

TM Forum Specification

Account Management API REST Specification

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INTRODUCTION

The Account API provides standardized mechanism for the management of billing and settlement accounts, as well as for financial accounting (account receivable) either in B2B or B2B2C contexts.

It allows creation, update and retrieval of account information either in a B2B2C relationship context (creation of mass market customer billing account within a “Billing on Behalf of” process for example) or in a B2B context (creation of a billing/settlement account for a partner or B2B customer).

It also allows creation and query of bill items allowing partners or B2B customer to check their invoice.

Accounts typically refer to parties and party roles. However, the management of party and party roles is out of the scope of this API. The TMF APIs Party Management, Customer Management and Party Role Management can be used for this purpose.

SAMPLE USE CASES

Reader will find example of use cases using Usage API in “Open Digital Business Scenarios and Use Cases” document.

SUPPORT OF POLYMORPHISM AND EXTENSION PATTERNS

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

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

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

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

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

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

RESOURCE MODEL

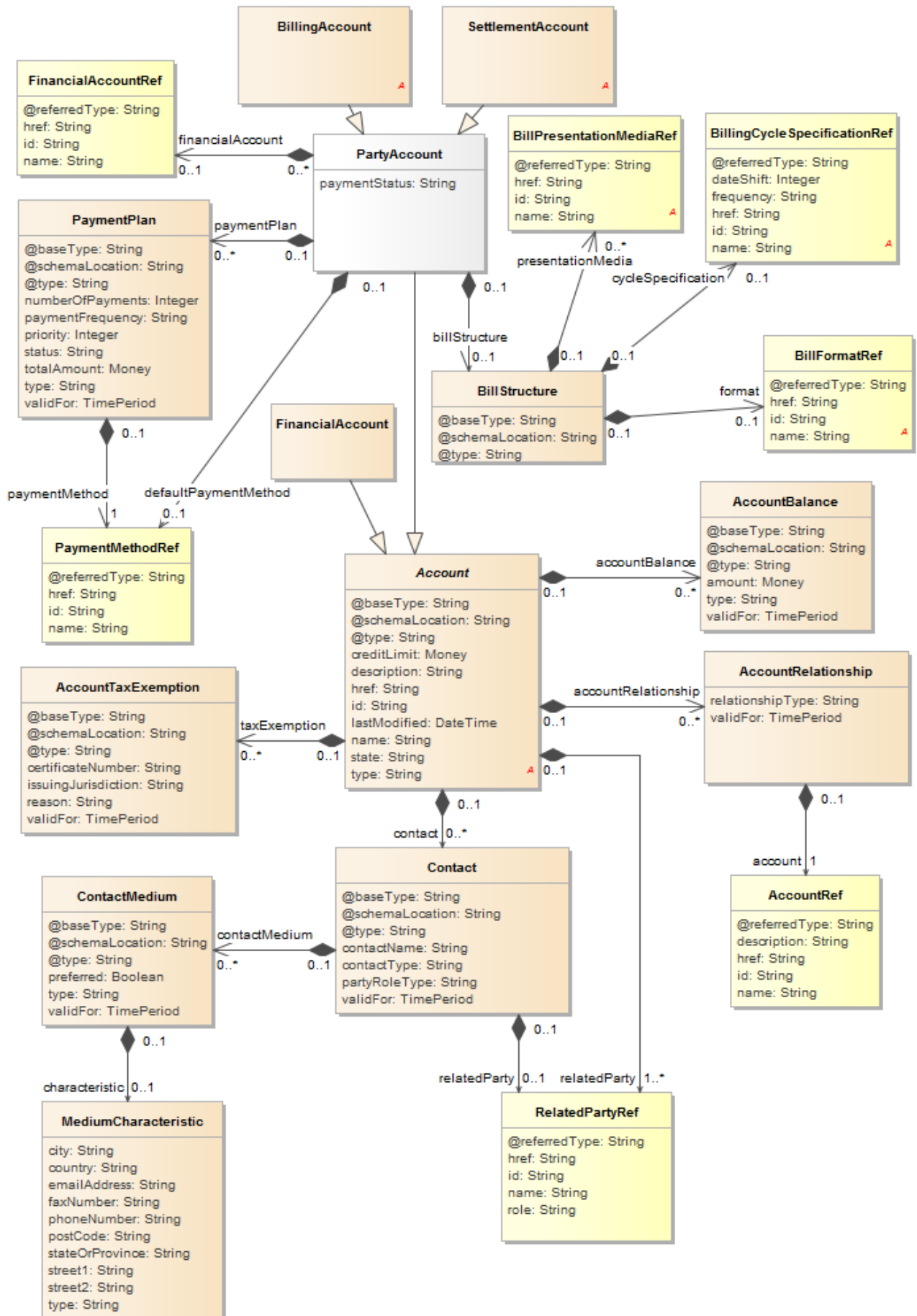
Managed Entity and Task Resource Models

PARTY ACCOUNT RESOURCE

Account used for billing or for settlement purposes concerning a given party (an organization or an individual).

Resource model

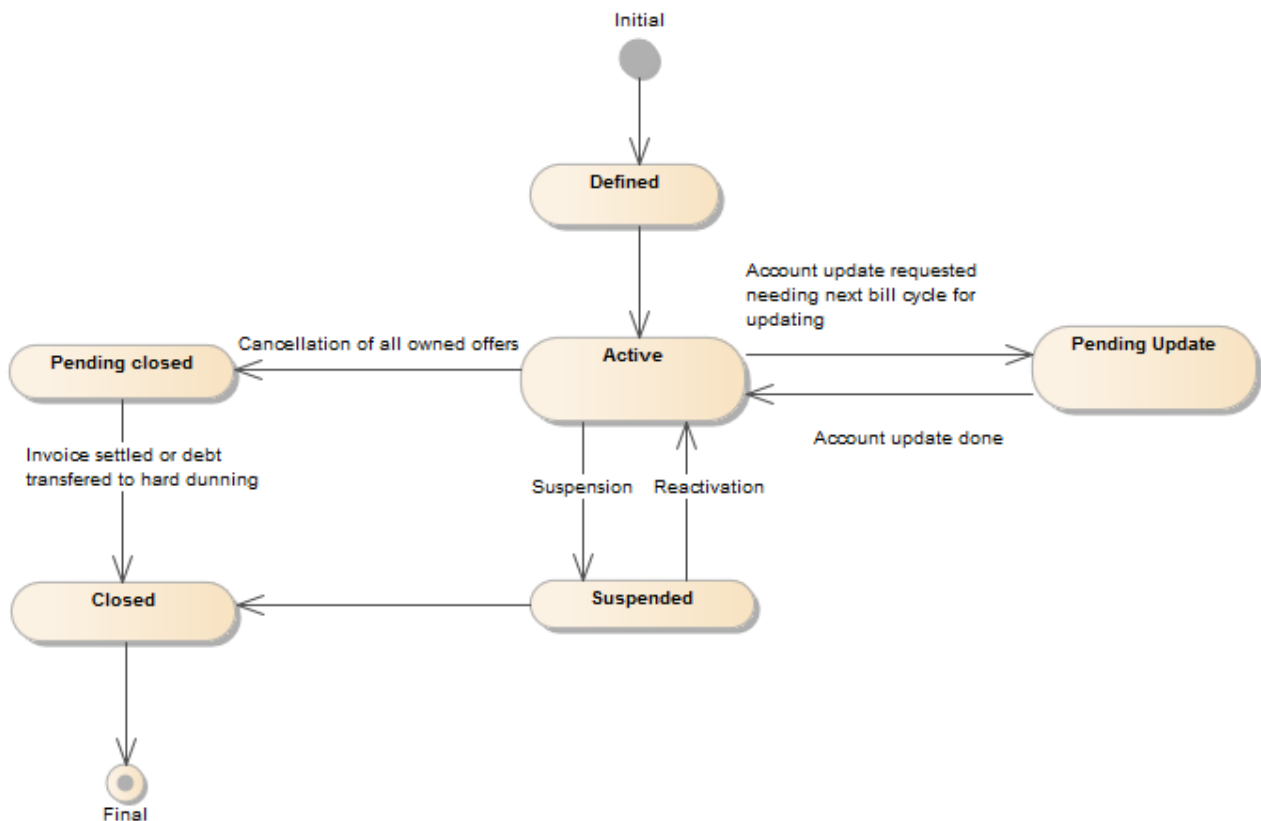
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Lifecycle

The Party Account lifecycle is tracked by the 'state' attribute. Typical lifecycle values are: Defined, Active, Suspended, pending Update, pending Closed, Closed.

Note that an implementation of the specification may enrich the list of states depicted in the diagram. The state machine specifying the typical state change transitions is provided below.



Field descriptions

PartyAccount fields

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
creditLimit	A money (Money). The maximum amount of money that may be charged

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	on an account.
description	A string. Detailed description of the party account.
href	A string. Unique reference of the account.
id	A string. Unique identifier of the account.
lastModified	A date time (DateTime). Date of last modification of the account.
name	A string. Name of the account.
state	A string. Contains the lifecycle state such as: Active, Closed, Suspended and so on.
type	A string. A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics. Note: for flexibility we use a String here, but an implementation may use an enumeration with a limited list of valid values.
paymentStatus	A string. The condition of the account, such as due, paid, in arrears.
billStructure	A bill structure (BillStructure). The structure of the bill for party accounts (billing or settlement).
paymentPlan	A list of payment plans (PaymentPlan [*]). Defines a plan for payment (when a party wants to spread his payments).
financialAccount	A financial account reference (FinancialAccountRef). AccountReceivable reference. An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. An account receivable aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.
defaultPaymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g. direct debit).
relatedParty	A list of related party references (RelatedPartyRef [1..*]). A related party defines party or party role linked to a specific entity.
taxExemption	A list of account tax exemptions (AccountTaxExemption [*]). Proof of freedom from taxes imposed by a taxing jurisdiction.
contact	A list of contacts (Contact [*]). An individual or an organization used as a contact point for a given account and accessed via some contact medium.
accountBalance	A list of account balances (AccountBalance [*]). Balances linked to the

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account.

accountRelationship A list of account relationships (AccountRelationship [*]). Significant connection between accounts. For instance, an aggregating account for a list of shop branches each having its own billing account.

AccountBalance sub-resource

Balances linked to the account.

@baseType A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.

@schemaLocation A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.

@type A string. Generic attribute containing the name of the resource class type.

amount A money (Money). Balance amount.

type A string. Type of the balance: deposit balance, disputed balance, loyalty balance, receivable balance...

validFor A time period. Balance validity period.

AccountRelationship sub-resource

Significant connection between accounts. For instance, an aggregating account for a list of shop branches each having its own billing account.

relationshipType A string. Type of relationship.

validFor A time period. Validity period of that relationship.

account An account reference (AccountRef). An account may be a party account or a financial account.

AccountTaxExemption sub-resource

Proof of freedom from taxes imposed by a taxing jurisdiction.

@baseType A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.

@schemaLocation A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.

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@type	A string. Generic attribute containing the name of the resource class type.
certificateNumber	A string. Identifier of a document that shows proof of exemption from taxes for the taxing jurisdiction.
issuingJurisdiction	A string. Name of the taxing jurisdiction for which taxes are exempt.
reason	A string. Reason of the tax exemption.
validFor	A time period. Period for which the exemption is valid.

BillStructure sub-resource

The structure of the bill for party accounts (billing or settlement).

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
presentationMedia	A list of bill presentation media references (BillPresentationMediaRef [*]). PresentationMedia reference. A mean of communicating a bill, supported by the associated bill format. For example, post mail, email, web page.
format	A bill format reference (BillFormatRef). A bill format is a description of the way in which a bill is presented.
cycleSpecification	A billing cycle specification reference (BillingCycleSpecificationRef). A description of when to initiate a billing cycle and the various sub steps of a billing cycle.

Contact sub-resource

An individual or an organization used as a contact point for a given account and accessed via some contact medium.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.

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@type	A string. Generic attribute containing the name of the resource class type.
contactName	A string. A displayable name for that contact.
contactType	A string. Type of contact (primary, secondary...).
partyRoleType	A string. Identifies what kind of party role type is linked to the contact (an account manager...).
validFor	A time period. Validity period of that contact.
contactMedium	A list of contact mediums (ContactMedium [*]). Indicates the contact medium that could be used to contact the party.
relatedParty	A related party reference (RelatedPartyRef). A related party defines party or party role linked to a specific entity.

ContactMedium sub-resource

Indicates the contact medium that could be used to contact the party.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
preferred	A boolean. If true, indicates that is the preferred contact medium.
type	A string. Type of the contact medium, such as: email address, telephone number, postal address.
validFor	A time period. The time period that the contact medium is valid for.
characteristic	A medium characteristic (MediumCharacteristic). Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

MediumCharacteristic sub-resource

Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

city	A string. The city.
------	---------------------

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country	A string. The country.
emailAddress	A string. Full email address in standard format.
faxNumber	A string. The fax number of the contact.
phoneNumber	A string. The primary phone number of the contact.
postCode	A string. Postcode.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.
type	A string. Type of medium (fax, mobile phone...).

Money sub-resource

A base / value business entity used to represent money.

unit	A string. Currency (ISO4217 norm uses 3 letters to define the currency).
value	A float. A positive floating point number.

PaymentPlan sub-resource

Defines a plan for payment (when a party wants to spread his payments).

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
numberOfPayments	An integer. Number of payments used to spread the global payment.
paymentFrequency	A string. Frequency of the payments, such as monthly and bimonthly.
priority	An integer. Priority of the payment plan.
status	A string. Status of the payment plan (effective, ineffective).
totalAmount	A money (Money). Amount paid.

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type	A string. Type of payment plan.
validFor	A time period. Validity period of the payment plan.
paymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g. direct debit).

AccountRef relationship

Account reference. An account may be a party account or a financial account.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
description	A string. Detailed description of the account.
href	A string. Reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.

BillFormatRef relationship

BillFormat reference. A bill format is a description of the way in which a bill is presented.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the bill format.
id	A string. Unique identifier of the bill format.
name	A string. A short descriptive name.

BillPresentationMediaRef relationship

PresentationMedia reference. A mean of communicating a bill, supported by the associated bill format. For example, post mail, email, web page.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the bill presentation media.
id	A string. Unique identifier of the bill presentation media.
name	A string. A short descriptive name.

BillingCycleSpecificationRef relationship

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BillingCycleSpecification reference. A description of when to initiate a billing cycle and the various sub steps of a billing cycle.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
dateShift	An integer. An offset of a billing/settlement date. The offset is expressed as number of days with regard to the start of the billing/settlement period.
frequency	A string. Frequency of the billing cycle (monthly for instance).
href	A string. Reference of the billing cycle specification.
id	A string. Unique identifier of the billing cycle specification.
name	A string. A short descriptive name.

FinancialAccountRef relationship

AccountReceivable reference. An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. An account receivable aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Unique reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.
accountBalance	An account balance (AccountBalance). Balances linked to the account.

PaymentMethodRef relationship

PaymentMethod reference. A payment method defines a specific mean of payment (e.g. direct debit).

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the payment mean.
id	A string. Unique identifier of the payment mean.
name	A string. Name of the payment mean.

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RelatedPartyRef relationship

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

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the related party, could be a party reference or a party role reference.
id	A string. Unique identifier of a related party.
name	A string. Name of the related party.
role	A string. Role of the related party.

Json representation sample

We provide below the json representation of an example of a 'PartyAccount' resource object

```
{
  "creditLimit": "20000",
  "description": "This party account ...",
  "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/4458",
  "id": "4458",
  "lastModified": "2018-06-14T00:00",
  "name": "Travel account",
  "state": "Suspended",
  "type": "Business",
  "paymentStatus": "In Arrears",
  "billStructure": {
    "presentationMedia": [
      {
        "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/8800",
        "id": "8800",
        "name": "Electronic"
      }
    ],
    "format": {
      "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/4824",
      "id": "4824",
      "name": "Summary invoice"
    },
    "cycleSpecification": {
      "dateShift": 8,
      "frequency": "monthly",
      "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/1309",
      "id": "1309",
      "name": "Monthly billing"
    }
  },
  "paymentPlan": [
```

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```
{
  "numberOfPayments": 12,
  "paymentFrequency": "monthly",
  "priority": 2,
  "status": "Ineffective",
  "totalAmount": 100.0,
  "type": "regular",
  "validFor": {
    "startDateTime": "2018-06-17T00:00",
    "endDateTime": "2019-01-10T00:00"
  },
  "paymentMethod": {
    "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/6895",
    "id": "6895",
    "name": "family payment"
  }
},
"financialAccount": {
  "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/2209",
  "id": "2209",
  "name": "Travel account",
  "accountBalance": {
    "amount": 58.97,
    "type": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-14T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
},
"defaultPaymentMethod": {
  "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/6514",
  "id": "6514",
  "name": "family payment"
},
"relatedParty": [
  {
    "href": "https://host:port/tmf-api/partyManagement/v2/organization/4665",
    "id": "4665",
    "name": "John Doe",
    "role": "owner"
  }
],
"taxExemption": [
  {
    "certificateNumber": "45678909876",
    "issuingJurisdiction": "Embassy",
    "reason": "VIP",
    "validFor": {
      "startDateTime": "2018-06-15T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
]
```

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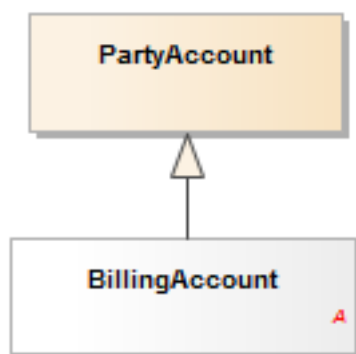
```
    }
  ],
  "contact": [
    {
      "contactName": "Anna Cristal",
      "contactType": "primary",
      "partyRoleType": "Publisher",
      "validFor": {
        "startDateTime": "2018-06-11T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
    },
    {
      "contactMedium": [
        {
          "preferred": false,
          "type": "PostalAddress",
          "validFor": {
            "startDateTime": "2018-06-14T00:00",
            "endDateTime": "2019-01-10T00:00"
          },
        },
        {
          "characteristic": {
            "city": "Paris",
            "street1": "15 Rue des Canards",
            "emailAddress": "alain.delon@best-actor.fr",
            "postCode": "75014",
            "country": "France",
            "type": "home"
          }
        }
      ],
    },
  ],
  "relatedParty": {
    "href": "https://host:port/tmf-api/partyManagement/v2/organization/1850",
    "id": "1850",
    "name": "Gustave Flaubert",
    "role": "owner"
  }
},
"accountBalance": [
  {
    "amount": 53.29,
    "type": "DepositBalance",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
],
"accountRelationship": [
  {
    "relationshipType": "contains",
    "validFor": {
      "startDateTime": "2018-06-10T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
]
```

```
    },
    "account": {
      "description": "This account ...",
      "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/9522",
      "id": "9522",
      "name": "Travel Account"
    }
  }
]
```

BILLING ACCOUNT RESOURCE

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

Resource model

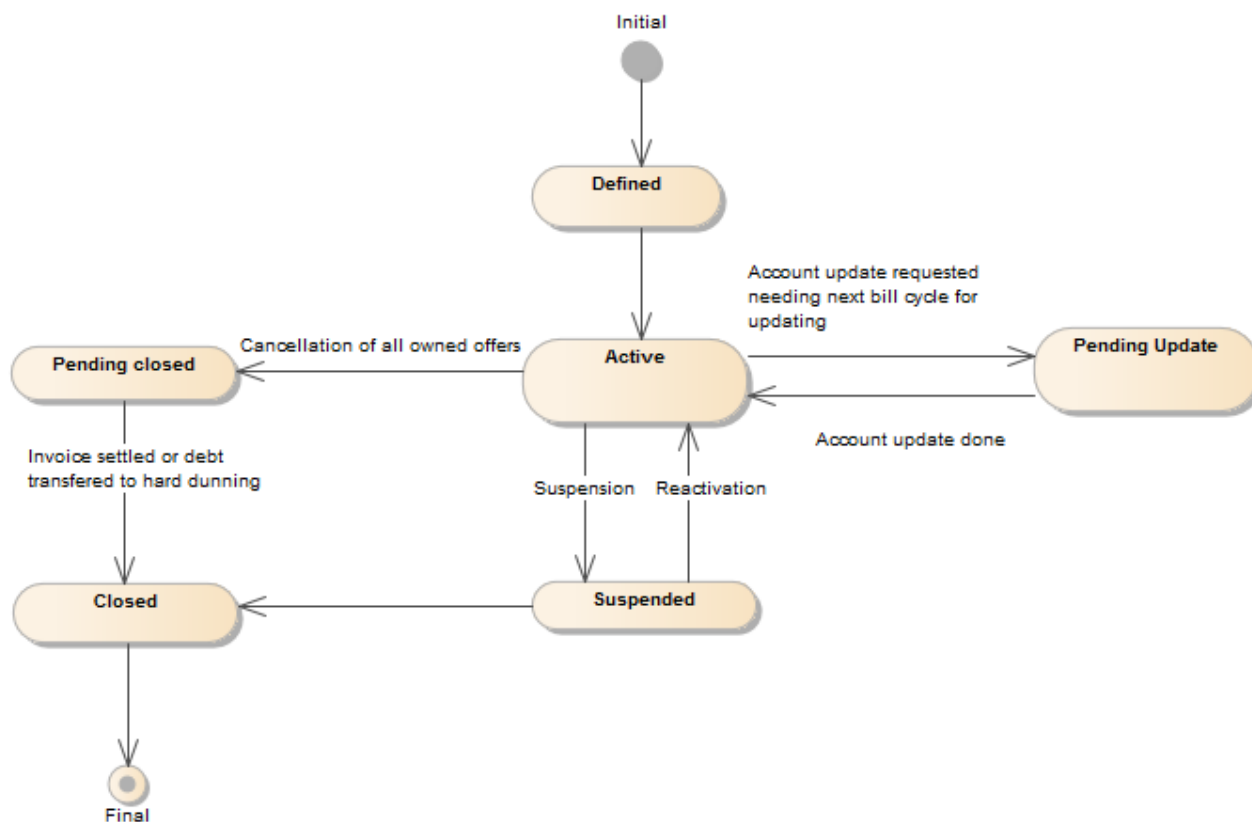


Lifecycle

The Billing Account lifecycle is tracked by the 'state' attribute. Typical lifecycle values are: Defined, Active, Suspended, pending Update, pending Closed, Closed.

Note that an implementation of the specification may enrich the list of states depicted in the diagram. The state machine specifying the typical state change transitions is provided below.

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**Field descriptions**BillingAccount fields

paymentStatus	A string. The condition of the account, such as due, paid, in arrears.
@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
creditLimit	A money (Money). The maximum amount of money that may be charged on an account.
description	A string. Detailed description of the party account.
href	A string. Unique reference of the account.

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id	A string. Unique identifier of the account.
lastModified	A date time (DateTime). Date of last modification of the account.
name	A string. Name of the account.
state	A string. Contains the lifecycle state such as: Active, Closed, Suspended and so on.
type	A string. A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics. Note: for flexibility we use a String here, but an implementation may use an enumeration with a limited list of valid values.
billStructure	A bill structure (BillStructure). The structure of the bill for party accounts (billing or settlement).
paymentPlan	A list of payment plans (PaymentPlan [*]). Defines a plan for payment (when a party wants to spread his payments).
financialAccount	A financial account reference (FinancialAccountRef). AccountReceivable reference. An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. An account receivable aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.
defaultPaymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g. direct debit).
relatedParty	A list of related party references (RelatedPartyRef [1..*]). A related party defines party or party role linked to a specific entity.
taxExemption	A list of account tax exemptions (AccountTaxExemption [*]). Proof of freedom from taxes imposed by a taxing jurisdiction.
contact	A list of contacts (Contact [*]). An individual or an organization used as a contact point for a given account and accessed via some contact medium.
accountBalance	A list of account balances (AccountBalance [*]). Balances linked to the account.
accountRelationship	A list of account relationships (AccountRelationship [*]). Significant connection between accounts. For instance, an aggregating account for a list of shop branches each having its own billing account.

AccountBalance sub-resource

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Balances linked to the account.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
amount	A money (Money). Balance amount.
type	A string. Type of the balance: deposit balance, disputed balance, loyalty balance, receivable balance...
validFor	A time period. Balance validity period.

AccountRelationship sub-resource

Significant connection between accounts. For instance, an aggregating account for a list of shop branches each having its own billing account.

relationshipType	A string. Type of relationship.
validFor	A time period. Validity period of that relationship.
account	An account reference (AccountRef). An account may be a party account or a financial account.

AccountTaxExemption sub-resource

Proof of freedom from taxes imposed by a taxing jurisdiction.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
certificateNumber	A string. Identifier of a document that shows proof of exemption from taxes for the taxing jurisdiction.
issuingJurisdiction	A string. Name of the taxing jurisdiction for which taxes are exempt.

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reason	A string. Reason of the tax exemption.
validFor	A time period. Period for which the exemption is valid.

BillStructure sub-resource

The structure of the bill for party accounts (billing or settlement).

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
presentationMedia	A list of bill presentation media references (BillPresentationMediaRef [*]). PresentationMedia reference. A mean of communicating a bill, supported by the associated bill format. For example, post mail, email, web page.
format	A bill format reference (BillFormatRef). A bill format is a description of the way in which a bill is presented.
cycleSpecification	A billing cycle specification reference (BillingCycleSpecificationRef). A description of when to initiate a billing cycle and the various sub steps of a billing cycle.

Contact sub-resource

An individual or an organization used as a contact point for a given account and accessed via some contact medium.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
contactName	A string. A displayable name for that contact.
contactType	A string. Type of contact (primary, secondary...).
partyRoleType	A string. Identifies what kind of party role type is linked to the contact (an

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	account manager...).
validFor	A time period. Validity period of that contact.
contactMedium	A list of contact mediums (ContactMedium [*]). Indicates the contact medium that could be used to contact the party.
relatedParty	A related party reference (RelatedPartyRef). A related party defines party or party role linked to a specific entity.

ContactMedium sub-resource

Indicates the contact medium that could be used to contact the party.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
preferred	A boolean. If true, indicates that is the preferred contact medium.
type	A string. Type of the contact medium, such as: email address, telephone number, postal address.
validFor	A time period. The time period that the contact medium is valid for.
characteristic	A medium characteristic (MediumCharacteristic). Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

MediumCharacteristic sub-resource

Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

city	A string. The city.
country	A string. The country.
emailAddress	A string. Full email address in standard format.
faxNumber	A string. The fax number of the contact.
phoneNumber	A string. The primary phone number of the contact.

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postCode	A string. Postcode.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.
type	A string. Type of medium (fax, mobile phone...).

Money sub-resource

A base / value business entity used to represent money.

unit	A string. Currency (ISO4217 norm uses 3 letters to define the currency).
value	A float. A positive floating point number.

PaymentPlan sub-resource

Defines a plan for payment (when a party wants to spread his payments).

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
numberOfPayments	An integer. Number of payments used to spread the global payment.
paymentFrequency	A string. Frequency of the payments, such as monthly and bimonthly.
priority	An integer. Priority of the payment plan.
status	A string. Status of the payment plan (effective, ineffective).
totalAmount	A money (Money). Amount paid.
type	A string. Type of payment plan.
validFor	A time period. Validity period of the payment plan.
paymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g. direct debit).

AccountRef relationship

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Account reference. An account may be a party account or a financial account.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
description	A string. Detailed description of the account.
href	A string. Reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.

BillFormatRef relationship

BillFormat reference. A bill format is a description of the way in which a bill is presented.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the bill format.
id	A string. Unique identifier of the bill format.
name	A string. A short descriptive name.

BillPresentationMediaRef relationship

PresentationMedia reference. A mean of communicating a bill, supported by the associated bill format. For example, post mail, email, web page.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the bill presentation media.
id	A string. Unique identifier of the bill presentation media.
name	A string. A short descriptive name.

BillingCycleSpecificationRef relationship

BillingCycleSpecification reference. A description of when to initiate a billing cycle and the various sub steps of a billing cycle.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
dateShift	An integer. An offset of a billing/settlement date. The offset is expressed as

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	number of days with regard to the start of the billing/settlement period.
frequency	A string. Frequency of the billing cycle (monthly for instance).
href	A string. Reference of the billing cycle specification.
id	A string. Unique identifier of the billing cycle specification.
name	A string. A short descriptive name.

FinancialAccountRef relationship

AccountReceivable reference. An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. An account receivable aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Unique reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.
accountBalance	An account balance (AccountBalance). Balances linked to the account.

PaymentMethodRef relationship

PaymentMethod reference. A payment method defines a specific mean of payment (e.g. direct debit).

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the payment mean.
id	A string. Unique identifier of the payment mean.
name	A string. Name of the payment mean.

RelatedPartyRef relationship

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

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the related party, could be a party reference or a party

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	role reference.
id	A string. Unique identifier of a related party.
name	A string. Name of the related party.
role	A string. Role of the related party.

Json representation sample

We provide below the json representation of an example of a 'BillingAccount' resource object

```
{
  "paymentStatus": "In Arrears",
  "creditLimit": "10000",
  "description": "This billing account ...",
  "href": "https://host:port/tmf-api/accountManagement/v2/billingAccount/5430",
  "id": "5430",
  "lastModified": "2018-06-14T00:00",
  "name": "Home Account",
  "state": "Inactive",
  "type": "Business",
  "billStructure": {
    "presentationMedia": [
      {
        "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/9968",
        "id": "9968",
        "name": "Post Mail"
      }
    ],
    "format": {
      "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/3555",
      "id": "3555",
      "name": "Detailed invoice"
    },
    "cycleSpecification": {
      "dateShift": 54,
      "frequency": "monthly",
      "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/3828",
      "id": "3828",
      "name": "Annual billing"
    }
  },
  "paymentPlan": [
    {
      "numberOfPayments": 4,
      "paymentFrequency": "monthly",
      "priority": 1,
      "status": "Effective",
      "totalAmount": 100.0,
      "type": "regular",
      "validFor": {
        "startDateTime": "2018-06-11T00:00",

```

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```
        "endDateTime": "2019-01-10T00:00"
      },
      "paymentMethod": {
        "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/2452",
        "id": "2452",
        "name": "professional payment"
      }
    }
  ],
  "financialAccount": {
    "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/2063",
    "id": "2063",
    "name": "Partnership account",
    "accountBalance": {
      "amount": 55.56,
      "type": "ReceivableBalance",
      "validFor": {
        "startDateTime": "2018-06-13T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  },
  "defaultPaymentMethod": {
    "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/3537",
    "id": "3537",
    "name": "family payment"
  },
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyManagement/v2/organization/6838",
      "id": "6838",
      "name": "Richard Cole",
      "role": "service provider"
    }
  ],
  "taxExemption": [
    {
      "certificateNumber": "45678909876",
      "issuingJurisdiction": "Prefecture",
      "reason": "Social",
      "validFor": {
        "startDateTime": "2018-06-13T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ],
  "contact": [
    {
      "contactName": "Rachel Douglas",
      "contactType": "secondary",
      "partyRoleType": "Vendor",
      "validFor": {
        "startDateTime": "2018-06-17T00:00",
```

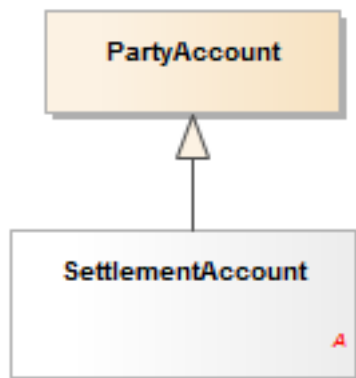
```
    "endDateTime": "2019-01-10T00:00"
  },
  "contactMedium": [
    {
      "preferred": true,
      "type": "Email",
      "validFor": {
        "startDateTime": "2018-06-14T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "characteristic": {
        "city": "Paris",
        "street1": "15 Rue des Canards",
        "emailAddress": "alain.delon@best-actor.fr",
        "postCode": "75014",
        "country": "France",
        "type": "home"
      }
    }
  ],
  "relatedParty": {
    "href": "https://host:port/tmf-api/partyManagement/v2/organization/9947",
    "id": "9947",
    "name": "Richard Cole",
    "role": "owner"
  }
},
"accountBalance": [
  {
    "amount": 58.33,
    "type": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-10T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
],
"accountRelationship": [
  {
    "relationshipType": "contains",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "account": {
      "description": "This account ...",
      "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/9327",
      "id": "9327",
      "name": "Paradise Account"
    }
  }
]
```

```
}
```

SETTLEMENT ACCOUNT RESOURCE

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

Resource model

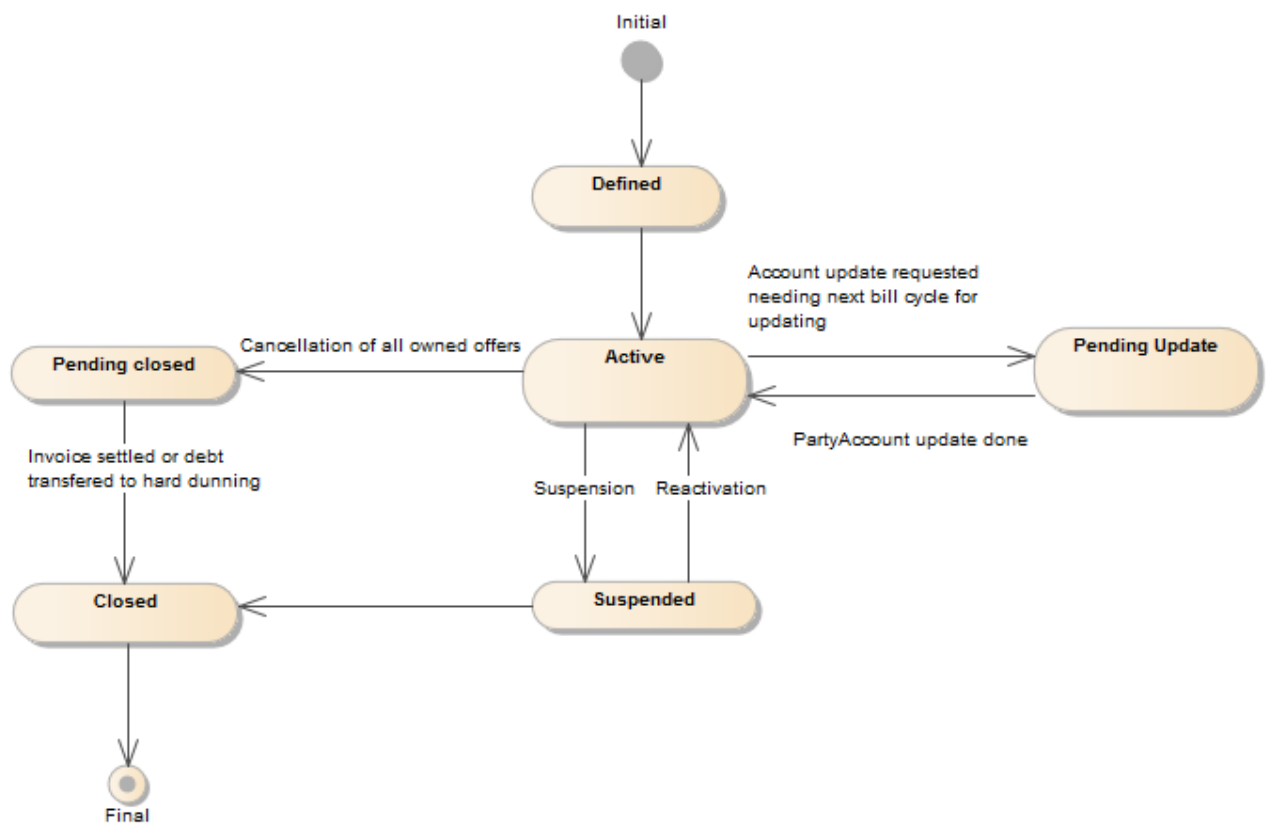


Lifecycle

The Settlement Account lifecycle is tracked by the 'state' attribute. Typical lifecycle values are: Defined, Active, Suspended, pending Update, pending Closed, Closed.

Note that an implementation of the specification may enrich the list of states depicted in the diagram. The state machine specifying the typical state change transitions is provided below.

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**Field descriptions**SettlementAccount fields

paymentStatus	A string. The condition of the account, such as due, paid, in arrears.
@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
creditLimit	A money (Money). The maximum amount of money that may be charged on an account.
description	A string. Detailed description of the party account.
href	A string. Unique reference of the account.

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id	A string. Unique identifier of the account.
lastModified	A date time (DateTime). Date of last modification of the account.
name	A string. Name of the account.
state	A string. Contains the lifecycle state such as: Active, Closed, Suspended and so on.
type	A string. A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics. Note: for flexibility we use a String here, but an implementation may use an enumeration with a limited list of valid values.
billStructure	A bill structure (BillStructure). The structure of the bill for party accounts (billing or settlement).
paymentPlan	A list of payment plans (PaymentPlan [*]). Defines a plan for payment (when a party wants to spread his payments).
financialAccount	A financial account reference (FinancialAccountRef). AccountReceivable reference. An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. An account receivable aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.
defaultPaymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g. direct debit).
relatedParty	A list of related party references (RelatedPartyRef [1..*]). A related party defines party or party role linked to a specific entity.
taxExemption	A list of account tax exemptions (AccountTaxExemption [*]). Proof of freedom from taxes imposed by a taxing jurisdiction.
contact	A list of contacts (Contact [*]). An individual or an organization used as a contact point for a given account and accessed via some contact medium.
accountBalance	A list of account balances (AccountBalance [*]). Balances linked to the account.
accountRelationship	A list of account relationships (AccountRelationship [*]). Significant connection between accounts. For instance, an aggregating account for a list of shop branches each having its own billing account.

AccountBalance sub-resource

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Balances linked to the account.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
amount	A money (Money). Balance amount.
type	A string. Type of the balance: deposit balance, disputed balance, loyalty balance, receivable balance...
validFor	A time period. Balance validity period.

AccountRelationship sub-resource

Significant connection between accounts. For instance, an aggregating account for a list of shop branches each having its own billing account.

relationshipType	A string. Type of relationship.
validFor	A time period. Validity period of that relationship.
account	An account reference (AccountRef). An account may be a party account or a financial account.

AccountTaxExemption sub-resource

Proof of freedom from taxes imposed by a taxing jurisdiction.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
certificateNumber	A string. Identifier of a document that shows proof of exemption from taxes for the taxing jurisdiction.
issuingJurisdiction	A string. Name of the taxing jurisdiction for which taxes are exempt.

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reason	A string. Reason of the tax exemption.
validFor	A time period. Period for which the exemption is valid.

BillStructure sub-resource

The structure of the bill for party accounts (billing or settlement).

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
presentationMedia	A list of bill presentation media references (BillPresentationMediaRef [*]). PresentationMedia reference. A mean of communicating a bill, supported by the associated bill format. For example, post mail, email, web page.
format	A bill format reference (BillFormatRef). A bill format is a description of the way in which a bill is presented.
cycleSpecification	A billing cycle specification reference (BillingCycleSpecificationRef). A description of when to initiate a billing cycle and the various sub steps of a billing cycle.

Contact sub-resource

An individual or an organization used as a contact point for a given account and accessed via some contact medium.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
contactName	A string. A displayable name for that contact.
contactType	A string. Type of contact (primary, secondary...).
partyRoleType	A string. Identifies what kind of party role type is linked to the contact (an

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	account manager...).
validFor	A time period. Validity period of that contact.
contactMedium	A list of contact mediums (ContactMedium [*]). Indicates the contact medium that could be used to contact the party.
relatedParty	A related party reference (RelatedPartyRef). A related party defines party or party role linked to a specific entity.

ContactMedium sub-resource

Indicates the contact medium that could be used to contact the party.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
preferred	A boolean. If true, indicates that is the preferred contact medium.
type	A string. Type of the contact medium, such as: email address, telephone number, postal address.
validFor	A time period. The time period that the contact medium is valid for.
characteristic	A medium characteristic (MediumCharacteristic). Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

MediumCharacteristic sub-resource

Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

city	A string. The city.
country	A string. The country.
emailAddress	A string. Full email address in standard format.
faxNumber	A string. The fax number of the contact.
phoneNumber	A string. The primary phone number of the contact.

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postCode	A string. Postcode.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.
type	A string. Type of medium (fax, mobile phone...).

Money sub-resource

A base / value business entity used to represent money.

unit	A string. Currency (ISO4217 norm uses 3 letters to define the currency).
value	A float. A positive floating point number.

PaymentPlan sub-resource

Defines a plan for payment (when a party wants to spread his payments).

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
numberOfPayments	An integer. Number of payments used to spread the global payment.
paymentFrequency	A string. Frequency of the payments, such as monthly and bimonthly.
priority	An integer. Priority of the payment plan.
status	A string. Status of the payment plan (effective, ineffective).
totalAmount	A money (Money). Amount paid.
type	A string. Type of payment plan.
validFor	A time period. Validity period of the payment plan.
paymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g. direct debit).

AccountRef relationship

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Account reference. An account may be a party account or a financial account.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
description	A string. Detailed description of the account.
href	A string. Reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.

BillFormatRef relationship

BillFormat reference. A bill format is a description of the way in which a bill is presented.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the bill format.
id	A string. Unique identifier of the bill format.
name	A string. A short descriptive name.

BillPresentationMediaRef relationship

PresentationMedia reference. A mean of communicating a bill, supported by the associated bill format. For example, post mail, email, web page.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the bill presentation media.
id	A string. Unique identifier of the bill presentation media.
name	A string. A short descriptive name.

BillingCycleSpecificationRef relationship

BillingCycleSpecification reference. A description of when to initiate a billing cycle and the various sub steps of a billing cycle.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
dateShift	An integer. An offset of a billing/settlement date. The offset is expressed as

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	number of days with regard to the start of the billing/settlement period.
frequency	A string. Frequency of the billing cycle (monthly for instance).
href	A string. Reference of the billing cycle specification.
id	A string. Unique identifier of the billing cycle specification.
name	A string. A short descriptive name.

FinancialAccountRef relationship

AccountReceivable reference. An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. An account receivable aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Unique reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.
accountBalance	An account balance (AccountBalance). Balances linked to the account.

PaymentMethodRef relationship

PaymentMethod reference. A payment method defines a specific mean of payment (e.g. direct debit).

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the payment mean.
id	A string. Unique identifier of the payment mean.
name	A string. Name of the payment mean.

RelatedPartyRef relationship

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

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the related party, could be a party reference or a party

Account Management API REST Specification

	role reference.
id	A string. Unique identifier of a related party.
name	A string. Name of the related party.
role	A string. Role of the related party.

Json representation sample

We provide below the json representation of an example of a 'SettlementAccount' resource object

```
{
  "paymentStatus": "In Collection",
  "creditLimit": "20000",
  "description": "This settlement account ...",
  "href": "https://host:port/tmf-api/accountManagement/v2/settlementAccount/8790",
  "id": "8790",
  "lastModified": "2018-06-14T00:00",
  "name": "Per Usage Account",
  "state": "inactive",
  "type": "Business",
  "billStructure": {
    "presentationMedia": [
      {
        "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/1451",
        "id": "1451",
        "name": "Web Page"
      }
    ],
    "format": {
      "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/8128",
      "id": "8128",
      "name": "Detailed invoice"
    },
    "cycleSpecification": {
      "dateShift": 62,
      "frequency": "monthly",
      "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/1361",
      "id": "1361",
      "name": "Annual billing"
    }
  },
  "paymentPlan": [
    {
      "numberOfPayments": 4,
      "paymentFrequency": "monthly",
      "priority": 3,
      "status": "Effective",
      "totalAmount": 543.8,
      "type": "regular",
      "validFor": {
        "startDateTime": "2018-06-17T00:00",
```

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```
        "endDateTime": "2019-01-10T00:00"
      },
      "paymentMethod": {
        "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/1534",
        "id": "1534",
        "name": "professional payment"
      }
    }
  ],
  "financialAccount": {
    "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/3408",
    "id": "3408",
    "name": "Partnership account",
    "accountBalance": {
      "amount": 55.14,
      "type": "ReceivableBalance",
      "validFor": {
        "startDateTime": "2018-06-12T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  },
  "defaultPaymentMethod": {
    "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/9124",
    "id": "9124",
    "name": "family payment"
  },
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyManagement/v2/organization/5965",
      "id": "5965",
      "name": "Jimmy Doe",
      "role": "employee"
    }
  ],
  "taxExemption": [
    {
      "certificateNumber": "98765432345",
      "issuingJurisdiction": "Embassy",
      "reason": "VIP",
      "validFor": {
        "startDateTime": "2018-06-17T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ],
  "contact": [
    {
      "contactName": "Virginie Cork",
      "contactType": "primary",
      "partyRoleType": "Publisher",
      "validFor": {
        "startDateTime": "2018-06-11T00:00",
```

Account Management API REST Specification

```

        "endDateTime": "2019-01-10T00:00"
      },
      "contactMedium": [
        {
          "preferred": false,
          "type": "PostalAddress",
          "validFor": {
            "startDateTime": "2018-06-14T00:00",
            "endDateTime": "2019-01-10T00:00"
          },
          "characteristic": {
            "city": "Paris",
            "street1": "15 Rue des Canards",
            "emailAddress": "alain.delon@best-actor.fr",
            "postCode": "75014",
            "country": "France",
            "type": "home"
          }
        }
      ],
      "relatedParty": {
        "href": "https://host:port/tmf-api/partyManagement/v2/organization/6310",
        "id": "6310",
        "name": "Gustave Flaubert",
        "role": "bill receiver"
      }
    ],
    "accountBalance": [
      {
        "amount": 55.28,
        "type": "DepositBalance",
        "validFor": {
          "startDateTime": "2018-06-10T00:00",
          "endDateTime": "2019-01-10T00:00"
        }
      }
    ],
    "accountRelationship": [
      {
        "relationshipType": "contains",
        "validFor": {
          "startDateTime": "2018-06-16T00:00",
          "endDateTime": "2019-01-10T00:00"
        },
        "account": {
          "description": "This account ...",
          "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/7550",
          "id": "7550",
          "name": "Travel Account"
        }
      }
    ]
  ]

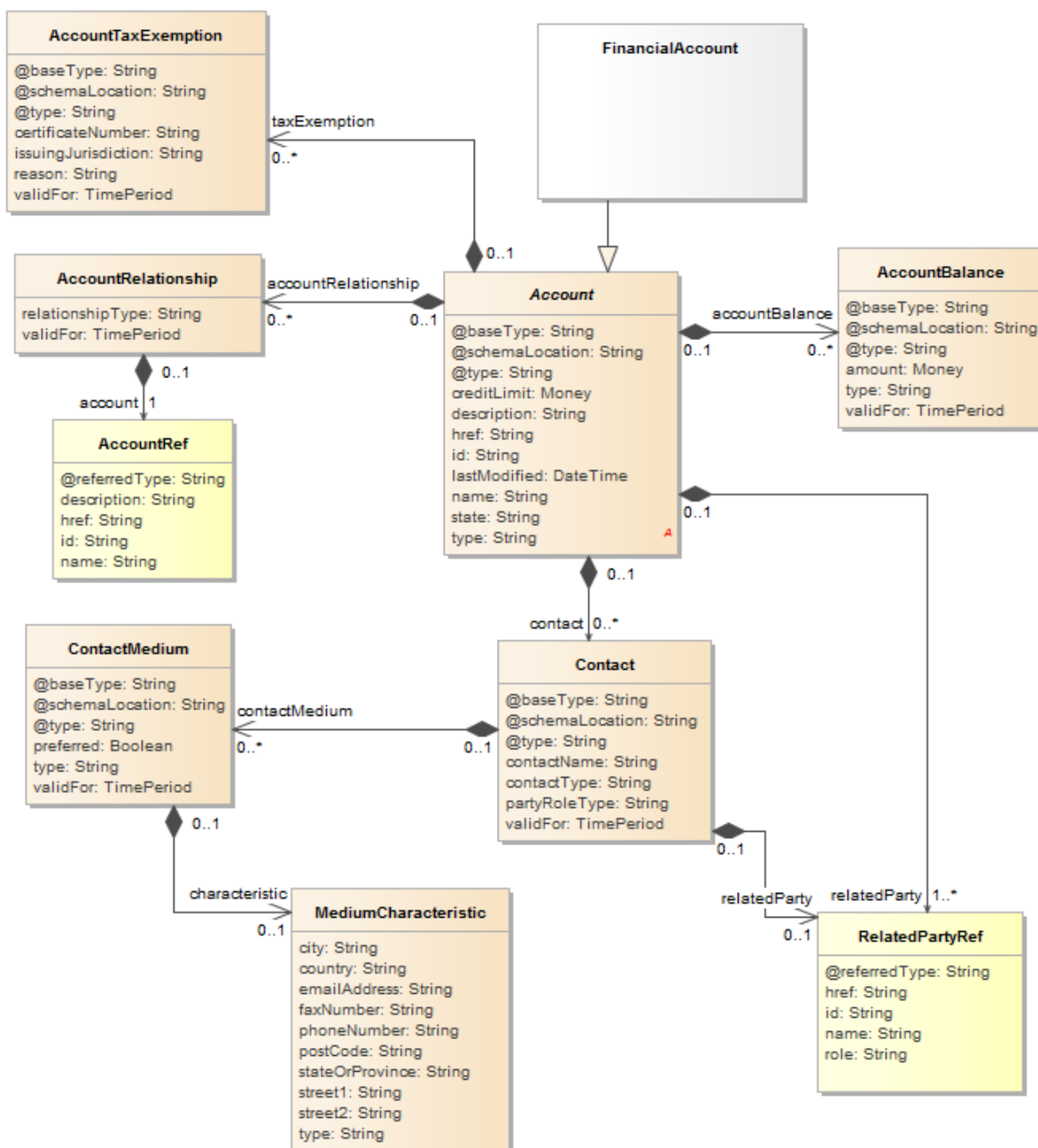
```

}

FINANCIAL ACCOUNT RESOURCE

An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. A financial (account receivable account/account payable) aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.

Resource model

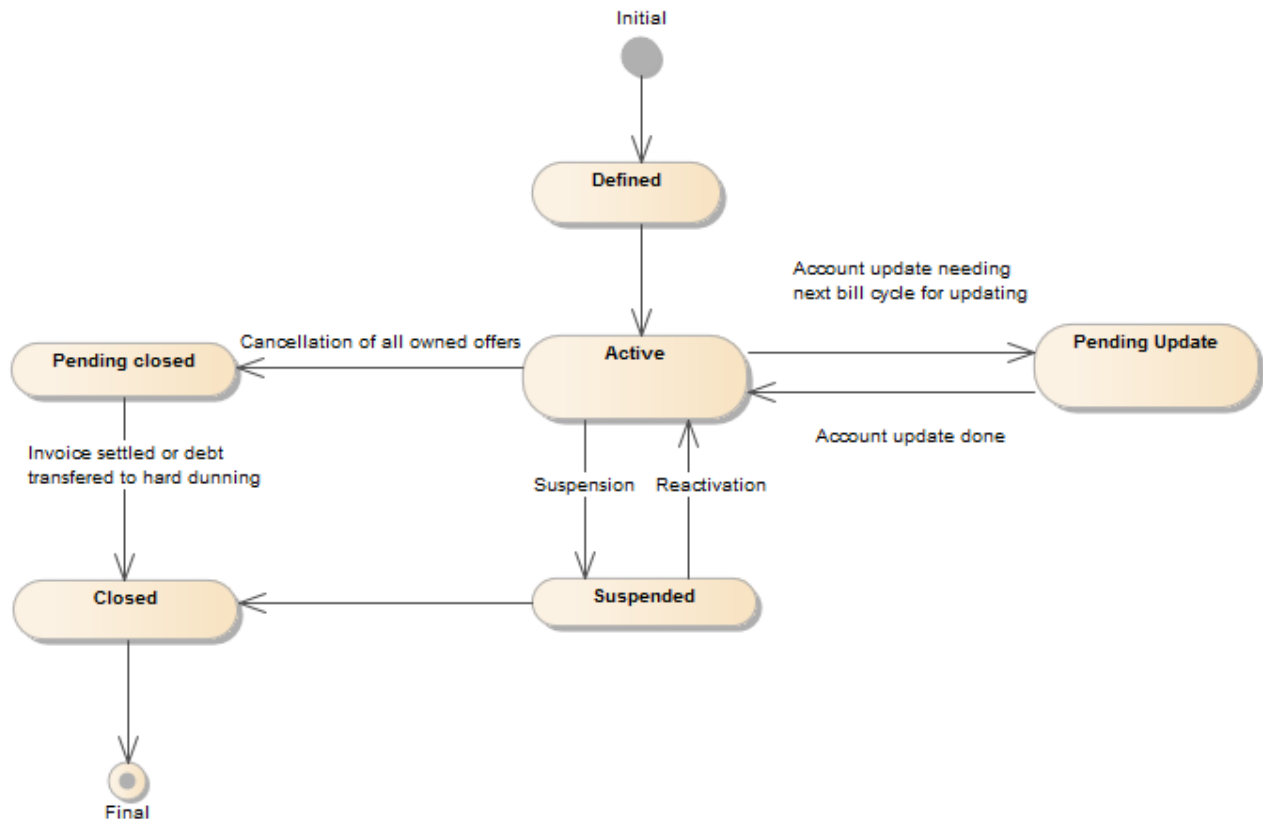


Account Management API REST Specification

Lifecycle

The FinancialAccount lifecycle is tracked by the 'state' attribute. Typical lifecycle values are: Defined, Active, Suspended, pending Update, pending Closed, Closed.

Note that an implementation of the specification may enrich the list of states depicted in the diagram. The state machine specifying the typical state change transitions is provided below.

**Field descriptions**FinancialAccount fields

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
creditLimit	A money (Money). The maximum amount of money that may be charged on

Account Management API REST Specification

	an account.
description	A string. Detailed description of the party account.
href	A string. Unique reference of the account.
id	A string. Unique identifier of the account.
lastModified	A date time (DateTime). Date of last modification of the account.
name	A string. Name of the account.
state	A string. Contains the lifecycle state such as: Active, Closed, Suspended and so on.
type	A string. A categorization of an account, such as individual, joint, and so forth, whose instances share some of the same characteristics. Note: for flexibility we use a String here, but an implementation may use an enumeration with a limited list of valid values.
relatedParty	A list of related party references (RelatedPartyRef [1..*]). A related party defines party or party role linked to a specific entity.
taxExemption	A list of account tax exemptions (AccountTaxExemption [*]). Proof of freedom from taxes imposed by a taxing jurisdiction.
contact	A list of contacts (Contact [*]). An individual or an organization used as a contact point for a given account and accessed via some contact medium.
accountBalance	A list of account balances (AccountBalance [*]). Balances linked to the account.
accountRelationship	A list of account relationships (AccountRelationship [*]). Significant connection between accounts. For instance, an aggregating account for a list of shop branches each having its own billing account.

AccountBalance sub-resource

Balances linked to the account.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.

Account Management API REST Specification

@type	A string. Generic attribute containing the name of the resource class type.
amount	A money (Money). Balance amount.
type	A string. Type of the balance: deposit balance, disputed balance, loyalty balance, receivable balance...
validFor	A time period. Balance validity period.

AccountRelationship sub-resource

Significant connection between accounts. For instance, an aggregating account for a list of shop branches each having its own billing account.

relationshipType	A string. Type of relationship.
validFor	A time period. Validity period of that relationship.
account	An account reference (AccountRef). An account may be a party account or a financial account.

AccountTaxExemption sub-resource

Proof of freedom from taxes imposed by a taxing jurisdiction.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
certificateNumber	A string. Identifier of a document that shows proof of exemption from taxes for the taxing jurisdiction.
issuingJurisdiction	A string. Name of the taxing jurisdiction for which taxes are exempt.
reason	A string. Reason of the tax exemption.
validFor	A time period. Period for which the exemption is valid.

Contact sub-resource

An individual or an organization used as a contact point for a given account and accessed via some contact medium.

Account Management API REST Specification

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
contactName	A string. A displayable name for that contact.
contactType	A string. Type of contact (primary, secondary...).
partyRoleType	A string. Identifies what kind of party role type is linked to the contact (an account manager...).
validFor	A time period. Validity period of that contact.
contactMedium	A list of contact mediums (ContactMedium [*]). Indicates the contact medium that could be used to contact the party.
relatedParty	A related party reference (RelatedPartyRef). A related party defines party or party role linked to a specific entity.

ContactMedium sub-resource

Indicates the contact medium that could be used to contact the party.

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
preferred	A boolean. If true, indicates that is the preferred contact medium.
type	A string. Type of the contact medium, such as: email address, telephone number, postal address.
validFor	A time period. The time period that the contact medium is valid for.
characteristic	A medium characteristic (MediumCharacteristic). Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

Account Management API REST Specification

MediumCharacteristic sub-resource

Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

city	A string. The city.
country	A string. The country.
emailAddress	A string. Full email address in standard format.
faxNumber	A string. The fax number of the contact.
phoneNumber	A string. The primary phone number of the contact.
postCode	A string. Postcode.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.
type	A string. Type of medium (fax, mobile phone...).

Money sub-resource

A base / value business entity used to represent money.

unit	A string. Currency (ISO4217 norm uses 3 letters to define the currency).
value	A float. A positive floating point number.

AccountRef relationship

Account reference. An account may be a party account or a financial account.

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
description	A string. Detailed description of the account.
href	A string. Reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.

RelatedPartyRef relationship

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

Account Management API REST Specification

@referredType	A string. Generic attribute indicating the name of the class type of the referred resource entity.
href	A string. Reference of the related party, could be a party reference or a party role reference.
id	A string. Unique identifier of a related party.
name	A string. Name of the related party.
role	A string. Role of the related party.

Json representation sample

We provide below the json representation of an example of a 'FinancialAccount' resource object

```
{
  "creditLimit": "3500",
  "description": "This financial account ...",
  "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/1041",
  "id": "1041",
  "lastModified": "2018-06-14T00:00",
  "name": "Administration account",
  "state": "Active",
  "type": "Global",
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyManagement/v2/organization/9442",
      "id": "9442",
      "name": "Gustave Flaubert",
      "role": "bill receiver"
    }
  ],
  "taxExemption": [
    {
      "certificateNumber": "45678909876",
      "issuingJurisdiction": "Prefecture",
      "reason": "Social",
      "validFor": {
        "startDateTime": "2018-06-13T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ],
  "contact": [
    {
      "contactName": "Ludwig Borgia",
      "contactType": "secondary",
      "partyRoleType": "CustomerAccountRepresentative",
      "validFor": {
        "startDateTime": "2018-06-11T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ]
}
```

Account Management API REST Specification

```

    },
    "contactMedium": [
      {
        "preferred": false,
        "type": "Email",
        "validFor": {
          "startDateTime": "2018-06-12T00:00",
          "endDateTime": "2019-01-10T00:00"
        },
        "characteristic": {
          "city": "Paris",
          "street1": "15 Rue des Canards",
          "emailAddress": "alain.delon@best-actor.fr",
          "postCode": "75014",
          "country": "France",
          "type": "home"
        }
      }
    ],
    "relatedParty": {
      "href": "https://host:port/tmf-api/partyManagement/v2/organization/2186",
      "id": "2186",
      "name": "Gustave Flaubert",
      "role": "employee"
    }
  ],
  "accountBalance": [
    {
      "amount": 50.58,
      "type": "ReceivableBalance",
      "validFor": {
        "startDateTime": "2018-06-15T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",
      "validFor": {
        "startDateTime": "2018-06-13T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "account": {
        "description": "This account ...",
        "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/7688",
        "id": "7688",
        "name": "Travel Account"
      }
    }
  ]
}

```

BILLING CYCLE SPECIFICATION RESOURCE

A detailed description of when to initiate a billing cycle and the various sub steps of a billing cycle.

Resource model

BillingCycle Specification
@baseType: String
@schemaLocation: String
@type: String
billingDateShift: Integer
billingPeriod: String
chargeDateOffset: int
creditDateOffset: int
description: String
frequency: String
href: String
id: String
mailingDateOffset: Integer
name: String
paymentDueDateOffset: Integer
validFor: TimePeriod

Field descriptions

BillingCycleSpecification fields

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
billingDateShift	An integer. An offset of a billing/settlement date. The offset is expressed as number of days with regard to the start of the billing/settlement period.
billingPeriod	A string. A billing time period. It can be recurring, for example: week, month, quarter of year, year.
chargeDateOffset	An int (int). An offset of a date through which charges previously received by the billing system will appear on the bill. The offset is expressed as

Account Management API REST Specification

	number of days with regard to the start of the BillingPeriod.
creditDateOffset	An int (int). An offset of a date through which credits previously received by the billing system will appear on the bill. The offset is expressed as number of days with regard to the start of the BillingPeriod.
description	A string. An explanation regarding this billing cycle specification.
frequency	A string. Frequency of the billing cycle (monthly for instance).
href	A string. Reference of the billing cycle specification.
id	A string. Unique identifier of the billing cycle specification.
mailingDateOffset	An integer. An offset of a customer bill mailing date. The offset is expressed as number of days with regard to the start of the BillingPeriod.
name	A string. A short descriptive name.
paymentDueDateOffset	An integer. An offset of a payment due date. The offset is expressed as number of days with regard to the start of the BillingPeriod.
validFor	A time period. The period for which the billing specification cycle is valid.

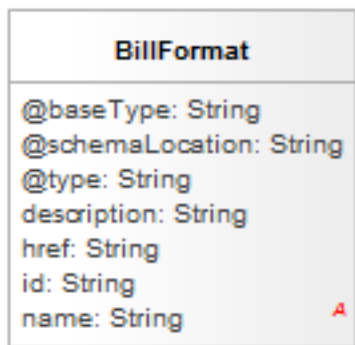
Json representation sample

We provide below the json representation of an example of a 'BillingCycleSpecification' resource object

```
{
  "billingDateShift": 20,
  "billingPeriod": "a string ...",
  "chargeDateOffset": "a int ...",
  "creditDateOffset": "a int ...",
  "description": "This billing cycle specification ...",
  "frequency": "monthly",
  "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/4556",
  "id": "4556",
  "mailingDateOffset": 25,
  "name": "Monthly billing",
  "paymentDueDateOffset": 30,
  "validFor": {
    "startDateTime": "2018-06-10T00:00",
    "endDateTime": "2019-01-10T00:00"
  }
}
```

BILL FORMAT RESOURCE

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

Resource model**Field descriptions***BillFormat* fields

<code>@baseType</code>	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
<code>@schemaLocation</code>	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
<code>@type</code>	A string. Generic attribute containing the name of the resource class type.
<code>description</code>	A string. An explanatory text for this bill format.
<code>href</code>	A string. Reference of the bill format.
<code>id</code>	A string. Unique identifier of the bill format.
<code>name</code>	A string. A short descriptive name.

Json representation sample

We provide below the json representation of an example of a 'BillFormat' resource object

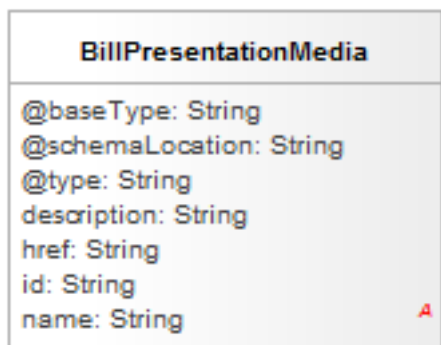
```

{
  "description": "This bill format ...",
  "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/8718",
  "id": "8718",
  "name": "Detailed invoice"
}
  
```

BILL PRESENTATION MEDIA RESOURCE

A mean of communicating a bill, supported by the associated bill format. For example, post mail, email, web page.

Resource model



Field descriptions

BillPresentationMedia fields

@baseType	A string. Generic attribute indicating the base class type of the extension class of the current object. Useful only when the class type of the current object is unknown to the implementation.
@schemaLocation	A string. Generic attribute containing the link to the schema that defines the structure of the class type of the current object.
@type	A string. Generic attribute containing the name of the resource class type.
description	A string. An explanatory text describing this bill presentation media.
href	A string. Reference of the bill presentation media.
id	A string. Unique identifier of the bill presentation media.
name	A string. A short descriptive name.

Json representation sample

We provide below the json representation of an example of a 'BillPresentationMedia' resource object

```

{
  "description": "This bill presentation media ...",
  "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/4506",
  "id": "4506",
  "name": "Electronic"
}
  
```

Notification Resource Models

10 notifications are defined for this API

Notifications related to PartyAccount:

- PartyAccountAttributeValueChangeNotification
- PartyAccountStateChangeNotification

Notifications related to BillingAccount:

- BillingAccountAttributeValueChangeNotification
- BillingAccountStateChangeNotification

Notifications related to SettlementAccount:

- SettlementAccountAttributeValueChangeNotification
- SettlementAccountStateChangeNotification

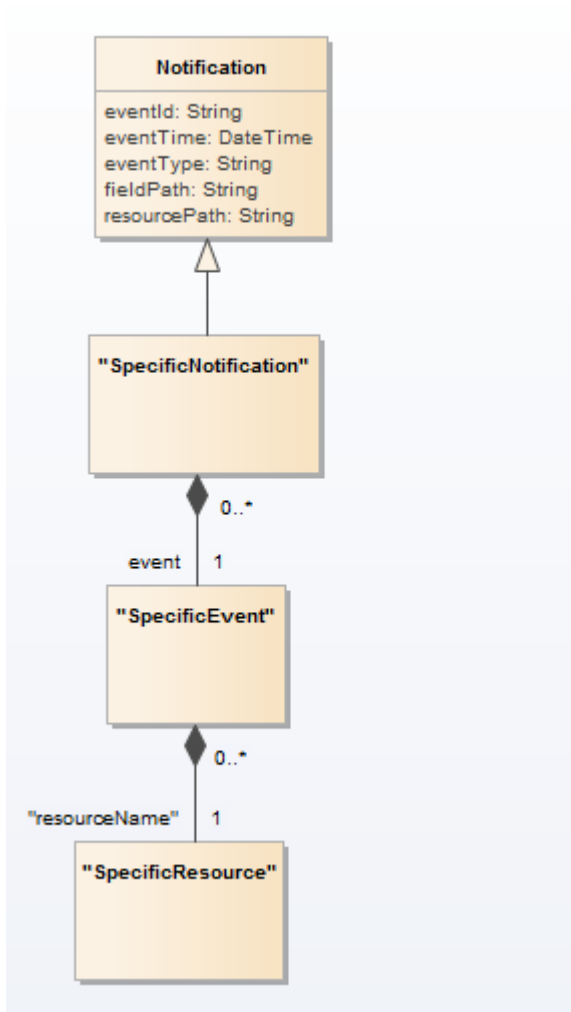
Notifications related to FinancialAccount:

- FinancialAccountCreationNotification
- FinancialAccountAttributeValueChangeNotification
- FinancialAccountStateChangeNotification
- FinancialAccountRemoveNotification

The notification structure for all notifications in this API follow the pattern depicted by the figure below.

A notification resource (depicted by "SpecificNotification" placeholder) is a sub class of a generic Notification structure containing an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the notification resource (eventType).

This notification structure owns an event structure ("SpecificEvent" placeholder) linked to the resource concerned by the notification using the resource name as access field ("resourceName" placeholder).



PARTY ACCOUNT ATTRIBUTE VALUE CHANGE NOTIFICATION

Notification sent when changing an attribute of a PartyAccount resource.

Json representation sample

We provide below the json representation of an example of a 'PartyAccountAttributeValueChangeNotification' notification object

```

{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "PartyAccountAttributeValueChangeNotification",
  "event": {
    "partyAccount":
      {-- SEE PartyAccount RESOURCE SAMPLE --}
  }
}

```

PARTY ACCOUNT STATE CHANGE NOTIFICATION

Notification sent when changing the state of a PartyAccount resource.

Json representation sample

We provide below the json representation of an example of a 'PartyAccountStateChangeNotification' notification object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"PartyAccountStateChangeNotification",
  "event": {
    "partyAccount":
      {-- SEE PartyAccount RESOURCE SAMPLE --}
  }
}
```

BILLING ACCOUNT ATTRIBUTE VALUE CHANGE NOTIFICATION

Notification sent when changing an attribute of a BillingAccount resource.

Json representation sample

We provide below the json representation of an example of a 'BillingAccountAttributeValueChangeNotification' notification object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"BillingAccountAttributeValueChangeNotification",
  "event": {
    "billingAccount":
      {-- SEE BillingAccount RESOURCE SAMPLE --}
  }
}
```

BILLING ACCOUNT STATE CHANGE NOTIFICATION

Notification sent when changing the state of a BillingAccount resource.

Json representation sample

We provide below the json representation of an example of a 'BillingAccountStateChangeNotification' notification object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"BillingAccountStateChangeNotification",
  "event": {
    "billingAccount":
      {-- SEE BillingAccount RESOURCE SAMPLE --}
  }
}
```

SETTLEMENT ACCOUNT ATTRIBUTE VALUE CHANGE NOTIFICATION

Notification sent when changing an attribute of a SettlementAccount resource.

Json representation sample

We provide below the json representation of an example of a 'SettlementAccountAttributeValueChangeNotification' notification object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"SettlementAccountAttributeValueChangeNotification",
  "event": {
    "settlementAccount":
      {-- SEE SettlementAccount RESOURCE SAMPLE --}
  }
}
```

SETTLEMENT ACCOUNT STATE CHANGE NOTIFICATION

Notification sent when changing the state of a SettlementAccount resource.

Json representation sample

We provide below the json representation of an example of a 'SettlementAccountStateChangeNotification' notification object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"SettlementAccountStateChangeNotification",
  "event": {
    "settlementAccount":
      {-- SEE SettlementAccount RESOURCE SAMPLE --}
  }
}
```

FINANCIAL ACCOUNT CREATION NOTIFICATION

Notification sent when a new FinancialAccount resource is created.

Json representation sample

We provide below the json representation of an example of a 'FinancialAccountCreationNotification' notification object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"FinancialAccountCreationNotification",
  "event": {
    "financialAccount":
      {-- SEE FinancialAccount RESOURCE SAMPLE --}
  }
}
```

FINANCIAL ACCOUNT ATTRIBUTE VALUE CHANGE NOTIFICATION

Notification sent when changing an attribute of a FinancialAccount resource.

Json representation sample

We provide below the json representation of an example of a 'FinancialAccountAttributeValueChangeNotification' notification object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"FinancialAccountAttributeValueChangeNotification",
  "event": {
    "financialAccount":
      {-- SEE FinancialAccount RESOURCE SAMPLE --}
  }
}
```

FINANCIAL ACCOUNT STATE CHANGE NOTIFICATION

Notification sent when changing the state of a FinancialAccount resource.

Json representation sample

We provide below the json representation of an example of a 'FinancialAccountStateChangeNotification' notification object


```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"FinancialAccountStateChangeNotification",
  "event": {
    "financialAccount":
      {"-- SEE FinancialAccount RESOURCE SAMPLE --"}
  }
}
```

FINANCIAL ACCOUNT REMOVE NOTIFICATION

Notification sent when removing a FinancialAccount resource.

Json representation sample

We provide below the json representation of an example of a 'FinancialAccountRemoveNotification' notification object

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"FinancialAccountRemoveNotification",
  "event": {
    "financialAccount":
      {"-- SEE FinancialAccount RESOURCE SAMPLE --"}
  }
}
```

API OPERATIONS

Remember the following Uniform Contract:

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

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

Notifications are also described in a subsequent section.

OPERATIONS ON PARTY ACCOUNT

LIST PARTY ACCOUNTS

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

Description

This operation list party account entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving PartyAccount resources.

Retrieving all party accounts of type 'Business' with 'due' status. The result items are shrunk to show only the id, name and the credit limit (fields=id,name,creditLimit)

Request
GET {apiRoot}/partyAccount?fields=id,name,creditLimit&status=due Accept: application/json
Response
200 [{ "creditLimit": "50000", "id": "9473", "name": "Administration Account" }, { "creditLimit": "1000000", "id": "9899", "name": "Bahamas Account" }]

RETRIEVE PARTY ACCOUNT

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

Description

This operation retrieves a party account entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a PartyAccount resource.

Request
<pre>GET {apiRoot}/partyAccount/4458 Accept: application/json</pre>
Response
<pre>200 { "creditLimit": "20000", "description": "This party account ...", "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/4458", "id": "4458", "lastModified": "2018-06-14T00:00", "name": "Travel account", "state": "Suspended", "type": "Business", "paymentStatus": "In Arrears", "billStructure": { "presentationMedia": [{ "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/8800", "id": "8800", "name": "Electronic" }] }, "format": { "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/4824", "id": "4824", "name": "Summary invoice" }, "cycleSpecification": {</pre>

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```

    "dateShift": 8,
    "frequency": "monthly",
    "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/1309",
    "id": "1309",
    "name": "Monthly billing"
  }
},
"paymentPlan": [
  {
    "numberOfPayments": 12,
    "paymentFrequency": "monthly",
    "priority": 2,
    "status": "Ineffective",
    "totalAmount": 100.0,
    "type": "regular",
    "validFor": {
      "startDateTime": "2018-06-17T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "paymentMethod": {
      "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/6895",
      "id": "6895",
      "name": "family payment"
    }
  }
],
"financialAccount": {
  "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/2209",
  "id": "2209",
  "name": "Travel account",
  "accountBalance": {
    "amount": 58.97,
    "type": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-14T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
},
"defaultPaymentMethod": {
  "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/6514",
  "id": "6514",
  "name": "family payment"
},
"relatedParty": [
  {
    "href": "https://host:port/tmf-api/partyManagement/v2/organization/4665",
    "id": "4665",
    "name": "John Doe",
    "role": "owner"
  }
],
"taxExemption": [

```

Account Management API REST Specification

```

{
  "certificateNumber": "45678909876",
  "issuingJurisdiction": "Embassy",
  "reason": "VIP",
  "validFor": {
    "startDateTime": "2018-06-15T00:00",
    "endDateTime": "2019-01-10T00:00"
  }
},
"contact": [
  {
    "contactName": "Anna Cristal",
    "contactType": "primary",
    "partyRoleType": "Publisher",
    "validFor": {
      "startDateTime": "2018-06-11T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "contactMedium": [
      {
        "preferred": false,
        "type": "PostalAddress",
        "validFor": {
          "startDateTime": "2018-06-14T00:00",
          "endDateTime": "2019-01-10T00:00"
        },
        "characteristic": {
          "city": "Paris",
          "country": "France",
          "emailAddress": "alain.delon@best-actor.fr",
          "postCode": "75014",
          "street1": "15 Rue des Canards",
          "type": "home"
        }
      }
    ],
    "relatedParty": {
      "href": "https://host:port/tmf-api/partyManagement/v2/organization/1850",
      "id": "1850",
      "name": "Gustave Flaubert",
      "role": "owner"
    }
  }
],
"accountBalance": [
  {
    "amount": 53.29,
    "type": "DepositBalance",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
]

```

```

    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",
      "validFor": {
        "startDateTime": "2018-06-10T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "account": {
        "description": "This account ...",
        "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/9522",
        "id": "9522",
        "name": "Travel Account"
      }
    }
  ]
}

```

CREATE PARTY ACCOUNT

POST /partyAccount

Description

This operation creates a party account entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	
relatedParty	

Non Mandatory Attributes	Default Value	Rule
@baseType		
@schemaLocation		
@type		
creditLimit		
description		
lastModified		
state		
type		
paymentStatus		

Account Management API REST Specification

Non Mandatory Attributes	Default Value	Rule
billStructure		
paymentPlan		
financialAccount		
defaultPaymentMethod		
taxExemption		
contact		
accountBalance		
accountRelationship		

Default Values Summary

When creating the resource, the following table summarizes the default values applicable to optional attributes of the resource (or sub-resources).

Attributes	Default Value
validFor.startDateTime	Current date (Default for 'regular' API users)
billStructure.cycleSpecification.name	"Bill issuer choice"
billStructure.format.name	"Standard invoice"
billStructure.presentationMedia.name	"Electronic invoice"
currencyCode	"National currency" (Default for 'regular' API users)

Usage Samples

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

Request
POST {apiRoot}/partyAccount Content-Type: application/json <pre>{ "name": "Travel account", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/4665", "id": "4665", "name": "John Doe", "role": "owner" }] }</pre>

Response
<pre> 201 { "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/4458", "id": "4458", "name": "Travel account", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/4665", "id": "4665", "name": "John Doe", "role": "owner" }] } </pre>

PATCH PARTY ACCOUNT

PATCH /partyAccount/{id}

Description

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

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

Patchable and Non Patchable Attributes

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

Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
creditLimit	
description	
lastModified	
name	
state	
type	

Account Management API REST Specification

Patchable Attributes	Rule
paymentStatus	
billStructure	
paymentPlan	
financialAccount	
defaultPaymentMethod	
relatedParty	
taxExemption	
contact	
accountRelationship	

Non Patchable Attributes	Rule
id	
href	
accountBalance	

Usage Samples

Here's an example of a request for patching a PartyAccount resource.

Changing the credit limit and the description of the account (using json-merge)

Request
PATCH {apiRoot}/partyAccount/42 Content-Type: application/merge-patch+json <pre>{ "description": "Premium credit limit", "creditLimit": "5000" }</pre>
Response
201 { Similar JSON as in GET response with credit limit and description changed }

DELETE PARTY ACCOUNT**DELETE /partyAccount/{id}**

Account Management API REST Specification

Note: this operation is available only to ADMIN API users

Description

This operation deletes a party account entity.

Usage Samples

Here's an example of a request for deleting a PartyAccount resource.

Request
DELETE {apiRoot}/partyAccount/42
Response
204

OPERATIONS ON BILLING ACCOUNT

LIST BILLING ACCOUNTS

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

Description

This operation list billing account entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving BillingAccount resources.

List all billing accounts using Canadian currency. The result items are shrunk to show only the id and name (fields=id,name)

Request
GET {apiRoot}/billingAccount?fields=id,name¤cyCode=CAD Accept: application/json

Response
<pre> 200 [{ "id": "42", "name": "Lakes Agency Account" }, { "id": "43", "name": "Santa Claus Donate Account" }] </pre>

RETRIEVE BILLING ACCOUNT

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

Description

This operation retrieves a billing account entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a BillingAccount resource.

Request
<pre> GET {apiRoot}/billingAccount/5430 Accept: application/json </pre>
Response
<pre> 200 { </pre>

Account Management API REST Specification

```
"paymentStatus": "In Arrears",
"creditLimit": "10000",
"description": "This billing account ...",
"href": "https://host:port/tmf-api/accountManagement/v2/billingAccount/5430",
"id": "5430",
"lastModified": "2018-06-14T00:00",
"name": "Home Account",
"state": "Inactive",
"type": "Business",
"billStructure": {
  "presentationMedia": [
    {
      "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/9968",
      "id": "9968",
      "name": "Post Mail"
    }
  ],
  "format": {
    "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/3555",
    "id": "3555",
    "name": "Detailed invoice"
  },
  "cycleSpecification": {
    "dateShift": 54,
    "frequency": "monthly",
    "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/3828",
    "id": "3828",
    "name": "Annual billing"
  }
},
"paymentPlan": [
  {
    "numberOfPayments": 4,
    "paymentFrequency": "monthly",
    "priority": 1,
    "status": "Effective",
    "totalAmount": 100.0,
    "type": "regular",
    "validFor": {
      "startDateTime": "2018-06-11T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "paymentMethod": {
      "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/2452",
      "id": "2452",
      "name": "professional payment"
    }
  }
],
"financialAccount": {
  "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/2063",
  "id": "2063",
  "name": "Partnership account",
```

Account Management API REST Specification

```
"accountBalance": {
  "amount": 55.56,
  "type": "ReceivableBalance",
  "validFor": {
    "startDateTime": "2018-06-13T00:00",
    "endDateTime": "2019-01-10T00:00"
  }
},
"defaultPaymentMethod": {
  "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/3537",
  "id": "3537",
  "name": "family payment"
},
"relatedParty": [
  {
    "href": "https://host:port/tmf-api/partyManagement/v2/organization/6838",
    "id": "6838",
    "name": "Richard Cole",
    "role": "service provider"
  }
],
"taxExemption": [
  {
    "certificateNumber": "45678909876",
    "issuingJurisdiction": "Prefecture",
    "reason": "Social",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
],
"contact": [
  {
    "contactName": "Rachel Douglas",
    "contactType": "secondary",
    "partyRoleType": "Vendor",
    "validFor": {
      "startDateTime": "2018-06-17T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  },
  {
    "contactMedium": [
      {
        "preferred": true,
        "type": "Email",
        "validFor": {
          "startDateTime": "2018-06-14T00:00",
          "endDateTime": "2019-01-10T00:00"
        }
      },
      {
        "characteristic": {
          "city": "Paris",
          "country": "France",
```

```

        "emailAddress": "alain.delon@best-actor.fr",
        "postCode": "75014",
        "street1": "15 Rue des Canards",
        "type": "home"
      }
    },
    ],
    "relatedParty": {
      "href": "https://host:port/tmf-api/partyManagement/v2/organization/9947",
      "id": "9947",
      "name": "Richard Cole",
      "role": "owner"
    }
  },
  ],
  "accountBalance": [
    {
      "amount": 58.33,
      "type": "ReceivableBalance",
      "validFor": {
        "startDateTime": "2018-06-10T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",
      "validFor": {
        "startDateTime": "2018-06-13T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "account": {
        "description": "This account ...",
        "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/9327",
        "id": "9327",
        "name": "Paradise Account"
      }
    }
  ]
}

```

CREATE BILLING ACCOUNT

POST /billingAccount

Note: this operation is available only to ADMIN API users

Description

This operation creates a billing account entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	
relatedParty	

Non Mandatory Attributes	Default Value	Rule
paymentStatus		
@baseType		
@schemaLocation		
@type		
creditLimit		
description		
lastModified		
state		
type		
billStructure		
paymentPlan		
financialAccount		
defaultPaymentMethod		
taxExemption		
contact		
accountBalance		
accountRelationship		

Default Values Summary

When creating the resource, the following table summarizes the default values applicable to optional attributes of the resource (or sub-resources).

Attributes	Default Value
billStructure.cycleSpecification.name	"Bill issuer choice"
billStructure.format.name	"Standard invoice"
billStructure.presentationMedia.name	"Electronic invoice"

Usage Samples

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

Request
POST {apiRoot}/billingAccount Content-Type: application/json <pre>{ "name": "Home Account", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/6838", "id": "6838", "name": "Richard Cole", "role": "service provider" }] }</pre>
Response
201 <pre>{ "href": "https://host:port/tmf-api/accountManagement/v2/billingAccount/5430", "id": "5430", "name": "Home Account", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/6838", "id": "6838", "name": "Richard Cole", "role": "service provider" }] }</pre>

PATCH BILLING ACCOUNT

PATCH /billingAccount/{id}

Description

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

Note: If the update operation yields to the creation of sub-resources or relationships, the same rules

Account Management API REST Specification

concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
billStructure.cycleSpecification	
billStructure.format	
billStructure.presentationMedia	

Non Patchable Attributes	Rule
id	
href	
accountBalance	

Usage Samples

Here's an example of a request for patching a BillingAccount resource.

Changing the currency code (using json-patch)

Request
PATCH {apiRoot}/billingAccount/42 Content-Type: application/json-patch+json <pre>{ "path": "/currencyCode", "value": "USD", "op": "replace" }</pre>
Response
201 { Similar JSON as in GET response with currency code changed }

DELETE BILLING ACCOUNT

DELETE /billingAccount/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a billing account entity.

Usage Samples

Here's an example of a request for deleting a BillingAccount resource.

Request
DELETE {apiRoot}/billingAccount/42
Response
204

OPERATIONS ON SETTLEMENT ACCOUNT

LIST SETTLEMENT ACCOUNTS

GET /settlementAccount?fields=...&{filtering}**Description**

This operation list settlement account entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving SettlementAccount resources.

List all settlement accounts connected to a given party account. The result items are shrunked to show only the id and name (fields=id,name)

Request
GET {apiRoot}/settlementAccount?fields=id,name&partyAccount.id=7876543 Accept: application/json
Response
200 [{ "id": "42", "name": "API Usage Account" }, { "id": "43", "name": "Storage Usage Account" }]

RETRIEVE SETTLEMENT ACCOUNT

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

Description

This operation retrieves a settlement account entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a SettlementAccount resource.

Request
GET {apiRoot}/settlementAccount/8790 Accept: application/json

Response

200

```

{
  "paymentStatus": "In Collection",
  "creditLimit": "20000",
  "description": "This settlement account ...",
  "href": "https://host:port/tmf-api/accountManagement/v2/settlementAccount/8790",
  "id": "8790",
  "lastModified": "2018-06-14T00:00",
  "name": "Per Usage Account",
  "state": "inactive",
  "type": "Business",
  "billStructure": {
    "presentationMedia": [
      {
        "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/1451",
        "id": "1451",
        "name": "Web Page"
      }
    ],
    "format": {
      "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/8128",
      "id": "8128",
      "name": "Detailed invoice"
    },
    "cycleSpecification": {
      "dateShift": 62,
      "frequency": "monthly",
      "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/1361",
      "id": "1361",
      "name": "Annual billing"
    }
  },
  "paymentPlan": [
    {
      "numberOfPayments": 4,
      "paymentFrequency": "monthly",
      "priority": 3,
      "status": "Effective",
      "totalAmount": 543.8,
      "type": "regular",
      "validFor": {
        "startDateTime": "2018-06-17T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "paymentMethod": {
        "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/1534",
        "id": "1534",
        "name": "professional payment"
      }
    }
  ]
}

```

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```
    ],
    "financialAccount": {
      "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/3408",
      "id": "3408",
      "name": "Partnership account",
      "accountBalance": {
        "amount": 55.14,
        "type": "ReceivableBalance",
        "validFor": {
          "startDateTime": "2018-06-12T00:00",
          "endDateTime": "2019-01-10T00:00"
        }
      }
    }
  },
  "defaultPaymentMethod": {
    "href": "https://host:port/tmf-api/paymentMethods/v2/paymentMethod/9124",
    "id": "9124",
    "name": "family payment"
  },
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyManagement/v2/organization/5965",
      "id": "5965",
      "name": "Jimmy Doe",
      "role": "employee"
    }
  ],
  "taxExemption": [
    {
      "certificateNumber": "98765432345",
      "issuingJurisdiction": "Embassy",
      "reason": "VIP",
      "validFor": {
        "startDateTime": "2018-06-17T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ],
  "contact": [
    {
      "contactName": "Virginie Cork",
      "contactType": "primary",
      "partyRoleType": "Publisher",
      "validFor": {
        "startDateTime": "2018-06-11T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    },
    "contactMedium": [
      {
        "preferred": false,
        "type": "PostalAddress",
        "validFor": {
          "startDateTime": "2018-06-14T00:00",
```

```
        "endDateTime": "2019-01-10T00:00"
      },
      "characteristic": {
        "city": "Paris",
        "country": "France",
        "emailAddress": "alain.delon@best-actor.fr",
        "postCode": "75014",
        "street1": "15 Rue des Canards",
        "type": "home"
      }
    }
  ],
  "relatedParty": {
    "href": "https://host:port/tmf-api/partyManagement/v2/organization/6310",
    "id": "6310",
    "name": "Gustave Flaubert",
    "role": "bill receiver"
  }
},
"accountBalance": [
  {
    "amount": 55.28,
    "type": "DepositBalance",
    "validFor": {
      "startDateTime": "2018-06-10T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
],
"accountRelationship": [
  {
    "relationshipType": "contains",
    "validFor": {
      "startDateTime": "2018-06-16T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "account": {
      "description": "This account ...",
      "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/7550",
      "id": "7550",
      "name": "Travel Account"
    }
  }
]
}
```

CREATE SETTLEMENT ACCOUNT

POST /settlementAccount

Account Management API REST Specification

Note: this operation is available only to ADMIN API users

Description

This operation creates a settlement account entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	
relatedParty	

Non Mandatory Attributes	Default Value	Rule
paymentStatus		
@baseType		
@schemaLocation		
@type		
creditLimit		
description		
lastModified		
state		
type		
billStructure		
paymentPlan		
financialAccount		
defaultPaymentMethod		
taxExemption		
contact		
accountBalance		
accountRelationship		

Default Values Summary

When creating the resource, the following table summarizes the default values applicable to optional attributes of the resource (or sub-resources).

Attributes	Default Value
billStructure.cycleSpecification.name	"Bill issuer choice"
billStructure.format.name	"Standard invoice"
billStructure.presentationMedia.name	"Electronic invoice"

Usage Samples

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

Request
<pre>POST {apiRoot}/settlementAccount Content-Type: application/json { "name": "Per Usage Account", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/5965", "id": "5965", "name": "Jimmy Doe", "role": "employee" }] }</pre>
Response
<pre>201 { "href": "https://host:port/tmf-api/accountManagement/v2/settlementAccount/8790", "id": "8790", "name": "Per Usage Account", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/5965", "id": "5965", "name": "Jimmy Doe", "role": "employee" }] }</pre>

PATCH SETTLEMENT ACCOUNT

PATCH /settlementAccount/{id}

Description

Account Management API REST Specification

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

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

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
billStructure.cycleSpecification	
billStructure.format	
billStructure.presentationMedia	

Non Patchable Attributes	Rule
id	
href	
accountBalance	

Usage Samples

Here's an example of a request for patching a SettlementAccount resource.

Changing the currency code (using json-patch)

Request
PATCH {apiRoot}/settlementAccount/42 Content-Type: application/json-patch+json <pre>{ "path": "/currencyCode", "value": "USD", "op": "replace" }</pre>
Response

201

{ Similar JSON as in GET response with currency code changed }

DELETE SETTLEMENT ACCOUNT

DELETE /settlementAccount/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a settlement account entity.

Usage Samples

Here's an example of a request for deleting a SettlementAccount resource.

Request
DELETE {apiRoot}/settlementAccount/42
Response
204

OPERATIONS ON FINANCIAL ACCOUNT

LIST FINANCIAL ACCOUNTS

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

Description

This operation list financial account entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving FinancialAccount resources.

Request
GET {apiRoot}/financialAccount Accept: application/json
Response
200 <pre>[{ "creditLimit": "3500", "description": "This financial account ...", "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/1041", "id": "1041", "lastModified": "2018-06-14T00:00", "name": "Administration account", "state": "Active", "type": "Global", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/9442", "id": "9442", "name": "Gustave Flaubert", "role": "bill receiver" }], "taxExemption": [{ "certificateNumber": "45678909876", "issuingJurisdiction": "Prefecture", "reason": "Social", "validFor": { "startDateTime": "2018-06-13T00:00", "endDateTime": "2019-01-10T00:00" } }], "contact": [{ "contactName": "Ludwig Borgia", "contactType": "secondary", "partyRoleType": "CustomerAccountRepresentative", "validFor": { "startDateTime": "2018-06-11T00:00",</pre>

Account Management API REST Specification

```
    "endDateTime": "2019-01-10T00:00"
  },
  "contactMedium": [
    {
      "preferred": false,
      "type": "Email",
      "validFor": {
        "startDateTime": "2018-06-12T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "characteristic": {
        "city": "Paris",
        "country": "France",
        "emailAddress": "alain.delon@best-actor.fr",
        "postCode": "75014",
        "street1": "15 Rue des Canards",
        "type": "home"
      }
    }
  ],
  "relatedParty": {
    "href": "https://host:port/tmf-api/partyManagement/v2/organization/2186",
    "id": "2186",
    "name": "Gustave Flaubert",
    "role": "employee"
  }
},
"accountBalance": [
  {
    "amount": 50.58,
    "type": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-15T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
],
"accountRelationship": [
  {
    "relationshipType": "contains",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "account": {
      "description": "This account ...",
      "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/7688",
      "id": "7688",
      "name": "Travel Account"
    }
  }
]
```

```
}
]
```

RETRIEVE FINANCIAL ACCOUNT

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

Description

This operation retrieves a financial account entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a FinancialAccount resource.

Request
<pre>GET {apiRoot}/financialAccount/1041 Accept: application/json</pre>
Response
<pre>200 { "creditLimit": "3500", "description": "This financial account ...", "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/1041", "id": "1041", "lastModified": "2018-06-14T00:00", "name": "Administration account", "state": "Active", "type": "Global", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/9442", "id": "9442", "name": "Gustave Flaubert", "role": "bill receiver" }], }</pre>

Account Management API REST Specification

```

"taxExemption": [
  {
    "certificateNumber": "45678909876",
    "issuingJurisdiction": "Prefecture",
    "reason": "Social",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
],
"contact": [
  {
    "contactName": "Ludwig Borgia",
    "contactType": "secondary",
    "partyRoleType": "CustomerAccountRepresentative",
    "validFor": {
      "startDateTime": "2018-06-11T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "contactMedium": [
      {
        "preferred": false,
        "type": "Email",
        "validFor": {
          "startDateTime": "2018-06-12T00:00",
          "endDateTime": "2019-01-10T00:00"
        },
        "characteristic": {
          "city": "Paris",
          "country": "France",
          "emailAddress": "alain.delon@best-actor.fr",
          "postCode": "75014",
          "street1": "15 Rue des Canards",
          "type": "home"
        }
      }
    ],
    "relatedParty": {
      "href": "https://host:port/tmf-api/partyManagement/v2/organization/2186",
      "id": "2186",
      "name": "Gustave Flaubert",
      "role": "employee"
    }
  }
],
"accountBalance": [
  {
    "amount": 50.58,
    "type": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-15T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
]

```

```

    }
  }
],
"accountRelationship": [
  {
    "relationshipType": "contains",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "account": {
      "description": "This account ...",
      "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/7688",
      "id": "7688",
      "name": "Travel Account"
    }
  }
]
}

```

CREATE FINANCIAL ACCOUNT

POST /financialAccount

Note: this operation is available only to ADMIN API users

Description

This operation creates a financial account entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	

Non Mandatory Attributes	Default Value	Rule
@baseType		
@schemaLocation		
@type		
creditLimit		
description		
lastModified	Automatically generated	

Account Management API REST Specification

Non Mandatory Attributes	Default Value	Rule
state		
type		
relatedParty		
taxExemption		
contact		
accountBalance		
accountRelationship		

Additional Rules

The following table provides additional rules indicating mandatory fields in sub-resources or relationships when creating a FinancialAccount resource.

Context	Mandatory Sub-Attributes
taxExemption	issuingJurisdiction, validFor
accountRelationship	relationshipType, validFor
contact	contactType, validFor
relatedParty	id, name
accountBalance	type, amount, validFor

Default Values Summary

When creating the resource, the following table summarizes the default values applicable to optional attributes of the resource (or sub-resources).

Attributes	Default Value
id	Automatically generated
href	Automatically generated
lastModified	Automatically generated

Usage Samples

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

Request
POST {apiRoot}/financialAccount Content-Type: application/json <pre>{ "name": "Administration account" }</pre>

Response
201 <pre>{ "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/1041", "id": "1041", "lastModified": "2018-06-14T00:00", "name": "Administration account" }</pre>

PATCH FINANCIAL ACCOUNT

PATCH /financialAccount/{id}

Description

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

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

Patchable and Non Patchable Attributes

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

Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
creditLimit	
description	
name	
state	
type	
relatedParty	
taxExemption	
contact	
accountBalance	
accountRelationship	

Account Management API REST Specification

Non Patchable Attributes	Rule
id	
href	
lastModified	

Usage Samples

Here's an example of a request for patching a FinancialAccount resource.

Request
PATCH {apiRoot}/financialAccount/1041 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response
201 <pre>{ "creditLimit": "3500", "description": "This financial account ...", "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/1041", "id": "1041", "lastModified": "2018-06-14T00:00", "name": "new name", "state": "Active", "type": "Global", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v2/organization/9442", "id": "9442", "name": "Gustave Flaubert", "role": "bill receiver" }], "taxExemption": [{ "certificateNumber": "45678909876", "issuingJurisdiction": "Prefecture", "reason": "Social", "validFor": {</pre>

Account Management API REST Specification

```

        "startDateTime": "2018-06-13T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ],
  "contact": [
    {
      "contactName": "Ludwig Borgia",
      "contactType": "secondary",
      "partyRoleType": "CustomerAccountRepresentative",
      "validFor": {
        "startDateTime": "2018-06-11T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "contactMedium": [
        {
          "preferred": false,
          "type": "Email",
          "validFor": {
            "startDateTime": "2018-06-12T00:00",
            "endDateTime": "2019-01-10T00:00"
          },
          "characteristic": {
            "city": "Paris",
            "country": "France",
            "emailAddress": "alain.delon@best-actor.fr",
            "postCode": "75014",
            "street1": "15 Rue des Canards",
            "type": "home"
          }
        }
      ],
      "relatedParty": {
        "href": "https://host:port/tmf-api/partyManagement/v2/organization/2186",
        "id": "2186",
        "name": "Gustave Flaubert",
        "role": "employee"
      }
    }
  ],
  "accountBalance": [
    {
      "amount": 50.58,
      "type": "ReceivableBalance",
      "validFor": {
        "startDateTime": "2018-06-15T00:00",
        "endDateTime": "2019-01-10T00:00"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",

```

```

    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "account": {
      "description": "This account ...",
      "href": "https://host:port/tmf-api/accountManagement/v2/partyAccount/7688",
      "id": "7688",
      "name": "Travel Account"
    }
  }
}
]
}

```

DELETE FINANCIAL ACCOUNT

DELETE /financialAccount/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a financial account entity.

Usage Samples

Here's an example of a request for deleting a FinancialAccount resource.

Request
DELETE {apiRoot}/financialAccount/42
Response
204

OPERATIONS ON BILLING CYCLE SPECIFICATION

LIST BILLING CYCLE SPECIFICATIONS

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

Description

This operation list billing cycle specification entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving BillingCycleSpecification resources.

Retrieving all billing cycle specifications. The result items are shrunk to show only the id and name (fields=id,name)

Request
GET {apiRoot}/billingCycleSpecification?fields=id,name Accept: application/json
Response
200 <pre>[{ "id": "9473", "name": "bimonthly" }, { "id": "9473", "name": "monthly" }, { "id": "9899", "name": "weekly" }]</pre>

RETRIEVE BILLING CYCLE SPECIFICATION

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

Description

This operation retrieves a billing cycle specification entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a BillingCycleSpecification resource.

Request
GET {apiRoot}/billingCycleSpecification/4556 Accept: application/json
Response
200 <pre>{ "billingDateShift": 20, "billingPeriod": "a string ...", "chargeDateOffset": "a int ...", "creditDateOffset": "a int ...", "description": "This billing cycle specification ...", "frequency": "monthly", "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/4556", "id": "4556", "mailingDateOffset": 25, "name": "Monthly billing", "paymentDueDateOffset": 30, "validFor": { "startDateTime": "2018-06-10T00:00", "endDateTime": "2019-01-10T00:00" } }</pre>

CREATE BILLING CYCLE SPECIFICATION**POST /billingCycleSpecification**

Note: this operation is available only to ADMIN API users

Description

This operation creates a billing cycle specification entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	

Non Mandatory Attributes	Default Value	Rule
@baseType		
@schemaLocation		
@type		
billingDateShift		
billingPeriod		
chargeDateOffset		
creditDateOffset		
description		
frequency		
mailingDateOffset		
paymentDueDateOffset		
validFor		

Usage Samples

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

Request
POST {apiRoot}/billingCycleSpecification Content-Type: application/json <pre>{ "name": "Monthly billing" }</pre>
Response
201


```
{
  "href": "https://host:port/tmf-api/accountManagement/v2/billingCycleSpecification/4556",
  "id": "4556",
  "name": "Monthly billing"
}
```

PATCH BILLING CYCLE SPECIFICATION

PATCH /billingCycleSpecification/{id}

Description

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

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

Patchable and Non Patchable Attributes

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

Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
billingDateShift	
billingPeriod	
chargeDateOffset	
creditDateOffset	
description	
frequency	
mailingDateOffset	
name	
paymentDueDateOffset	
validFor	

Non Patchable Attributes	Rule
id	
href	

Account Management API REST Specification

Usage Samples

Here's an example of a request for patching a BillingCycleSpecification resource.

Changing the frequency (using json-merge)

Request
PATCH {apiRoot}/billingCycleSpecification/42 Content-Type: application/merge-patch+json { "frequency": "bimonthly" }
Response
201 { Similar JSON as in GET response with frequency changed }

DELETE BILLING CYCLE SPECIFICATION**DELETE /billingCycleSpecification/{id}**

Note: this operation is available only to ADMIN API users

Description

This operation deletes a billing cycle specification entity.

Usage Samples

Here's an example of a request for deleting a BillingCycleSpecification resource.

Request
DELETE {apiRoot}/billingCycleSpecification/42
Response

204

OPERATIONS ON BILL FORMAT

LIST BILL FORMATS

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

Description

This operation list bill format entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving BillFormat resources.

Retrieving all bill formats. The result items are shrunk to show only the id and name (fields=id,name)

Request

```
GET {apiRoot}/billFormat?fields=id,name
Accept: application/json
```

Response

200

```
[
  {
    "id": "42",
    "name": "simple invoice"
  },
  {
    "id": "43",
    "name": "detailed invoice"
  }
]
```

RETRIEVE BILL FORMAT

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

Description

This operation retrieves a bill format entity.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving a BillFormat resource.

Request
GET {apiRoot}/billFormat/8718 Accept: application/json
Response
200 <pre>{ "description": "This bill format ...", "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/8718", "id": "8718", "name": "Detailed invoice" }</pre>

CREATE BILL FORMAT

POST /billFormat

Note: this operation is available only to ADMIN API users

Description

This operation creates a bill format entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	

Non Mandatory Attributes	Default Value	Rule
@baseType		
@schemaLocation		
@type		
description		

Usage Samples

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

Request
POST {apiRoot}/billFormat Content-Type: application/json <pre>{ "name": "Detailed invoice" }</pre>
Response
201 <pre>{ "href": "https://host:port/tmf-api/accountManagement/v2/billFormat/8718", "id": "8718", "name": "Detailed invoice" }</pre>

PATCH BILL FORMAT

PATCH /billFormat/{id}

Account Management API REST Specification

Note: this operation is available only to ADMIN API users

Description

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

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

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
description	
name	

Non Patchable Attributes	Rule
id	
href	

Usage Samples

Here's an example of a request for patching a BillFormat resource.

Changing the description (using json-merge)

Request
PATCH {apiRoot}/billFormat/42 Content-Type: application/merge-patch+json <pre>{ "description": "Detailed billing containing full phone numbers of calls" }</pre>

Response
201
{ Similar JSON as in GET response with description changed }

DELETE BILL FORMAT

DELETE /billFormat/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a bill format entity.

Usage Samples

Here's an example of a request for deleting a BillFormat resource.

Request
DELETE {apiRoot}/billFormat/42
Response
204

OPERATIONS ON BILL PRESENTATION MEDIA

LIST BILL PRESENTATION MEDIAS

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

Description

Account Management API REST Specification

This operation list bill presentation media entities.

Attribute selection is enabled for all first level attributes.

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

Usage Samples

Here's an example of a request for retrieving BillPresentationMedia resources.

Retrieving all bill presentation formats. The result items are shrunk to show only the id and name (fields=id,name)

Request
GET {apiRoot}/billPresentationMedia?fields=id,name Accept: application/json
Response
200 [{ "id": "42", "name": "signed mail" }, { "id": "43", "name": "postal" }, { "id": "44", "name": "web" }]

RETRIEVE BILL PRESENTATION MEDIA

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

Description

This operation retrieves a bill presentation media entity.

Attribute selection is enabled for all first level attributes.

Account Management API REST Specification

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

Usage Samples

Here's an example of a request for retrieving a BillPresentationMedia resource.

Request
GET {apiRoot}/billPresentationMedia/4506 Accept: application/json
Response
200 { "description": "This bill presentation media ...", "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/4506", "id": "4506", "name": "Electronic" }

CREATE BILL PRESENTATION MEDIA**POST /billPresentationMedia**

Note: this operation is available only to ADMIN API users

Description

This operation creates a bill presentation media entity.

Mandatory and Non Mandatory Attributes

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

Mandatory Attributes	Rule
name	

Account Management API REST Specification

Non Mandatory Attributes	Default Value	Rule
@baseType		
@schemaLocation		
@type		
description		

Usage Samples

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

Request
POST {apiRoot}/billPresentationMedia Content-Type: application/json <pre>{ "name": "Electronic" }</pre>
Response
201 <pre>{ "href": "https://host:port/tmf-api/accountManagement/v2/billPresentationMedia/4506", "id": "4506", "name": "Electronic" }</pre>

PATCH BILL PRESENTATION MEDIA**PATCH /billPresentationMedia/{id}**

Note: this operation is available only to ADMIN API users

Description

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

Note: If the update operation yields to the creation of sub-resources or relationships, the same rules

Account Management API REST Specification

concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

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

Notice that patching is possible only for 'admin' API users.

Patchable Attributes	Rule
@baseType	
@schemaLocation	
@type	
description	
name	

Non Patchable Attributes	Rule
id	
href	

Usage Samples

Here's an example of a request for patching a BillPresentationMedia resource.

Changing the name (using json-merge)

Request
PATCH {apiRoot}/billPresentationMedia/42 Content-Type: application/merge-patch+json <pre>{ "name": "secure post mail" }</pre>
Response
201 { Similar JSON as in GET response with name changed }

DELETE BILL PRESENTATION MEDIA

DELETE /billPresentationMedia/{id}

Note: this operation is available only to ADMIN API users

Description

This operation deletes a bill presentation media entity.

Usage Samples

Here's an example of a request for deleting a BillPresentationMedia resource.

Request
DELETE {apiRoot}/billPresentationMedia/42
Response
204

API NOTIFICATIONS

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

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

REGISTER LISTENER

POST /hub

Description

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

Behavior

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

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

Usage Samples

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

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

UNREGISTER LISTENER

DELETE /hub/{id}

Description

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

Behavior

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

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

Usage Samples

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

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

PUBLISH EVENT TO LISTENER

POST /client/listener

Description

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

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

Behavior

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

Usage Samples

Account Management API REST Specification

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

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

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

ACKNOWLEDGEMENTS

VERSION HISTORY

Version Number	Date	Release led by:	Description
1.0	15-Apr-2017	Pierre Gauthier TM Forum pgauthier@tmforum.org Mariano Belaunde Orange Labs	First Release of the Document. Generated from API Data Model. It is a rebrand of the old Billing Management specification since its scope has been enlarged to other accounting aspects.
2.0	11-Jun-2018	Mariano Belaunde	Alignment with Guidelines 3.0
2.0.1	28-Jun-2018	Adrienne Walcott	Formatting/style edits prior to R18 publishing

RELEASE HISTORY

Release Number	Date	Release led by:	Description
Release 1.8.00	25-Jun-2018	Pierre Gauthier Mariano Belaunde	Initial Release.

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