

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.

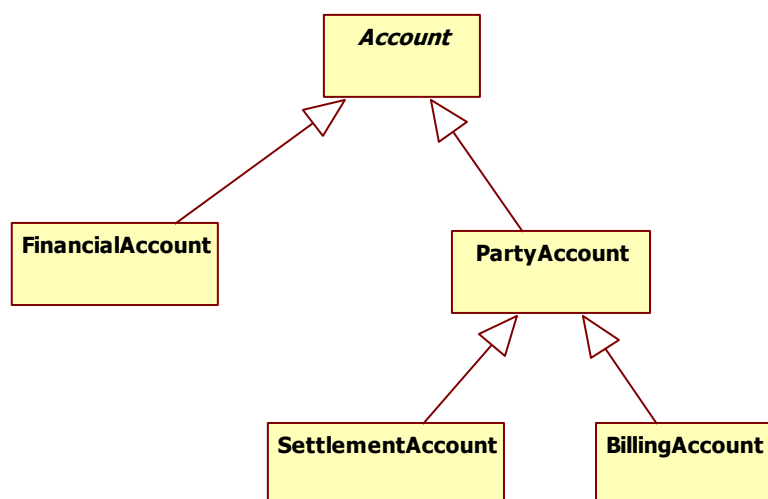
RESOURCE MODEL

Managed Entity and Task Resource Models

ACCOUNT RESOURCE (ABSTRACT)

Account is the abstract base entity for all account entities, which are FinancialAccount, PartyAccount and the two sub-classes BillingAccount and SettlementAccount. All accounts can be reached using the polymorphic path /account link. Notice that PartyAccount can be instantiated but in this case use of polymorphism is expected (see examples of use in PartyAccount operations).

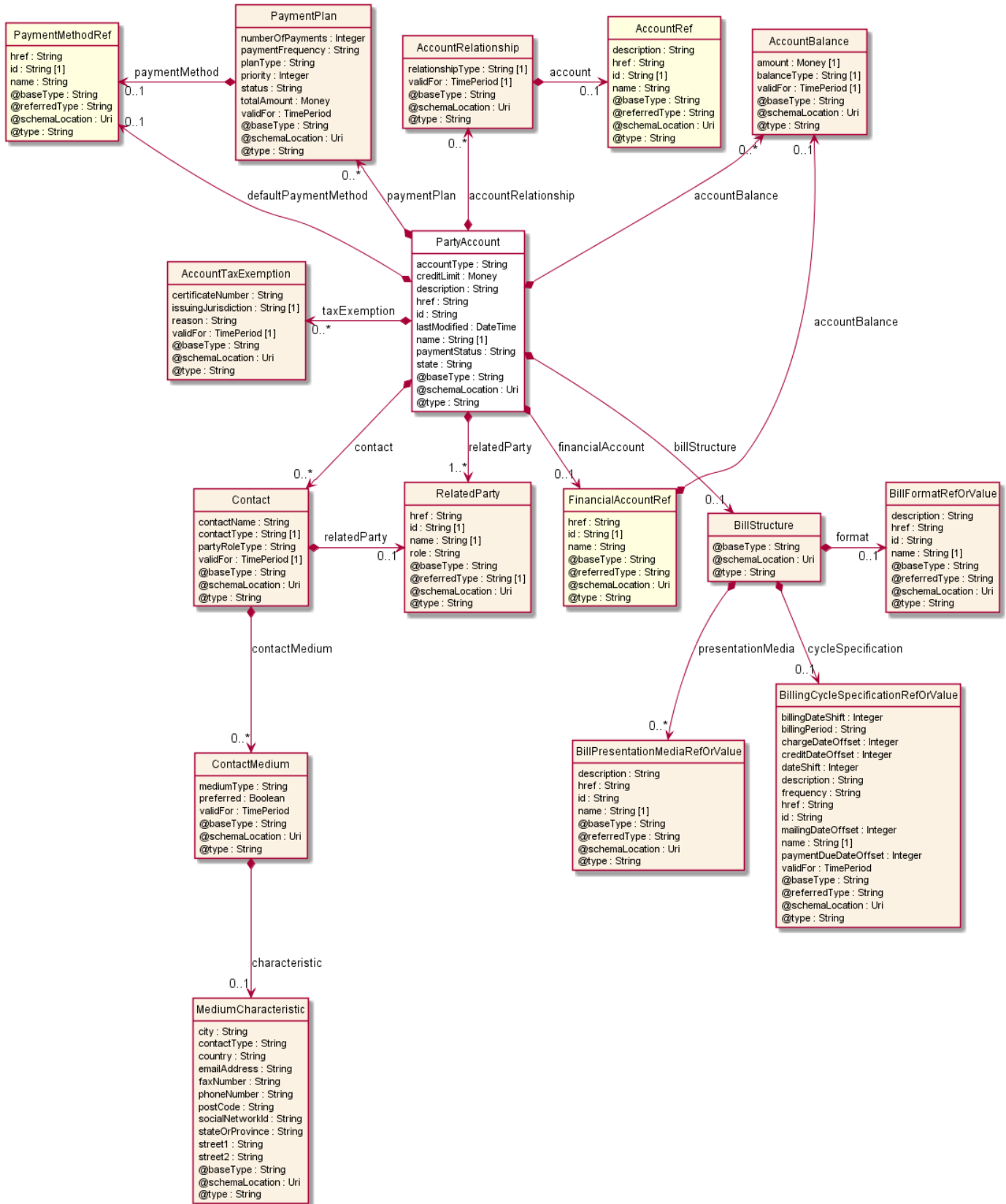
Resource model



PARTY ACCOUNT RESOURCE

Account used for billing or for settlement purposes concerning a given party (an organization or an individual). It is a specialization of entity Account.

Resource model



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

accountType	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.
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.
billStructure	A bill structure (BillStructure). The structure of the bill for party accounts (billing or settlement).
defaultPaymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g direct debit).
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.
paymentPlan	A list of payment plans (PaymentPlan [*]). Defines a plan for payment (when a party wants to spread his payments).
paymentStatus	A string. The condition of the account, such as due, paid, in arrears.
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.

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.
creditLimit	A money (Money). The maximum amount of money that may be charged on an account.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. 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.

AccountBalance sub-resource

Balances linked to the account.

amount	A money (Money). Balance amount.
balanceType	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.

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

AccountTaxExemption sub-resource

Proof of freedom from taxes imposed by a taxing jurisdiction.

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.

BillFormatRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
href	A string. Reference of the bill format.
id	A string. Unique identifier of the bill format.
name	A string. A short descriptive name.
description	A string. An explanatory text for this bill format.

BillPresentationMediaRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
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.
description	A string. An explanatory text describing this bill presentation media.

BillStructure sub-resource

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

cycleSpecification	A billing cycle specification ref or value (BillingCycleSpecificationRefOrValue). An attachment by value or by reference.
format	A bill format ref or value (BillFormatRefOrValue). An attachment by value or by reference.
presentationMedia	A list of bill presentation media ref or values (BillPresentationMediaRefOrValue [*]). An attachment by value or by reference.

BillingCycleSpecificationRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
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.
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 integer. An offset of a date through which charges 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.
creditDateOffset	An integer. 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.
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.
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.

Contact sub-resource

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

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

ContactMedium sub-resource

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

characteristic	A medium characteristic (MediumCharacteristic). Any additional characteristic(s) of this contact medium.
mediumType	A string. Type of the contact medium, such as: email address, telephone number, postal address.
preferred	A boolean. If true, indicates that is the preferred contact medium.
validFor	A time period. The time period that the contact medium is valid for.

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.
contactType	A string. The type of contact, for example: phone number such as mobile, fixed home, fixed office. postal address such as shipping instalation....
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.
socialNetworkId	A string. Identifier as a member of a social network.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.

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).

numberOfPayments	An integer. Number of payments used to spread the global payment.
paymentFrequency	A string. Frequency of the payments, such as monthly and bimonthly.

paymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g direct debit).
planType	A string. Type of payment plan.
priority	An integer. Priority of the payment plan.
status	A string. Status of the payment plan (effective, ineffective).
totalAmount	A money (Money). Amount paid.
validFor	A time period. Validity period of the payment plan.

RelatedParty sub-resource

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

@referredType	A string. The actual type of the target instance when needed for disambiguation.
href	A string. Reference of the related entity.
id	A string. Unique identifier of a related entity.
name	A string. Name of the related entity.
role	A string. Role played by the related party.

AccountRef relationship

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

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

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. The actual type of the target instance when needed for disambiguation.
accountBalance	An account balance (AccountBalance). Balances linked to the account.

href	A string. Unique reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.

PaymentMethodRef relationship

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

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

Json representation sample

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

```
{
  "@type": "PartyAccount",
  "@schemaLocation": "https://myschemas/SpecialAccount.schema.json",
  "creditLimit": "20000",
  "description": "This party account ...",
  "href": "https://host:port/tmf-api/accountManagement/v4/account/4458",
  "id": "4458",
  "lastModified": "2018-06-14T00:00",
  "name": "Travel account",
  "state": "Suspended",
  "accountType": "Business",
  "paymentStatus": "In Arrears",
  "billStructure": {
    "presentationMedia": [
      {
        "href": "https://host:port/tmf-api/accountManagement/v4/billPresentationMedia/8800",
        "id": "8800",
        "name": "Electronic"
      }
    ],
    "format": {
      "href": "https://host:port/tmf-api/accountManagement/v4/billFormat/4824",
      "id": "4824",
      "name": "Summary invoice"
    },
    "cycleSpecification": {
      "dateShift": 8,
      "frequency": "monthly",
      "href": "https://host:port/tmf-api/accountManagement/v4/billingCycleSpecification/1309",
      "id": "1309",
      "name": "Monthly billing"
    }
  }
}
```

```
},
"paymentPlan": [
  {
    "numberOfPayments": 12,
    "paymentFrequency": "monthly",
    "priority": 2,
    "status": "Ineffective",
    "totalAmount": 100.0,
    "planType": "regular",
    "validFor": {
      "startDateTime": "2018-06-17T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "paymentMethod": {
      "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/6895",
      "id": "6895",
      "name": "family payment"
    }
  }
],
"financialAccount": {
  "@referredType": "FinancialAccount",
  "href": "https://host:port/tmf-api/accountManagement/v4/account/2209",
  "id": "2209",
  "name": "Travel account",
  "accountBalance": {
    "amount": 58.97,
    "balanceType": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-14T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
},
"defaultPaymentMethod": {
  "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/6514",
  "id": "6514",
  "name": "family payment"
},
"relatedParty": [
  {
    "@referredType": "Organization",
    "href": "https://host:port/tmf-api/partyManagement/v4/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"
    }
  }
]
```

```
    }
  }
],
"contact": [
  {
    "contactName": "Anna Cristal",
    "contactType": "primary",
    "partyRoleType": "Publisher",
    "validFor": {
      "startDateTime": "2018-06-11T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "contactMedium": [
      {
        "preferred": false,
        "mediumType": "PostalAddress",
        "validFor": {
          "startDateTime": "2018-06-14T00:00",
          "endDateTime": "2019-01-10T00:00"
        },
        "characteristic": {
          "city": "Paris",
          "street1": "15 Rue des Canards",
          "postCode": "75014",
          "country": "France"
        }
      }
    ],
    "relatedParty": {
      "href": "https://host:port/tmf-api/partyManagement/v4/organization/1850",
      "id": "1850",
      "name": "Gustave Flaubert",
      "role": "owner"
    }
  }
],
"accountBalance": [
  {
    "amount": 53.29,
    "balanceType": "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": {
      "@referredType": "BillingAccount",
      "description": "This account ...",

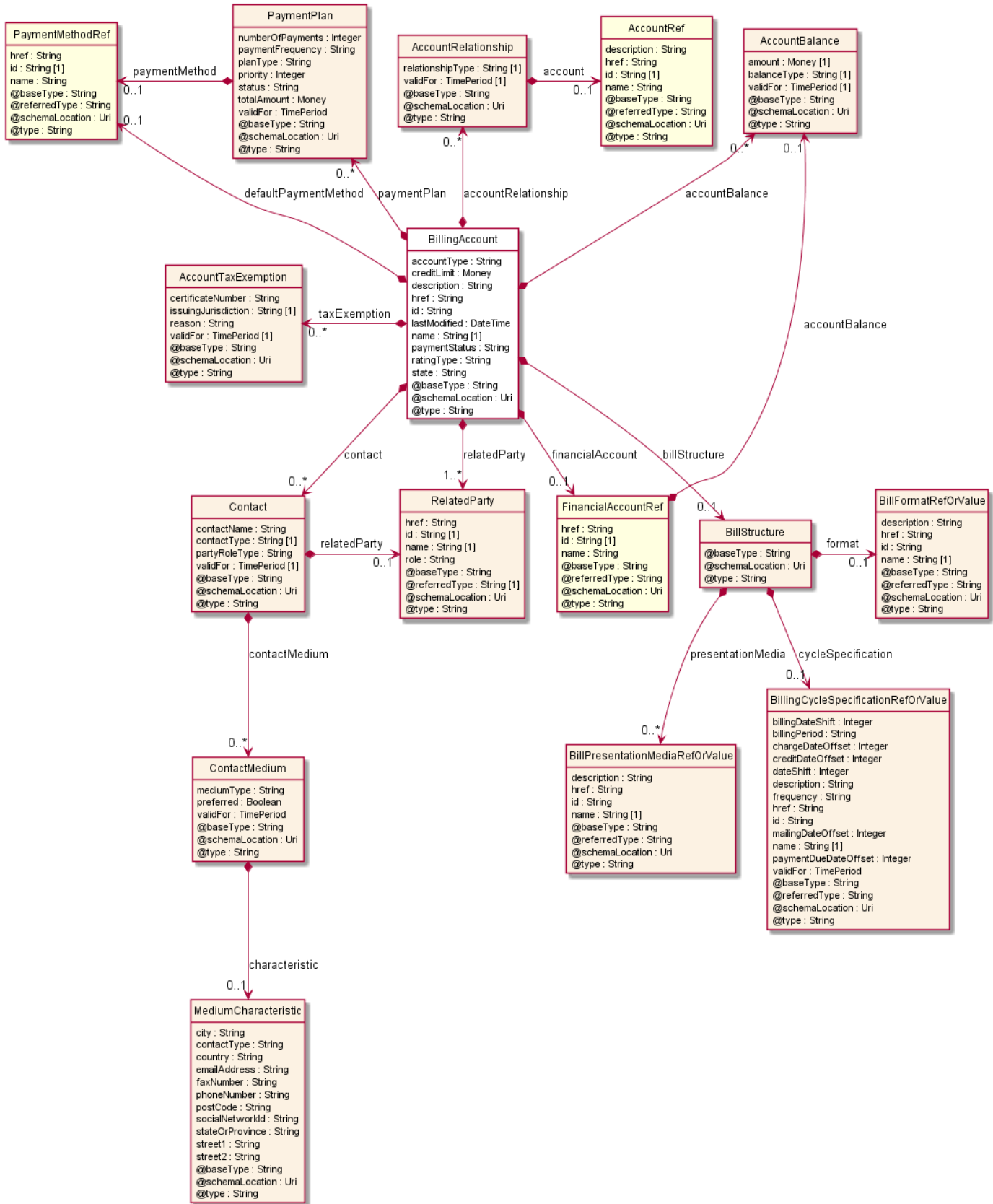
```

```
"href": "https://host:port/tmf-api/accountManagement/v4/account/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). It is a specialization of entity PartyAccount.

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.

Field descriptions

BillingAccount fields

paymentStatus	A string. The condition of the account, such as due, paid, in arrears.
accountType	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.
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.
billStructure	A bill structure (BillStructure). The structure of the bill for party accounts (billing or settlement).
defaultPaymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g direct debit).
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.
paymentPlan	A list of payment plans (PaymentPlan [*]). Defines a plan for payment (when a party wants to spread his payments).
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.

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.
creditLimit	A money (Money). The maximum amount of money that may be charged on an account.
ratingType	A string. Indicates whether the account follows a specific payment option such as prepaid or postpaid
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. 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.

AccountBalance sub-resource

Balances linked to the account.

amount	A money (Money). Balance amount.
balanceType	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.

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

AccountTaxExemption sub-resource

Proof of freedom from taxes imposed by a taxing jurisdiction.

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.

BillFormatRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
href	A string. Reference of the bill format.
id	A string. Unique identifier of the bill format.
name	A string. A short descriptive name.
description	A string. An explanatory text for this bill format.

BillPresentationMediaRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
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.
description	A string. An explanatory text describing this bill presentation media.

BillStructure sub-resource

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

cycleSpecification	A billing cycle specification ref or value (BillingCycleSpecificationRefOrValue). An attachment by value or by reference.
format	A bill format ref or value (BillFormatRefOrValue). An attachment by value or by reference.
presentationMedia	A list of bill presentation media ref or values (BillPresentationMediaRefOrValue [*]). An attachment by value or by reference.

BillingCycleSpecificationRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
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.
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 integer. An offset of a date through which charges 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.
creditDateOffset	An integer. 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.
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.
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.

Contact sub-resource

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

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

ContactMedium sub-resource

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

characteristic	A medium characteristic (MediumCharacteristic). Any additional characteristic(s) of this contact medium.
mediumType	A string. Type of the contact medium, such as: email address, telephone number, postal address.
preferred	A boolean. If true, indicates that is the preferred contact medium.
validFor	A time period. The time period that the contact medium is valid for.

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.
contactType	A string. The type of contact, for example: phone number such as mobile, fixed home, fixed office. postal address such as shipping instalation....
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.
socialNetworkId	A string. Identifier as a member of a social network.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.

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).

numberOfPayments	An integer. Number of payments used to spread the global payment.
paymentFrequency	A string. Frequency of the payments, such as monthly and bimonthly.

paymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g direct debit).
planType	A string. Type of payment plan.
priority	An integer. Priority of the payment plan.
status	A string. Status of the payment plan (effective, ineffective).
totalAmount	A money (Money). Amount paid.
validFor	A time period. Validity period of the payment plan.

RelatedParty sub-resource

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

@referredType	A string. The actual type of the target instance when needed for disambiguation.
href	A string. Reference of the related entity.
id	A string. Unique identifier of a related entity.
name	A string. Name of the related entity.
role	A string. Role played by the related party.

AccountRef relationship

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

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

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. The actual type of the target instance when needed for disambiguation.
accountBalance	An account balance (AccountBalance). Balances linked to the account.

href	A string. Unique reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.

PaymentMethodRef relationship

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

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

Json representation sample

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

```
{
  "@type": "BillingAccount",
  "paymentStatus": "In Arrears",
  "creditLimit": "10000",
  "description": "This billing account ...",
  "href": "https://host:port/tmf-api/accountManagement/v4/account/5430",
  "id": "5430",
  "lastModified": "2018-06-14T00:00",
  "name": "Home Account",
  "state": "Inactive",
  "accountType": "Business",
  "billStructure": {
    "presentationMedia": [
      {
        "href": "https://host:port/tmf-api/accountManagement/v4/billPresentationMedia/9968",
        "id": "9968",
        "name": "Post Mail"
      }
    ],
    "format": {
      "href": "https://host:port/tmf-api/accountManagement/v4/billFormat/3555",
      "id": "3555",
      "name": "Detailed invoice"
    },
    "cycleSpecification": {
      "dateShift": 54,
      "frequency": "monthly",
      "href": "https://host:port/tmf-api/accountManagement/v4/billingCycleSpecification/3828",
      "id": "3828",
      "name": "Annual billing"
    }
  }
},
```

```
"paymentPlan": [
  {
    "numberOfPayments": 4,
    "paymentFrequency": "monthly",
    "priority": 1,
    "status": "Effective",
    "totalAmount": 100.0,
    "paymentType": "regular",
    "validFor": {
      "startDateTime": "2018-06-11T00:00Z",
      "endDateTime": "2019-01-10T00:00Z"
    },
    "paymentMethod": {
      "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/2452",
      "id": "2452",
      "name": "professional payment"
    }
  }
],
"financialAccount": {
  "@referredType": "FinancialAccount",
  "href": "https://host:port/tmf-api/accountManagement/v4/account/2063",
  "id": "2063",
  "name": "Partnership account",
  "accountBalance": {
    "amount": 55.56,
    "accountType": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-13T00:00Z",
      "endDateTime": "2019-01-10T00:00Z"
    }
  }
},
"defaultPaymentMethod": {
  "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/3537",
  "id": "3537",
  "name": "family payment"
},
"relatedParty": [
  {
    "@referredType": "Organization",
    "href": "https://host:port/tmf-api/partyManagement/v4/organization/6838",
    "id": "6838",
    "name": "Richard Cole",
    "role": "service provider"
  }
],
"taxExemption": [
  {
    "certificateNumber": "45678909876",
    "issuingJurisdiction": "Prefecture",
    "reason": "Social",
    "validFor": {
      "startDateTime": "2018-06-13T00:00Z",
      "endDateTime": "2019-01-10T00:00Z"
    }
  }
]
```

```
    }
  ],
  "contact": [
    {
      "contactName": "Rachel Douglas",
      "contactType": "secondary",
      "partyRoleType": "Vendor",
      "validFor": {
        "startDateTime": "2018-06-17T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      },
      "contactMedium": [
        {
          "preferred": true,
          "mediumType": "PostalAddress",
          "validFor": {
            "startDateTime": "2018-06-14T00:00Z",
            "endDateTime": "2019-01-10T00:00Z"
          },
          "characteristic": {
            "city": "Paris",
            "street1": "15 Rue des Canards",
            "postCode": "75014",
            "country": "France"
          }
        }
      ],
      "relatedParty": {
        "@type": "Organization",
        "href": "https://host:port/tmf-api/partyManagement/v4/organization/9947",
        "id": "9947",
        "name": "Richard Cole",
        "role": "owner"
      }
    }
  ],
  "accountBalance": [
    {
      "amount": 58.33,
      "balanceType": "ReceivableBalance",
      "validFor": {
        "startDateTime": "2018-06-10T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",
      "validFor": {
        "startDateTime": "2018-06-13T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      },
      "account": {
        "@type": "BillingAccount",
        "description": "This account ...",

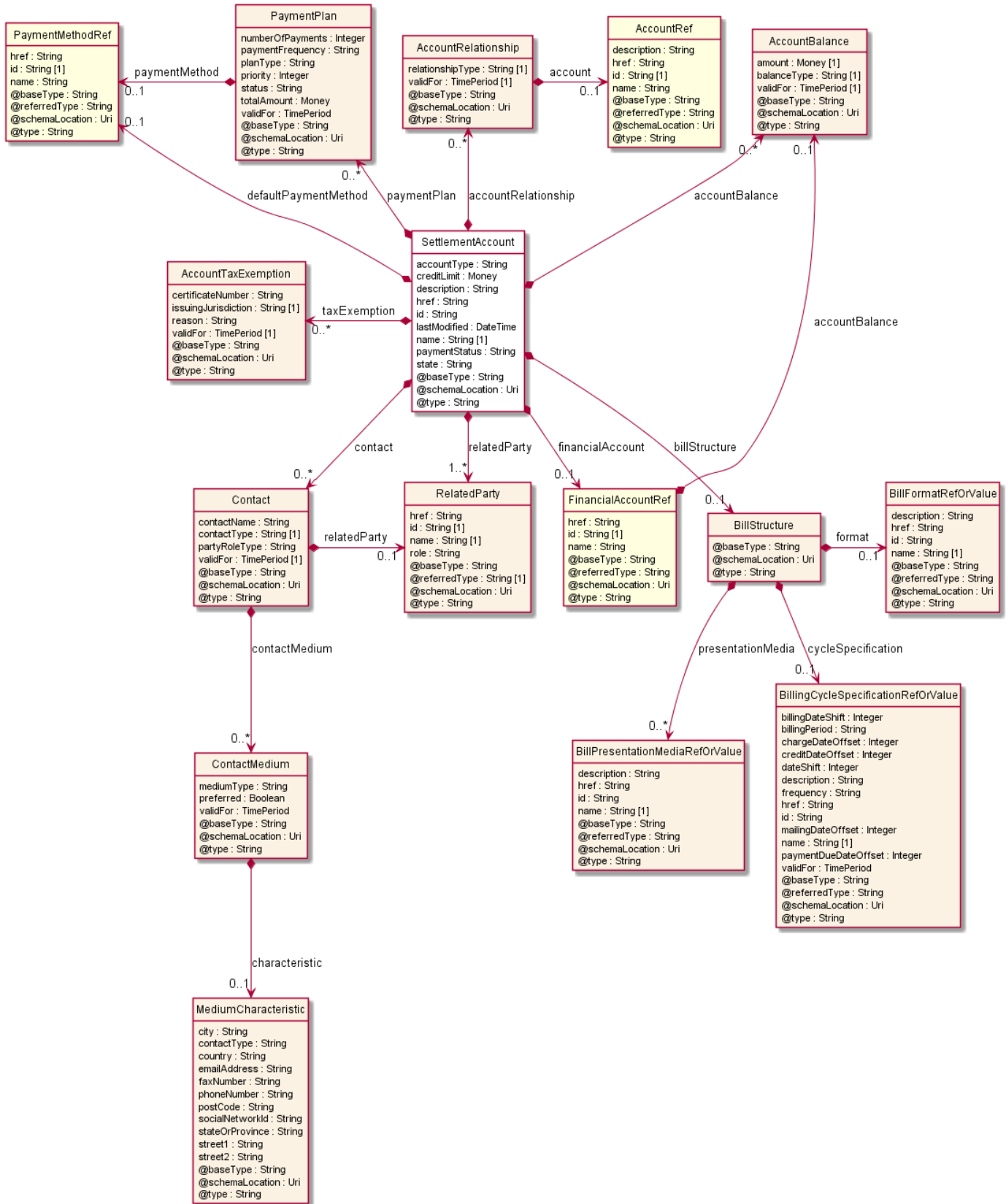
```

```
"href": "https://host:port/tmf-api/accountManagement/v4/account/9327",  
"id": "9327",  
"name": "Paradise Account"  
  }  
}  
]  
}
```

SETTLEMENT ACCOUNT RESOURCE

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

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.

Field descriptions

SettlementAccount fields

paymentStatus	A string. The condition of the account, such as due, paid, in arrears.
accountType	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.
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.
billStructure	A bill structure (BillStructure). The structure of the bill for party accounts (billing or settlement).
defaultPaymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g direct debit).
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.
paymentPlan	A list of payment plans (PaymentPlan [*]). Defines a plan for payment (when a party wants to spread his payments).
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.

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.
creditLimit	A money (Money). The maximum amount of money that may be charged on an account.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. 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.

AccountBalance sub-resource

Balances linked to the account.

amount	A money (Money). Balance amount.
balanceType	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.

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

AccountTaxExemption sub-resource

Proof of freedom from taxes imposed by a taxing jurisdiction.

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.

BillFormatRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
href	A string. Reference of the bill format.
id	A string. Unique identifier of the bill format.
name	A string. A short descriptive name.
description	A string. An explanatory text for this bill format.

BillPresentationMediaRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
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.
description	A string. An explanatory text describing this bill presentation media.

BillStructure sub-resource

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

cycleSpecification	A billing cycle specification ref or value (BillingCycleSpecificationRefOrValue). An attachment by value or by reference.
format	A bill format ref or value (BillFormatRefOrValue). An attachment by value or by reference.
presentationMedia	A list of bill presentation media ref or values (BillPresentationMediaRefOrValue [*]). An attachment by value or by reference.

BillingCycleSpecificationRefOrValue sub-resource

An attachment by value or by reference.

@referredType	A string. The actual type of the target instance when needed for disambiguation.
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.
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 integer. An offset of a date through which charges 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.
creditDateOffset	An integer. 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.
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.
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.

Contact sub-resource

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

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

ContactMedium sub-resource

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

characteristic	A medium characteristic (MediumCharacteristic). Any additional characteristic(s) of this contact medium.
mediumType	A string. Type of the contact medium, such as: email address, telephone number, postal address.
preferred	A boolean. If true, indicates that is the preferred contact medium.
validFor	A time period. The time period that the contact medium is valid for.

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.
contactType	A string. The type of contact, for example: phone number such as mobile, fixed home, fixed office. postal address such as shipping instalation....
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.
socialNetworkId	A string. Identifier as a member of a social network.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.

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).

numberOfPayments	An integer. Number of payments used to spread the global payment.
paymentFrequency	A string. Frequency of the payments, such as monthly and bimonthly.

paymentMethod	A payment method reference (PaymentMethodRef). A payment method defines a specific mean of payment (e.g direct debit).
planType	A string. Type of payment plan.
priority	An integer. Priority of the payment plan.
status	A string. Status of the payment plan (effective, ineffective).
totalAmount	A money (Money). Amount paid.
validFor	A time period. Validity period of the payment plan.

RelatedParty sub-resource

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

@referredType	A string. The actual type of the target instance when needed for disambiguation.
href	A string. Reference of the related entity.
id	A string. Unique identifier of a related entity.
name	A string. Name of the related entity.
role	A string. Role played by the related party.

AccountRef relationship

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

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

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. The actual type of the target instance when needed for disambiguation.
accountBalance	An account balance (AccountBalance). Balances linked to the account.

href	A string. Unique reference of the account.
id	A string. Unique identifier of the account.
name	A string. Name of the account.

PaymentMethodRef relationship

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

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

Json representation sample

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

```
{
  "@type": "SettlementAccount",
  "paymentStatus": "In Collection",
  "creditLimit": "20000",
  "description": "This settlement account ...",
  "href": "https://host:port/tmf-api/accountManagement/v4/account/8790",
  "id": "8790",
  "lastModified": "2018-06-14T00:00",
  "name": "Per Usage Account",
  "state": "inactive",
  "accountType": "Business",
  "billStructure": {
    "presentationMedia": [
      {
        "href": "https://host:port/tmf-api/accountManagement/v4/billPresentationMedia/1451",
        "id": "1451",
        "name": "Web Page"
      }
    ],
    "format": {
      "href": "https://host:port/tmf-api/accountManagement/v4/billFormat/8128",
      "id": "8128",
      "name": "Detailed invoice"
    },
    "cycleSpecification": {
      "dateShift": 62,
      "frequency": "monthly",
      "href": "https://host:port/tmf-api/accountManagement/v4/billingCycleSpecification/1361",
      "id": "1361",
      "name": "Annual billing"
    }
  }
},
```



```
"paymentPlan": [
  {
    "numberOfPayments": 4,
    "paymentFrequency": "monthly",
    "priority": 3,
    "status": "Effective",
    "totalAmount": 543.8,
    "planType": "regular",
    "validFor": {
      "startDateTime": "2018-06-17T00:00Z",
      "endDateTime": "2019-01-10T00:00Z"
    },
    "paymentMethod": {
      "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/1534",
      "id": "1534",
      "name": "professional payment"
    }
  }
],
"financialAccount": {
  "@referredType": "FinancialAccount",
  "href": "https://host:port/tmf-api/accountManagement/v4/account/3408",
  "id": "3408",
  "name": "Partnership account",
  "accountBalance": {
    "amount": 55.14,
    "balanceType": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-12T00:00Z",
      "endDateTime": "2019-01-10T00:00Z"
    }
  }
},
"defaultPaymentMethod": {
  "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/9124",
  "id": "9124",
  "name": "family payment"
},
"relatedParty": [
  {
    "@referredType": "Organization",
    "href": "https://host:port/tmf-api/partyManagement/v4/organization/5965",
    "id": "5965",
    "name": "Jimmy Doe",
    "role": "employee"
  }
],
"taxExemption": [
  {
    "certificateNumber": "98765432345",
    "issuingJurisdiction": "Embassy",
    "reason": "VIP",
    "validFor": {
      "startDateTime": "2018-06-17T00:00Z",
      "endDateTime": "2019-01-10T00:00Z"
    }
  }
]
```

```
    }
  ],
  "contact": [
    {
      "contactName": "Virginie Cork",
      "contactType": "primary",
      "partyRoleType": "Publisher",
      "validFor": {
        "startDateTime": "2018-06-11T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      },
      "contactMedium": [
        {
          "preferred": false,
          "mediumType": "PostalAddress",
          "validFor": {
            "startDateTime": "2018-06-14T00:00Z",
            "endDateTime": "2019-01-10T00:00Z"
          },
          "characteristic": {
            "city": "Paris",
            "street1": "15 Rue des Canards",
            "postCode": "75014",
            "country": "France"
          }
        }
      ],
      "relatedParty": {
        "@referredType": "Organization",
        "href": "https://host:port/tmf-api/partyManagement/v4/organization/6310",
        "id": "6310",
        "name": "Gustave Flaubert",
        "role": "bill receiver"
      }
    }
  ],
  "accountBalance": [
    {
      "amount": 55.28,
      "balanceType": "DepositBalance",
      "validFor": {
        "startDateTime": "2018-06-10T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",
      "validFor": {
        "startDateTime": "2018-06-16T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      },
      "account": {
        "@referredType": "BillingAccount",
        "description": "This account ...",

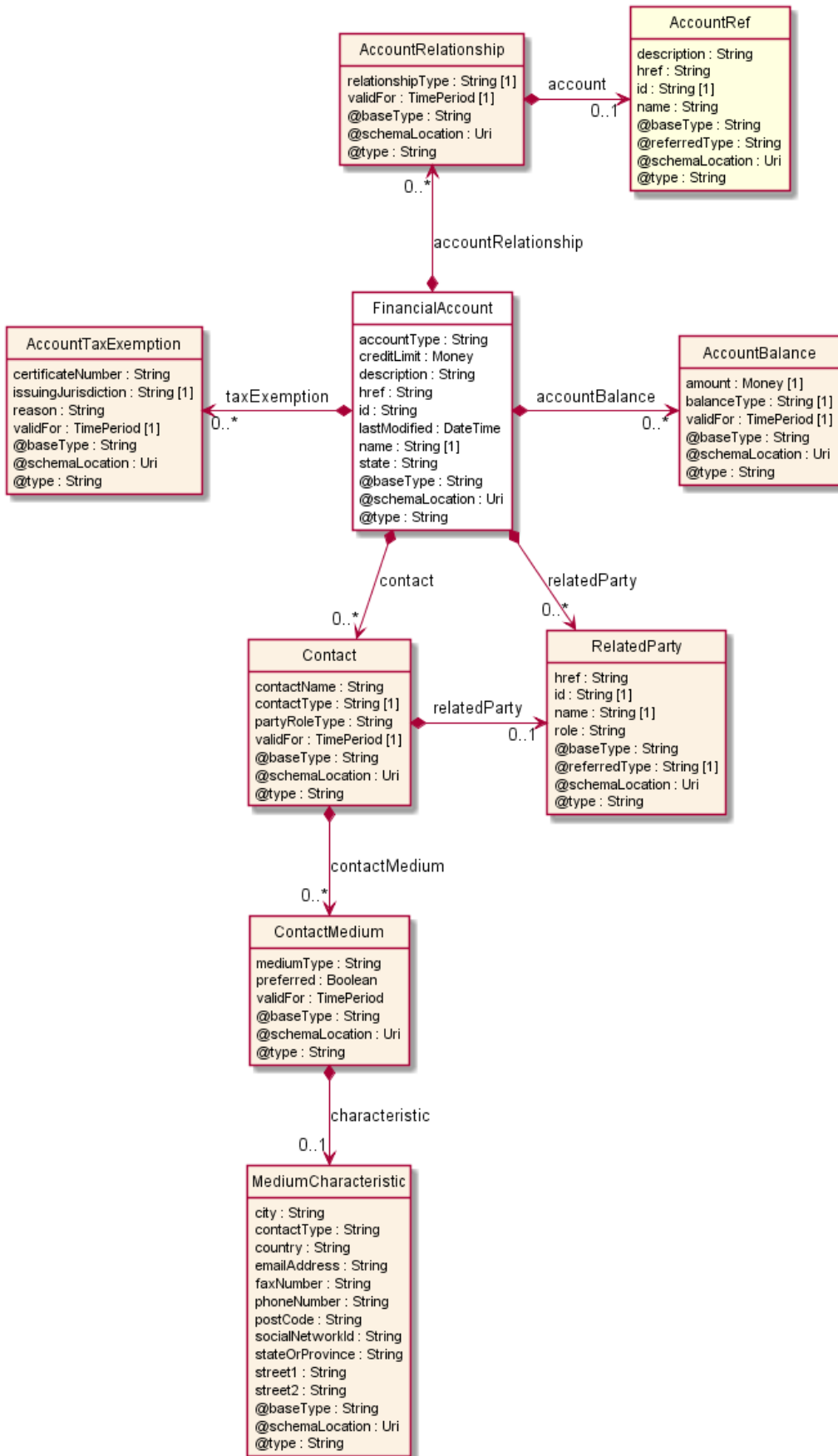
```

```
"href": "https://host:port/tmf-api/accountManagement/v4/account/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. It is a specialization of entity Account.

Resource model



Lifecycle

The Financial 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

FinancialAccount fields

accountType	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.
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.
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.
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.
creditLimit	A money (Money). The maximum amount of money that may be charged on an account.
relatedParty	A list of related parties (RelatedParty [*]). Related Entity reference. 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.

AccountBalance sub-resource

Balances linked to the account.

amount	A money (Money). Balance amount.
balanceType	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.

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

AccountTaxExemption sub-resource

Proof of freedom from taxes imposed by a taxing jurisdiction.

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.

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

ContactMedium sub-resource

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

characteristic	A medium characteristic (MediumCharacteristic). Any additional characteristic(s) of this contact medium.
mediumType	A string. Type of the contact medium, such as: email address, telephone number, postal address.
preferred	A boolean. If true, indicates that is the preferred contact medium.
validFor	A time period. The time period that the contact medium is valid for.

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.
contactType	A string. The type of contact, for example: phone number such as mobile, fixed home, fixed office. postal address such as shipping instalation....
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.
socialNetworkId	A string. Identifier as a member of a social network.
stateOrProvince	A string. State or province.
street1	A string. Describes the street.
street2	A string. Complementary street description.

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.

RelatedParty sub-resource

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

@referredType	A string. The actual type of the target instance when needed for disambiguation.
href	A string. Reference of the related entity.
id	A string. Unique identifier of a related entity.
name	A string. Name of the related entity.
role	A string. Role played by the related party.

AccountRef relationship

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

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

Json representation sample

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

```
{
  "@type": "FinantialAccount",
  "creditLimit": "3500",
  "description": "This financial account ...",
  "href": "https://host:port/tmf-api/accountManagement/v4/account/1041",
  "id": "1041",
  "lastModified": "2018-06-14T00:00",
  "name": "Administration account",
  "state": "Active",
  "accountType": "Global",
  "relatedParty": [
    {
      "href": "https://host:port/tmf-api/partyManagement/v4/organization/9442",
      "id": "9442",
      "name": "Gustave Flaubert",
      "role": "bill receiver"
    }
  ],
  "taxExemption": [
    {
      "certificateNumber": "45678909876",
      "issuingJurisdiction": "Prefecture",
      "reason": "Social",
      "validFor": {
        "startDateTime": "2018-06-13T00:00Z",

```



```
        "endDateTime": "2019-01-10T00:00Z"
      }
    }
  ],
  "contact": [
    {
      "contactName": "Ludwig Borgia",
      "contactType": "secondary",
      "partyRoleType": "CustomerAccountRepresentative",
      "validFor": {
        "startDateTime": "2018-06-11T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      },
      "contactMedium": [
        {
          "preferred": false,
          "mediumType": "Email",
          "validFor": {
            "startDateTime": "2018-06-12T00:00Z",
            "endDateTime": "2019-01-10T00:00Z"
          },
          "characteristic": {
            "emailAddress": "alain.delon@best-actor.fr",
            "country": "France"
          }
        }
      ],
      "relatedParty": {
        "href": "https://host:port/tmf-api/partyManagement/v4/organization/2186",
        "id": "2186",
        "name": "Gustave Flaubert",
        "role": "employee"
      }
    }
  ],
  "accountBalance": [
    {
      "amount": 50.58,
      "balanceType": "ReceivableBalance",
      "validFor": {
        "startDateTime": "2018-06-15T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      }
    }
  ],
  "accountRelationship": [
    {
      "relationshipType": "contains",
      "validFor": {
        "startDateTime": "2018-06-13T00:00Z",
        "endDateTime": "2019-01-10T00:00Z"
      },
      "account": {
        "description": "This account ...",
        "href": "https://host:port/tmf-api/accountManagement/v4/account/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

BillingCycleSpecification
billingDateShift : Integer
billingPeriod : String
chargeDateOffset : Integer
creditDateOffset : Integer
description : String
frequency : String
href : String
id : String
mailingDateOffset : Integer
name : String [1]
paymentDueDateOffset : Integer
validFor : TimePeriod
@baseType : String
@schemaLocation : Uri
@type : String

Field descriptions

BillingCycleSpecification fields

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 integer. An offset of a date through which charges 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.
creditDateOffset	An integer. 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

```
{
  "@type": "BillingCycleSpecification",
  "billingDateShift": 20,
  "chargeDateOffset": 5,
  "creditDateOffset": 5,
  "description": "This billing cycle specification ...",
  "frequency": "monthly",
  "href": "https://host:port/tmf-api/accountManagement/v4/billingCycleSpecification/4556",
  "id": "4556",
  "mailingDateOffset": 25,
  "name": "Monthly billing",
  "paymentDueDateOffset": 30,
  "validFor": {
    "startDateTime": "2018-06-10T00:00Z",
    "endDateTime": "2019-01-10T00:00Z"
  }
}
```

BILL FORMAT RESOURCE

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

Resource model

BillFormat
description : String
href : String
id : String
name : String [1]
@baseType : String
@schemaLocation : Uri
@type : String

Field descriptions

BillFormat fields

description	A string. An explanatory text for this bill format.
href	A string. Reference of the bill format.
id	A string. Unique identifier of the bill format.
name	A string. A short descriptive name.

Json representation sample

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

```
{
  "@type": "BillFormat",
  "description": "This bill format ...",
  "href": "https://host:port/tmf-api/accountManagement/v4/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

BillPresentationMedia

```
description : String
href : String
id : String
name : String [1]
@baseType : String
@schemaLocation : Uri
@type : String
```

Field descriptionsBillPresentationMedia fields

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

```
{
  "@type": "BillPresentationMedia",
  "description": "This bill presentation media ...",
  "href": "https://host:port/tmf-api/accountManagement/v4/billPresentationMedia/4506",
  "id": "4506",
  "name": "Electronic"
}
```

Notification Resource Models

10 notifications are defined for this API

Notifications related to PartyAccount:

- PartyAccountAttributeValueChangeEvent
- PartyAccountStateChangeEvent

Notifications related to BillingAccount:

- BillingAccountAttributeValueChangeEvent
- BillingAccountStateChangeEvent

Notifications related to SettlementAccount:

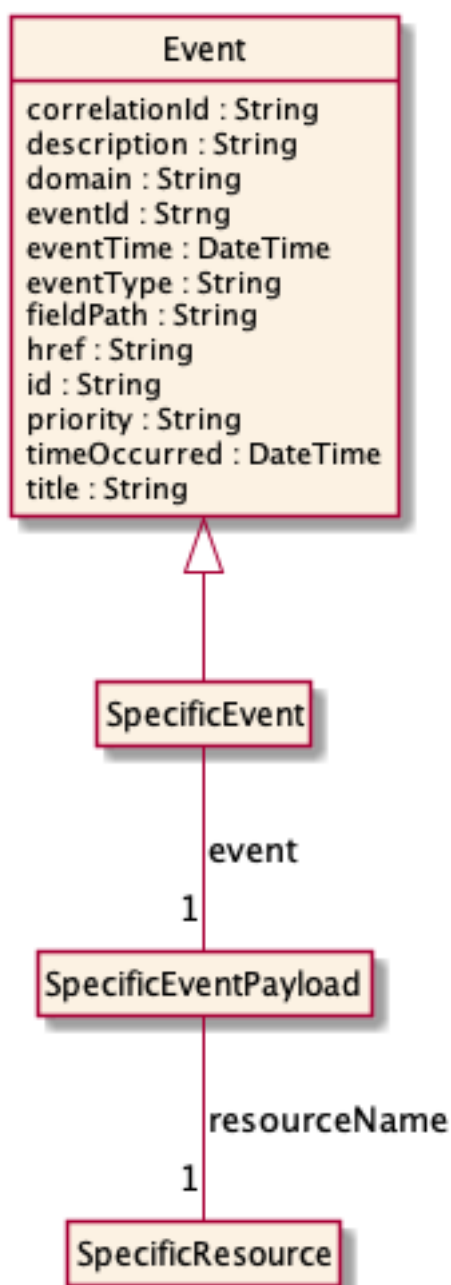
- SettlementAccountAttributeValueChangeEvent
- SettlementAccountStateChangeEvent

Notifications related to FinancialAccount:

- FinancialAccountCreateEvent
- FinancialAccountAttributeValueChangeEvent
- FinancialAccountStateChangeEvent
- FinancialAccountDeleteEvent

The notification structure for all notifications in this API follow the pattern depicted by the figure below. A notification event resource (depicted by "SpecificEvent" placeholder) is a sub class of a generic Event structure containing at least an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the resource (eventType).

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



PARTY ACCOUNT ATTRIBUTE VALUE CHANGE EVENT

Notification PartyAccountAttributeValueChangeEvent case for resource PartyAccount

Json representation sample

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

```

{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "PartyAccountAttributeValueChangeEvent",

```

```
"event": {
  "partyAccount" :
    [-- SEE PartyAccount RESOURCE SAMPLE --]
}
```

PARTY ACCOUNT STATE CHANGE EVENT

Notification PartyAccountStateChangeEvent case for resource PartyAccount

Json representation sample

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

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

BILLING ACCOUNT ATTRIBUTE VALUE CHANGE EVENT

Notification BillingAccountAttributeValueChangeEvent case for resource BillingAccount

Json representation sample

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

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

BILLING ACCOUNT STATE CHANGE EVENT

Notification BillingAccountStateChangeEvent case for resource BillingAccount

Json representation sample

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

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

SETTLEMENT ACCOUNT ATTRIBUTE VALUE CHANGE EVENT

Notification SettlementAccountAttributeValueChangeEvent case for resource SettlementAccount

Json representation sample

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

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

SETTLEMENT ACCOUNT STATE CHANGE EVENT

Notification SettlementAccountStateChangeEvent case for resource SettlementAccount

Json representation sample

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

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

FINANCIAL ACCOUNT CREATE EVENT

Notification FinancialAccountCreateEvent case for resource FinancialAccount

Json representation sample

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

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

FINANCIAL ACCOUNT ATTRIBUTE VALUE CHANGE EVENT

Notification FinancialAccountAttributeValueChangeEvent case for resource FinancialAccount

Json representation sample

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

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

FINANCIAL ACCOUNT STATE CHANGE EVENT

Notification FinancialAccountStateChangeEvent case for resource FinancialAccount

Json representation sample

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

```
{
  "eventId": "00001",
  "eventTime": "2015-11-16T16:42:25-04:00",
  "eventType": "FinancialAccountStateChangeEvent",
```

```
"event": {
  "financialAccount" :
    [-- SEE FinancialAccount RESOURCE SAMPLE --]
}
```

FINANCIAL ACCOUNT DELETE EVENT

Notification FinancialAccountDeleteEvent case for resource FinancialAccount

Json representation sample

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

```
{
  "eventId":"00001",
  "eventTime":"2015-11-16T16:42:25-04:00",
  "eventType":"FinancialAccountDeleteEvent",
  "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 /tmf-api/accountManagement/v4/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
GET /tmf-api/accountManagement/v4/partyAccount/4458 Accept: application/json
Response
200 <pre>{ "@type": "PartyAccount", "@schemaLocation": "https://myschemas/SpecialAccount.schema.json", "creditLimit": "20000", "description": "This party account ...", "href": "https://host:port/tmf-api/accountManagement/v4/partyAccount/4458", "id": "4458", "lastModified": "2018-06-14T00:00", "name": "Travel account", "state": "Suspended", "accountType": "Business", "paymentStatus": "In Arrears", "billStructure": { "presentationMedia": [{ "href": "https://host:port/tmf-api/accountManagement/v4/billPresentationMedia/8800", "id": "8800", "name": "Electronic" }], "format": { "href": "https://host:port/tmf-api/accountManagement/v4/billFormat/4824", "id": "4824", "name": "Summary invoice" }, "cycleSpecification": { "dateShift": 8, "frequency": "monthly", "href": "https://host:port/tmf-api/accountManagement/v4/billingCycleSpecification/1309", "id": "1309", "name": "Monthly billing" } }, "paymentPlan": [</pre>

```
{
  "numberOfPayments": 12,
  "paymentFrequency": "monthly",
  "priority": 2,
  "status": "Ineffective",
  "totalAmount": 100.0,
  "planType": "regular",
  "validFor": {
    "startDateTime": "2018-06-17T00:00",
    "endDateTime": "2019-01-10T00:00"
  },
  "paymentMethod": {
    "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/6895",
    "id": "6895",
    "name": "family payment"
  }
},
"financialAccount": {
  "@type": "FinancialAccount",
  "href": "https://host:port/tmf-api/accountManagement/v4/financialAccount/2209",
  "id": "2209",
  "name": "Travel account",
  "accountBalance": {
    "amount": 58.97,
    "balanceType": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-14T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
},
"defaultPaymentMethod": {
  "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/6514",
  "id": "6514",
  "name": "family payment"
},
"relatedParty": [
  {
    "@type": "Organization",
    "href": "https://host:port/tmf-api/partyManagement/v4/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"
    }
  }
]
```

```
],
"contact": [
  {
    "contactName": "Anna Cristal",
    "contactType": "primary",
    "partyRoleType": "Publisher",
    "validFor": {
      "startDateTime": "2018-06-11T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "contactMedium": [
      {
        "preferred": false,
        "mediumType": "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"
        }
      }
    ],
    "relatedParty": {
      "@type": "Organization",
      "href": "https://host:port/tmf-api/partyManagement/v4/organization/1850",
      "id": "1850",
      "name": "Gustave Flaubert",
      "role": "owner"
    }
  }
],
"accountBalance": [
  {
    "amount": 53.29,
    "balanceType": "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/v4/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 provide 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	Rule
accountType	
description	
lastModified	
state	
billStructure	
defaultPaymentMethod	
financialAccount	
paymentPlan	
paymentStatus	
accountBalance	
accountRelationship	
contact	
creditLimit	
taxExemption	

Additional Rules

The following pre-conditions apply for this operation.

Pre-conditions
The state attribute is mandatory in the response of the account creation

Default Values

When creating the resource, the following table provides 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 PartyAccount resource. In this example the request only passes mandatory attributes.

Request
POST /tmf-api/accountManagement/v4/partyAccount Content-Type: application/json <pre>{ "@type": "PartyAccount", "@schemaLocation": "https://myschemas/SpecialAccount.schema.json", "name": "Travel account", "relatedParty": [{ "@referredType": "Organization", "href": "https://host:port/tmf-api/partyManagement/v4/organization/4665", "id": "4665", "name": "John Doe", "role": "owner" }] }</pre>
Response
201 <pre>{ "@type": "PartyAccount", "@schemaLocation": "https://myschemas/SpecialAccount.schema.json", "href": "https://host:port/tmf-api/accountManagement/v4/partyAccount/4458", "id": "4458", "name": "Travel account", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v4/organization/4665", "id": "4665", "name": "John Doe",</pre>

```

    "role": "owner"
  }
]
}

```

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
accountType	
description	
lastModified	
name	
state	
billStructure	
defaultPaymentMethod	
financialAccount	
paymentPlan	
paymentStatus	
accountRelationship	
contact	
creditLimit	
relatedParty	
taxExemption	

Non Patchable Attributes	Rule
accountBalance	
href	
id	

Additional Rules

The following pre-conditions apply for this operation.

Pre-conditions

The state attribute is mandatory in the response of the account creation

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-patch).

Request
PATCH /tmf-api/accountManagement/v4/partyAccount/42 Content-Type: application/merge-patch+json { "description": "Premium credit limit", "creditLimit": "5000" }
Response
200 { Similar JSON as in GET response with credit limit and description changed }

DELETE PARTY ACCOUNT

DELETE /partyAccount/{id}

Description

This operation deletes a party account entity.

Usage Samples

This operation deletes a PartyAccount resource.

Request
DELETE /tmf-api/accountManagement/v4/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 suspended billing accounts. The result items are shrunk to show only the id and name (fields=id,name).

Request

```
GET /tmf-api/accountManagement/v4/billingAccount?fields=id,name&state=Suspended
Accept: application/json
```

Response

```
200

[
  {
    "id": "42",
    "name": "Lakes Agency Account"
  },
  {
    "id": "43",
    "name": "Santa Claus Donate Account"
  }
]
```

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
GET /tmf-api/accountManagement/v4/billingAccount/4458 Accept: application/json
Response
200 <pre>{ "@type": "BillingAccount", "paymentStatus": "In Arrears", "creditLimit": "10000", "description": "This billing account ...", "href": "https://host:port/tmf-api/accountManagement/v4/account/5430", "id": "5430", "lastModified": "2018-06-14T00:00", "name": "Home Account", "state": "Inactive", "accountType": "Business", "billStructure": { "presentationMedia": [{ "href": "https://host:port/tmf-api/accountManagement/v4/billPresentationMedia/9968", "id": "9968", "name": "Post Mail" }], "format": { "href": "https://host:port/tmf-api/accountManagement/v4/billFormat/3555", "id": "3555", "name": "Detailed invoice" }, "cycleSpecification": { "dateShift": 54, "frequency": "monthly", "href": "https://host:port/tmf-api/accountManagement/v4/billingCycleSpecification/3828", "id": "3828", "name": "Annual billing" } } }</pre>

```
}
},
"paymentPlan": [
  {
    "numberOfPayments": 4,
    "paymentFrequency": "monthly",
    "priority": 1,
    "status": "Effective",
    "totalAmount": 100.0,
    "planType": "regular",
    "validFor": {
      "startDateTime": "2018-06-11T00:00",
      "endDateTime": "2019-01-10T00:00"
    },
    "paymentMethod": {
      "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/2452",
      "id": "2452",
      "name": "professional payment"
    }
  }
],
"financialAccount": {
  "@REFERREDTYPE": "FinancialAccount",
  "href": "https://host:port/tmf-api/accountManagement/v4/financialAccount/2063",
  "id": "2063",
  "name": "Partnership account",
  "accountBalance": {
    "amount": 55.56,
    "balanceType": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
},
"defaultPaymentMethod": {
  "href": "https://host:port/tmf-api/paymentMethods/v4/paymentMethod/3537",
  "id": "3537",
  "name": "family payment"
},
"relatedParty": [
  {
    "@REFERREDTYPE": "Organization",
    "href": "https://host:port/tmf-api/partyManagement/v4/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,
          "mediumType": "Email",
          "validFor": {
            "startDateTime": "2018-06-14T00:00",
            "endDateTime": "2019-01-10T00:00"
          },
          "characteristic": {
            "country": "France",
            "emailAddress": "alain.delon@best-actor.fr"
          }
        }
      ],
      "relatedParty": {
        "@referredType": "Organization",
        "href": "https://host:port/tmf-api/partyManagement/v4/organization/9947",
        "id": "9947",
        "name": "Richard Cole",
        "role": "owner"
      }
    }
  ],
  "accountBalance": [
    {
      "amount": 58.33,
      "balanceType": "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/v4/partyAccount/9327",
```



```

    "id": "9327",
    "name": "Paradise Account"
  }
}
]
}

```

CREATE BILLING ACCOUNT

POST /billingAccount

Description

This operation creates a billing account entity.

Mandatory and Non Mandatory Attributes

The following tables provide 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	Rule
paymentStatus	
accountType	
description	
lastModified	
state	
billStructure	
defaultPaymentMethod	
financialAccount	
paymentPlan	
accountBalance	
accountRelationship	
contact	
creditLimit	
taxExemption	
ratingType	

Additional Rules

The following pre-conditions apply for this operation.

Pre-conditions
The state attribute is mandatory in the response of the account creation

Default Values

When creating the resource, the following table provides 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 /tmf-api/accountManagement/v4/billingAccount Content-Type: application/json <pre>{ "name": "Home Account", "relatedParty": [{ "@referredType": "Organization", "href": "https://host:port/tmf-api/partyManagement/v4/organization/6838", "id": "6838", "name": "Richard Cole", "role": "service provider" }] }</pre>
Response
201 <pre>{ "href": "https://host:port/tmf-api/accountManagement/v4/billingAccount/5430", "id": "5430", "name": "Home Account", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v4/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 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
paymentStatus	
accountType	
description	
lastModified	
name	
state	
billStructure	
defaultPaymentMethod	
financialAccount	
paymentPlan	
accountRelationship	
contact	
creditLimit	
relatedParty	
taxExemption	
ratingType	

Non Patchable Attributes	Rule
accountBalance	
href	
id	

Additional Rules

The following pre-conditions apply for this operation.

Pre-conditions

The state attribute is mandatory in the response of the account creation

Usage Samples

Here's an example of a request for patching a BillingAccount resource.
Changing the name (using json-patch).

Request
PATCH /tmf-api/accountManagement/v4/billingAccount/42 Content-Type: application/merge-patch+json <pre>{ "path": "/name", "value": "NewName", "op": "replace" }</pre>
Response
200 { Similar JSON as in GET response with name changed }

DELETE BILLING ACCOUNT

DELETE /billingAccount/{id}

Description

This operation deletes a billing account entity.

Usage Samples

This operation deletes a BillingAccount resource.

Request
DELETE /tmf-api/accountManagement/v4/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 shrinked to show only the id and name (fields=id,name).

Request

```
GET /tmf-api/accountManagement/v4/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 /tmf-api/accountManagement/v4/settlementAccount/8790 Accept: application/json
Response
200 <pre>{ "@type": "SettlementAccount", "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", "accountType": "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" } }</pre>

```
    }
  },
  "paymentPlan": [
    {
      "numberOfPayments": 4,
      "paymentFrequency": "monthly",
      "priority": 3,
      "status": "Effective",
      "totalAmount": 543.8,
      "planType": "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"
      }
    }
  ],
  "financialAccount": {
    "@type": "FinancialAccount",
    "href": "https://host:port/tmf-api/accountManagement/v2/financialAccount/3408",
    "id": "3408",
    "name": "Partnership account",
    "accountBalance": {
      "amount": 55.14,
      "balanceType": "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": [
    {
      "@referredType": "Organization",
      "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,
          "mediumType": "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"
          }
        }
      ],
      "relatedParty": {
        "@referredType": "Organization",
        "href": "https://host:port/tmf-api/partyManagement/v2/organization/6310",
        "id": "6310",
        "name": "Gustave Flaubert",
        "role": "bill receiver"
      }
    }
  ],
  "accountBalance": [
    {
      "amount": 55.28,
      "balanceType": "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

Description

This operation creates a settlement account entity.

Mandatory and Non Mandatory Attributes

The following tables provide 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	Rule
paymentStatus	
accountType	
description	
lastModified	
state	
billStructure	
defaultPaymentMethod	
financialAccount	
paymentPlan	
accountBalance	
accountRelationship	
contact	
creditLimit	
taxExemption	

Additional Rules

The following pre-conditions apply for this operation.

Pre-conditions
The state attribute is mandatory in the response of the account creation

Default Values

When creating the resource, the following table provides 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
POST /tmf-api/accountManagement/v4/settlementAccount Content-Type: application/json <pre>{ "name": "Per Usage Account", "relatedParty": [{ "@referredType": "Organization", "href": "https://host:port/tmf-api/partyManagement/v2/organization/5965", "id": "5965", "name": "Jimmy Doe", "role": "employee" }] }</pre>
Response
201 <pre>{ "@type": "SettlementAccount", "href": "https://host:port/tmf-api/accountManagement/v2/settlementAccount/8790", "id": "8790", "name": "Per Usage Account", "relatedParty": [{ "@referredType": "Organization", "href": "https://host:port/tmf-api/partyManagement/v2/organization/5965", "id": "5965", "name": "Jimmy Doe",</pre>

```

    "role": "employee"
  }
]
}

```

PATCH SETTLEMENT ACCOUNT

PATCH /settlementAccount/{id}

Description

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.

Patchable Attributes	Rule
paymentStatus	
accountType	
description	
lastModified	
name	
state	
billStructure	
defaultPaymentMethod	
financialAccount	
paymentPlan	
accountRelationship	
contact	
creditLimit	
relatedParty	
taxExemption	

Non Patchable Attributes	Rule
accountBalance	
href	
id	

Additional Rules

The following pre-conditions apply for this operation.

Pre-conditions

The state attribute is mandatory in the response of the account creation

Usage Samples

Here's an example of a request for patching a SettlementAccount resource.
Changing the name (using json-patch).

Request
<pre>PATCH /tmf-api/accountManagement/v4/settlementAccount/42 Content-Type: application/merge-patch+json { "path": "/name", "value": "NewName", "op": "replace" }</pre>
Response
<pre>200 { Similar JSON as in GET response with name changed }</pre>

DELETE SETTLEMENT ACCOUNT

DELETE /settlementAccount/{id}

Description

This operation deletes a settlement account entity.

Usage Samples

This operation deletes a SettlementAccount resource.

Request
<pre>DELETE /tmf-api/accountManagement/v4/settlementAccount/42</pre>
Response


```
{
  "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,
        "mediumType": "Email",
        "validFor": {
          "startDateTime": "2018-06-12T00:00",
          "endDateTime": "2019-01-10T00:00"
        },
        "characteristic": {
          "country": "France",
          "emailAddress": "alain.delon@best-actor.fr"
        }
      }
    ],
    "relatedParty": {
      "href": "https://host:port/tmf-api/partyManagement/v4/organization/2186",
      "id": "2186",
      "name": "Gustave Flaubert",
      "role": "employee"
    }
  }
],
"accountBalance": [
  {
    "amount": 50.58,
    "balanceType": "ReceivableBalance",
    "validFor": {
      "startDateTime": "2018-06-15T00:00",
      "endDateTime": "2019-01-10T00:00"
    }
  }
],
"accountRelationship": [
  {
    "relationshipType": "contains",
    "validFor": {
      "startDateTime": "2018-06-13T00:00",
```

```

        "endTime": "2019-01-10T00:00"
      },
      "account": {
        "description": "This account ...",
        "href": "https://host:port/tmf-api/accountManagement/v4/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
GET /tmf-api/accountManagement/v4/financialAccount/1041 Accept: application/json
Response
200 { "@type": "FinancialAccount", "creditLimit": "3500", "description": "This financial account ...", "href": "https://host:port/tmf-api/accountManagement/v4/financialAccount/1041", "id": "1041", "lastModified": "2018-06-14T00:00", "name": "Administration account", "state": "Active", "accountType": "Global", "relatedParty": [

```
{
  "@type": "Organization",
  "href": "https://host:port/tmf-api/partyManagement/v4/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"
    }
  },
  "contactMedium": [
    {
      "preferred": false,
      "mediumType": "Email",
      "validFor": {
        "startDateTime": "2018-06-12T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "characteristic": {
        "country": "France",
        "emailAddress": "alain.delon@best-actor.fr"
      }
    }
  ]
},
"relatedParty": {
  "@type": "Organization",
  "href": "https://host:port/tmf-api/partyManagement/v4/organization/2186",
  "id": "2186",
  "name": "Gustave Flaubert",
  "role": "employee"
}
],
"accountBalance": [
  {
    "amount": 50.58,
    "balanceType": "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/v4/partyAccount/7688",
        "id": "7688",
        "name": "Travel Account"
      }
    }
  ]
}

```

CREATE FINANCIAL ACCOUNT

POST /financialAccount

Description

This operation creates a financial account entity.

Mandatory and Non Mandatory Attributes

The following tables provide 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	Rule
accountType	
description	
lastModified	
state	
accountBalance	
accountRelationship	
contact	
creditLimit	
relatedParty	
taxExemption	

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	balanceType, amount, validFor

The following pre-conditions apply for this operation.

Pre-conditions
The state attribute is mandatory in the response of the account creation

Default Values

When creating the resource, the following table provides 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 /tmf-api/accountManagement/v4/financialAccount Content-Type: application/json <pre>{ "name": "Administration account" }</pre>
Response
201 <pre>{ "@type": "FinancialAccount", "href": "https://host:port/tmf-api/accountManagement/v4/financialAccount/1041",</pre>

```

{id": "1041",
"lastModified": "2018-06-14T00:00",
"name": "Administration account"
}

```

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
accountType	
description	
name	
state	
accountBalance	
accountRelationship	
contact	
creditLimit	
relatedParty	
taxExemption	

Non Patchable Attributes	Rule
href	
id	
lastModified	

Additional Rules

The following pre-conditions apply for this operation.

Pre-conditions
The state attribute is mandatory in the response of the account creation

Usage Samples

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

Request
PATCH /tmf-api/accountManagement/v4/financialAccount/42 Content-Type: application/merge-patch+json <pre>{ "name": "new name" }</pre>
Response
200 <pre>{ "creditLimit": "3500", "description": "This financial account ...", "href": "https://host:port/tmf-api/accountManagement/v4/financialAccount/1041", "id": "1041", "lastModified": "2018-06-14T00:00", "name": "new name", "state": "Active", "accountType": "Global", "relatedParty": [{ "href": "https://host:port/tmf-api/partyManagement/v4/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>

```
    "endDateTime": "2019-01-10T00:00"
  },
  "contactMedium": [
    {
      "preferred": false,
      "mediumType": "Email",
      "validFor": {
        "startDateTime": "2018-06-12T00:00",
        "endDateTime": "2019-01-10T00:00"
      },
      "characteristic": {
        "country": "France",
        "emailAddress": "alain.delon@best-actor.fr"
      }
    }
  ],
  "relatedParty": {
    "href": "https://host:port/tmf-api/partyManagement/v4/organization/2186",
    "id": "2186",
    "name": "Gustave Flaubert",
    "role": "employee"
  }
},
"accountBalance": [
  {
    "amount": 50.58,
    "balanceType": "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/v4/partyAccount/7688",
      "id": "7688",
      "name": "Travel Account"
    }
  }
]
}
```

DELETE FINANCIAL ACCOUNT

DELETE /financialAccount/{id}

Description

This operation deletes a financial account entity.

Usage Samples

This operation deletes a FinancialAccount resource.

Request
DELETE /tmf-api/accountManagement/v4/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

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

Request
GET /tmf-api/accountManagement/v4/billingCycleSpecification?fields=id,name Accept: application/json
Response

```

200

[
  {
    "id": "9473",
    "name": "bimonthly"
  },
  {
    "id": "9473",
    "name": "monthly"
  },
  {
    "id": "9899",
    "name": "weekly"
  }
]

```

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 /tmf-api/accountManagement/v4/billingCycleSpecification/1041 Accept: application/json
Response
200 { "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/v4/billingCycleSpecification/4556",
"id": "4556",
"mailingDateOffset": 25,
"name": "Monthly billing",
"paymentDueDateOffset": 30,
"validFor": {
  "startDateTime": "2018-06-10T00:00",
  "endDateTime": "2019-01-10T00:00"
}
}

```

CREATE BILLING CYCLE SPECIFICATION

POST /billingCycleSpecification

Description

This operation creates a billing cycle specification entity.

Mandatory and Non Mandatory Attributes

The following tables provide 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	Rule
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 /tmf-api/accountManagement/v4/billingCycleSpecification
Content-Type: application/json

```


<pre>{ "name": "Monthly billing" }</pre>
Response
<pre>201 { "href": "https://host:port/tmf-api/accountManagement/v4/billingCycleSpecification/4556", "id": "4556", "name": "Monthly billing" }</pre>

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
billingDateShift	
billingPeriod	
chargeDateOffset	
creditDateOffset	
description	
frequency	
mailingDateOffset	
name	
paymentDueDateOffset	
validFor	

Non Patchable Attributes	Rule
href	
id	

Usage Samples

Here's an example of a request for patching a BillingCycleSpecification resource.
Changing the frequency (using json-patch)

Request
<pre>PATCH /tmf-api/accountManagement/v4/billingCycleSpecification/42 Content-Type: application/merge-patch+json { "frequency": "bimonthly" }</pre>
Response
<pre>200 { Similar JSON as in GET response with frequency changed }</pre>

DELETE BILLING CYCLE SPECIFICATION

DELETE `/billingCycleSpecification/{id}`

Description

This operation deletes a billing cycle specification entity.

Usage Samples

This operation deletes a BillingCycleSpecification resource.

Request
<pre>DELETE /tmf-api/accountManagement/v4/billingCycleSpecification/42</pre>
Response
<pre>204</pre>

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

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

Request
GET /tmf-api/accountManagement/v4/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 /tmf-api/accountManagement/v4/billFormat/8718 Accept: application/json
Response
200 { "description": "This bill format ...", "href": "https://host:port/tmf-api/accountManagement/v4/billFormat/8718", "id": "8718", "name": "Detailed invoice" }

CREATE BILL FORMAT

POST /billFormat

Description

This operation creates a bill format entity.

Mandatory and Non Mandatory Attributes

The following tables provide 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	Rule
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 /tmf-api/accountManagement/v4/billFormat Content-Type: application/json <pre>{ "name": "Detailed invoice" }</pre>
Response
201 <pre>{ "href": "https://host:port/tmf-api/accountManagement/v4/billFormat/8718", "id": "8718", "name": "Detailed invoice" }</pre>

PATCH BILL FORMAT

PATCH /billFormat/{id}

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.

Patchable Attributes	Rule
description	
name	

Non Patchable Attributes	Rule
href	

id	
----	--

Usage Samples

Here's an example of a request for patching a BillFormat resource.
Changing the description (using json-patch)

Request
PATCH /tmf-api/accountManagement/v4/billFormat/42 Content-Type: application/merge-patch+json { "description": "Detailed billing containing full phone numbers of calls" }
Response
200 { Similar JSON as in GET response with description changed }

DELETE BILL FORMAT

DELETE /billFormat/{id}

Description

This operation deletes a bill format entity.

Usage Samples

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

Request
DELETE /tmf-api/accountManagement/v4/billFormat/42
Response
204

OPERATIONS ON BILL PRESENTATION MEDIA

LIST BILL PRESENTATION MEDIAS

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

Description

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

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

Request
GET /tmf-api/accountManagement/v4/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.
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 /tmf-api/accountManagement/v4/billPresentationMedia/4506 Accept: application/json
Response
200 { "description": "This bill presentation media ...", "href": "https://host:port/tmf-api/accountManagement/v4/billPresentationMedia/4506", "id": "4506", "name": "Electronic" }

CREATE BILL PRESENTATION MEDIA

POST /billPresentationMedia

Description

This operation creates a bill presentation media entity.

Mandatory and Non Mandatory Attributes

The following tables provide 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	

Non Mandatory Attributes	Rule
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 /tmf-api/accountManagement/v4/billPresentationMedia Content-Type: application/json <pre>{ "name": "Electronic" }</pre>
Response
201 <pre>{ "href": "https://host:port/tmf-api/accountManagement/v4/billPresentationMedia/4506", "id": "4506", "name": "Electronic" }</pre>

PATCH BILL PRESENTATION MEDIA

PATCH /billPresentationMedia/{id}

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 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
description	
name	

Non Patchable Attributes	Rule
href	
id	

Usage Samples

Here's an example of a request for patching a BillPresentationMedia resource.
Changing the name (using json-patch)

Request
PATCH /tmf-api/accountManagement/v4/billPresentationMedia/42 Content-Type: application/merge-patch+json <pre>{ "name": "secure post mail" }</pre>
Response
200 { Similar JSON as in GET response with name changed }

DELETE BILL PRESENTATION MEDIA

DELETE /billPresentationMedia/{id}

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 /tmf-api/accountManagement/v4/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
POST /api/hub Accept: application/json {"callback": "http://in.listener.com"}
Response
201 Content-Type: application/json Location: /api/hub/42 {"id": "42", "callback": "http://in.listener.com", "query": null}

UNREGISTER LISTENER

DELETE /hub/{id}

Description

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

Behavior

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

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

Usage Samples

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

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

PUBLISH EVENT TO LISTENER

POST /client/listener

Description

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

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

Behavior

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

Usage Samples

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

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

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

ACKNOWLEDGEMENTS

RELEASE HISTORY

Release Number	Date	Release led by:	Description
Release 1.0	04/15/2017	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.
Release 2.0	11/06/2018	Mariano Belaunde Orange Labs	Alignment with Guidelines 3.0
Release 4.0	30/05/2019	Mariano Belaunde Orange Labs	Regeneration after schematization

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