicalBroker"  
  },  
  
  {  
    "id": "6",  
    "href": "http://serverLocation:port/partyManagement/party/6",  
    "role": "ThirdPartySLAManager"  
  },  
  
  {  
    "id": "7",  
    "href": "http://serverLocation:port/partyManagement/party/7",  
    "role": "EndUser"  
  }  
],  
"rule":  
[  
  {  
    "id": "availability",  
    "metric": "http://IEEE99.5/Availability",  
    "unit": "string",  
    "referenceValue": "available",  
    "operator": ".eq",  
    "tolerance": "0.05",  
    "threshold": 0.95  
  }  
]
```

```

        "consequence": "http://ww.acme.com/contract/clause/42"
    },
    {
        "id": "downstream_GBR",
        "metric": "http://IEEE99.5/Data/bitrates/GBR/down",
        "unit": "kbps",
        "referenceValue": "1024",
        "operator": ".ge",
        "tolerance": "0.20",
        "consequence": "http://ww.acme.com/contract/clause/45"
    }
],
{
    "template": [
        {
            "id": "42",
            "href": "http/www.acme.com/slaManagement/slaTemplate/42",
            "name": "DataSLATemplate",
            "description": "basic template for Data SLA"
        }
    ]
}

```

## Violation

*Database:* Java, *Stereotype:* , *Package:* SLA Management  
*Detail:* Created on 10/10/2014. Last modified on 10/10/2014.  
*Notes:*

### Columns

Name	Type	Notes
unit	String	
referenceValue	String	
operator	String	
actualValue	String	
tolerance	String	
violationAverage	String	
comment	String	
consequence	String	

### Relationships

Columns	Association	Notes
SLAViolationHasViolation	<b>1</b> Violation.violation <b>1</b> SLAViolation.	
ViolationHasAttachment	<b>1</b> AttachmentRef.attachment <b>1</b> Violation.	
ViolationHasRule	<b>1</b> RuleRef.rule <b>1</b> Violation.	

## Trouble Ticket Management

**Type:** [Package](#)  
**Package:** ODE model  
**Detail:** *Created on 10/10/2014. Last modified on 19/11/2014.*  
**Notes:** The Trouble Ticket management package manages the ticket resource used by the problem handling process.

### Ticket resource

*Created By:* yvaf6294 on 10/10/2014  
*Last Modified:* 19/11/2014, *Version:* 1.0  
 UML representation of the Ticket resource

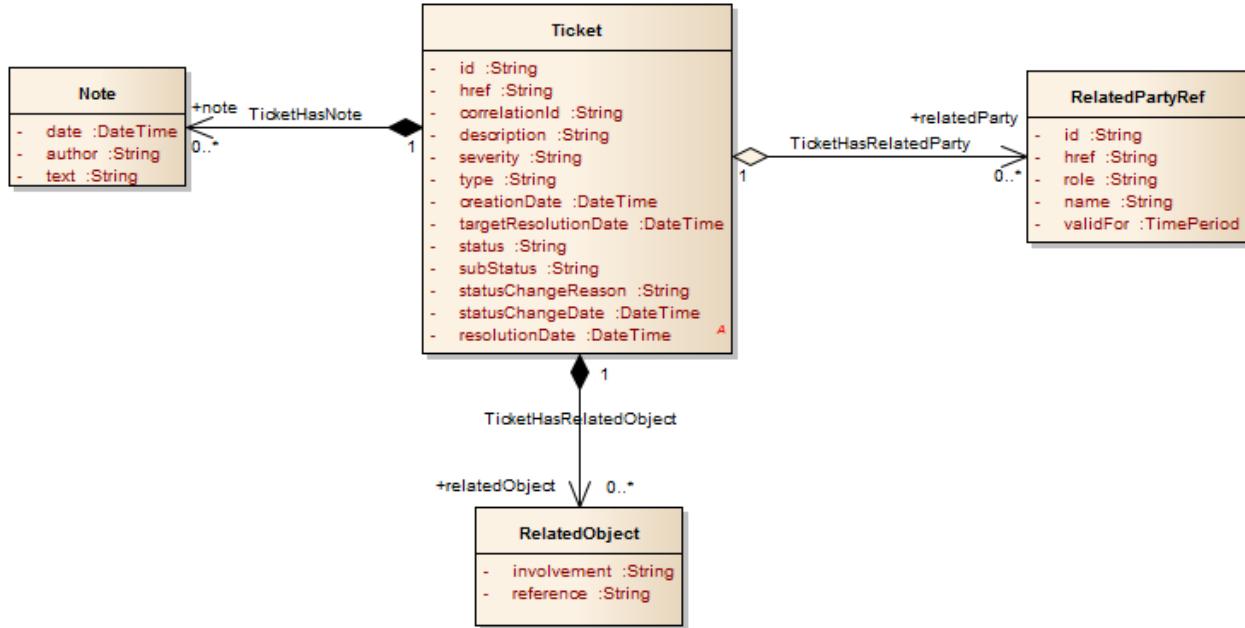


Figure: 46

### Ticket notification resource

*Created By:* yvaf6294 on 13/10/2014  
*Last Modified:* 19/11/2014, *Version:* 1.0  
 UML representation of the Ticket notification resource

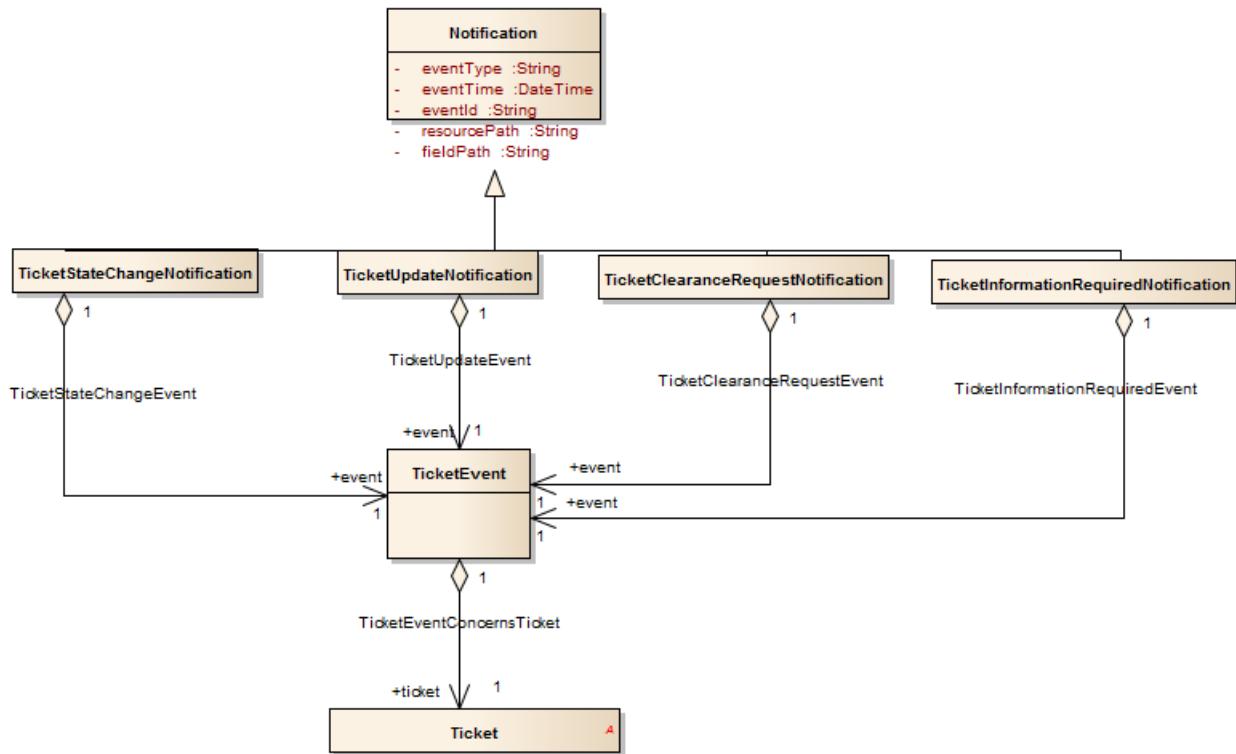


Figure: 47

### Ticket Lifecycle

*Created By:* yvaf6294 on 13/10/2014

*Last Modified:* 19/11/2014, *Version:* 1.0

UML representation of the Ticket lifecycle

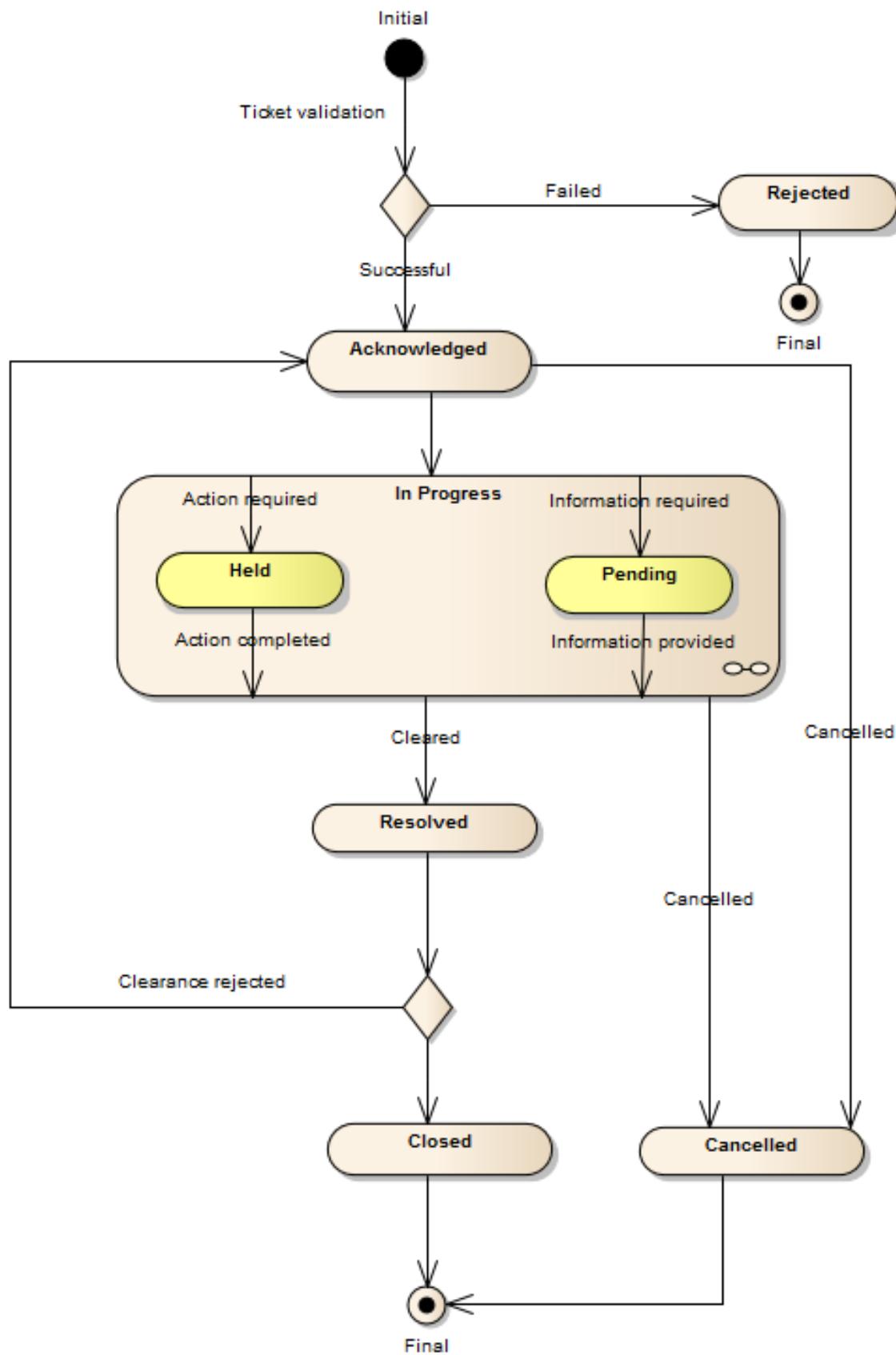


Figure: 48

## RelatedObject

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management  
*Detail:* Created on 13/10/2014. Last modified on 18/11/2014.  
*Notes:* Defines objects linked with trouble ticket.

### Columns

Name	Type	Notes
involvement	String	Consequence of the ticket on the related object (for instance disputed, adjusted...)
reference	String	Reference of object

### Relationships

Columns	Association	Notes
TicketHasRelatedObject	<b>0..*</b> RelatedObject.relatedObject <b>1</b> Ticket.	

## Ticket

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management  
*Detail:* Created on 10/10/2014. Last modified on 18/11/2014.  
*Notes:* A trouble ticket represents a record used for reporting and managing the resolution of resource problems

### Columns

Name	Type	Notes
id	String	Unique identifier of the trouble ticket
href	String	Reference of the trouble ticket
correlationId	String	Additional identifier coming from an external system
description	String	Description of the trouble
severity	String	The severity of the trouble. It can be for example : minor, major, critical
type	String	Type of trouble ticket
creationDate	DateTime	The date on which the trouble was discovered
targetResolutionDate	DateTime	Foreseen trouble resolution date
status	String	The current status of the Trouble Ticket
subStatus	String	The current sub status of the Trouble Ticket
statusChangeReason	String	The reason of state change
statusChangeDate	DateTime	The date of state change
resolutionDate	DateTime	The date on which the service was brought back to its original condition

### Relationships

Columns	Association	Notes
TicketEventConcernsTicket	<b>1</b> Ticket.ticket <b>1</b> TicketEvent.	
TicketHasNote	<b>0..*</b> Note.note <b>1</b> Ticket.	

Columns	Association	Notes
TicketHasRelatedObject	<b>0..*</b> RelatedObject.relatedObject <b>1</b> Ticket.	
TicketHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>1</b> Ticket.	

## Ticket (JSON)

```
{
  "id": "1",
  "correlationId": "TT53482",
  "description": "Customer complaint over last invoice.",
  "severity": "Urgent",
  "type": "Bills, charges or payment",
  "creationDate": "2013-07-23T08:16:39.0Z",
  "targetResolutionDate": "2013-07-30T10:20:01.0Z",
  "status": "In Progress",
  "subStatus": "Held",
  "statusChangeReason": "Waiting for invoicing expert.",
  "statusChangeDate": "2013-07-28T08:55:12.0Z",
  "relatedParty": [
    {
      "id": "1234",
      "href": "/customer/1234",
      "role": "Originator"
    },
    {
      "id": "1235",
      "href": "/operator/1235",
      "role": "Owner"
    },
    {
      "name": "Roger Collins",
      "role": "Reviser"
    }
  ],
  "relatedObject": [
    {
      "involvement": "Disputed",
      "reference": "/invoice/1234"
    },
    {
      "involvement": "Adjusted",
      "reference": "/invoice/5678"
    }
  ],
  "note": [
    {
      "date": "2013-07-24T09:55:30.0Z",
      "author": "Arthur Evans",
      "text": "Already called the expert"
    },
    {
      "date": "2013-07-25T08:55:12.0Z",
      "author": "Arthur Evans",
      "text": "Ticket resolved"
    }
  ]
}
```

```

        "author": "Arthur Evans",
        "text": "Informed the originator"
    }
]
}

```

## TicketClearanceRequestNotification

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management  
*Detail:* Created on 13/10/2014. Last modified on 19/11/2014.  
*Notes:* The TicketClearanceRequest notification is sent to each listener who has subscribed to receive it.

### Relationships

Columns	Association	Notes
	TicketClearanceRequestNotification. Notification.	
TicketClearanceRequestEvent	<b>1</b> TicketEvent.event <b>1</b> TicketClearanceRequestNotification.	

## TicketEvent

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management  
*Detail:* Created on 13/10/2014. Last modified on 19/11/2014.  
*Notes:* The Ticket event is generated each time a ticket is updated.

### Relationships

Columns	Association	Notes
TicketClearanceRequestEvent	<b>1</b> TicketEvent.event <b>1</b> TicketClearanceRequestNotification.	
TicketEventConcernsTicket	<b>1</b> Ticket.ticket <b>1</b> TicketEvent.	
TicketInformationRequiredEvent	<b>1</b> TicketEvent.event <b>1</b> TicketInformationRequiredNotification.	
TicketStateChangeEvent	<b>1</b> TicketEvent.event <b>1</b> TicketStateChangeNotification.	
TicketUpdateEvent	<b>1</b> TicketEvent.event <b>1</b> TicketUpdateNotification.	

## TicketInformationRequiredNotification

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management  
*Detail:* Created on 13/10/2014. Last modified on 19/11/2014.  
*Notes:* The TicketInformationRequired notification is sent to each listener who has subscribed to receive it.

**Relationships**

Columns	Association	Notes
	TicketInformationRequiredNotification. Notification.	
TicketInformationRequiredEvent	<b>1</b> TicketEvent.event <b>1</b> TicketInformationRequiredNotification.	

## TicketStateChangeNotification

*Database:*Java, *Stereotype:* , *Package:* Trouble Ticket Management*Detail:**Created on 13/10/2014. Last modified on 19/11/2014.**Notes:*

The TicketStateChange notification is sent to each listener who has subscribed to receive it.

**Relationships**

Columns	Association	Notes
	TicketStateChangeNotification. Notification.	
TicketStateChangeEvent	<b>1</b> TicketEvent.event <b>1</b> TicketStateChangeNotification.	

## TicketUpdateNotification

*Database:*Java, *Stereotype:* , *Package:* Trouble Ticket Management*Detail:**Created on 13/10/2014. Last modified on 19/11/2014.**Notes:*

The TicketUpdate notification is sent to each listener who has subscribed to receive it.

**Relationships**

Columns	Association	Notes
	TicketUpdateNotification. Notification.	
TicketUpdateEvent	<b>1</b> TicketEvent.event <b>1</b> TicketUpdateNotification.	

## Acknowledged

*Database:*Java, *Stereotype:* , *Package:* Trouble Ticket Management*Detail:**Created on 13/10/2014. Last modified on 19/11/2014.**Notes:*

The Trouble Ticket was accepted and allocated a unique Trouble Ticket ID by the TT handler.

**Relationships**

Columns	Association	Notes
	Acknowledged. In Progress.	
Cancelled	Acknowledged. Cancelled.	

Columns	Association	Notes
Clearance rejected	<anonymous>. Acknowledged.	
Successful	<anonymous>. Acknowledged.	

## Cancelled

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:* *Created on* 13/10/2014. *Last modified on* 13/10/2014.

*Notes:*

### Relationships

Columns	Association	Notes
	Cancelled. Final.	
Cancelled	In Progress. Cancelled.	
Cancelled	Acknowledged. Cancelled.	

## Closed

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:* *Created on* 13/10/2014. *Last modified on* 19/11/2014.

*Notes:* The Trouble Ticket's originator has acknowledged the 'Resolved' state of the TT, or the timeframe for acknowledgement has passed without response from TT originator.

### Relationships

Columns	Association	Notes
	<anonymous>. Closed.	
	Closed. Final.	

## Rejected

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:* *Created on* 13/10/2014. *Last modified on* 19/11/2014.

*Notes:* The Trouble Ticket was rejected because it:

- is not submitted
  - provides invalid information
  - fails to meet the Business Rules in respect of the Product which originator is raising a Trouble Ticket against
- is otherwise defective

### Relationships

Columns	Association	Notes
	Rejected. Final.	
Failed	<anonymous>.Rejected.	

## Resolved

**Database:** Java, **Stereotype:** , **Package:** Trouble Ticket Management  
**Detail:** *Created on 13/10/2014. Last modified on 19/11/2014.*  
**Notes:** The Fault indicated in the Trouble Ticket was corrected by the TT handler and acknowledgement is awaited from its originator.

### Relationships

Columns	Association	Notes
	Resolved. <anonymous>.	
Cleared	In Progress. Resolved.	

## <anonymous>

**Database:** <none>, **Stereotype:** , **Package:** Trouble Ticket Management  
**Detail:** *Created on 13/10/2014. Last modified on 13/10/2014.*  
**Notes:**

### Relationships

Columns	Association	Notes
	Resolved. <anonymous>.	
	<anonymous>. Closed.	
Clearance rejected	<anonymous>. Acknowledged.	

## <anonymous>

**Database:** <none>, **Stereotype:** , **Package:** Trouble Ticket Management  
**Detail:** *Created on 13/10/2014. Last modified on 13/10/2014.*  
**Notes:**

### Relationships

Columns	Association	Notes
Failed	<anonymous>. Rejected.	

Columns	Association	Notes
Successful	<anonymous>. Acknowledged.	
Ticket validation	Initial. <anonymous>.	

## Final

*Database:* <none>, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:* Created on 13/10/2014. Last modified on 13/10/2014.

*Notes:*

### Relationships

Columns	Association	Notes
	Closed. Final.	
	Cancelled. Final.	

## Final

*Database:* <none>, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:* Created on 13/10/2014. Last modified on 13/10/2014.

*Notes:*

### Relationships

Columns	Association	Notes
	Rejected. Final.	

## In Progress

*Database:* Java, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:* Created on 13/10/2014. Last modified on 19/11/2014.

*Notes:* The Trouble Ticket was validated by the TT handler and is being processed.

### Relationships

Columns	Association	Notes
	Acknowledged. In Progress.	
Action completed	Held. In Progress.	
Action required	In Progress. Held.	
Cancelled	In Progress. Cancelled.	

Columns	Association	Notes
Cleared	In Progress. Resolved.	
Information provided	Pending. In Progress.	
Information required	In Progress. Pending.	

## ***Held***

*Database:*

Java, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:*

*Created on* 13/10/2014. *Last modified on* 19/11/2014.

*Notes:*

TT handler is confirming further details internally before completing a Trouble Ticket. An example is where TT handler for network infrastructure spare parts to progress with the Fault rectification.

## ***Relationships***

Columns	Association	Notes
Action completed	Held. In Progress.	
Action required	In Progress. Held.	

## ***Pending***

*Database:*

Java, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:*

*Created on* 13/10/2014. *Last modified on* 19/11/2014.

*Notes:*

TT handler is awaiting further confirmation on details of a Fault from originator before it can progress the Fault. An example is where Appointment information is required.

## ***Relationships***

Columns	Association	Notes
Information provided	Pending. In Progress.	
Information required	In Progress. Pending.	

## ***Initial***

*Database:*

<none>, *Stereotype:* , *Package:* Trouble Ticket Management

*Detail:*

*Created on* 13/10/2014. *Last modified on* 13/10/2014.

*Notes:*

## ***Relationships***

Columns	Association	Notes
Ticket validation	Initial.	

Columns	Association	Notes
	<anonymous>.	

## Usage Management

Type: Package

Package: ODE model

Detail: Created on 24/11/2014. Last modified on 24/11/2014.

Notes: The Usage Management package manages the rated and non rated usages.

### UsageSpecification resource

Created By: yvaf6294 on 24/11/2014

Last Modified: 24/11/2014, Version: 1.0

UML representation of the UsageSpecification resource

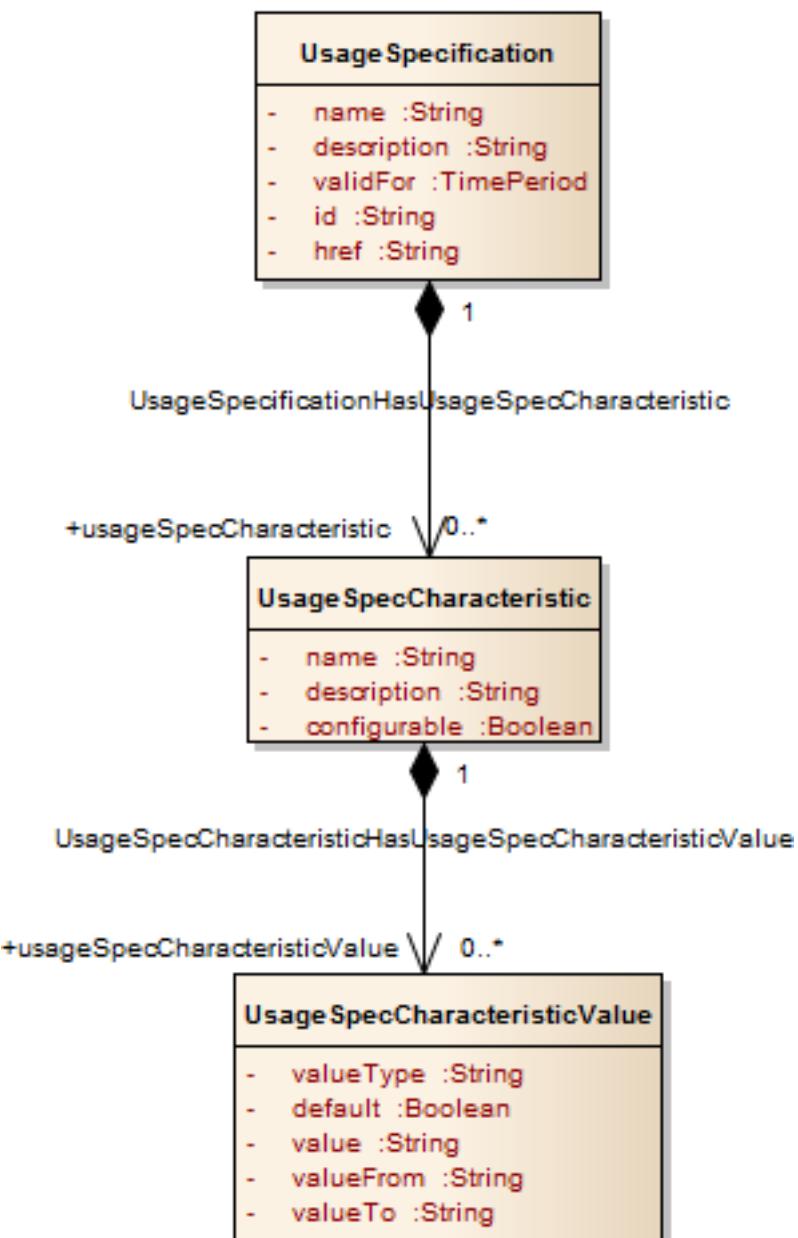


Figure: 49

**Usage Resource***Created By:* yvaf6294 on 24/11/2014*Last Modified:* 24/11/2014, *Version:*1.0

UML representation of the Usage resource

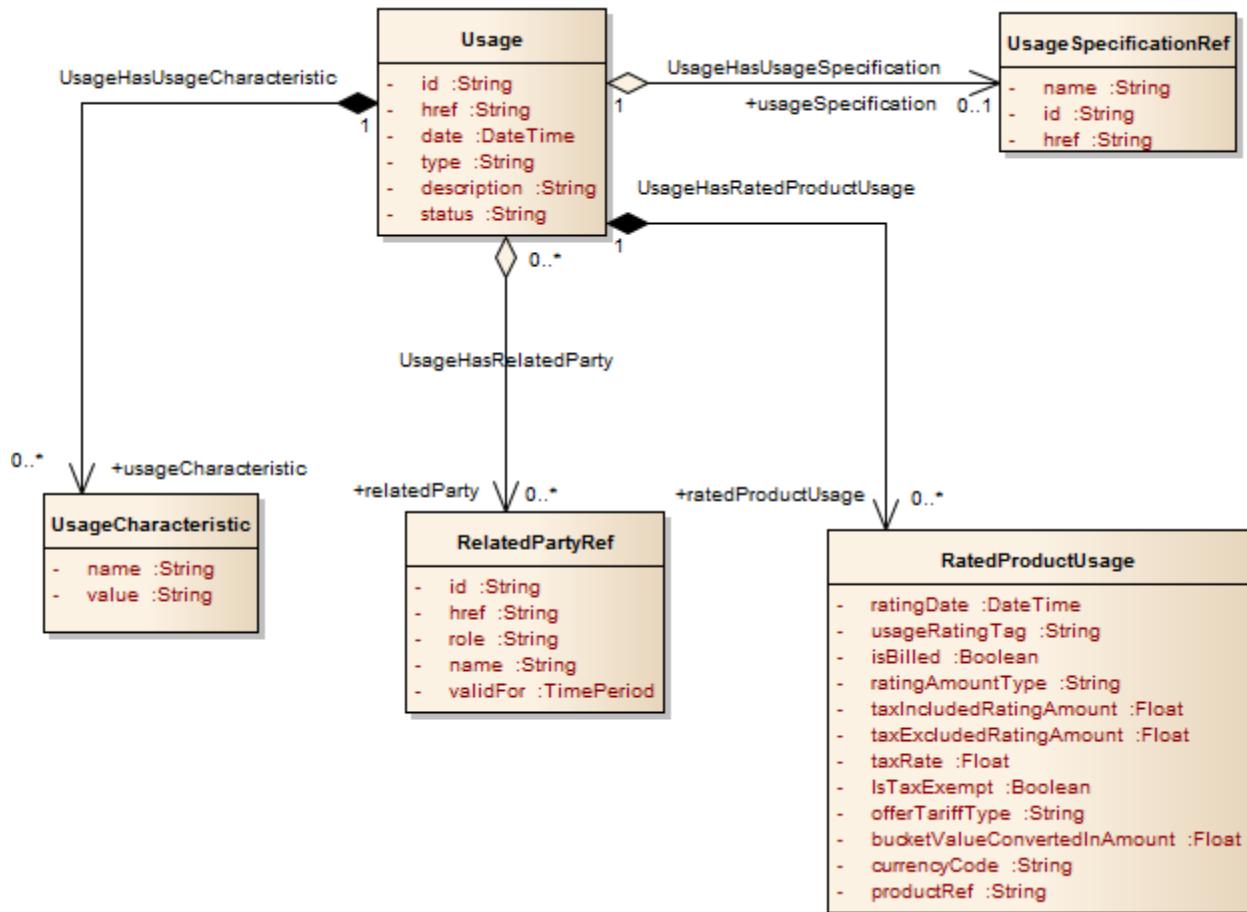


Figure: 50

### Usage Lifecycle

*Created By:* yvaf6294 on 24/11/2014

*Last Modified:* 24/11/2014, *Version:*1.0

UML representation of the Usage lifecycle

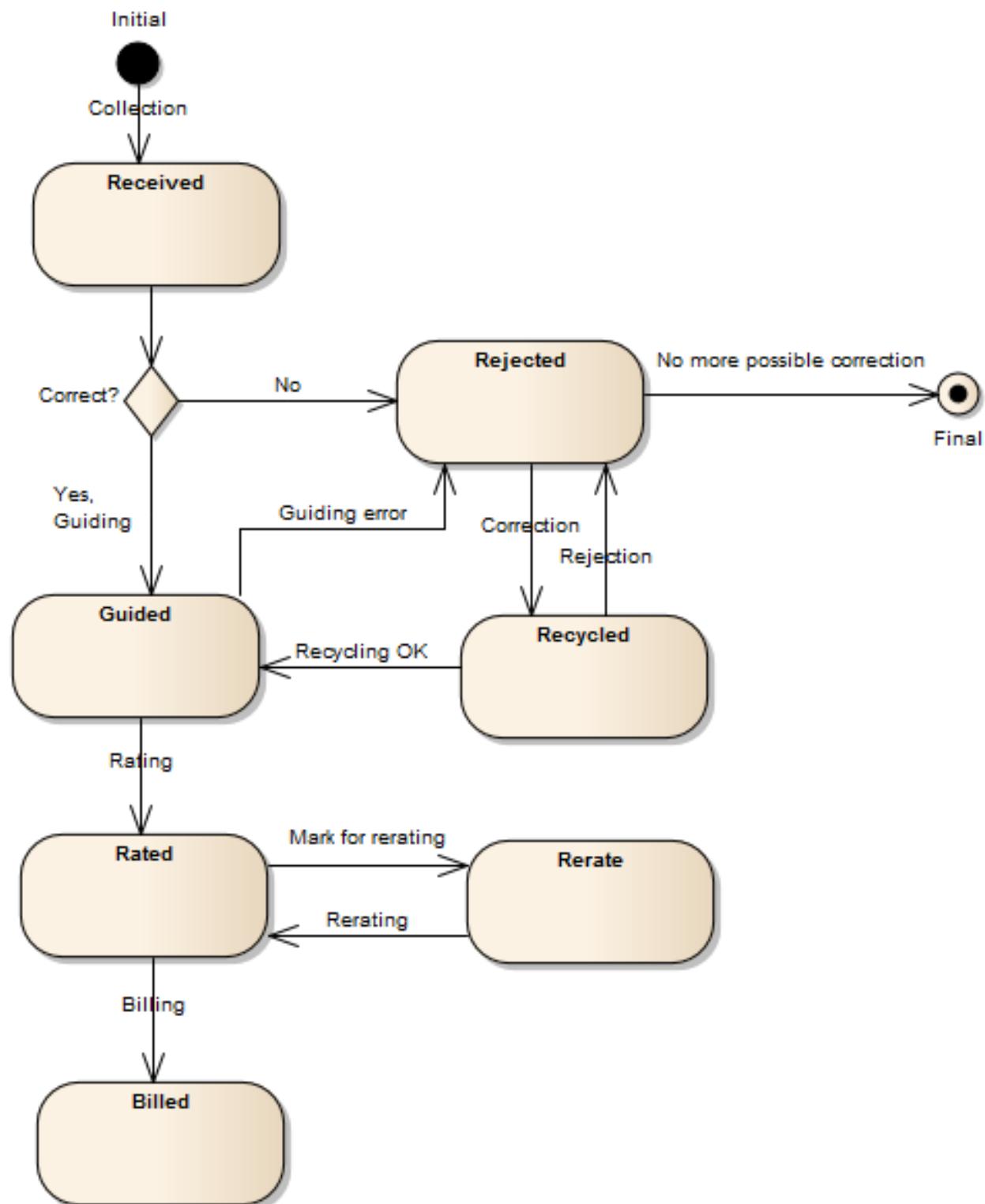


Figure: 51

## RatedProductUsage

**Database:** Java, **Stereotype:** , **Package:** Usage Management  
**Detail:** Created on 24/11/2014. Last modified on 24/11/2014.  
**Notes:** An occurrence of employing a product for its intended purpose with all rating details.

#### Columns

Name	Type	Notes
ratingDate	DateTime	Date of usage rating
usageRatingTag	String	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
isBilled	Boolean	Boolean indicating if usage have been billed or not
ratingAmountType	String	Type of amount
taxIncludedRatingAmount	Float	All taxes included rated amount
taxExcludedRatingAmount	Float	All taxes excluded rated amount
taxRate	Float	Tax rate
IsTaxExempt	Boolean	Indicates if the rated amount is exempt of tax
offerTariffType	String	Type of tariff applied
bucketValueConvertedInAmount	Float	Monetary value of bucket
currencyCode	String	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)
productRef	String	Reference of product specification

#### Relationships

Columns	Association	Notes
UsageHasRatedProductUsage	<b>0..*</b> RatedProductUsage.ratedProductUsage <b>1</b> Usage.	

## Usage

**Database:** Java, **Stereotype:** , **Package:** Usage Management  
**Detail:** Created on 24/11/2014. Last modified on 24/11/2014.  
**Notes:** 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.

#### Columns

Name	Type	Notes
id	String	Usage unique identifier
href	String	Reference of usage
date	DateTime	Date of usage
type	String	Type of usage
description	String	Description of usage
status	String	Status of usage

### Relationships

Columns	Association	Notes
UsageHasRatedProductUsage	<b>0..*</b> RatedProductUsage.ratedProductUsage <b>1</b> Usage.	
UsageHasRelatedParty	<b>0..*</b> RelatedPartyRef.relatedParty <b>0..*</b> Usage.	
UsageHasUsageCharacteristic	<b>0..*</b> UsageCharacteristic.usageCharacteristic <b>1</b> Usage.	
UsageHasUsageSpecification	<b>0..1</b> UsageSpecificationRef.usageSpecification <b>1</b> Usage.	

## UsageCharacteristic

*Database:* Java, *Stereotype:* , *Package:* Usage Management

*Detail:* Created on 24/11/2014. Last modified on 24/11/2014.

*Notes:* Provides the value of a given characteristic.

### Columns

Name	Type	Notes
name	String	The name of the usage characteristic
value	String	A discrete value that the characteristic can take on.

### Relationships

Columns	Association	Notes
UsageHasUsageCharacteristic	<b>0..*</b> UsageCharacteristic.usageCharacteristic <b>1</b> Usage.	

## UsageSpecCharacteristic

*Database:* Java, *Stereotype:* , *Package:* Usage Management

*Detail:* Created on 24/11/2014. Last modified on 24/11/2014.

*Notes:* 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

### Columns

Name	Type	Notes
name	String	The name of the usage specification characteristic
description	String	A narrative that explains in detail what the usage specification characteristic is
configurable	Boolean	Boolean indicating if usageSpecCharacteristic is configurable or not

### Relationships

Columns	Association	Notes
UsageSpecCharacteristicHasUsageSpecCharacteristicValue	<b>0..*</b> UsageSpecCharacteristicValue.usageSpecCharacteristicValue <b>1</b> UsageSpecCharacteristic.	

Columns	Association	Notes
UsageSpecificationHasUsageSpecCharacteristic	<b>0..*</b> <b>1</b> UsageSpecCharacteristic.usageSpecCharacteristic UsageSpecification.	

## UsageSpecCharacteristicValue

*Database:* Java, *Stereotype:* , *Package:* Usage Management

*Detail:* Created on 24/11/2014. Last modified on 24/11/2014.

*Notes:* A value that can be assigned to a UsageSpecCharacteristic.

### Columns

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

### Relationships

Columns	Association	Notes
UsageSpecCharacteristicHasUsageSpecCharacteristicValue	<b>0..*</b> <b>1</b> UsageSpecCharacteristicValue.usageSpecCharacteristicValue UsageSpecCharacteristic.	

## UsageSpecification

*Database:* Java, *Stereotype:* , *Package:* Usage Management

*Detail:* Created on 24/11/2014. Last modified on 24/11/2014.

*Notes:* 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.

### Columns

Name	Type	Notes
name	String	The name of the usage specification.
description	String	A narrative that explains in detail what the usage specification is
validFor	TimePeriod	The period for which the usage specification is valid
id	String	Usage specification unique identifier
href	String	Reference of usage specification

### Relationships

Columns	Association	Notes
UsageSpecificationHasUsageSpecCharacteristic	<b>0..*</b> <b>1</b> UsageSpecCharacteristic.usageSpecCharacteristic UsageSpecification.	

## Billed

Database: Java, *Stereotype:* , *Package:* Usage Management  
 Detail: *Created on 24/11/2014. Last modified on 24/11/2014.*  
 Notes: Billed for customer invoice

### Relationships

Columns	Association	Notes
Billing	Rated. Billed.	

## Guided

Database: Java, *Stereotype:* , *Package:* Usage Management  
 Detail: *Created on 24/11/2014. Last modified on 24/11/2014.*  
 Notes: Identified with customer and product references

### Relationships

Columns	Association	Notes
Guiding error	Guided. Rejected.	
Rating	Guided. Rated.	
Recycling OK	Recycled. Guided.	
Yes, Guiding	Correct?. Guided.	

## Rated

Database: Java, *Stereotype:* , *Package:* Usage Management  
 Detail: *Created on 24/11/2014. Last modified on 24/11/2014.*  
 Notes: Rated

### Relationships

Columns	Association	Notes
Billing	Rated. Billed.	
Mark for rerating	Rated. Rerate.	

Columns	Association	Notes
Rating	Guided. Rated.	
Rerating	Rerate. Rated.	

## Received

*Database:* Java, *Stereotype:* , *Package:* Usage Management  
*Detail:* *Created on* 24/11/2014. *Last modified on* 24/11/2014.  
*Notes:* Newly injected into the target system

### Relationships

Columns	Association	Notes
	Received. Correct?.	
Collection	Initial. Received.	

## Recycled

*Database:* Java, *Stereotype:* , *Package:* Usage Management  
*Detail:* *Created on* 24/11/2014. *Last modified on* 24/11/2014.  
*Notes:* Resubmitted after error correction

### Relationships

Columns	Association	Notes
Correction	Rejected. Recycled.	
Recycling OK	Recycled. Guided.	
Rejection	Recycled. Rejected.	

## Rejected

*Database:* Java, *Stereotype:* , *Package:* Usage Management  
*Detail:* *Created on* 24/11/2014. *Last modified on* 24/11/2014.  
*Notes:* Rejected for validation error or similar reasons

### Relationships

Columns	Association	Notes
Correction	Rejected. Recycled.	
Guiding error	Guided. Rejected.	

Columns	Association	Notes
No	Correct?. Rejected.	
No more possible correction	Rejected. Final.	
Rejection	Recycled. Rejected.	

## Rerate

*Database:* Java, *Stereotype:* , *Package:* Usage Management  
*Detail:* Created on 24/11/2014. Last modified on 24/11/2014.  
*Notes:* Marked for re-rating

### Relationships

Columns	Association	Notes
Mark for rerating	Rated. Rerate.	
Rerating	Rerate. Rated.	

## Correct?

*Database:* <none>, *Stereotype:* , *Package:* Usage Management  
*Detail:* Created on 24/11/2014. Last modified on 24/11/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
	Received. Correct?.	
No	Correct?. Rejected.	
Yes, Guiding	Correct?. Guided.	

## Final

*Database:* <none>, *Stereotype:* , *Package:* Usage Management  
*Detail:* Created on 24/11/2014. Last modified on 24/11/2014.  
*Notes:*

### Relationships

Columns	Association	Notes
No more possible correction	Rejected. Final.	

## Initial

**Database:** <none>, **Stereotype:** , **Package:** Usage Management  
**Detail:** Created on 24/11/2014. Last modified on 24/11/2014.  
**Notes:**

### *Relationships*

Columns	Association	Notes
Collection	Initial. Received.	

## Release History

Release Number	Date	Release led by:	Description
Release 1.0	04/11/2014	Pierre Gauthier TM Forum <a href="mailto:pgauthier@tmforum.org">pgauthier@tmforum.org</a>  Veronique Mauneau <a href="mailto:veronique.mauneau@orange.com">veronique.mauneau@orange.com</a>	Initial Version

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