Account and Transaction API Specification - v2.0.0

Developer Zone

Exported on 05/25/2018

Table of Contents

1 Version Control

Version	Date	Author	Comments
2.0.0 draft-0.0.1	15 Nov 2017	Open Banking Read/Write API Team	This is the initial draft version.
2.0.0 draft-0.0.2	05 Jan 2018	Open Banking Read/Write API Team	Updated draft.
2.0-draft-3	12 Jan 2018	Open Banking Read/Write API Team	Updated draft. Removed all common elements
2.0-rc1	19 Jan 2018	Open Banking Read/Write API Team	Incorporate PCA and BCA Data model changes Account type related changes New Statements related endpoints
2.0-rc2	02 Feb 2018	Open Banking Read/Write API Team	Account and Transaction Info API restructure. Section 4.6 - Removed rate limiting, and clarification on behaviour. Updates: - Clarified behaviour for ReadPAN permission code based on feedback - Separated ReadParty and ReadPartyPSU permission codes - and specified behaviour - Added the access to /accounts/{AccountId}/statements/{StatementId}/file to the ReadStatementsDetail permission - as this may leak sensitive information - Removed AccountType filter as an optional field in the account-request object - Removed GDPR reference for TPPs attempting to access APIs after consent has been revoked - Clarified that AISPs **must** call the **DELETE** operation on the account-request resource (before confirming consent revocation with the PSU) to indicate to the ASPSP that the PSU has revoked consent - Clarified that the only resource that relates specifically to the CMA Order is the products resource (with the BCA and PCA objects)

Version	Date	Author	Comments
2.0-rc3	16 Feb 2018	Open Banking Read/ Write API Team	This is the initial draft version for rc3 Updates: • Clarified that the permissions array **must** contain either **ReadAccountsBasic** or **ReadAccountsDetail** • Added OBReadTransaction2/Data/Transaction/ CreditorAccount and OBReadTransaction2/Data/ Transaction/DebtorAccount to the ReadTransactionsDetail permission restrictions • Clarified that combinations of permissions codes that are not allowed must be rejected with a 400 response code - this includes permission codes that are not supported by the ASPSP • Errata fix - specified /direct-debits endpoint as Optional and /accounts/{AccountId}/direct-debits as Conditional • Referred definition of mandatory, conditional or optional in the Endpoints section to the Principles section • Errata - typo fixed regarding ReadPAN permission code - from "The ASPSP takes a legal view to respond with only the PAN in the clear" to "The ASPSP takes a legal view to respond with only the masked PAN" • Errata - reference to Personal vs. Business account selection in Basics / Overview was accidentally kept in the rc3 spec (but was rejected by TDA)
2.0.0	27 Feb 2018	Open Banking Read/ Write API Team	This is the baseline version. No changes from v2.0-rc3.

2 Overview

This specification describes the Account Information and Transaction API flows and payloads.

The API endpoints described here allow an Account Information Service Provider ('AISP') to:

- Register an intent to retrieve account information by creating an "account request". This registers the data "permissions", expiration and historical period allowed for transactions / statements - that the customer (PSU) has consented to provide to the AISP; and
- Subsequently retrieve account and transaction data.

This specification should be read in conjunction with Read/Write Data API Specification v2.0 which provides a description of the elements that are common across all the Read/Write Data APIs.

2.1 Document Structure

This document consists of the following parts:

Overview: Provides an overview of the scope of the API and the key decisions and principles that contributed to the specification.

Basics: The section identifies the resources, operations that are permitted on those resources, and various special cases.

Endpoints: Provides the list of endpoints for the API specification. The individual end-points are documented in seperate pages along with the data model that the employ and usage examples.

Security & Access Control: Specifies the means for AISPs and PSUs to authenticate themselves and provide consent.

Data & Payloads: Documents data structures and data architecture that applies to all the end-points. End-point specific data structures are documented in seperate pages along with the end-points that employ the data structure.

Swagger Specifications: Provides links to the swagger specifications for the APIs.

2.2 Scope

The APIs specified in this document provide the ability for AISPs to access a PSU's account and transaction information for domestic PSD2 in-scope accounts.

The only resource that specifically relates to the CMA Order is the products resource - with the BCA and PCA objects. All other resources are driven by PSD2 requirements.

2.3 Out of Scope

This Account and Transaction Info API specification does not cater for:

- Write operations (the ability to create) standing orders, direct debits and beneficiaries.
- Progressive or changing consent - if the consent between the AISP and PSU changes, then the existing account-request object is deleted and a new account-request is created with the new consent/authorisation details.
- The ability for the AISP to pre-specify the list of accounts that have been agreed with the PSU for consent/ authorisation.

- Multi-authentication flows have been designed - but the full implications of the multi-authentication flows have not been worked through - so these are not included in this version.
- Non-functional requirements and specification of caching and throttling.

3 Basics

3.1 Overview

The figure below provides a general outline of an account information requests and flow using the Account Info APIs.
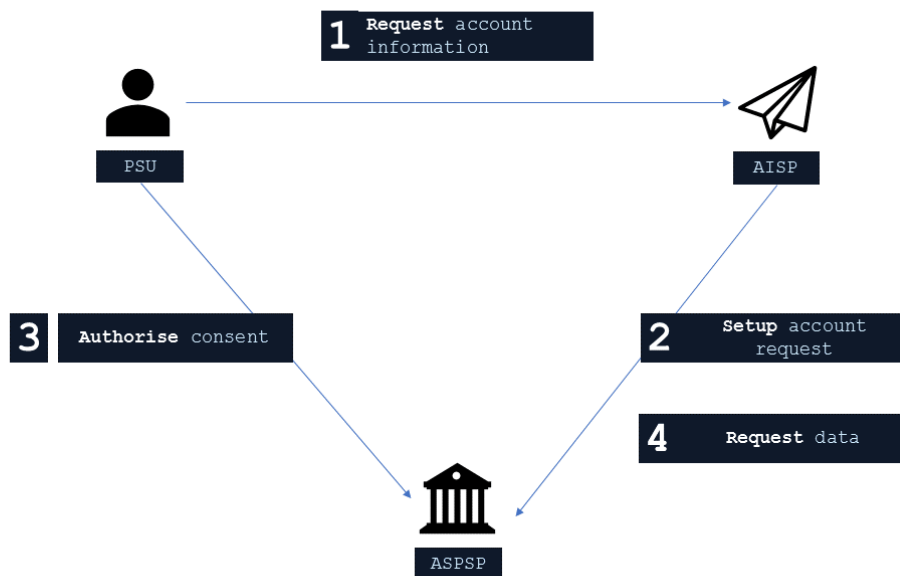
3.1.1 **Steps**

Step 1: Request Account Information

- This flow begins with a PSU consenting to allow an AISP to access account information data.

Step 2: Setup Account Request

- The AISP connects to the ASPSP that services the PSU's account(s) and creates an **account-request** resource. This informs the ASPSP that one of its PSUs is granting access to account and transaction information to an AISP. The ASPSP responds with an identifier for the resource (the AccountRequestId - which is the intent identifier). This step is carried out by making a **POST** request to /account-requests endpoint.
- The account-request resource will include these fields - which describe the data that the PSU has consented with the AISP:
  - Permissions - a list of data clusters that have been consented for access
  - Expiration Date - an optional expiration for when the AISP will no longer have access to the PSU's data
  - Transaction Validity Period - the From/To date range which specifies a historical period for transactions and statements which may be accessed by the AISP

- An AISP may be a broker for data to other parties, and so it is valid for a PSU to have multiple account-requests for the same accounts, **with different consent/authorisation parameters agreed**.

Step 3: Authorise Consent

- The AISP redirects the PSU to the ASPSP. The redirect includes the AccountRequestId generated in the previous step. This allows the ASPSP to correlate the account-request that was setup. The ASPSP authenticates the PSU. The ASPSP updates the state of the **account-request** resource internally to indicate that the account request has been authorised.
- The principle we have agreed is that consent is managed between the PSU and the AISP - so the account-request details must not be changed (with the ASPSP) in this step. The PSU will only be able to authorise or reject the account-request details in its entirety.
- During authorisation - the PSU selects accounts that are authorised for the AISP request (in the ASPSP's banking interface).
- The PSU is redirected back to the AISP.

Step 4: Request Data

- This is carried out by making a **GET** request the relevant **resource**.
- The unique AccountId(s) that are valid for the account-request will be returned with a call to GET /accounts. **This will always be the first call once an AISP has a valid access token.**

3.1.2 **Sequence Diagram**
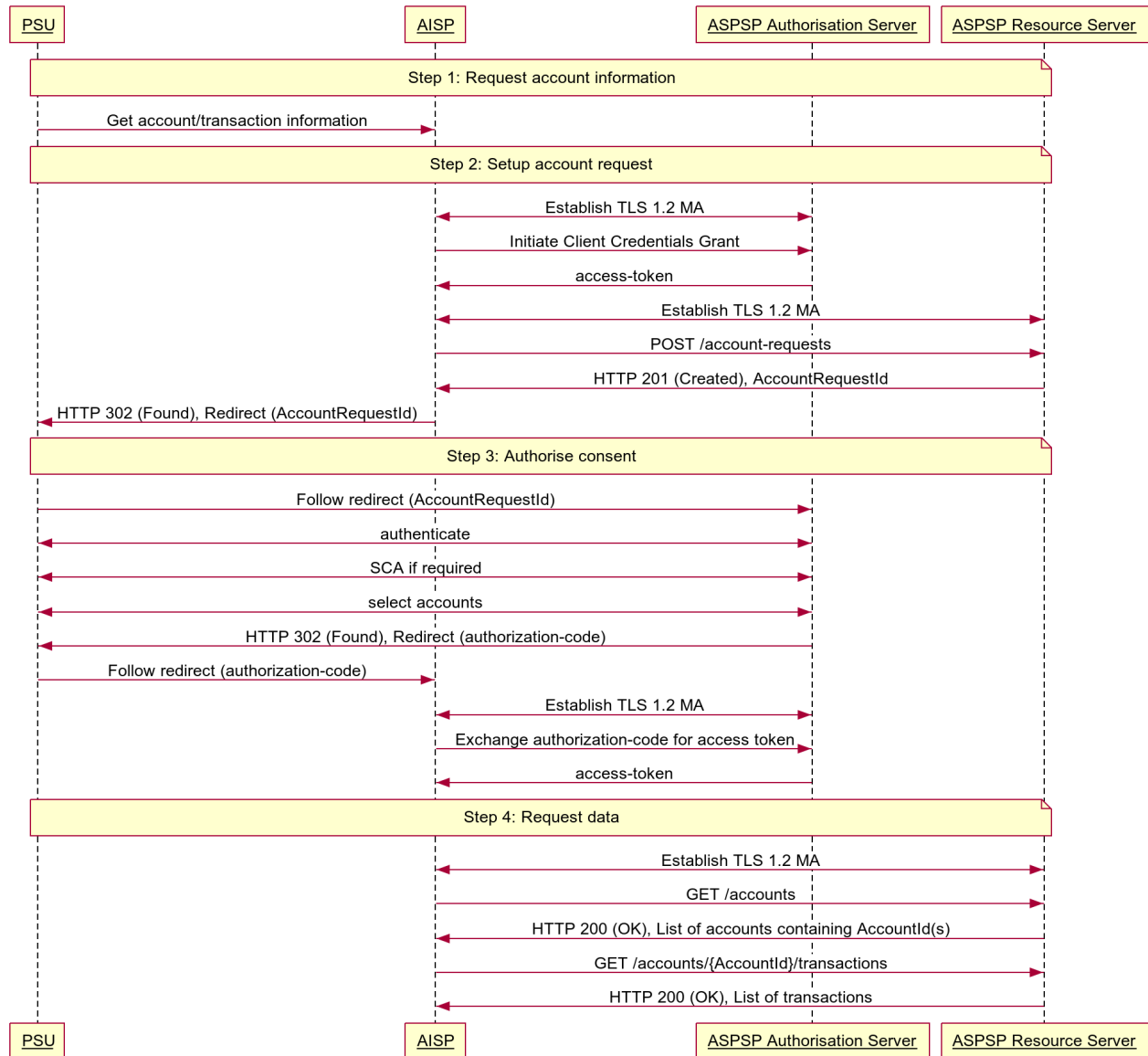
Account Info - High Level Flow

```
participant PSU
participant AISP
participant ASPSP Authorisation Server
participant ASPSP Resource Server

note over PSU, ASPSP Resource Server
    Step 1: Request account information
end note
```

```
PSU -> AISP: Get account/transaction information

note over PSU, ASPSP Resource Server
    Step 2: Setup account request
end note
AISP <-> ASPSP Authorisation Server: Establish TLS 1.2 MA
AISP -> ASPSP Authorisation Server: Initiate Client Credentials Grant
ASPSP Authorisation Server -> AISP: access-token
AISP <-> ASPSP Resource Server: Establish TLS 1.2 MA
AISP -> ASPSP Resource Server: POST /account-requests
ASPSP Resource Server -> AISP: HTTP 201 (Created), AccountRequestId
AISP -> PSU: HTTP 302 (Found), Redirect (AccountRequestId)

note over PSU, ASPSP Resource Server
Step 3: Authorise consent
end note
PSU -> ASPSP Authorisation Server: Follow redirect (AccountRequestId)
PSU <-> ASPSP Authorisation Server: authenticate
PSU <-> ASPSP Authorisation Server: SCA if required
PSU <-> ASPSP Authorisation Server: select accounts
ASPSP Authorisation Server -> PSU: HTTP 302 (Found), Redirect (authorization-code)
PSU -> AISP: Follow redirect (authorization-code)
AISP <-> ASPSP Authorisation Server: Establish TLS 1.2 MA
AISP -> ASPSP Authorisation Server: Exchange authorization-code for access token
ASPSP Authorisation Server -> AISP: access-token


note over PSU, ASPSP Resource Server
Step 4: Request data
end note
AISP <-> ASPSP Resource Server: Establish TLS 1.2 MA
AISP -> ASPSP Resource Server: GET /accounts
ASPSP Resource Server -> AISP: HTTP 200 (OK), List of accounts containing AccountId(s)


AISP -> ASPSP Resource Server: GET /accounts/{AccountId}/transactions
ASPSP Resource Server -> AISP: HTTP 200 (OK), List of transactions
```

3.2 Idempotency

The API endpoints for creating account-request resources **are not** idempotent.

If a time-out error occurs - then we would expect an AISP to create a new account-request resource - rather than try with the same resource.

4 Endpoints

This section looks at the list of available API endpoints to access Account Information and Transaction data and optionality (definitions of mandatory, conditional or optional are defined in the Principles section).

If an ASPSP has not implemented an API endpoint, it **must** respond with a 404 (Not Found) for requests to that URL.

Endpoint design considerations:

- Having resources that are finer grained (e.g., beneficiaries, direct-debits, standing-orders) means that we can, in the future, manage these resources (with unique identifiers)
- While balances is not a typical resource - we believe having an /accounts/{AccountId}/balances endpoint is simpler to understand than a URI to expand the /accounts resource
- Some ASPSPs were uncomfortable implementing the bulk APIs (e.g., /accounts, /transactions, /beneficiaries etc.) - so the bulk APIs have been specified as optional. However - the bulk endpoint for /accounts is mandatory to discover what accounts have been authorised for the account-request.

We have specified the "mandatory" endpoints for the functioning of the Account Info APIs.

However, endpoints will be not be "mandatory" if ASPSPs do not provide these resources via existing online channels - e.g., direct debits, standing orders, statements.

Link	Resource	Endpoints	Mandatory?
Account Requests v2.0.0 (see page 32)	account-requests	POST /account-requests	Mandatory
		GET /account-requests/{AccountRequestId}	Mandatory
		DELETE /account-requests/{AccountRequestId}	Mandatory
Accounts v2.0.0 (see page 48)	accounts	GET /accounts	Mandatory
		GET /accounts/{AccountId}	Mandatory
Balances v2.0.0 (see page 59)	balances	GET /accounts/{AccountId}/balances	Mandatory
		GET /balances	Optional
Transactions v2.0.0 (see page 199)	transactions	GET /accounts/{AccountId}/transactions	Mandatory
		GET /transactions	Optional
Beneficiaries v2.0.0 (see page 68)	beneficiaries	GET /accounts/{AccountId}/beneficiaries	Conditional
		GET /beneficiaries	Optional
Direct Debits v2.0.0 (see page 79)	direct-debits	GET /accounts/{AccountId}/direct-debits	Conditional
		GET /direct-debits	Optional

Link	Resource	Endpoints	Mandatory?
Standing Orders v2.0.0 (see page 157)	standing-orders	GET /accounts/{AccountId}/standing-orders GET /standing-orders	Conditional Optional
Products v2.0.0 (see page 101)	products	GET /accounts/{AccountId}/product GET /products	Conditional Optional
Offers v2.0.0 (see page 85)	offers	GET /accounts/{AccountId}/offers GET /offers	Conditional Optional
Party v2.0.0 (see page 93)	party	GET /accounts/{AccountId}/party GET /party	Conditional Conditional
Scheduled Payments v2.0.0 (see page 147)	scheduled-payments	GET /accounts/{AccountId}/scheduled-payments GET /scheduled-payments	Conditional Optional
Statements v2.0.0 (see page 171)	statements	GET /accounts/{AccountId}/statements GET /accounts/{AccountId}/statements/{StatementId} GET /accounts/{AccountId}/statements/{StatementId}/file GET /accounts/{AccountId}/statements/{StatementId}/transactions GET /statements	Conditional Conditional Conditional Conditional Optional

5 Security & Access Control

5.1 Scopes

The access tokens required for accessing the Account Info APIs must have at least the following scope:

Scopes
accounts

5.2 Grants Types

AISPs **must** use a client credentials grant to obtain a token to access the account-requests resource.

AISPs **must** use an authorization code grant to obtain a token to access all other resources.

5.3 Consent Authorisation

The AISP **must** create an **account-request** resource through a **POST** operation. This resource indicates the *consent* that the AISP claims it has been given by the PSU to retrieve account and transaction information. At this stage, the consent is not yet authorised as the ASPSP has not yet verified this claim with the PSU.

The ASPSP responds with an AccountRequestId. This is the intent-id that is used when initiating the authorization code grant (as described in the Trust Framework).

As part of the authorization code grant:

- The ASPSP authenticates the PSU.
- The ASPSP plays back the consent (registered by the AISP) back to the PSU - to get consent authorisation. The PSU may accept or reject the consent in its entirety (but not selectively).
- The ASPSP presents the PSU a list of accounts to which the consent will apply.

Once these steps are complete, the consent is considered to have been authorised by the PSU.

5.3.1 Consent Elements

The Account Request resource consists of the following fields, which together form the elements of the consent provided by the PSU to the AISP:

- **Permissions:** The set of data clusters that the PSU has consented to allow the AISP to access
- **ExpirationDateTime:** The date-time up to which the consent is valid.
- **TransactionFromDateTime:** The earliest point of the transaction / statement historical period that the PSU has consented to provide access to the AISP.
- **TransactionToDateTime:** The last point of the transaction / statement historical period that the PSU has consented to provide access to the AISP.

5.3.1.1 Permissions

Permissions codes will be used to limit the data that is returned in response to a resource request.

When a permission is granted for a "Detail" permission code (e.g., ReadAccountsDetail), it implies that access is also granted to the corresponding "Basic" permission code (e.g., ReadAccountsBasic)

The permissions array **must** contain either **ReadAccountsBasic** or **ReadAccountsDetail**.

The following combinations of permissions are not allowed, and the ASPSP **must** reject these account-requests with a 400 response code:

- Account requests with an empty Permissions array
- Account requests with a permission code that is not supported by the ASPSP (ASPSPs are expected to publish which API endpoints are supported)
- Account requests with a Permissions array that contains **ReadTransactionsBasic** but does not contain at least one of **ReadTransactionsCredits** and **ReadTransactionsDebits**.
- Account requests with a Permissions array that contains **ReadTransactionsDetail** but does not contain at least one of **ReadTransactionsCredits** and **ReadTransactionsDebits**.
- Account requests with a Permissions array that contains **ReadTransactionsCredits** but does not contain at least one of **ReadTransactionsBasic** and **ReadTransactionsDetail**.
- Account requests with a Permissions array that contains **ReadTransactionsDebits** but does not contain at least one of **ReadTransactionsBasic** and **ReadTransactionsDetail**.

Permissions	Endpoints	Business Logic	Data Cluster Description
ReadAccounts**Basic**	/accounts /accounts/{AccountId}		Ability to read basic account information
ReadAccounts**Detail**	/accounts /accounts/{AccountId}	Access to additional elements in the payload	Ability to read account identification details
ReadBalances	/balances /accounts/{AccountId}/ balances		Ability to read **all** balance information
ReadBeneficiaries**Basic**	/beneficiaries /accounts/{AccountId}/ beneficiaries		Ability to read basic beneficiary details
ReadBeneficiaries**Detail**	/beneficiaries /accounts/{AccountId}/ beneficiaries	Access to additional elements in the payload	Ability to read account identification details for the beneficiary
ReadDirectDebits	/direct-debits /accounts/{AccountId}/ direct-debits		Ability to read **all** direct debit information
ReadStandingOrders**Basic**	/standing-orders /accounts/{AccountId}/ standing-orders		Ability to read basic standing order information

Permissions	Endpoints	Business Logic	Data Cluster Description
ReadStandingOrders**Detail**	/standing-orders /accounts/{AccountId}/standing-orders	Access to additional elements in the payload	Ability to read account identification details for beneficiary of the standing order
ReadTransactions**Basic**	/transactions /accounts/{AccountId}/transactions	Permissions must also include at least one of: • ReadTransactions**Credits** • ReadTransactions**Debits**	Ability to read basic transaction information
ReadTransactions**Detail**	/transactions /accounts/{AccountId}/transactions	Access to additional elements in the payload Permissions must also include at least one of • ReadTransactions**Credits** • ReadTransactions**Debits**	Ability to read transaction data elements which may hold silent party details
ReadTransactions**Credits**	/transactions /accounts/{AccountId}/transactions	Access to credit transactions. Permissions must also include one of: • ReadTransactions**Basic** • ReadTransactions**Detail**	Ability to read **only** credit transactions
ReadTransactions**Debits**	/transactions /accounts/{AccountId}/transactions	Access to debit transactions. Permissions must also include one of: • ReadTransactions**Basic** • ReadTransactions**Detail**	Ability to read **only** debit transactions
ReadStatements**Basic**	/statements /accounts/{AccountId}/statements		Ability to read basic statement details

Permissions	Endpoints	Business Logic	Data Cluster Description
ReadStatements**Detail**	/statements /accounts/{AccountId}/ statements /accounts/{AccountId}/ statements/{StatementId}/ file	Access to additional elements in the payload Access to download the statement file (if the ASPSP makes this available).	Ability to read statement data elements which may leak other information about the account
ReadProducts	/products /accounts/{AccountId}/ product		Ability to read **all** product information relating to the account
ReadOffers	/offers /accounts/{AccountId}/ offers		Ability to read **all** offer information
ReadParty	/accounts/{AccountId}/ party		Ability to read party information on the account owner.
ReadParty**PSU**	/party		Ability to read party information on the PSU logged in.
ReadScheduledPayments**Basic**	/scheduled-payments /accounts/{AccountId}/ scheduled-payments		Ability to read basic statement details
ReadScheduledPayments**Detail**	/scheduled-payments /accounts/{AccountId}/ scheduled-payments	Access to additional elements in the payload	

Permissions	Endpoints	Business Logic	Data Cluster Description
ReadPAN	All API endpoints where PAN is available as a structured field	Request to access to PAN in the clear	Request to access **PAN** in the clear across the available endpoints. If this permission code is not in the account-request, the AISP will receive a masked PAN. While an AISP may request to access PAN in the clear, an ASPSP may still respond with a masked PAN if: • The ASPSP does not display PAN in the clear in existing online channels • The ASPSP takes a legal view to respond with only the masked PAN

Detail Permissions

The additional elements that are granted for "Detail" permissions are listed in this section.

All other fields (other than these fields listed) are available with the "Basic" Permission access.

Permission - Detail Codes	Data Element Name	Occurrence	XPath
ReadAccountsDetail	Account	0..1	OBReadAccount2/Data/Account/Account
ReadAccountsDetail	Servicer	0..1	OBReadAccount2/Data/Account/Servicer
ReadBeneficiariesDetail	CreditorAgent	0..1	OBReadBeneficiary2/Data/Beneficiary/CreditorAgent
ReadBeneficiariesDetail	CreditorAccount	0..1	OBReadBeneficiary2/Data/Beneficiary/CreditorAccount
ReadStandingOrdersDetail	CreditorAgent	0..1	OBReadStandingOrder2/Data/StandingOrder/CreditorAgent
ReadStandingOrdersDetail	CreditorAccount	0..1	OBReadStandingOrder2/Data/StandingOrder/CreditorAccount
ReadTransactionsDetail	TransactionInformation	0..1	OBReadTransaction2/Data/Transaction/TransactionInformation

Permission - Detail Codes	Data Element Name	Occurrence	XPath
ReadTransactionsDetail	Balance	0..1	OBReadTransaction2/Data/Transaction/Balance
ReadTransactionsDetail	MerchantDetails	0..1	OBReadTransaction2/Data/Transaction/MerchantDetails
ReadTransactionsDetail	CreditorAccount	0..1	OBReadTransaction2/Data/Transaction/CreditorAccount
ReadTransactionsDetail	DebtorAccount	0..1	OBReadTransaction2/Data/Transaction/DebtorAccount
ReadStatementsDetail	StatementAmount	0..*	OBReadStatement1/Data/Statement/StatementAmount
ReadScheduledPaymentsDetail	CreditorAgent	0..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAgent
ReadScheduledPaymentsDetail	CreditorAccount	0..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAccount

In addition the ReadStatementsDetail is required to access the statement file download via: /accounts/{AccountId}/statements/{StatementId}/file

Example behaviour of the Permissions for the ReadAccountsBasic and ReadAccountsDetail codes is as follows:
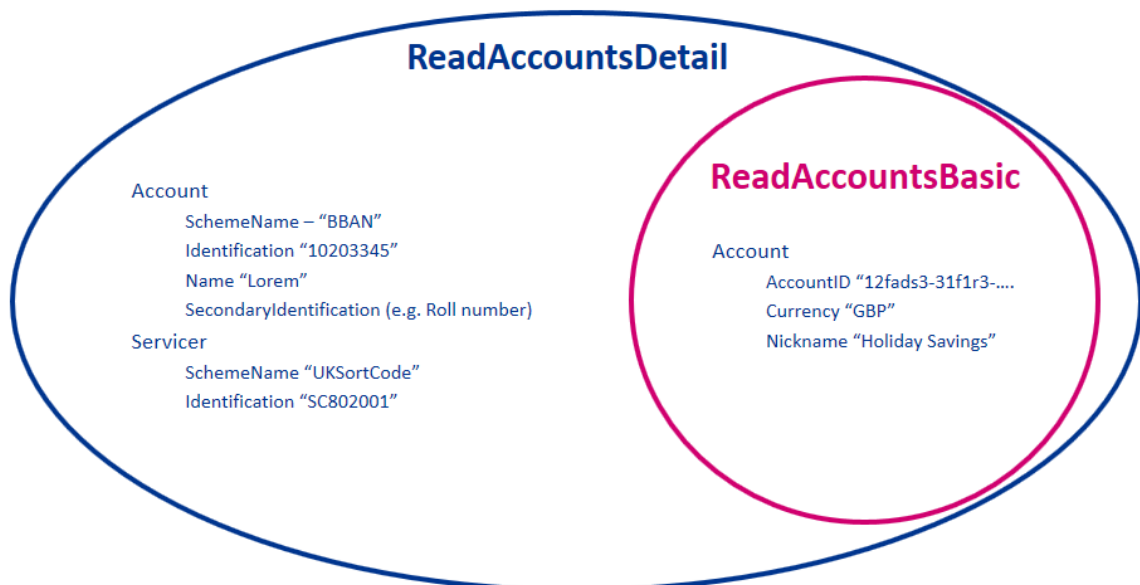
Reversing Entries

It is expected that transactions will be returned in the payload irrespective of whether they are reversing entries as long as the PSU has provided consent for that type of transaction.

If the PSU has provided permission for ReadTransactionsCredits, the ASPSP **must** include all credits including debit reversals.

If the PSU has provided permission for ReadTransactionsDebits, the ASPSP **must** include all debits including credit reversals.

5.3.1.2 Expiration Date Time

The ExpirationDateTime is an optional field which specifies the expiration for AISP access to the PSU's data.

The field is optional - as the consent for AISP access to a PSU's data may be indefinite. The ExpirationDateTime is different to the RTS requirement for a PSU to re-authorise after 90 days - which is clarified in the "RTS and SCA Exemptions" section. The same account-request resource will be re-authenticated - with the same ExpirationDateTime as the original request.

The ExpirationDateTime applies to all Permissions (data clusters) being consented.

5.3.1.3 Transaction To/From Date Time

The TransactionToDateTime and the TransactionFromDateTime specify the period for consented transaction and/or statement history. Both the fields are optional and one may be specified without the other.

The AISP **must** be restricted to accessing transactions within this period when accessing the transactions resource.

The AISP **must** be restricted to accessing statements which are **completely** within this period when accessing the statements resource.

5.3.2 Account Request Status

The Account Request resource may have one of the following status codes after authorisation has taken place:

	Status	Description
1	Authorised	The account request has been successfully authorised.
2	Rejected	The account request has been rejected.
3	Revoked	The account request has been revoked via the ASPSP interface.

5.4 Consent Revocation

A PSU may revoke consent for accessing account information at any point in time.

A PSU **may** revoke authorisation directly with the ASPSP. The mechanisms for this are in the competitive space and are up to each ASPSP to implement in the ASPSP's banking interface. If the PSU revokes authorisation with the ASPSP, the Status of the **account-request** resource must be set to *Revoked.*

The PSU may request the AISP to revoke consent that it has authorised. If consent is revoked with the AISP:

- The AISP **must** cease to access the APIs at that point
- The AISP **must** call the **DELETE** operation on the account-request resource (before confirming consent revocation with the PSU) to indicate to the ASPSP that the PSU has revoked consent

5.5 Changes to Selected Account(s)

The PSU **must** select the accounts to which the consent should be applied at the point of consent authorisation.

Subsequent changes to the set of accounts to which the consent authorisation applies **may** be carried out directly with the ASPSP. The method for doing this lies in the competitive space and is not part of this specification.

Additionally, the set of selected accounts may also change due to external factors. This includes (but is not limited to):

- The account being closed.
- The PSU's mandate to operate the account is revoked.
- The account is barred or frozen.

In such a situation, only the affected account is removed from the list of selected accounts. The ASPSP **must not** revoke authorisation to other accounts.

5.6 Risk Scoring Information

Information for risk scoring and assessment will come via:

- FAPI HTTP headers. These are defined in Section 6.3[1] of the FAPI specification and in the Headers section above.
- Additional fields identified by the industry as business logic security concerns - which will be passed in the Risk section of the payload in the JSON object.

No fields for business logic security concerns have been identified for the Account Info APIs.

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1 http://openid.net/specs/openid-financial-api-part-1-wd-02.html#client-provisions

6 Data Model

6.1 Using Meta to identify Available Transaction Period

For Accounts & Transaction APIs, the `Meta` section in API responses may contain two additional fields to indicate the date range for which data has been returned.

The transactions or statements for a particular range of dates may be excluded from the response because:

- The ASPSP does not provide historical transactions / statements for that date range.
- The PSU has not consented to transactions / statements for that date range.

The absence of transactions / statements in the payload does not indicate that there were no transactions / statements during that period.

To ensure that the data is interpreted correctly, the ASPSP **may** provide the date of the first available transaction and last available transaction as part of the response in the Meta section in the FirstAvailableDateTime and LastAvailableDateTime fields.

Example Meta

```
"Meta": {
  "TotalPages": 1,
    "FirstAvailableDateTime": "2017-05-03T00:00:00+00:00",
    "LastAvailableDateTime": "2017-12-03T00:00:00+00:00"
}
```

6.2 Mapping to Schemes & Standards

The Account Info API resources, where possible, have been borrowed from the ISO 20022 camt.052 XML standard. However - has been adapted for APIs based as per our design principles.

Deviations from the camt.052 XML standard are:

- The camt.052 header section and trailer sections have been removed - as these are not required for a RESTful API
- Resources have been identified, and payload structures have been designed for these resources - rather than a full message (i.e., camt.052) that encompasses all resources in a report format. This has meant we've designed separate endpoints and payloads to cover:
  - accounts
  - balances
  - beneficiaries
  - direct-debits
  - offers
  - party
  - products
  - standing-orders
  - statements
  - transactions
  - scheduled-payments

- New payloads have been designed for beneficiaries, direct-debits, standing-orders, and products resources - as these are not in the ISO 20022 standard (or the camt.052 message)
- A DateTime element has been used instead of a complex choice element of Date and DateTime (across all API endpoints). Where time elements do not exist in ASPSP systems - the expectation is the time portion of the DateTime element will be defaulted to 00:00:00+00:00
- Variations for the accounts structure include:
  - Standardised inline with the Payment API account structures
  - Contains elements to identify an account Nickname, SecondaryIdentification
- Variations for the balances structure include:
  - Adding a Type into the CreditLine section - to allow for multiple credit line types affecting the available balance
  - DateTime element has been specified instead of a complex choice of Date and DateTime
- Variations for the transactions structure include:
  - Renaming "entry" to "transaction" for consistency - as this is the language used in the CMA Order, and PSD2
  - DateTime elements used instead of a complex choice of Date and DateTime
  - Flattening of the structure for BankTransactionCode and ProprietaryBankTransactionCode
  - Additional information for an AddressLine, MerchantDetails, and a running Balance

6.3 Resources

Each of the Account and Transaction API resources are documented in sub-pages of this specification. Each resource is documented with:

- Endpoints
  - The API endpoints available for the resource
- Data Model
  - Resource definition
  - UML diagram
  - Permissions as they relate to accessing the resource
  - Data dictionary - whcih defines fields, re-usable classes, mandatory (1..1) or conditional (0..1) as defined in the Design Principles section, and enumerations
- Usage Examples

7 Swagger Specification

The Swagger Specification for Account Information APIs can be downloaded from the following links:

- JSON:
- YAML:

8 Account Requests v2.0.0

8.1 Version Control

Vers ion	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the initial version following specification restructuring.
			
			▪ Modified usage examples:
			  ▪ Removed references to x-jws-signature
			  ▪ Updated link URLs
			  ▪ Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the Intent-Id as they wish.
			▪ Updated Query endpoint input date guideline and filter example, to align with Decision 114

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3. Updates: • Included StatusUpdateDateTime in the usage examples for the response payload. • Replaced ':' character with '-' in the name-spaced intent IDs in usage examples • Removed the Query endpoint.

Vers ion	Date	Author	Comments		
2.0. 0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.		

8.2 Endpoints

	Resourc e	HTTP Opera tion	Endpoint	Man dat ory?	Sc op e	Gr a n t T y p e	Ide mp ote nt	Par am eter s	Reque st Object	Response Object
1	account-requests	POST	POST /account-requests	Man dato ry	ac co un ts	C li e n t C r e d e n ti a l s	No		OBRea dRequ est1	OBReadRespo nse1
2	account-requests	GET	GET /account-requests/ {AccountRequestId}	Man dato ry	ac co un ts	C li e n t C r e d e n ti a l s				OBReadRespo nse1

	Resource	HTTP Operation	Endpoint	Mandatory?	Scope	Grant Type	Idempotent	Parameters	Request Object	Response Object
3	account-requests	DELETE	DELETE /account-requests/ {AccountRequestId}	Mandatory	accounts	Client Credentials	NA			

8.2.1 POST /account-requests

The API allows the AISP to ask an ASPSP to create a new **account-request** resource.

- This API effectively allows the AISP to send a copy of the consent to the ASPSP to authorise access to account and transaction information.
- An AISP is not able to pre-select a set of accounts for account-request authorisation. This is because the behaviour of the pre-selected accounts, after authorisation, is not clear from a Legal perspective.
- An ASPSP creates the account-request resource and responds with a unique AccountRequestId to refer to the resource.
- Prior to calling the API, the AISP must have an access token issued by the ASPSP using a client credentials grant.

8.2.1.1 Account Request Status

The PSU **must** authenticate with the ASPSP and authorise the account-request for the account-request to be successfully setup.

The account-request resource that is created successfully must have one of the following Status code-list enumerations:

	Status	Status Description
1	Rejected	The account request has been rejected.

	Status	Status Description
2	AwaitingAuthorisation	The account request is awaiting authorisation.

After authorisation has taken place the account-request resource may have these following statuses.

	Status	Status Description
1	Rejected	The account request has been rejected.
2	Authorised	The account request has been successfully authorised.
3	Revoked	The account request has been revoked via the ASPSP interface.

8.2.1.2 Status Flow

This is the state diagram for the Status.
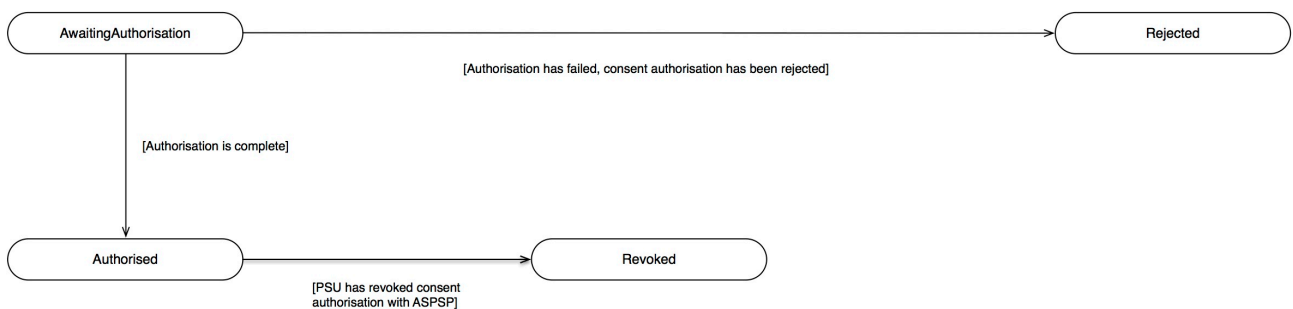
8.2.2 GET /account-requests/{AccountRequestId}

An AISP may optionally retrieve an **account-request** resource that they have created to check its status.

Prior to calling the API, the AISP must have an access token issued by the ASPSP using a client credentials grant.

The usage of this API endpoint will be subject to an ASPSP's fair usage policies.

8.2.2.1 Account Request Status

Once the PSU authorises the account-request resource - the Status of the account-request resource will be updated with "Authorised".

The available Status code-list enumerations for the account-request resource are:

	Status	Status Description
1	Rejected	The account request has been rejected.
2	AwaitingAuthorisation	The account request is awaiting authorisation.

	Status	Status Description
3	Authorised	The account request has been successfully authorised.
4	Revoked	The account request has been revoked via the ASPSP interface.

8.2.3 DELETE /account-requests/{AccountRequestId}

If the PSU revokes consent to data access with the AISP - the AISP **must** delete the account-request resource with the ASPSP before confirming consent revocation with the PSU.

- This is done by making a call to DELETE the **account-request** resource.
- Prior to calling the API, the AISP must have an access token issued by the ASPSP using a client credentials grant.

8.3 Data Model

8.3.1 Account Requests - Request

The OBReadRequest1 object will be used for the call to:

- POST /account-requests

8.3.1.1 UML Diagram
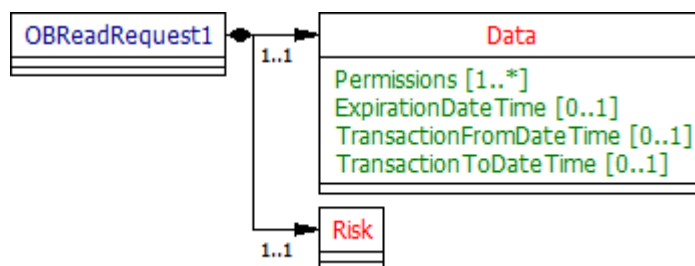
Notes:

- The fields in the OBReadRequest1 object are described in the Consent Elements section
- No fields have been identified for the Risk section

8.3.1.2 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
OBRead Request1		OBReadReque st1		OBReadRe quest1	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
Data	1..1	OBReadRequest1/Data		OBReadData1	
Permissions	1..n	OBReadRequest1/Data/ Permissions	Specifies the Open Banking account request types. This is a list of the data clusters being consented by the PSU, and requested for authorisation with the ASPSP.	OBExternalPermissions1Code	ReadAccountsBasic ReadAccountsDetail ReadBalances ReadBeneficiariesBasic ReadBeneficiariesDetail ReadDirectDebits ReadOffers ReadPAN ReadParty ReadPartyPSU ReadProducts ReadScheduledPaymentsBasic ReadScheduledPaymentsDetail ReadStandingOrdersBasic ReadStandingOrdersDetail ReadStatementsBasic ReadStatementsDetail ReadTran

Name	Occu rrenc e	XPath	EnhancedDefinition	Class	Codes
					sactionsB asic ReadTran sactionsC redits ReadTran sactionsD ebits ReadTran sactionsD etail
Expiratio nDateTi me	0..1	OBReadReque st1/Data/ ExpirationDate Time	Specified date and time the permissions will expire. If this is not populated, the permissions will be open ended.	ISODateTi me	
Transacti onFromD ateTime	0..1	OBReadReque st1/Data/ TransactionFro mDateTime	Specified start date and time for the transaction query period. If this is not populated, the start date will be open ended, and data will be returned from the earliest available transaction.	ISODateTi me	
Transacti onToDat eTime	0..1	OBReadReque st1/Data/ TransactionTo DateTime	Specified end date and time for the transaction query period. If this is not populated, the end date will be open ended, and data will be returned to the latest available transaction.	ISODateTi me	
Risk	1..1	OBReadReque st1/Risk	The Risk section is sent by the initiating party to the ASPSP. It is used to specify additional details for risk scoring for Account Info.	OBRisk2	

8.3.2 Account Requests - Response

The OBReadResponse1 object will be used for the call to:

• GET /account-requests/{AccountRequestId}

And response to:

• POST /account-requests

8.3.2.1 UML Diagram
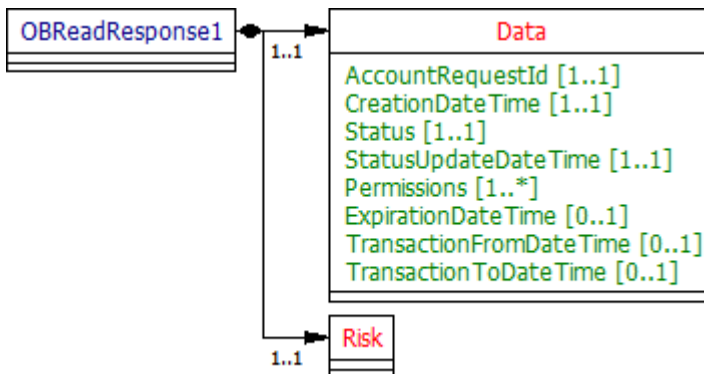
Notes:

- The OBReadResponse1 object contains the same information as the OBReadRequest1 - but with additional fields:
  - AccountRequestId - to uniquely identify the account-request resource
  - Status
  - CreationDateTime
  - StatusUpdateDateTime
- No fields have been identified for the Risk section

8.3.2.2 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
OBReadResponse1		OBReadResponse1		OBReadResponse1	
Data	1..1	OBReadResponse1/Data		OBReadDataResponse1	
AccountRequestId	1..1	OBReadResponse1/Data/AccountRequestId	Unique identification as assigned to identify the account request resource.	Max128Text	
CreationDateTime	1..1	OBReadResponse1/Data/CreationDateTime	Date and time at which the resource was created.	ISODateTime	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
Status	1..1	OBReadResponse1/Data/Status	Specifies the status of the account request resource.	OBExternalRequestStatus1Code	Authorised Awaiting Authorisation Rejected Revoked
StatusUpdateDateTime	1..1	OBReadResponse1/Data/StatusUpdateDateTime	Date and time at which the resource status was updated.	ISODateTime	
Permissions	1..n	OBReadResponse1/Data/Permissions	Specifies the Open Banking account request types. This is a list of the data clusters being consented by the PSU, and requested for authorisation with the ASPSP.	OBExternalPermissions1Code	ReadAccountsBasic ReadAccountsDetail ReadBalances ReadBeneficiariesBasic ReadBeneficiariesDetail ReadDirectDebits ReadOffers ReadPAN ReadParty ReadPartyPSU ReadProducts ReadScheduledPaymentsBasic ReadScheduledPaymentsDetail ReadStandingOr

Name	Occu rrenc e	XPath	EnhancedDefinition	Class	Codes
					dersBasic ReadSta ndingOr dersDeta il ReadStat ementsB asic ReadStat ementsD etail ReadTra nsaction sBasic ReadTra nsaction sCredits ReadTra nsaction sDebits ReadTra nsaction sDetail
Expiratio nDateTim e	0..1	OBReadResponse 1/Data/ ExpirationDateTi me	Specified date and time the permissions will expire. If this is not populated, the permissions will be open ended.	ISODateTim e	
Transacti onFromD ateTime	0..1	OBReadResponse 1/Data/ TransactionFrom DateTime	Specified start date and time for the transaction query period. If this is not populated, the start date will be open ended, and data will be returned from the earliest available transaction.	ISODateTim e	
Transacti onToDate Time	0..1	OBReadResponse 1/Data/ TransactionToDa teTime	Specified end date and time for the transaction query period. If this is not populated, the end date will be open ended, and data will be returned to the latest available transaction.	ISODateTim e	
Risk	1..1	OBReadResponse 1/Risk	The Risk section is sent by the initiating party to the ASPSP. It is used to specify additional details for risk scoring for Account Info.	OBRisk2	

8.4 Usage Examples

8.4.1 Setup Account Request - All Permissions Granted

Request

Post Account Requests Request

```
POST /account-requests HTTP/1.1
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time: Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json
Accept: application/json

{
  "Data": {
    "Permissions": [
      "ReadAccountsDetail",
      "ReadBalances",
      "ReadBeneficiariesDetail",
      "ReadDirectDebits",
      "ReadProducts",
      "ReadStandingOrdersDetail",
      "ReadTransactionsCredits",
      "ReadTransactionsDebits",
      "ReadTransactionsDetail",
      "ReadOffers",
      "ReadPAN",
      "ReadParty",
      "ReadPartyPSU",
      "ReadScheduledPaymentsDetail",
      "ReadStatementsDetail"
    ],
    "ExpirationDateTime": "2017-05-02T00:00:00+00:00",
    "TransactionFromDateTime": "2017-05-03T00:00:00+00:00",
    "TransactionToDateTime": "2017-12-03T00:00:00+00:00"
  },
  "Risk": {}
}
```

Response

Post Account Requests Response

```
HTTP/1.1 201 Created
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
```

```
Content-Type: application/json

{
  "Data": {
    "AccountRequestId": "urn-alphabank-intent-88379",
    "Status": "AwaitingAuthorisation",,
    "StatusUpdateDateTime": "2017-05-02T00:00:00+00:00"
    "CreationDateTime": "2017-05-02T00:00:00+00:00",
    "Permissions": [
      "ReadAccountsDetail",
      "ReadBalances",
      "ReadBeneficiariesDetail",
      "ReadDirectDebits",
      "ReadProducts",
      "ReadStandingOrdersDetail",
      "ReadTransactionsCredits",
      "ReadTransactionsDebits",
      "ReadTransactionsDetail",
      "ReadOffers",
      "ReadPAN",
      "ReadParty",
      "ReadPartyPSU",
      "ReadScheduledPaymentsDetail",
      "ReadStatementsDetail"
    ],
    "ExpirationDateTime": "2017-08-02T00:00:00+00:00",
    "TransactionFromDateTime": "2017-05-03T00:00:00+00:00",
    "TransactionToDateTime": "2017-12-03T00:00:00+00:00"

  },
  "Risk": {},
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/account-requests/urn-alphabank-intent-88379"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

8.4.2 Status - AwaitingAuthorisation

This is an example of a GET request which is made **before** the account request resource is authorised.

Request

Get Account Requests Request

```
GET /account-requests/urn-alphabank-intent-88379 HTTP/1.1
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time: Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
```

```
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Account Requests Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "AccountRequestId": "urn-alphabank-intent-88379",
    "Status": "AwaitingAuthorisation",
    "StatusUpdateDateTime": "2017-05-02T00:00:00+00:00",
    "CreationDateTime": "2017-05-02T00:00:00+00:00",
    "Permissions": [
      "ReadAccountsDetail",
      "ReadBalances",
      "ReadBeneficiariesDetail",
      "ReadDirectDebits",
      "ReadProducts",
      "ReadStandingOrdersDetail",
      "ReadTransactionsCredits",
      "ReadTransactionsDebits",
      "ReadTransactionsDetail",
      "ReadOffers",
      "ReadPAN",
      "ReadParty",
      "ReadPartyPSU",
      "ReadScheduledPaymentsDetail",
      "ReadStatementsDetail"
    ],
    "ExpirationDateTime": "2017-08-02T00:00:00+00:00",
    "TransactionFromDateTime": "2017-05-03T00:00:00+00:00",
    "TransactionToDateTime": "2017-12-03T00:00:00+00:00"
  },
  "Risk": {},
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/account-requests/urn-alphabank-intent-88379"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

8.4.3 Status - Authorised

This is an example of a GET request which is made **after** the account request resource is authorised.

Request

Get Account Requests Request

```
GET /account-requests/urn-alphabank-intent-88379 HTTP/1.1
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time: Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Account Requests Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "AccountRequestId": "urn-alphabank-intent-88379",
    "Status": "Authorised",
    "StatusUpdateDateTime": "2017-05-02T00:05:00+00:00",
    "CreationDateTime": "2017-05-02T00:00:00+00:00",
    "Permissions": [
      "ReadAccountsDetail",
      "ReadBalances",
      "ReadBeneficiariesDetail",
      "ReadDirectDebits",
      "ReadProducts",
      "ReadStandingOrdersDetail",
      "ReadTransactionsCredits",
      "ReadTransactionsDebits",
      "ReadTransactionsDetail",
      "ReadOffers",
      "ReadPAN",
      "ReadParty",
      "ReadPartyPSU",
      "ReadScheduledPaymentsDetail",
      "ReadStatementsDetail"
    ],
    "ExpirationDateTime": "2017-08-02T00:00:00+00:00",
    "TransactionFromDateTime": "2017-05-03T00:00:00+00:00",
    "TransactionToDateTime": "2017-12-03T00:00:00+00:00"
  },
  "Risk": {},
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/account-requests/urn-alphabank-intent-88379"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

8.4.4 Delete Account Request

The DELETE /account-requests call allows an AISP to delete a previously created account-request (whether it is currently authorised or not). The PSU may want to remove their consent via the AISP instead of revoking authorisation with the ASPSP.

This API call allows the PSU to revoke consent with the AISP - and for that consent to be reflected in authorisation with the ASPSP.

Request

Delete Account Requests Request

```
DELETE /account-requests/urn-alphabank-intent-88379 HTTP/1.1
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
```

Response

Delete Account Requests Response

```
HTTP/1.1 204 No Content
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
```

8.4.5 Setup Account Request with Limited Permissions

Request

Post Account Requests Request

```
POST /account-requests HTTP/1.1
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json
Accept: application/json

{
  "Data": {
    "Permissions": [
      "ReadAccountsBasic",
      "ReadBalances"
    ],
    "ExpirationDateTime": "2017-05-02T00:00:00+00:00",
```

```
    "TransactionFromDateTime": "2017-05-03T00:00:00+00:00",
    "TransactionToDateTime": "2017-12-03T00:00:00+00:00"
  },
  "Risk": {}
}
```

Response

Post Account Requests Response

```
HTTP/1.1 201 Created
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "AccountRequestId": "urn-alphabank-intent-88379",
    "Status": "AwaitingAuthorisation",
    "StatusUpdateDateTime": "2017-05-02T00:00:00+00:00",
    "CreationDateTime": "2017-05-02T00:00:00+00:00",
    "Permissions": [
      "ReadAccountsBasic",
      "ReadBalances"
    ],
    "ExpirationDateTime": "2017-08-02T00:00:00+00:00",
    "TransactionFromDateTime": "2017-05-03T00:00:00+00:00",
    "TransactionToDateTime": "2017-12-03T00:00:00+00:00"
  },
  "Risk": {},
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/account-requests/urn-alphabank-intent-88379"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

9 Accounts v2.0.0

9.1 Version Control

Version	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification
			
			Updates:
			
			• Minor wording clarification on usage of GET /accounts
			• Added ChargeCard as an AccountSubType
			• Added definitions for AccountType and AccountSubType enumerations
			• Clarified that SortCodeAccountNumber behaviour is only specified for Domestic UK accounts
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Updated mandatory fields
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.
			• Additional guidance for ReadAccountsDetail permission

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3

Ve rsi o n	Date	Author	Comments
2. 0. 0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

9.2 Endpoints

Endpoints for the resource - and available methods.

	Res ourc e	HTTP Operat ion	Endpo int	Mand atory ?	Sco pe	Grant Type	Idem poten t	Para meter s	Reque st Object	Respon se Object
1	accou nts	GET	GET / account s	Manda tory	acco unts	Authoriz ation Code		Pagina tion		OBRead Account2
2	accou nts	GET	GET / account s/ {Accoun tId}	Manda tory	acco unts	Authoriz ation Code				OBRead Account2

9.2.1 GET /accounts

> ⓘ **First Step**
>
> The first step for an AISP after an account-request is authorised - is to call the GET /accounts endpoint.

An AISP will be given the full list of accounts (the AccountId(s)) that the PSU has authorised the AISP to access. The AccountId(s) returned may then be used to retrieve other resources for a specific AccountId. The selection of authorised accounts happens **only** at the ASPSP's interface.

9.2.2 GET /accounts/{AccountId}

An AISP **may** retrieve the account information resources for the AccountId (which is retrieved in the call to GET / accounts).

9.3 Data Model

The OBReadAccount2 object will be used for the call to:

- GET /accounts/{AccountId}
- GET /accounts

9.3.1 Resource Definition

This resource represents the account to which credit and debit entries are made.

Each account resource will have a unique and immutable AccountId.

9.3.2 UML Diagram
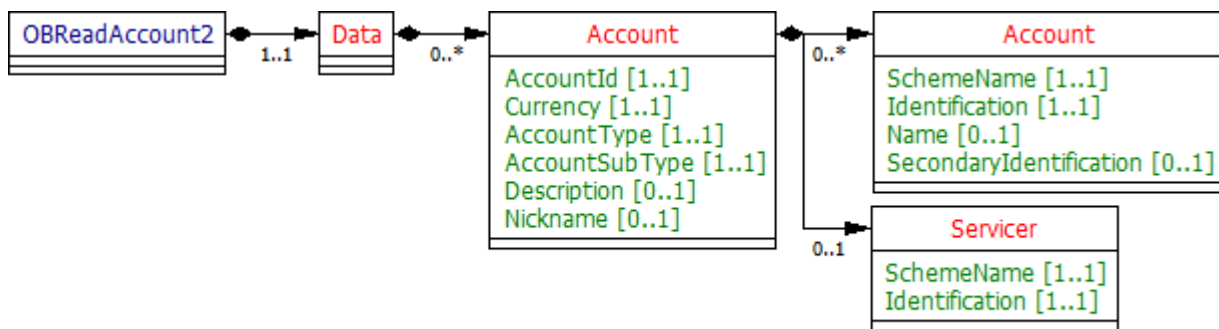
Notes:

- The **Account** and **Servicer** structure has been designed to:
    - Reflect the DebtorAccount and DebtorAgent (and similarly for CreditorAccount and CreditorAgent) structures in the PISP use case
    - Having a SchemeName for the Account and Servicer blocks means we can be flexible to accommodate multiple types of accounts
- For Domestic UK accounts:
    - Where "SortCodeAccountNumber" is specified as the SchemeName in the Account identification section, the Identification field **must** be populated with the 6 digit Sort Code and 8 digit Account Number (a 14 digit field); and the Servicer section **must not** be populated
    - Where the "IBAN" is specified as the SchemeName in the Account identification section, the Identification field **must** be populated with the full IBAN; and the Servicer section **may** be populated with the "BICFI" as the SchemeName
    - Where the "PAN" is specified as the SchemeName in the Account identification section, the Identification field **must** be populated with the primary PAN linked to the account. An ASPSP **may** choose to mask digits returned in the Identification field.
- The SecondaryIdentification element may be used for the roll number for building societies.

9.3.3 Permission Codes

The resource differs depending on the permissions (ReadAccountsBasic and ReadAccountsDetail) used to access resource. In the event the resource is accessed with both ReadAccountsBasic and ReadAccountsDetail, the most detailed level (ReadAccountsDetail) must be used.

- These objects **must not** be returned **without** the **ReadAccountsDetail** permission:
  - OBReadAccount2/Data/Account/Account
  - OBReadAccount2/Data/Account/Servicer
- If the **ReadAccountsDetail** is granted by the PSU:
  - OBReadAccount2/Data/Account/Account **must** be returned (1..n)
  - OBReadAccount2/Data/Account/Servicer **may** be returned if applicable to the account and ASPSP (0..1)

9.3.4 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadAccount2		OBReadAccount2		OBReadAccount2		
Data	1..1	OBReadAccount2/Data		OBReadDataAccount2		
Account	0..n	OBReadAccount2/Data/Account	Unambiguous identification of the account to which credit and debit entries are made.	OBAccount2		
AccountId	1..1	OBReadAccount2/Data/Account/AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		
Currency	1..1	OBReadAccount2/Data/Account/Currency	Identification of the currency in which the account is held. Usage: Currency should only be used in case one and the same account number covers several currencies and the initiating party needs to identify which currency needs to be used for settlement on the account.	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
AccountType	1..1	OBReadAccount2/Data/Account/AccountType	Specifies the type of account (personal or business).	OBExternalAccountType1Code	Business Personal	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
AccountSubType	1..1	OBReadAccount2/Data/Account/AccountSubType	Specifies the sub type of account (product family group).	OBExternalAccountSubType1Code	ChargeCard CreditCard CurrentAccount EMoney Loan Mortgage PrePaidCard Savings	
Description	0..1	OBReadAccount2/Data/Account/Description	Specifies the description of the account type.	Max35Text		
Nickname	0..1	OBReadAccount2/Data/Account/Nickname	The nickname of the account, assigned by the account owner in order to provide an additional means of identification of the account.	Max70Text		
Account	0..n	OBReadAccount2/Data/Account/Account	Provides the details to identify an account.	OBCashAccount2		
SchemeName	1..1	OBReadAccount2/Data/Account/Account/SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalAccountIdentification3Code	IBAN PAN SortCodeAccountNumber	
Identification	1..1	OBReadAccount2/Data/Account/Account/Identification	Identification assigned by an institution to identify an account. This identification is known by the account owner.	Max34Text		

Name	Occurre nce	XPath	EnhancedDefinition	Class	Codes	Pattern
Name	0..1	OBReadAccount2/Data/ Account/ Account/Name	Name of the account, as assigned by the account servicing institution, in agreement with the account owner in order to provide an additional means of identification of the account. Usage: The account name is different from the account owner name. The account name is used in certain user communities to provide a means of identifying the account, in addition to the account owner's identity and the account number.	Max70Text		
Secondary Identification	0..1	OBReadAccount2/Data/ Account/ Account/ SecondaryIdent ification	This is secondary identification of the account, as assigned by the account servicing institution. This can be used by building societies to additionally identify accounts with a roll number (in addition to a sort code and account number combination).	Max34Text		
Servicer	0..1	OBReadAccount2/Data/ Account/ Servicer	Party that manages the account on behalf of the account owner, that is manages the registration and booking of entries on the account, calculates balances on the account and provides information about the account.	OBBranch AndFinanci alInstitutio nIdentifica tion2		
Scheme Name	1..1	OBReadAccount2/Data/ Account/ Servicer/ SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternal FinancialIn stitutionId entificatio n2Code	BICFI	
Identification	1..1	OBReadAccount2/Data/ Account/ Servicer/ Identification	Unique and unambiguous identification of the servicing institution.	Max35Text		

9.3.4.1 Enumerations

This section gives the definitions for enumerations used.

Code Class	Name	Definition
OBExternalAccountIdentification3Code	IBAN	An identifier used internationally by financial institutions to uniquely identify the account of a customer at a financial institution, as described in the latest edition of the international standard ISO 13616. "Banking and related financial services - International Bank Account Number (IBAN)".
OBExternalAccountIdentification3Code	SortCodeAccountNumber	Sort Code and Account Number - identifier scheme used in the UK by financial institutions to identify the account of a customer. The identifier is the concatenation of the 6 digit UK sort code and 8 digit account number. The regular expression for this identifier is: ^[0-9]{6}[0-9]{8}$
OBExternalAccountIdentification3Code	PAN	Primary Account Number (PAN) of the card, or card number.
OBExternalFinancialInstitutionIdentification2Code	BICFI	Valid BICs for financial institutions are registered by the ISO 9362 Registration Authority in the BIC directory, and consist of eight (8) or eleven (11) contiguous characters.
OBExternalAccountType1Code	Business	Account type is for business.
OBExternalAccountType1Code	Personal	Account type is for personal.
OBExternalAccountSubType1Code	ChargeCard	Account sub-type is a Charge Card.
OBExternalAccountSubType1Code	CreditCard	Account sub-type is a Credit Card.
OBExternalAccountSubType1Code	CurrentAccount	Account sub-type is a Current Account.
OBExternalAccountSubType1Code	EMoney	Account sub-type is an EMoney.
OBExternalAccountSubType1Code	Loan	Account sub-type is a Loan.
OBExternalAccountSubType1Code	Mortgage	Account sub-type is a Mortgage.
OBExternalAccountSubType1Code	PrePaidCard	Account sub-type is a PrePaid Card.
OBExternalAccountSubType1Code	Savings	Account sub-type is a Savings.

9.4 Usage Examples

9.4.1 Bulk - Detail Permission

The call to GET /accounts is the first step after an account-request is authorised. This will allow the AISP to discover which accounts (and AccountId values) are associated with the authorisation of consent.

In this scenario AccountId 22289 has a building society roll number; and AccountId 31820 does not.

The **ReadAccountsDetail** permission has been granted.

Request

Get Accounts Request

```
GET /accounts HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time: Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Account": [
      {
        "AccountId": "22289",
        "Currency": "GBP",
        "AccountType": "Personal",
        "AccountSubType": "CurrentAccount",
        "Nickname": "Bills",
        "Account": {
          "SchemeName": "SortCodeAccountNumber",
          "Identification": "80200110203345",
          "Name": "Mr Kevin",
          "SecondaryIdentification": "00021"
        }
      },
      {
        "AccountId": "31820",
        "Currency": "GBP",
```

```
          "AccountType": "Personal",
          "AccountSubType": "CurrentAccount",
          "Nickname": "Household",
          "Account": {
            "SchemeName": "SortCodeAccountNumber",
            "Identification": "80200110203348",
            "Name": "Mr Kevin"
          }
        }
      ]
    },
    "Links": {
      "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/"
    },
    "Meta": {
      "TotalPages": 1
    }
}
```

9.4.2 Specific Account - Detail Permission

An AISP may also retrieve the account resource details specifically for AccountId 22289.

The **ReadAccountsDetail** permission has been granted.

Request

Get Accounts Request

```
GET /accounts/22289 HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time: Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Account": [
      {
        "AccountId": "22289",
        "Currency": "GBP",
```

```
        "AccountType": "Personal",
        "AccountSubType": "CurrentAccount",
        "Nickname": "Bills",
        "Account": {
          "SchemeName": "SortCodeAccountNumber",
          "Identification": "80200110203345",
          "Name": "Mr Kevin",
          "SecondaryIdentification": "00021"
        }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

9.4.3 Bulk - Basic Permission

The **ReadAccountsBasic** permission has been granted.

Request

Get Accounts Request

```
GET /accounts HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Account": [
      {
        "AccountId": "22289",
        "Currency": "GBP",
        "AccountType": "Personal",
```

```
        "AccountSubType": "CurrentAccount",
        "Nickname": "Bills"
      },
      {
        "AccountId": "31820",
        "Currency": "GBP",
        "AccountType": "Personal",
        "AccountSubType": "CurrentAccount",
        "Nickname": "Household"
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

10 Balances v2.0.0

10.1 Version Control

Ver sion	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the initial version following specification restructuring.
			
			Updates:
			
			• Added new limit types to OBExternalLimitType2Code:
			  • Credit
			  • Available
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3 Updates: • Updated mandatory, conditional or optional as per Design Principles
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

10.2 Endpoints

	Resource	HTTP Operation	Endpoint	Mandatory?	Scope	Grant Type	Idempotent	Parameters	Request Object	Response Object
1	balances	GET	GET / accounts/ {AccountId}/ balances	Mandatory	accounts	Authorization Code				OBReadBalance1
2	balances	GET	GET / balances	Optional	accounts	Authorization Code		Pagination		OBReadBalance1

10.2.1 GET /accounts/{AccountId}/balances

An AISP may retrieve the account balance information resource for a specific AccountId (which is retrieved in the call to GET /accounts).

10.2.2 GET /balances

If an ASPSP has implemented the bulk retrieval endpoints - an AISP may optionally retrieve the account information resources in bulk.

This will retrieve the resources for all authorised accounts linked to the account-request.

10.3 Data Model

The OBReadBalance1 object will be used for the call to:

- GET /accounts/{AccountId}/balances
- GET /balances

10.3.1 Resource Definition

This resource represents the net increases and decreases in an account (AccountId) at a specific point in time.

An account (AccountId) may have multiple balance types (these follow the standard ISO 20022 balance type enumerations). If an ASPSP includes a credit line in an available balance - then the balance representation will have a section for the credit line amount and type.

10.3.2 UML Diagram
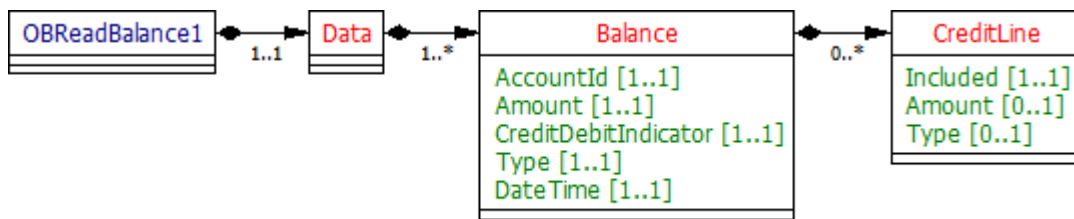
Notes:

- Multiple balances may be returned (each with a different value for Type) for an account. This is for ASPSPs that show multiple balances in their online channels.
- The CreditLine section may be repeated - as multiple credit lines may be included in an available balance.
- A DateTime element has been used instead of a complex choice element of Date and DateTime. Where time elements do not exist in ASPSP systems - the time portion of the DateTime element will be defaulted to 00:00:00+00:00

10.3.3 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadBalance1		OBReadBalance1		OBReadBalance1		
Data	1..1	OBReadBalance1/Data		OBReadDataBalance1		
Balance	1..n	OBReadBalance1/Data/Balance	Set of elements used to define the balance details.	OBCashBalance1		
AccountId	1..1	OBReadBalance1/Data/Balance/AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		
Amount	1..1	OBReadBalance1/Data/Balance/Amount	Amount of money of the cash balance.	ActiveOrHistoricCurrencyAndAmount		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Currency	1..1	OBReadBalance1/Data/Balance/Amount/Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
CreditDebitIndicator	1..1	OBReadBalance1/Data/Balance/CreditDebitIndicator	Indicates whether the balance is a credit or a debit balance. Usage: A zero balance is considered to be a credit balance.	OBCreditDebitCode	Credit Debit	
Type	1..1	OBReadBalance1/Data/Balance/Type	Balance type, in a coded form.	OBBalanceType1Code	ClosingAvailable ClosingBooked Expected ForwardAvailable Information InterimAvailable InterimBooked OpeningAvailable OpeningBooked PreviouslyClosedBooked	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
DateTime	1..1	OBReadBalance1/Data/ Balance/ DateTime	Indicates the date (and time) of the balance.	ISODateTime		
Credit Line	0..n	OBReadBalance1/Data/ Balance/ CreditLine	Set of elements used to provide details on the credit line.	OBCreditLine1		
Included	1..1	OBReadBalance1/Data/ Balance/ CreditLine/ Included	Indicates whether or not the credit line is included in the balance of the account. Usage: If not present, credit line is not included in the balance amount of the account.	xs:boolean		
Amount	0..1	OBReadBalance1/Data/ Balance/ CreditLine/ Amount	Amount of money of the credit line.	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadBalance1/Data/ Balance/ CreditLine/ Amount/ Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
Type	0..1	OBReadBalance1/Data/ Balance/ CreditLine/ Type	Limit type, in a coded form.	OBExternalLimitType1Code	Available Credit Emergency Pre-Agreed Temporary	

10.3.3.1 Enumerations

Code Class	Name	Definition
OBBalanceType1Code	ClosingAvailable	Closing balance of amount of money that is at the disposal of the account owner on the date specified.
OBBalanceType1Code	ClosingBooked	Balance of the account at the end of the pre-agreed account reporting period. It is the sum of the opening booked balance at the beginning of the period and all entries booked to the account during the pre-agreed account reporting period.
OBBalanceType1Code	Expected	Balance, composed of booked entries and pending items known at the time of calculation, which projects the end of day balance if everything is booked on the account and no other entry is posted.
OBBalanceType1Code	ForwardAvailable	Forward available balance of money that is at the disposal of the account owner on the date specified.
OBBalanceType1Code	Information	Balance for informational purposes.
OBBalanceType1Code	InterimAvailable	Available balance calculated in the course of the account servicer's business day, at the time specified, and subject to further changes during the business day. The interim balance is calculated on the basis of booked credit and debit items during the calculation time/period specified.
OBBalanceType1Code	InterimBooked	Balance calculated in the course of the account servicer's business day, at the time specified, and subject to further changes during the business day. The interim balance is calculated on the basis of booked credit and debit items during the calculation time/ period specified.
OBBalanceType1Code	OpeningAvailable	Opening balance of amount of money that is at the disposal of the account owner on the date specified.
OBBalanceType1Code	OpeningBooked	Book balance of the account at the beginning of the account reporting period. It always equals the closing book balance from the previous report.

Code Class	Name	Definition
OBBalanceType1Code	PreviouslyClosed Booked	Balance of the account at the previously closed account reporting period. The opening booked balance for the new period has to be equal to this balance. Usage: the previously booked closing balance should equal (inclusive date) the booked closing balance of the date it references and equal the actual booked opening balance of the current date.
OBCreditDebitCode	Credit	Operation is a credit
OBCreditDebitCode	Debit	Operation is a debit
OBExternalLimitType2Code	Pre-Agreed	The amount of an arranged lending limit that has been agreed with the account holder
OBExternalLimitType2Code	Temporary	The amount of a temporary lending limit that has been agreed with the account holder
OBExternalLimitType2Code	Emergency	The amount of an arranged lending limit that can be borrowed on top of pre-agreed lending, that has been agreed with the account holder
OBExternalLimitType2Code	Credit	The amount of a credit limit that has been agreed with the account holder
OBExternalLimitType2Code	Available	The amount of credit limit available to the account holder

10.4 Usage Examples

10.4.1 Specific Account

Request

Get Account Balances Request

```
GET /accounts/22289/balances HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time: Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Account Balances Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Balance": [
      {
        "AccountId": "22289",
        "Amount": {
          "Amount": "1230.00",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Credit",
        "Type": "InterimAvailable",
        "DateTime": "2017-04-05T10:43:07+00:00",
        "CreditLine": [
          {
            "Included": true,
            "Amount": {
              "Amount": "1000.00",
              "Currency": "GBP"
            },
            "Type": "Pre-Agreed"
          }
        ]
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/balances/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

10.4.2 Bulk

Request

Get Balances Request

```
GET /balances HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
```

```
Accept: application/json
```

Response

Get Balances Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Balance": [
      {
        "AccountId": "22289",
        "Amount": {
          "Amount": "1230.00",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Credit",
        "Type": "InterimAvailable",
        "DateTime": "2017-04-05T10:43:07+00:00",
        "CreditLine": [
          {
            "Included": true,
            "Amount": {
              "Amount": "1000.00",
              "Currency": "GBP"
            },
            "Type": "Pre-Agreed"
          }
        ]
      },
      {
        "AccountId": "31820",
        "Amount": {
          "Amount": "57.36",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Debit",
        "Type": "InterimBooked",
        "DateTime": "2017-05-02T14:22:09+00:00"
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/balances/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

11 Beneficiaries v2.0.0

11.1 Version Control

Vers ion	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification.
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.
			• Additional guidance for ReadBeneficiariesDetail permission

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3 Updates: • Updated mandatory, conditional or optional as per Design Principles
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

11.2 Endpoints

Endpoints for the resource - and available methods.

	Resource	HTTP Operation	Endpoint	Mandatory?	Scope	Grant Type	Idempotent	Parameters	Request Object	Response Object
1	beneficiaries	GET	GET /accounts/{AccountId}/beneficiaries	Conditional	accounts	Authorization Code				OBReadBeneficiary2
2	beneficiaries	GET	GET /beneficiaries	Optional	accounts	Authorization Code		Pagination		OBReadBeneficiary2

GET /accounts/{AccountId}/beneficiaries

An AISP may retrieve the account beneficiaries information resource for a specific AccountId (which is retrieved in the call to GET /accounts).

11.2.1 GET /beneficiaries

If an ASPSP has implemented the bulk retrieval endpoints for beneficiaries - an AISP may optionally retrieve the beneficiaries information in bulk.

This endpoint will retrieve the beneficiaries resources for all authorised accounts linked to a specific account-request.

11.3 Data Model

The OBReadBeneficiary1 object will be used for the call to:

- GET /accounts/{AccountId}/beneficiaries
- GET /beneficiaries

11.3.1 Resource Definition

A resource that contains a set of elements that describes the list of trusted beneficiaries linked to a specific account (AccountId).

An account (AccountId) may have no trusted beneficiaries set up, or may have multiple beneficiaries set up.

In the case an ASPSP manages beneficiaries at a customer level (logged in user), instead of account level:

- If a PSU selects multiple accounts for authorisation - then their beneficiaries apply consistently to all selected accounts (i.e., in the bulk endpoint /beneficiaries)
- If a different PSU selects the same accounts - a different set of beneficiaries could be returned

This is the expected behaviour of the beneficiaries endpoints - in the case an ASPSP manages beneficiaries at a customer level:

- The bulk endpoint /beneficiaries will return the unique list of beneficiaries against the PSU. In this case - the AccountId in the OBReadBeneficiary1 payload would be set to NULL / empty (even if the PSU only has one account).
- The selected account endpoint /accounts/{AccountId}/beneficiaries will return the beneficiaries that **may** be accessible to the AccountId - based on the PSU. In this case - the AccountId will be populated in the payload

11.3.2 UML Diagram
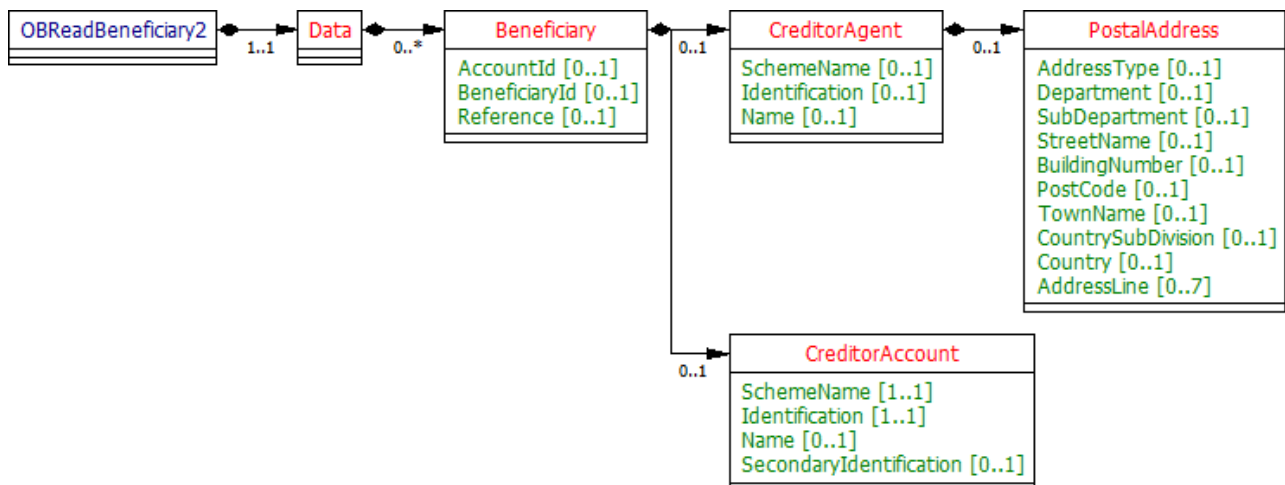
Notes:

- The CreditorAccount is used consistently throughout the Account Information APIs to identify an account
- Due to internationalisation requirements:
    - The CreditorAgent object may be used to represent either (1) the BIC (with BICFI in the SchemeName field and the BIC in the Identification field), or (2) the Name and Address details for the financial instiution
    - The CreditorAccount/Identification field may be used to represent a non-UK specific branch and account numbering scheme with "SortCodeAccountNumber" being populated in the CreditorAccount/SchemeName
- For the /accounts/{AccountId}/beneficiaries endpoint - the CreditorAccount and CreditorAgent blocks represent the account of the beneficiary that is receiving funds (so has been named the CreditorAccount - for consistency with the PISP use case).

11.3.3 Permission Codes

The resource differs depending on the permissions (ReadBeneficiariesBasic and ReadBeneficiariesDetail) used to access resource. In the event the resource is accessed with both ReadBeneficiariesBasic and ReadBeneficiariesDetail, the most detailed level (ReadBeneficiariesDetail) must be used.

- These objects **must not** be returned **without** the **ReadBeneficiariesDetail** permission:
    - OBReadBeneficiary2/Data/Beneficiary/CreditorAgent
    - OBReadBeneficiary2/Data/Beneficiary/CreditorAccount
- If the **ReadBeneficiariesDetail** is granted by the PSU:
    - OBReadBeneficiary2/Data/Beneficiary/CreditorAgent **may** be returned if applicable to the account and ASPSP (0..1)
    - OBReadBeneficiary2/Data/Beneficiary/CreditorAccount **must** be returned (1..1)

11.3.4 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
OBReadBeneficiary2		OBReadBeneficiary2		OBReadBeneficiary2	
Data	1..1	OBReadBeneficiary2/Data		OBReadDataBeneficiary2	
Beneficiary	0..n	OBReadBeneficiary2/Data/ Beneficiary		OBBeneficiary2	
AccountId	0..1	OBReadBeneficiary2/Data/ Beneficiary/ AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text	
BeneficiaryId	0..1	OBReadBeneficiary2/Data/ Beneficiary/ BeneficiaryId	A unique and immutable identifier used to identify the beneficiary resource. This identifier has no meaning to the account owner.	Max40Text	
Reference	0..1	OBReadBeneficiary2/Data/ Beneficiary/ Reference	Unique reference, as assigned by the creditor, to unambiguously refer to the payment transaction. Usage: If available, the initiating party should provide this reference in the structured remittance information, to enable reconciliation by the creditor upon receipt of the amount of money. If the business context requires the use of a creditor reference or a payment remit identification, and only one identifier can be passed through the end-to-end chain, the creditor's reference or payment remittance identification should be quoted in the end-to-end transaction identification.	Max35Text	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
CreditorAgent	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent	Party that manages the account on behalf of the account owner, that is manages the registration and booking of entries on the account, calculates balances on the account and provides information about the account. This is the servicer of the beneficiary account.	OBBranchAndFinancialInstitutionIdentification3	
SchemeName	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalFinancialInstitutionIdentification2Code	BICFI
Identification	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ Identification	Unique and unambiguous identification of the servicing institution.	Max35Text	
Name	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ Name	Name by which an agent is known and which is usually used to identify that agent.	Max140Text	
PostalAddress	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress	Information that locates and identifies a specific address, as defined by postal services.	OBPostalAddress6	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
AddressType	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ AddressType	Identifies the nature of the postal address.	OBAddressTypeCode	BusinessCorrespondence DeliverTo MailTo POBox Postal Residential Statement
Department	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ Department	Identification of a division of a large organisation or building.	Max70Text	
SubDepartment	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ SubDepartment	Identification of a sub-division of a large organisation or building.	Max70Text	
StreetName	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ StreetName	Name of a street or thoroughfare.	Max70Text	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
BuildingNumber	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ BuildingNumber	Number that identifies the position of a building on a street.	Max16Text	
PostCode	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ PostCode	Identifier consisting of a group of letters and/or numbers that is added to a postal address to assist the sorting of mail.	Max16Text	
TownName	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ TownName	Name of a built-up area, with defined boundaries, and a local government.	Max35Text	
CountrySubDivision	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ CountrySubDivision	Identifies a subdivision of a country such as state, region, county.	Max35Text	
Country	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ Country	Nation with its own government.	CountryCode	
AddressLine	0..7	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAgent/ PostalAddress/ AddressLine	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	Max70Text	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes
CreditorAccount	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAccount	Provides the details to identify the beneficiary account.	OBCashAccount1	
SchemeName	1..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAccount /SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalAccountIdentification2Code	IBAN SortCodeAccountNumber
Identification	1..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAccount /Identification	Identification assigned by an institution to identify an account. This identification is known by the account owner.	Max34Text	
Name	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAccount /Name	Name of the account, as assigned by the account servicing institution, in agreement with the account owner in order to provide an additional means of identification of the account. Usage: The account name is different from the account owner name. The account name is used in certain user communities to provide a means of identifying the account, in addition to the account owner's identity and the account number.	Max70Text	
SecondaryIdentification	0..1	OBReadBeneficiary2/Data/ Beneficiary/ CreditorAccount / SecondaryIdentification	This is secondary identification of the account, as assigned by the account servicing institution. This can be used by building societies to additionally identify accounts with a roll number (in addition to a sort code and account number combination).	Max34Text	

11.4 Usage Examples

11.4.1 Specific Account

Request

Get Account Beneficiaries Request

```
GET /accounts/22289/beneficiaries HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Request

Get Account Beneficiaries Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Beneficiary": [
      {
        "AccountId": "22289",
        "BeneficiaryId": "Ben1",
        "Reference": "Towbar Club",
        "CreditorAccount": {
          "SchemeName": "SortCodeAccountNumber",
          "Identification": "80200112345678",
          "Name": "Mrs Juniper"
        }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/beneficiaries/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

11.4.2 Bulk

Request

Get Beneficiaries Request

```
GET /beneficiaries HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Beneficiaries Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Beneficiary": [
      {
        "AccountId": "22289",
        "BeneficiaryId": "Ben1",
        "Reference": "Towbar Club",
        "CreditorAccount": {
          "SchemeName": "SortCodeAccountNumber",
          "Identification": "80200112345678",
          "Name": "Mrs Juniper"
        }
      },
      {
        "AccountId": "31820",
        "BeneficiaryId": "Ben37",
        "Reference": "Golf Club",
        "CreditorAccount": {
          "SchemeName": "SortCodeAccountNumber",
          "Identification": "87562298675421",
          "Name": "Mr Large"
        }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/beneficiaries/"
  },
  "Meta": {
```

```
    "TotalPages": 1
  }
}
```

12 Direct Debits v2.0.0

12.1 Version Control

Version	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification.
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3 Updates: • Updated mandatory, conditional or optional as per Design Principles
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

12.2 Endpoints

Endpoints for the resource - and available methods.

	Reso urce	HTTP Operati on	Endpoint	Mand atory ?	Sco pe	Grant Type	Idemp otent	Para meter s	Reques t Object	Respons e Object
1	direct - debit s	GET	GET / accounts/ {AccountId}/ direct-debits	Condit ional	acc oun ts	Authori zation Code				OBReadD irectDebi t1
2	direct - debit s	GET	GET /direct- debits	Optio nal	acc oun ts	Authori zation Code		Pagin ation		OBReadD irectDebi t1

12.2.1 GET /accounts/{AccountId}/direct-debits

An ASPSP must provide this endpoint for AISPs to retrieve the direct-debits for a specific account identified by AccountId.

12.2.2 GET /direct-debits

An ASPSP may provide this endpoint for AISPs to retrieve direct-debits for all accounts that the PSU has consented to. This will retrieve the direct-debit resources for all authorised accounts linked to the account-request.

12.3 Data Model

12.3.1 Resource Definition

A resource that contains a set of elements that describes the list of direct-debits that have been set up on a specific account (AccountId).

An account (AccountId) may have no direct debits set up, or may have multiple direct debits set up.

12.3.2 UML Diagram
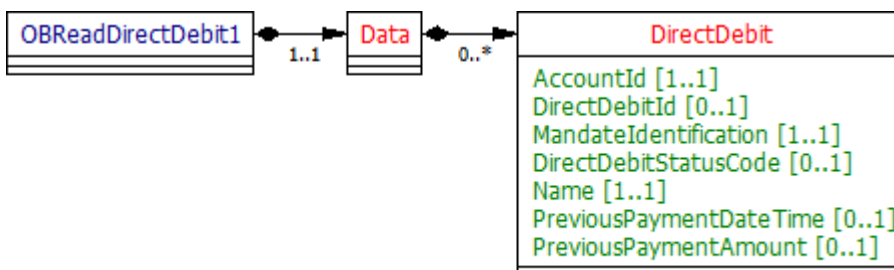
12.3.3 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadDirectDebit1		OBReadDirectDebit1		OBReadDirectDebit1		
Data	1..1	OBReadDirectDebit1/Data		OBReadDataDirectDebit1		
DirectDebit	0..n	OBReadDirectDebit1/Data/DirectDebit	Account to or from which a cash entry is made.	OBDirectDebit1		
AccountId	1..1	OBReadDirectDebit1/Data/DirectDebit/AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		
DirectDebitId	0..1	OBReadDirectDebit1/Data/DirectDebit/DirectDebitId	A unique and immutable identifier used to identify the direct debit resource. This identifier has no meaning to the account owner.	Max40Text		
MandateIdentification	1..1	OBReadDirectDebit1/Data/DirectDebit/MandateIdentification	Direct Debit reference. For AUDDIS service users provide Core Reference. For non AUDDIS service users provide Core reference if possible or last used reference.	Max35Text		
DirectDebitStatusCode	0..1	OBReadDirectDebit1/Data/DirectDebit/DirectDebitStatusCode	Specifies the status of the direct debit in code form.	OBExternalDirectDebitStatus1Code	Active Inactive	
Name	1..1	OBReadDirectDebit1/Data/DirectDebit/Name	Name of Service User.	Max70Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
PreviousPaymentDateTime	0..1	OBReadDirectDebit1/Data/ DirectDebit/ PreviousPaymentDateTime	Date of most recent direct debit collection.	ISODateTime		
PreviousPaymentAmount	0..1	OBReadDirectDebit1/Data/ DirectDebit/ PreviousPaymentAmount	The amount of the most recent direct debit collection.	ActiveOrHistoricCurrencyAndAmount		^\d{1,13}\.\d{1,5}$
Currency	1..1	OBReadDirectDebit1/Data/ DirectDebit/ PreviousPaymentAmount/ Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$

12.4 Usage Examples

12.4.1 Specific Account

Request

Get Accounts Direct Debits Request

```
GET /accounts/22289/direct-debits HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Direct Debits Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "DirectDebit": [
      {
        "AccountId": "22289",
        "DirectDebitId": "DD03",
        "MandateIdentification": "Caravanners",
        "DirectDebitStatusCode": "Active",
        "Name": "Towbar Club 3 - We Love Towbars",
        "PreviousPaymentDateTime": "2017-04-05T10:43:07+00:00",
        "PreviousPaymentAmount": {
          "Amount": "0.57",
          "Currency": "GBP"
        }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/direct-debits/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

12.4.2 Bulk

Request

Get Direct Debits Request

```
GET /direct-debits HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Direct Debits Response

```
HTTP/1.1 200 OK
```

```
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "DirectDebit": [
      {
        "AccountId": "22289",
        "DirectDebitId": "DD03",
        "MandateIdentification": "Caravanners",
        "DirectDebitStatusCode": "Active",
        "Name": "Towbar Club 3 – We Love Towbars",
        "PreviousPaymentDateTime": "2017-04-05T10:43:07+00:00",
        "PreviousPaymentAmount": {
          "Amount": "0.57",
          "Currency": "GBP"
        }
      },
      {
        "AccountId": "31820",
        "DirectDebitId": "DD77",
        "MandateIdentification": "Golfers",
        "DirectDebitStatusCode": "Active",
        "Name": "Golf Club",
        "PreviousPaymentDateTime": "2017-05-06T09:00:00+00:00",
        "PreviousPaymentAmount": {
          "Amount": "22.30",
          "Currency": "GBP"
        }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/direct-debits/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

13 Offers v2.0.0

13.1 Version Control

Version	Date	Author	Comments
2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification Updates: • More detail in the Resource Definition to differentiate with the products resource, and statements resource • More detail in how complex offer structure will be expressed - using the free-text Description field • Added the URL field • Updated payloads for usage examples
2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3. Updates: • For consistency - made the OfferId 0..1 • For consistency - defined the pattern for the Rate field as per Open Data • Updated mandatory, conditional or optional as per Design Principles
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

13.2 Endpoints

Endpoints for the resource - and available methods.

	Res our ce	HTTP Operat ion	Endpoint	Mand atory ?	Sc op e	Grant Type	Idem poten t	Para mete rs	Reque st Object	Respo nse Object
1	offers	GET	GET / accounts/ {AccountId }/offers	Conditi onal	acco unts	Authori zation Code				OBRead Offer1
2	offers	GET	GET /offers	Option al	acco unts	Authori zation Code		Pagina tion		OBRead Offer1

13.2.1 GET /accounts/{AccountId}/offers

An AISP **may** retrieve the offers resource for a specific AccountId (which is retrieved in the call to GET /accounts).

13.2.2 GET /offers

If an ASPSP has implemented the bulk retrieval endpoints - an AISP **may** optionally retrieve the offers in bulk.

This will retrieve the resources for all authorised accounts linked to the account-request.

13.3 Data Model

The OBReadOffer1 object will be used for the call to:

- GET /accounts/{AccountId}/offers
- GET /offers

13.3.1 Resource Definition

A resource that contains a set of elements that describes the list of offers available to a specific account (AccountId).

- Generic features (and pricing) for the account product will be not be available via the **offers** resources. These generic features will be available via the **product** resource.
- The outcome of any offer (or product feature) uptake will not be reported via the **offers** resource. The benefits, interest, cash-back for any account will be available via the **statements** resource (if this is available to PSUs in the existing ASPSP online channel).

An account (AccountId) may have no offers available, or may have multiple offers available.

13.3.2 UML Diagram
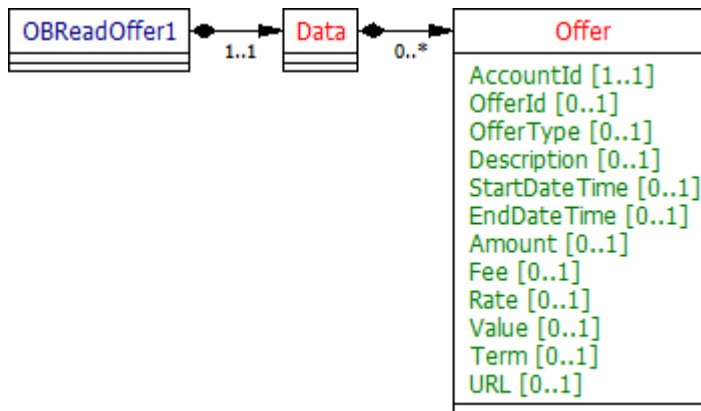
Notes:

- Offers (or promotions) for a specific AccountId, which may be viewable in the ASPSP online banking interface, may have a complicated offer structure (which cannot be expressed using a flat Amount, Fee, Rate, or Value structure). In this case, the ASPSP must use the Description field to describe the nature of the offer in free-text

13.3.3 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadOffer1		OBReadOffer1		OBReadOffer1		
Data	1..1	OBReadOffer1/Data		OBReadDataOffer1		
Offer	0..n	OBReadOffer1/Data/Offer		OBOffer1		
AccountId	1..1	OBReadOffer1/Data/Offer/AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		
OfferId	0..1	OBReadOffer1/Data/Offer/OfferId	A unique and immutable identifier used to identify the offer resource. This identifier has no meaning to the account owner.	Max40Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Offer Type	0..1	OBReadOffer 1/Data/ Offer/ OfferType	Offer type, in a coded form.	OBExtern alOfferTyp e1Code	Balan ceTra nsfer LimitI ncrea se Mone yTran sfer Other Prom otion alRat e	
Descr iption	0..1	OBReadOffer 1/Data/ Offer/ Description	Further details of the offer.	Max500Te xt		
Start DateT ime	0..1	OBReadOffer 1/Data/ Offer/ StartDateTi me	Date and time at which the offer starts.	ISODateTi me		
EndD ateTi me	0..1	OBReadOffer 1/Data/ Offer/ EndDateTim e	Date and time at which the offer ends.	ISODateTi me		
Amou nt	0..1	OBReadOffer 1/Data/ Offer/ Amount	Amount of money associated with the offer type.	ActiveOrH istoricCurr encyAndA mount		
Curre ncy	1..1	OBReadOffer 1/Data/ Offer/ Amount/ Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrH istoricCurr encyCode		^[A-Z] {3,3} $
Fee	0..1	OBReadOffer 1/Data/ Offer/Fee	Fee associated with the offer type.	ActiveOrH istoricCurr encyAndA mount		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Currency	1..1	OBReadOffer 1/Data/ Offer/Fee/ Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrH istoricCurr encyCode		^[A-Z] {3,3} $
Rate	0..1	OBReadOffer 1/Data/ Offer/Rate	Rate associated with the offer type.	Max10Tex t		^(-? \d{1, 3}){1} (\. \d{1, 4}) {0,1} $
Value	0..1	OBReadOffer 1/Data/ Offer/Value	Value associated with the offer type.	Number		
Term	0..1	OBReadOffer 1/Data/ Offer/Term	Further details of the term of the offer.	Max500Te xt		
URL	0..1	OBReadOffer 1/Data/ Offer/URL	URL (Uniform Resource Locator) where the document can be found	Max256Te xt		

13.3.3.1 Enumerations

This section gives the definitions for enumerations used.

Code Class	Name	Definition
OBExternalOfferType1Code	BalanceTransfer	Offer is a balance transfer.
OBExternalOfferType1Code	LimitIncrease	Offer is a limit increase.
OBExternalOfferType1Code	MoneyTransfer	Offer is a money transfer.
OBExternalOfferType1Code	Other	Offer is of an other type.
OBExternalOfferType1Code	PromotionalRate	Offer is a promotional rate.

13.4 Usage Examples

13.4.1 Specific Account

Request

Get Offers Request

```
GET /accounts/22289/offers HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Offers Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Offers": [
      {
        "AccountId": "22289",
        "OfferId": "Offer1",
        "OfferType": "LimitIncrease",
        "Description": "Credit limit increase for the account up to £10000.00",
        "Amount": {
          "Amount": "10000.00",
          "Currency": "GBP"
        }
      },
      {
        "AccountId": "22289",
        "OfferId": "Offer2",
        "OfferType": "BalanceTransfer",
        "Description": "Balance transfer offer up to £2000",
        "Amount": {
          "Amount": "2000.00",
          "Currency": "GBP"
        }
      }
    ]
  },
```

```
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/offers/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

13.4.2 Bulk

Request

Get Offers Request

```
GET /offers HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Offers Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Offers": [
      {
        "AccountId": "22289",
        "OfferId": "Offer1",
        "OfferType": "LimitIncrease",
        "Description": "Credit limit increase for the account up to £10000.00",
        "Amount": {
          "Amount": "10000.00",
          "Currency": "GBP"
        }
      },
      {
        "AccountId": "22289",
        "OfferId": "Offer2",
        "OfferType": "BalanceTransfer",
        "Description": "Balance transfer offer up to £2000",
        "Amount": {
          "Amount": "2000.00",
          "Currency": "GBP"
```

```
        }
      },
      {
        "AccountId": "32515",
        "OfferId": "Offer3",
        "OfferType": "LimitIncrease",
        "Description": "Credit limit increase for the account up to £50000.00",
        "Amount": {
          "Amount": "50000.00",
          "Currency": "GBP"
        }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/offers/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

14 Party v2.0.0

14.1 Version Control

Version	Date	Author	Comments
2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification Updates: • Changed behaviour of GET /party from "logged in user" to "user that has authorised the account-request"
2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3. Updates: • Fixed Name field type to Max70Text for consistency with other Name fields • Updated mandatory, conditional or optional as per Design Principles
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

14.2 Endpoints

Endpoints for the resource - and available methods.

	Res our ce	HTTP Operat ion	Endpoint	Mand atory ?	Sc op e	Grant Type	Idem poten t	Para mete rs	Reque st Object	Respo nse Object
1	party	GET	GET / accounts/ {AccountId }/party	Conditi onal	acco unts	Authori zation Code				OBRead Party1
2	party	GET	GET /party	Conditi onal	acco unts	Authori zation Code				OBRead Party1

14.2.1 GET /accounts/{AccountId}/party

If the ASPSP has chosen to implement the /accounts/{AccountId}/party endpoint - the ASPSP **must** return details on the account owner:

- In the case of a business - this will be the details of the business
- In the case of a joint account - this will be the party that has given authorisation to the AISP to view the account. If the AISP wishes to access details of other parties linked to the AccountId, the AISP must go through an authorisation flow with the other parties.

GET /party

If the ASPSP has chosen to implement the the /party endpoint - the ASPSP **must** return details on the user that has authorised the account-request with the ASPSP:

- In the case of a business account - this will be the details of the party that has given authorisation to the AISP to view the account
- In the case of a joint account - this will be the party that has given authorisation to the AISP to view the account

14.3 Data Model

The OBReadParty1 object will be used for the call to:

- GET /accounts/{AccountId}/party
- GET /party

## 14.3.1 Resource Definition

A resource that contains a set of elements that describes the party linked to a specific account (AccountId).

The response to GET /accounts/{AccountId}/party and GET /party (if available) **must** contain at most one party.

14.3.2 UML Diagram
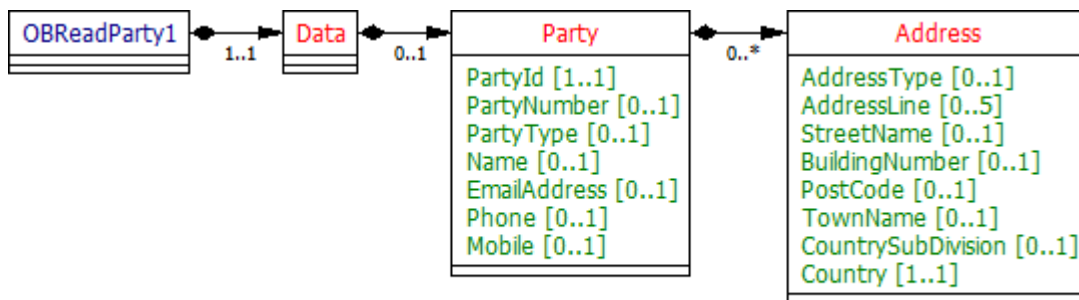
14.3.3 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadParty1		OBReadParty1		OBReadParty1		
Data	1..1	OBReadParty1/ Data		OBReadDataParty1		
Party	0..1	OBReadParty1/ Data/Party		OBParty1		
PartyId	1..1	OBReadParty1/ Data/Party/ PartyId	A unique and immutable identifier used to identify the customer resource. This identifier has no meaning to the account owner.	Max40Text		
PartyNumber	0..1	OBReadParty1/ Data/Party/ PartyNumber	Number assigned by an agent to identify its customer.	Max35Text		
PartyType	0..1	OBReadParty1/ Data/Party/ PartyType	Party type, in a coded form.	OBExternalPartyType1Code	Delegate Joint Sole	
Name	0..1	OBReadParty1/ Data/Party/ Name	Name by which a party is known and which is usually used to identify that party.	Max70Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
EmailAddress	0..1	OBReadParty1/ Data/Party/ EmailAddress	Address for electronic mail (e-mail).	Max256Text		
Phone	0..1	OBReadParty1/ Data/Party/ Phone	Collection of information that identifies a phone number, as defined by telecom services.	PhoneNumber		\+[0-9] {1,3}- [0-9()+ \-] {1,30}
Mobile	0..1	OBReadParty1/ Data/Party/ Mobile	Collection of information that identifies a mobile phone number, as defined by telecom services.	PhoneNumber		\+[0-9] {1,3}- [0-9()+ \-] {1,30}
Address	0..n	OBReadParty1/ Data/Party/ Address	Postal address of a party.	OBPostalAddress8		
AddressType	0..1	OBReadParty1/ Data/Party/ Address/ AddressType	Identifies the nature of the postal address.	OBAddressTypeCode	Business Correspondence DeliveryTo MailTo POBox Postal Residential Statement	
AddressLine	0..5	OBReadParty1/ Data/Party/ Address/ AddressLine	Information that locates and identifies a specific address, as defined by postal services, that is presented in free format text.	Max70Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Street Name	0..1	OBReadParty1/ Data/Party/ Address/ StreetName	Name of a street or thoroughfare.	Max70Text		
Building Number	0..1	OBReadParty1/ Data/Party/ Address/ BuildingNumber	Number that identifies the position of a building on a street.	Max16Text		
PostCode	0..1	OBReadParty1/ Data/Party/ Address/ PostCode	Identifier consisting of a group of letters and/or numbers that is added to a postal address to assist the sorting of mail.	Max16Text		
Town Name	0..1	OBReadParty1/ Data/Party/ Address/ TownName	Name of a built-up area, with defined boundaries, and a local government.	Max35Text		
CountrySubDivision	0..1	OBReadParty1/ Data/Party/ Address/ CountrySubDivision	Identifies a subdivision of a country eg, state, region, county.	Max35Text		
Country	1..1	OBReadParty1/ Data/Party/ Address/ Country	Nation with its own government, occupying a particular territory.	CountryCode		^[A-Z]{2,2}$

14.3.3.1 Enumerations

This section gives the definitions for enumerations used.

Code Class	Name	Definition
OBAddressTypeCode	Business	Address is the business address.
OBAddressTypeCode	Correspondence	Address is the address where correspondence is sent.
OBAddressTypeCode	DeliverTo	Address is the address to which delivery is to take place.

Code Class	Name	Definition
OBAddressTypeCode	MailTo	Address is the address to which mail is sent.
OBAddressTypeCode	POBox	Address is a postal office (PO) box.
OBAddressTypeCode	Postal	Address is the complete postal address.
OBAddressTypeCode	Residential	Address is the home address.
OBAddressTypeCode	Statement	Address is the address where statements are sent.
OBExternalPartyType1Code	Delegate	Party that has delegated access.
OBExternalPartyType1Code	Joint	Party is a joint owner of the account.
OBExternalPartyType1Code	Sole	Party is a sole owner of the account.

14.4 Usage Examples

14.4.1 Authorised User

Request

Get Party Request

```
GET /accounts/22289/party HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Party Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
```

```
    "Data": {
      "Party": {
        "PartyId": "PABC123",
        "PartyType": "Sole",
        "Name": "Semiotec",
        "Email": "contact@semiotec.co.jp",
            "Address": {
                  "AddressType": "Business",
                  "StreetName": "Street",
                  "BuildingNumber": "15",
                  "PostCode": "NW1 1AB",
                  "TownName": "London"
        }
      }
    },
    "Links": {
      "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/party/"
    },
    "Meta": {
      "TotalPages": 1
    }
}
```

14.4.2 Account Owner

Request

Get Party Request

```
GET /party HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Party Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Party": {
      "PartyId": "PXSIF023",
      "PartyType": "Delegate",
      "Name": "Mr D User",
```

```json
      "Email": "d.user@semiotec.co.jp"
    }
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/party/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

15 Products v2.0.0

15.1 Version Control

Version	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification.
			
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3 Updates: • Fixed UML Model, Data is mandatory element of OBReadProduct2 now • Updated mandatory, conditional or optional as per Design Principles • Added reference to the GET /accounts/{AccountId}/product endpoint being mandatory for ASPSPs and account types covered in the CMA Order.
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

15.2 Endpoints

Endpoints for the resource - and available methods.

	Reso urce	HTTP Operati on	Endpoint	Mand atory?	Sco pe	Grant Type	Idemp otent	Param eters	Reques t Object	Respons e Object
1	prod ucts	GET	GET / accounts/ {AccountId}/ product	Condit ional	acc oun ts	Authoriz ation Code				OBRead Product 2
2	prod ucts	GET	GET / products	Option al	acc oun ts	Authoriz ation Code		Pagina tion		OBRead Product 2

15.2.1 GET /accounts/{AccountId}/product

An AISP may retrieve the account product information for a specific AccountId (which is retrieved in the call to GET / accounts).

While this endpoint is marked as Conditional, it will be Mandatory for ASPSPs and account types covered in the CMA Order.

15.2.2 GET /products

If an ASPSP has implemented the bulk retrieval endpoints for products - an AISP may optionally retrieve the products information in bulk.

This endpoint will retrieve the products resources for all authorised accounts linked to a specific account-request.

15.3 Data Model

The OBReadProduct2 object will be used for the call to:

- GET /accounts/{AccountId}/product
- GET /products

15.3.1 Resource Definition

A resource that contains a set of elements that describes the product details specific to the account (AccountId) - which will include any pricing, fees, interest rates and product features for the account.

An account (AccountId) must only have a single product.

Notes:

- The product resource must be available for all PSD2 in scope accounts (if the product information is also available to the logged in PSU)
- Detailed product information is only available for BCA and PCA products
- High level product information for other products (other than BCA and PCA products) may be available via a reference to the Open Data APIs

15.3.2 UML Diagram
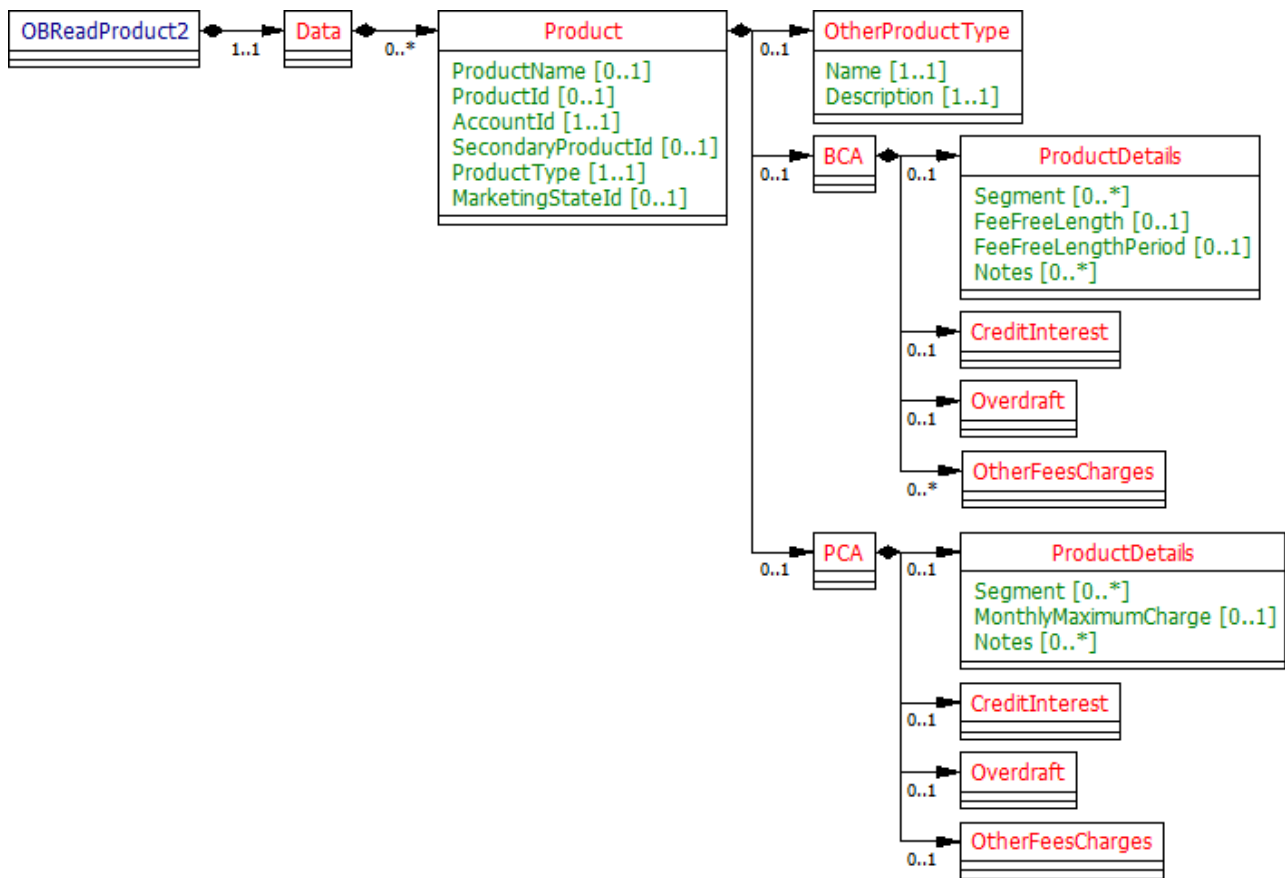
Notes:

- All PSD2 in-scope accounts are expected to return a response to the product resource. However, the BCA and PCA objects only apply to current account products (which are a CMA Order requirement).
- Product/ProductIdentifier and Product/SecondaryProductIdentifier are renamed to Product/ProductId and Product/SecondaryProductId respectively
- The APIs are split in to 2 broad groups based on respective security requirements:-
    - Open Data includes an API which provides **Marketed** PCA/BCA/Other Information
    - Read-Write (aka "Closed Data") includes an API which provides **Operated** PCA/BCA/Other Information.
- Open Data Product information covers:- Core Product, Eligibility, Credit Interest, Overdraft, Features & Benefits, Other Fees & Charges
- In July 2017, as part of Open Data-Account Information design workshop, it was agreed that the Products endpoint should contain a reference to Open Data AND subset of Open Data model (Decision 039[2] – option 4)
- Approach to supplying product information via the Account and Transaction Information API for v2.x:
    - An optional "Open Data Product ID" link to the Open Data APIs should be retained, so that marketed product information is made available where this is available (this could be more than "Front book"

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2 https://openbanking.atlassian.net/wiki/spaces/WOR/pages/3654377/039

if a bank has decided to retain marketed product information for "Back book" products on the Open Data API.
- In addition to the "Open Data Product ID" link, we should focus on fields that are provided by price comparison websites today. Although overdraft rates are typically marked as "Negotiable" on PCWs, we feel that it would be useful to provide information about the actual overdraft rate(s) that the account holder is on, even if this cannot easily be used for comparison with other products.
- If there is a reference to "Open Data Product ID", then TPP may lookup product features from Open Data. If any element/field of products endpoint are populated, then this should override the default in Open Data (Decision 039[3] & 100[4]).
- The "Open Data Product ID" should be populated by the ASPSP in the **products** resource if there is a corresponding entry in the Open Data APIs
- Information supplied in the Account and Transaction Information API v2.x product section must come from account operating platforms.
- ProductType enumeration matches to types available in Open Data APIs, and ASPSPs may chose to provide any additional product type by closing value=Other in ProductType, and providing a brief type details in OtherProductType data fields, and reference to their Open Data product. At this moment, we don't have detailed Product Info structure for product types other than PCA/BCA.

15.3.3 Data Dictionary

Data Dictionary for Common Payload between PCA, BCA and other product types.

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadProduct2		OBReadProduct2		OBReadProduct2		
Data	1..1	OBReadProduct2/Data		OBReadDataProduct2		
Product	0..n	OBReadProduct2/Data/ Product		OBProduct2		
ProductName	0..1	OBReadProduct2/Data/ Product/ProductName	The name of the product used for marketing purposes from a customer perspective. I.e. what the customer would recognise.	xs:string		

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3 https://openbanking.atlassian.net/wiki/spaces/WOR/pages/3654377/039
4 https://openbanking.atlassian.net/wiki/spaces/WOR/pages/32376202/100

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
ProductId	0..1	OBReadProduct2/Data/ Product/ProductId	Identifier within the parent organisation for the product. Must be unique in the organisation.	xs:string		
AccountId	1..1	OBReadProduct2/Data/ Product/AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		
Secondary ProductId	0..1	OBReadProduct2/Data/ Product/ SecondaryProductId	Identifier within the parent organisation for the product. Must be unique in the organisation.	xs:string		
ProductType	1..1	OBReadProduct2/Data/ Product/ProductType	Descriptive code for the product category. If ProductType - "Other" is chosen, the object OtherProductType must be populated with name, and description for the ASPSP's	OBExternalProductType1Code	PersonalCurrentAccount BusinessCurrentAccount CommercialCreditCard SMELoan Other	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Marketing StateId	0..1	OBReadProduct2/Data/ Product/ MarketingStateId	Unique and unambiguous identification of a Product Marketing State.	xs:ID		[\i-[:]] [\c-[:]]*
OtherProductType	0..1	OBReadProduct2/Data/ Product/ OtherProductType	This field provides extension to the ProductType enumeration. If ProductType - "Other" is chosen, this field must be populated with name, and description for ASPSP specific product type	OB_OtherProductType1		
Name	1..1	OBReadProduct2/Data/ Product/ OtherProductType/ Name		xs:string		
Description	1..1	OBReadProduct2/Data/ Product/ OtherProductType/ Description		xs:string		
PCA	0..1	OBReadProduct2/Data/ Product/PCA		OBPCAData1		
BCA	0..1	OBReadProduct2/Data/ Product/BCA		OBBCAData1		

15.3.3.1 PCA Product Data Model

PCA Product Data Model - v2.0-rc3[5]

15.3.3.2 BCA Product Data Model

BCA Product Data Model - v2.0-rc3[6]

15.4 Usage Examples

Detailed usage examples for PCA, and BCA can be found in the Message Implementation Guide section of PCA and BCA sub pages.

15.4.1 Specific Account

Request

Get Accounts Product Request

```
GET /accounts/22289/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Product": [
      {
        "AccountId": "22289",
        "ProductId": "51B",
        "ProductType": "PersonalCurrentAccount",
        "ProductName": "321 Product",
        "PCA": {
          ....
            }
        }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/product"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

15.4.2 Bulk

Request

Get Products Request

```
GET /products HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Products Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Product": [
      {
        "AccountId": "22289",
        "ProductId": "51B",
        "ProductType": "PersonalCurrentAccount",
        "ProductName": "321 Product",
        "PCA": { .. }
      },
      {
        "AccountId": "31820",
        "ProductId": "001",
        "ProductType": "BusinessCurrentAccount",
        "ProductName": "123 Product",
        "BCA": { .. }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/products/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

15.5 BCA Product Data Model - v2.0.0

15.5.1 Version Control

Version	Date	Author	Comments
2.0.rc1	22 Jan 2018	Open Banking Read/Write API Team	This is the first release candidate draft version.
2.0-rc2	02 Feb 2018	Open Banking Read/Write API Team	This is the second release candidate draft version.
2.0-rc3	19 Feb 2018	Open Banking Read/Write API Team	This is the third release candidate version. Message Implementation Guide replaced with JSON Usage Examples Fixed UML Model, Data is mandatory element of OBReadProduct2 now

Ver si o n	Date	Author	Comments
2. 0. 0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

15.5.2 Overview

From the analysis:-

- Banks will provide the Open Data Product ID
- In addition to the "Open Data Product ID" link, we should focus on fields that are provided by price comparison websites today. Although overdraft rates are typically marked as "Negotiable" on PCWs, we feel that it would be useful to provide information about the actual overdraft rate(s) that the accountholder is on, even if this cannot easily be used for comparison with other products.
- The section which are most use full for price comparision the Fee-free periods, Credit Interest, certain section of eligibilities where other fee charges are dependent on them and periodic fee(s) .
- BCA Marketing state information is not required. As it was discussed in PCA workshop, it will be use full to have the marketing state id.
- Eligibility criteria met when BCA was sold unlikely to be reliable. Hence eligibility criteria info is optional.

Further analysis required:-

- FeaturesAndBenefits: Further analysis is required to check whether feature and benefits sections is needed are not.

15.5.2.1 Fields to include in BCA Product

Product Section	Fields to be included
BCA (We'll rename this "Product" and merge BCA and CoreProduct attributes)	- Name - ProductType ("BCA") - Product Segment (e.g. "Startup","Switcher","…) - Open Data Product ID (Mandatory, if product info is available on Open Data BCA API) - Fee-free period
CoreProduct	**None** – Will be merged in to new "Product" section.
BCAMarketingState	**None** – Sections will only include current state information, so this section is not required

Product Section	Fields to be included
CreditInterest	• TierBandSet fields (excluding credit interest eligibility). • All TierBand fields **Note: Only current state credit interest information is required. Where the interest rate(s) have been negotiated, the actual rates applied to the account should be provided.**
Overdraft	• All TierBandSet fields (including OverdraftFeesAndCharges) • All TierBand fields (including OverdraftFeesAndCharges). **Note: Only current state information is required. Where the overdraft rate(s) have been negotiated, the actual rates applied to the account should be provided.**
Eligibility	**None** – Whether an organisation is eligible for other products cannot be determined by looking at existing product eligibility e.g. criteria for a startup can vary from bank to bank.
FeaturesAndBenefits	**None** – The value of a particular feature and benefit to an accountholder is dependent on their use of that benefit and whether they met eligibility criteria. Features & benefits are less significant in BCA market than for PCA.
OtherFeesAndCharges	• See Notes

Notes:

- With BCA, there are substantially more other fees & charges than are applicable to PCA account holders.
- Prior to OBIE being formed, the CMA asked the 9 banks to provide a set of fees & charges that would allow for a comparison between banks, the results of which are documented in the Business current account and personal current account pricing analysis[7]. The comparison included the following Fee Types(Please see the attached codelist file), which we think are relevant, all of which are domestic transactions. As well as fee comparison information provided by the banks to the CMA9, there are additionally tariff comparison calculators provided by some of the banks that allow a BCA holder the ability to determine which bank product would provide them with the lowest set of charges.
- **Electronic:** Auto credit, Bill payment, Debit card payment, Direct debit, Standing Order
- **Branch/Other:** Pay in (Counter), Deposit (Cheque), Issue (Cheque), Withdrawal (Counter), Cash In, Cash Out (Counter), Cash Out (ATM)
- However, our analysis is that the basket of fees is a weighted average provided as a one-off activity and it would be difficult for the banks to supply fees/charges for these business activities in a real time API, due to banks charging fees at different levels of granularity today and fee standardisation being required. Although comparative pricing is highlighted as a key driver of the open banking initiative, without fee standardisation, the complexity of comparing fees is likely to deter customers from considering switching.
- **We conclude, that as with PCA, the periodic fee is the most common "Other" fee and charge that BCA price comparison websites provide today.**
- Banks will provide the Open Data Product ID

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[7] https://assets.digital.cabinet-office.gov.uk/media/574470efe5274a0375000006/update_on_pca_pricing_working_paper.pdf

- In addition to the "Open Data Product ID" link, we should focus on fields that are provided by price comparison websites today. Although overdraft rates are typically marked as "Negotiable" on PCWs, we feel that it would be useful to provide information about the actual overdraft rate(s) that the accountholder is on, even if this cannot easily be used for comparison with other products.
- The section which are most use full for price comparision the Fee-free periods, Credit Interest, certain section of eligibilities where other fee charges are dependent on them and periodic fee(s) .
- BCA Marketing state information is not required. As it was discussed in PCA workshop, it will be use full to have the marketing state id.
- Eligibility criteria met when BCA was sold unlikely to be reliable. Hence eligibility criteria info is optional.
- FeaturesAndBenefits: Further analysis is required to check whether feature and benefits sections is needed are not.

15.5.2.2 Changes from the OpenData Model

No Eligibility and FeaturesAndBenefits

- Eligibility and FeaturesAndBenefits section are removed from Account Info section as information related to them might not be easily available. May be looked into, in future releases.
- ***Unlike PCA, there is no requirement to publish a MaximumMonthlyCharge, so Monthly Charge field has been omitted. In the BCA On Sale Product Data API, There were two fields MonthlyCharge and IncludedInMonthlyChargeIndicator(OtherFeesAndCharges section). Both of these fields have been reoved from this specification.***

CreditInterest Model

- AER is the only representative rate for CreditInterest for product comparison purposes so has been explicitly captured.
- The banks often also specify Gross rates. Net is usually determined by removing basic rate tax only, and banks stopped doing this from April 2016. May still be required for backbook products.
- Have made sure that both the calculation and application frequency for credit interest is captured.
    - The term 'Nominal' used by some banks is synonymous with 'Gross'.

- DepositInterestAppliedCoverage refers to which interest rate is applied when interests are tiered. For example, if an account balance is £2k and the interest tiers are:- 0-£500 0.1%, 500-1000 0.2%, 1000-10000 0.5%, then the applicable interest rate could either be 0.5% of the entire balance (since the account balance sits in the top interest tier) or (0.1%*500)+(0.2%*500)+(0.5%*1000). In the 1st situation, we say the interest is applied to the 'Whole' of the account balance, and in the 2nd that it is 'Tiered'.
- Destination refers to whether the BCA allows interest to be credited to another account ('PayAway') or only to the BCA itself ('SelfCredit').
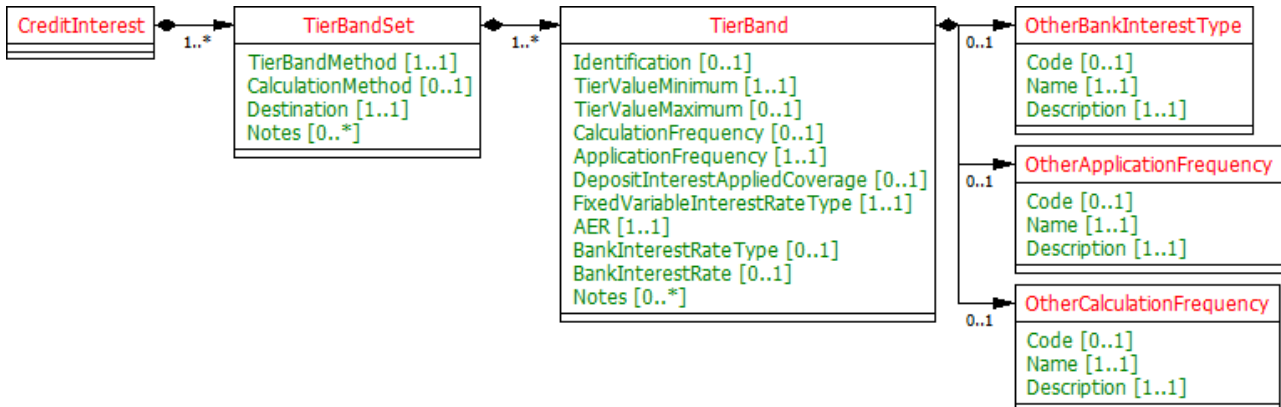
Overdraft

- Overdraft Types can either be Committed – The bank are committed to provide this overdraft facility and cannot demand repayment without notifying the customer, or OnDemand: The bank can demand instant repayment of this overdraft.
- OverdraftFeeCharges are defined at TierBandSet level for fees/charges that are not tiered and at the TierBand level for those that are. See following slide for details.
- For BCA, as well as the bank's own tiers, they have to specify the EAR for representative overdrafts in the CMA defined bands set out in article 32.3 of the order.
- OverdraftInterestChargingCoverage refers to which interest rate is applied when interests are tiered. For example, if an overdraft balance is £2k and the interest tiers are:- 0-£500 0.1%, 500-1000 0.2%, 1000-10000 0.5%, then the applicable interest rate could either be 0.5% of the entire balance (since the account balance sits in the top interest tier) or (0.1%*500)+(0.2%*500)+(0.5%*1000). In the 1st situation, we say the interest is applied to the 'Whole' of the account balance, and in the 2nd that it is 'Tiered'.
- BankGuaranteedIndicator indicates whether the advertised overdraft rate is guaranteed to be offered to a borrower by the bank e.g. if it's part of a government scheme, or whether the rate may vary dependent on the applicant's circumstances.
- AgreementLengthMin, AgreementLengthMax and AgreementLengthPeriod added to allow for Overdrafts whose rate varies dependent on the length of the agreement as well as the size of the overdraft.

OverdraftFeeCharges

- Overdraft/borrowing fees are less important for BCA than for PCA, as only 15% of business customers have overdrafts. (Ref: page 15 - https://assets.publishing.service.gov.uk/media/55c4bf0340f0b61374000015/BCA_and_PCA_pricing_analysis_v2.pdf)
- A cap can be applied to 1 or more Overdraft Fees/Charges and are typically capped for a particular period e.g. Total overdraft charges (Arranged, Unarranged, Paid Transaction, Unpaid Transaction) may be capped on a monthly basis.
- Capping can either be based on an amount (in gbp), an amount (in items) or a rate.
- We'll need notes to make it clear how any formula used to apply the capping is deduced.

- The codelist for OverdraftFeeChargeCap/FeeType and OverdraftFeeChargeDetail/FeeType is different from the equivalent fields in OtherFeesAndCharges.
- FeeCapOccurrence has been added to capture situations were fee/charges are captured dependent on the number of occurrences rather than capped at a particular amount.
- Setup/arrangement and renewal fees are common for business overdrafts, so would need to be included in the OB_BCAOverdraftFeeType1Codelist.
- Fees/charges are often negotiable, so a NegotiableIndicator has been added to OverdraftFeeChargeDetail.
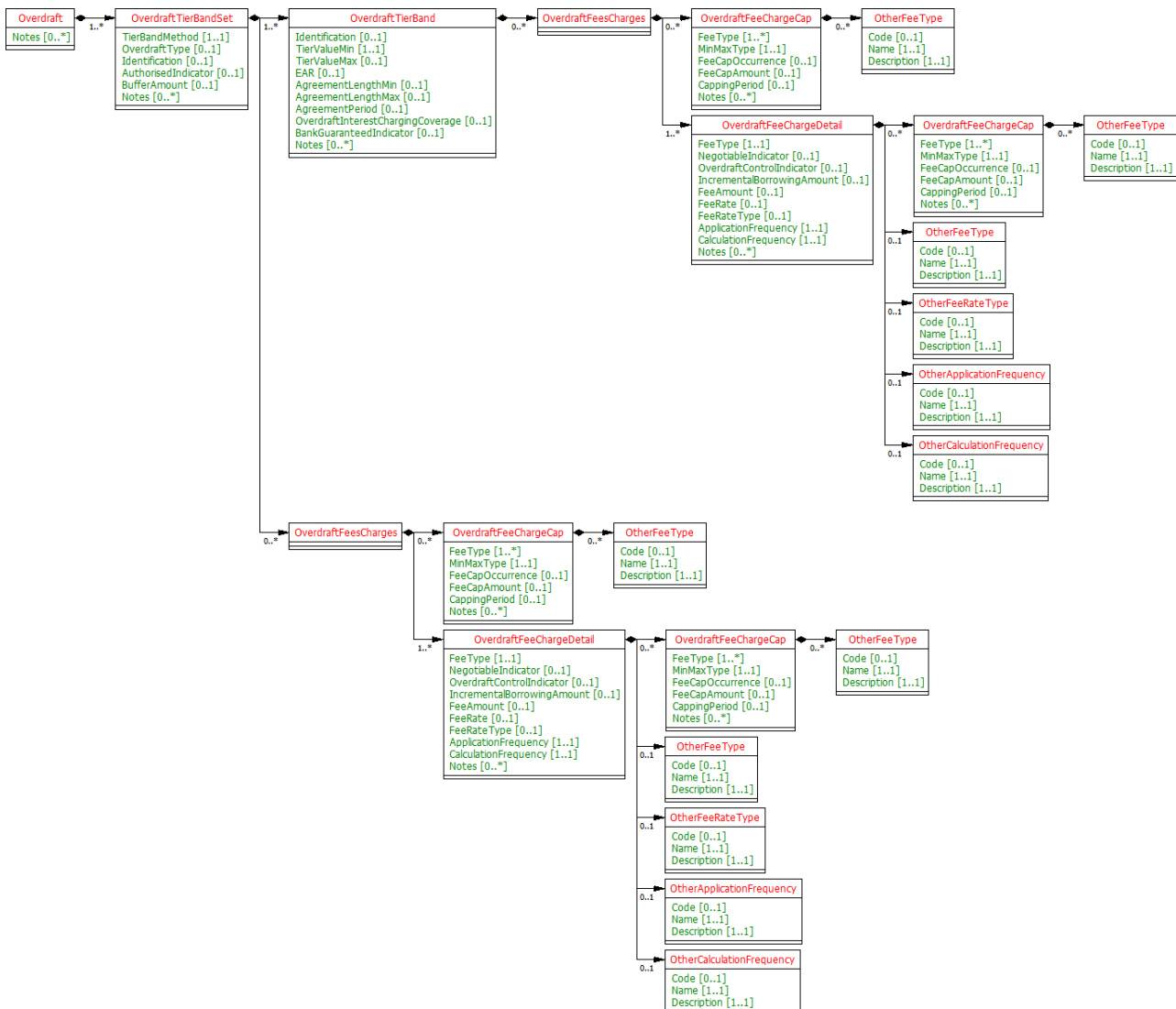
OtherFeesCharges

- OtherFeesCharges is a lot more important for companies who haven't opened a startup or switcher account.
- Fees/charges are often negotiable for BCA, so a NegotiableIndicator has been added to FeeChargeDetail.

OtherFeesCharges

TariffType [0..1]
TariffName [0..1]

0..1

OtherTariffType

Code [0..1]
Name [1..1]
Description [1..1]

1..*

FeeChargeDetail

FeeCategory [1..1]
FeeType [1..1]
NegotiableIndicator [0..1]
FeeAmount [0..1]
FeeRate [0..1]
FeeRateType [0..1]
ApplicationFrequency [1..1]
CalculationFrequency [0..1]
Notes [0..*]

0..*

FeeChargeCap

FeeType [1..*]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

0..*

OtherFeeType

Code [0..1]
Name [1..1]
Description [1..1]

0..1

OtherFeeCategoryType

Code [0..1]
Name [1..1]
Description [1..1]

0..1

OtherFeeType

Code [0..1]
FeeCategory [1..1]
Name [1..1]
Description [1..1]

0..1

OtherFeeRateType

Code [0..1]
Name [1..1]
Description [1..1]

0..1

OtherApplicationFrequency

Code [0..1]
Name [1..1]
Description [1..1]

0..1

OtherCalculationFrequency

Code [0..1]
Name [1..1]
Description [1..1]

0..1

FeeApplicableRange

MinimumAmount [0..1]
MaximumAmount [0..1]
MinimumRate [0..1]
MaximumRate [0..1]

0..*

FeeChargeCap

FeeType [1..*]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

0..*

OtherFeeType

Code [0..1]
Name [1..1]
Description [1..1]

15.5.3 Data Model

15.5.3.1 Data Payload

BCA

UML Class Diagram

- This implementation is based on the assumption that all pending decisions were based on the OBIE recommended option.
- Other Fee Charges: Only Periodic Fee(service charge) has been inlcuded in the Code List.
- We have taken Open Data BCA Segements for BCA Account Info as well.

OBReadProduct2 1..1

Data 0..*

Product
ProductName [0..1]
ProductId [0..1]
AccountId [1..1]
SecondaryProductId [0..1]
ProductType [1..1]
MarketingStateId [0..1]

OtherProductType
Name [1..1]
Description [1..1]

BCA

ProductDetails
Segment [0..*]
FeeFreeLength [0..1]
FeeFreeLengthPeriod [0..1]
Notes [0..*]

CreditInterest

TierBandSet
TierBandMethod [1..1]
CalculationMethod [0..1]
Destination [1..1]
Notes [0..*]

TierBand
Identification [0..1]
TierValueMinimum [1..1]
TierValueMaximum [0..1]
CalculationFrequency [0..1]
ApplicationFrequency [1..1]
DepositInterestAppliedCoverage [0..1]
FixedVariableInterestRateType [1..1]
AER [1..1]
BankInterestRateType [0..1]
BankInterestRate [0..1]
Notes [0..*]

OtherBankInterestType
Code [0..1]
Name [1..1]
Description [1..1]

OtherApplicationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OtherCalculationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

Overdraft
Notes [0..*]

OverdraftTierBandSet
TierBandMethod [1..1]
OverdraftType [0..1]
Identification [0..1]
AuthorisedIndicator [0..1]
BufferAmount [0..1]
Notes [0..*]

OverdraftTierBand
Identification [0..1]
TierValueMin [1..1]
TierValueMax [0..1]
EAR [0..1]
AgreementLengthMin [0..1]
AgreementLengthMax [0..1]
AgreementPeriod [0..1]
OverdraftInterestChargingCoverage [0..1]
BankGuaranteedIndicator [0..1]
Notes [0..*]

OverdraftFeesCharges

OverdraftFeeChargeCap
FeeType [1..*]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeeChargeDetail
FeeType [1..1]
NegotiableIndicator [0..1]
OverdraftControlIndicator [0..1]
IncrementalBorrowingAmount [0..1]
FeeAmount [0..1]
FeeRate [0..1]
FeeRateType [0..1]
ApplicationFrequency [1..1]
CalculationFrequency [0..1]
Notes [0..*]

OverdraftFeeChargeCap
FeeType [1..*]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeeRateType
Code [0..1]
Name [1..1]
Description [1..1]

OtherApplicationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OtherCalculationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeesCharges

OverdraftFeeChargeCap
FeeType [1..*]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeeChargeDetail
FeeType [1..1]
NegotiableIndicator [0..1]
OverdraftControlIndicator [0..1]
IncrementalBorrowingAmount [0..1]
FeeAmount [0..1]
FeeRate [0..1]
FeeRateType [0..1]
ApplicationFrequency [1..1]
CalculationFrequency [0..1]
Notes [0..*]

OverdraftFeeChargeCap
FeeType [1..*]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeeRateType
Code [0..1]
Name [1..1]
Description [1..1]

OtherApplicationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OtherCalculationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeesCharges
TariffType [0..1]
TariffName [0..1]

OtherTariffType
Code [0..1]
Name [1..1]
Description [1..1]

FeeChargeDetail
FeeCategory [1..1]
FeeType [1..1]
NegotiableIndicator [0..1]
FeeAmount [0..1]
FeeRate [0..1]
FeeRateType [0..1]
ApplicationFrequency [1..1]
CalculationFrequency [0..1]
Notes [0..*]

FeeChargeCap
FeeType [1..*]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeeCategoryType
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeeType
Code [0..1]
FeeCategory [1..1]
Name [1..1]
Description [1..1]

OtherFeeRateType
Code [0..1]
Name [1..1]
Description [1..1]

OtherApplicationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OtherCalculationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

FeeApplicableRange
MinimumAmount [0..1]
MaximumAmount [0..1]
MinimumRate [0..1]
MaximumRate [0..1]

FeeChargeCap
FeeType [1..*]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

15.5.3.2 Data Dictionary

- BCA Account Info Data Definition[8]

15.5.3.3 Data Payload - Enumerations

- BCA Account Info Code List[9]

15.5.4 Usage Examples

15.5.4.1 Publish Open Data Standard BCA Product

Example reference HSBC Startup Business Account

Request

> **Get Accounts Product Request**
>
> ```
> GET /accounts/22389/product HTTP/1.1
> Authorization: Bearer Az90SAOJklae
> x-fapi-financial-id: OB/2017/001
> x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
> x-fapi-customer-ip-address: 104.25.212.99
> x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
> Accept: application/json
> ```

Response

> **Get Accounts Product Response**
>
> ```
> HTTP/1.1 200 OK
> x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
> Content-Type: application/json
>
> {
>    "Data":{
>       "Product":[
>          {
>             "AccountId":"22389",
>             "ProductId":"HSBC12234BAS",
>             "ProductType":"BusinessCurrentAccount",
>             "ProductName":"HSBC Startup Business Current Account"
>          }
> ```

---

[8] https://openbanking.atlassian.net/wiki/download/attachments/129040686/ainfobca.2.2.0.DD.xlsx?
api=v2&cacheVersion=1&modificationDate=1519757774490&version=1
[9] https://openbanking.atlassian.net/wiki/download/attachments/129040686/ainfobca.2.2.0.CodeList.xlsx?
api=v2&cacheVersion=1&modificationDate=1519757785156&version=1

```
        ]
    },
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22289/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.5.4.2 Publish Open Data Standard BCA Product along with new other fee charges

Example taken from Santander Business Current Account

The customer is at £12.50 monthly account fee for £3,000 cash deposits per month.

Request

Get Accounts Product Request

```
GET /accounts/22390/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22390",
                "ProductId":"HSBC12234BAS",
                "ProductType":"BusinessCurrentAccount",
                "ProductName":"Business Current Account £12.50 Monthly Fee",
                "BCA":{
                    "OtherFeesCharges":{
                        "FeeChargeDetail":[
                            {
                                "FeeCategory":"Servicing",
                                "FeeType":"ServiceCAccountFeeMonthly",
                                "FeeAmount":"12.500",
                                "ApplicationFrequency":"Monthly",
```

```
                    "CalculationFrequency":"Daily",
                    "Notes":[
                        "Our tariff includes:\n* depositing and sending cheques\n* cash deposits up to
the limit your tariff allows\n* withdrawals\n* Direct Debits, standing orders, bill payments\n* Bas
credits\n* debit card payments"
                    ]
                }
            ]
        }
    }
    ]
    },
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22390/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.5.4.3 Publish Back Book product

Lloyds Retail Business Current Account

Request

Get Accounts Product Request

```
GET /accounts/22391/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22391",
                "ProductType":"BusinessCurrentAccount",
```

```json
                "ProductName":"Lloyds Business Current Account",
                     "BCA": {
                          "ProductDetails": {
                               "Segment": "General",
                               "FeeFreeLength": "18",
                               "FeeFreeLengthPeriod":"Month",
                               "Notes": ["The customer is no longer in the fee free period."]
                          }
                     }
                }
           ]
     },
     "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22391/product"
     },
     "Meta":{
        "TotalPages":1
     }
}
```

15.5.4.4 Represent a business overdraft fees

Example taken from Barclays Business Current Account

Request

Get Accounts Product Request

```
GET /accounts/22392/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
   "Data":{
      "Product":[
         {
            "AccountId":"22392",
            "ProductType":"BusinessCurrentAccount",
            "ProductName":"Barclays Business Current Account",
```

```json
            "BCA":{
                "Overdraft":{
                    "OverdraftTierBandSet":[
                        {
                            "TierBandMethod":"Tiered",
                            "OverdraftType":"Committed",
                            "OverdraftFeesCharges":[
                                {
                                    "OverdraftFeeChargeDetail":[
                                        {
                                            "FeeType":"OverdraftSetup",
                                            "NegotiableIndicator":true,
                                            "FeeAmount":"75.00",
                                            "CalculationFrequency":"OnOpening",
                                            "ApplicationFrequency":"OnOpening"
                                        },
                                        {
                                            "FeeType":"TempOverdraft",
                                            "FeeRate":"12.30",
                                            "FeeRateType":"Gross",
                                            "ApplicationFrequency":"Monthly",
                                            "CalculationFrequency":"Daily"
                                        },
                                        {
                                            "FeeType":"OverdraftRenewal",
                                            "FeeRate":"0.5",
                                            "FeeRateType":"Gross",
                                            "ApplicationFrequency":"OnAnniversary",
                                            "CalculationFrequency":"OnAnniversary"
                                        }
                                    ]
                                }
                            ],
                            "BufferAmount":"10.00",
                            "Notes":[
                                "The daily usage fee-free overdraft period is for 12 months starting on the date
you open a Current Account with us."
                            ]
                        }
                    ]
                }
            }
        ]
    },
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22392/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.5.4.5 Show whole interest rates

Example from Lloyds Schools Banking Account

0.05% Fixed interest

No interest-related eligibly criteria specific

Request

Get Accounts Product Request

```
GET /accounts/22393/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22393",
                "ProductType":"BusinessCurrentAccount",
                "ProductName":"School Bank Account",
                "BCA":{
                    "CreditInterest":{
                        "TierBandSet":{
                            "TierBandMethod":"Whole",
                            "CalculationMethod":"Compound",
                            "Destination":"SelfCredit",
                            "Notes":[
                                "£1 minimum balance"
                            ],
                            "TierBand":[
                                {
                                    "Identification":"1",
                                    "TierValueMinimum":"1.0000",
                                    "CalculationFrequency":"Monthly",
                                    "ApplicationFrequency":"Monthly",
                                    "DepositInterestAppliedCoverage":"Whole",
                                    "FixedVariableInterestRateType":"Fixed",
```

```
                            "AER":"0.0500",
                            "BankInterestRateType":"Gross",
                            "BankInterestRate":"0.0500"
                        }
                    ]
                }
            }
        }
    ]
},
"Links":{
    "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22393/product"
},
"Meta":{
    "TotalPages":1
}
}
```

15.5.4.6 Represent Tariffs and "Other Fees And Charges"

HSBC Business Current Account

Request

Get Accounts Product Request

```
GET /accounts/22394/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22394",
                "ProductId":"HSBC1234BCA",
                "ProductType":"BusinessCurrentAccount",
                "ProductName":"BCA Startup Current Account",
```

```json
        "PCA":{
            "OtherFeesCharges":[
                {
                    "TariffType":"Mixed",
                    "TariffName":"Small Business Tariff",
                    "FeeChargeDetail":{
                        "FeeCategory":"Servicing",
                        "FeeType":"ServiceCAccountFeeMonthly",
                        "FeeAmount":"5.50",
                        "CalculationFrequency":"Monthly",
                        "ApplicationFrequency":"Monthly",
                        "Notes":[
                            "Standard account charges. Small Business Tariff."
                        ]
                    }
                },
                {
                    "TariffType":"Electronic",
                    "TariffName":"Electronic Banking Tariff",
                    "FeeChargeDetail":{
                        "FeeCategory":"Servicing",
                        "FeeType":"ServiceCAccountFeeMonthly",
                        "FeeAmount":"5.50",
                        "CalculationFrequency":"Monthly",
                        "ApplicationFrequency":"Monthly",
                        "Notes":[
                            "Standard account charges. Electronic Banking Tariff."
                        ]
                    }
                }
            ]
        }
    }
    ]
    },
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22394/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.6 PCA Product Data Model - v2.0.0

15.6.1 Version Control

Version	Date	Author	Comments
2.0.rc1	22 Jan 2018	Open Banking Read/Write API Team	This is the first release candidate draft version.
2.0-rc2	02 Feb 2018	Open Banking Read/Write API Team	This is the second release candidate draft version.
2.0-rc3	19 Feb 2018	Open Banking Read/Write API Team	This is the third release candidate draft version. Replaced Message Implementation Guide with Usage Examples Fixed UML Model, Data is mandatory element of OBReadProduct2 now
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

15.6.2 Overview

From the analysis:-

- Most banks (other than CMA9) simply have to supply the MMC for their PCA products (on-sale, negotiated or back book)
- The MMC is the CMA's attempt to come up with a core fee/charge that can be used for PCA product comparison purposes
- This, in combination, with representative rates (AER for Credit Interest, EAR for overdrafts) would allow a customer to reasonably compare PCA products.
- PCA Marketing state information is not required.
- Eligibility criteria met when PCA was sold unlikely to be reliable. Hence eligibility criteria info is not required.

Further analysis required:-

- FeaturesAndBenefits: Further analysis is required to check whether feature and benefits sections is needed are not.

15.6.2.1 Fields to include in PCA Product

Product Section	Fields to be included
PCA (We'll rename this "Product" and merge PCA and CoreProduct attributes)	• Name • Open Data Product ID (Mandatory, if product info is available on Open Data PCA API) • ProductType ("PCA") • MonthlyMaximumCharge (Mandatory for "front book" products)
CoreProduct	**None** – Will be merged in to new "Product" section.
PCAMarketingState	**None** – Sections will only include current state information, so this section is not required
CreditInterest	• TierBandSet fields (excluding credit interest eligibility). • All TierBand fields **Note: Only current state credit interest information is required.**
Overdraft	• All TierBandSet fields (including OverdraftFeesAndCharges) • All TierBand fields (including OverdraftFeesAndCharges). **Note: Only current state information is required.**
Eligibility	**None** – Eligibility criteria met when PCA was sold unlikely to be reliable.
FeaturesAndBenefits	**None** – The value of a particular feature and benefit to an accountholder is dependent on their use of that benefit and whether they met eligibility criteria. Certain benefits may be provided by external suppliers making it difficult to provide real time info. Relevant general features & benefits info can be obtained from Open Data API for "front book" products.

Product Section	Fields to be included
OtherFeesAndCharges	• Periodic Fee (i.e. the service charge)

15.6.2.2 Changes from the OpenData Model

No Eligibility and FeaturesAndBenefits

1. Eligibility and FeaturesAndBenefits section are removed from Product as information related to them might not be easily available. May be looked into, in future releases.
2. Monthly maximum charge (MMC): covering all unarranged overdraft charges (including debit interest)

Credit Interest Model

- AER is the only representative rate for CreditInterest for product comparison purposes so has been explicitly captured.
- The banks often also specify Gross rates. Net is usually determined by removing basic rate tax only, and banks stopped doing this from April 2016. May still be required for backbook products.
- Have made sure that both the calculation and application frequency for credit interest is captured.
    - The term 'Nominal' used by some banks is synonymous with 'Gross'.
- DepositInterestAppliedCoverage refers to which interest rate is applied when interests are tiered. For example, if an account balance is £2k and the interest tiers are:- 0-£500 0.1%, 500-1000 0.2%, 1000-10000 0.5%, then the applicable interest rate could either be 0.5% of the entire balance (since the account balance sits in the top interest tier) or (0.1%*500)+(0.2%*500)+(0.5%*1000). In the 1st situation, we say the interest is applied to the 'Whole' of the account balance, and in the 2nd that it is 'Tiered'.
- Destination refers to whether the Product allows interest to be credited to another account ('PayAway') or only to itself ('SelfCredit').
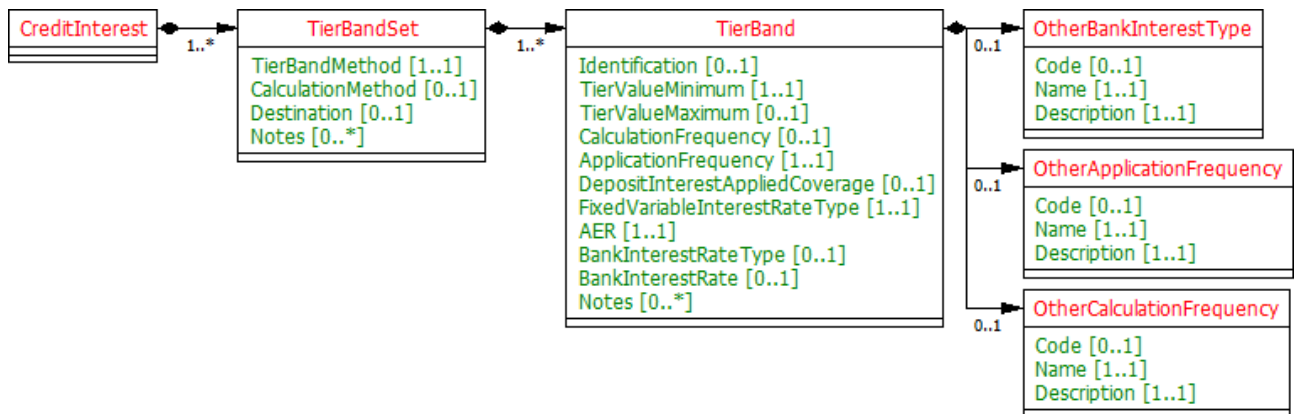
Overdraft

- Overdraft Types can either be committed – The bank are committed to provide this overdraft facility and cannot demand repayment without notifying the customer, or OnDemand : The bank can demand instant repayment of this overdraft.
- Student Account: Can it be negotiated or back book product? Can student accounts are allowed to switch?
- OverdraftFeeCharges are defined at TierBandSet level for fees/charges that are not tiered and at the TierBand level for those that are.

Overdraft
Notes [0..*]

OverdraftTierBandSet
TierBandMethod [1..1]
OverdraftType [0..1]
Identification [0..1]
AuthorisedIndicator [0..1]
BufferAmount [0..1]
Notes [0..*]

OverdraftTierBand
Identification [0..1]
TierValueMin [1..1]
TierValueMax [0..1]
OverdraftInterestChargingCoverage [0..1]
BankGuaranteedIndicator [0..1]
EAR [0..1]
Notes [0..*]

OverdraftFeesCharges

OverdraftFeeChargeCap
FeeType [1..*]
OverdraftControlIndicator [0..1]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeeChargeDetail
FeeType [1..1]
OverdraftControlIndicator [0..1]
IncrementalBorrowingAmount [0..1]
FeeAmount [0..1]
FeeRate [0..1]
FeeRateType [0..1]
ApplicationFrequency [1..1]
CalculationFrequency [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeeRateType
Code [0..1]
Name [1..1]
Description [1..1]

OtherApplicationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OtherCalculationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeeChargeCap
FeeType [1..*]
OverdraftControlIndicator [0..1]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeesCharges

OverdraftFeeChargeCap
FeeType [1..*]
OverdraftControlIndicator [0..1]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeeChargeDetail
FeeType [1..1]
OverdraftControlIndicator [0..1]
IncrementalBorrowingAmount [0..1]
FeeAmount [0..1]
FeeRate [0..1]
FeeRateType [0..1]
ApplicationFrequency [1..1]
CalculationFrequency [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OtherFeeRateType
Code [0..1]
Name [1..1]
Description [1..1]

OtherApplicationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OtherCalculationFrequency
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeeChargeCap
FeeType [1..*]
OverdraftControlIndicator [0..1]
MinMaxType [1..1]
FeeCapOccurrence [0..1]
FeeCapAmount [0..1]
CappingPeriod [0..1]
Notes [0..*]

OtherFeeType
Code [0..1]
Name [1..1]
Description [1..1]

OverdraftFeeCharges

- A cap can be applied to 1 or more Overdraft Fees/Charges and are typically capped for a particular period e.g. Total overdraft charges (Arranged, Unarranged, Paid Transaction, Unpaid Transaction) may be capped on a monthly basis. More than one fee charges can be clubbed to be capped into one cap. Also a fee charge can be clubbed or used in more than one caps?
- Capping can either be based on an amount (in gbp), an amount (in items) or a rate.
- We'll need notes to make it clear how any formula used to apply the capping is deduced.
- FeeCapOccurrence has been added to capture situations were fee/charges are captured dependent on the number of occurrences rather than capped at a particular amount.
- OverdraftControlIndicator has been added to the OverdraftFeeChargeCap & OverdraftFeeChargeDetail to allow fees & caps to be specified for the overdraft control feature/benefit.

OtherFeeCharges

- Other Fee charges such as Service charge such as Service Charge - Monthly Account Maintenance Fee or Service Charge - Account Fee
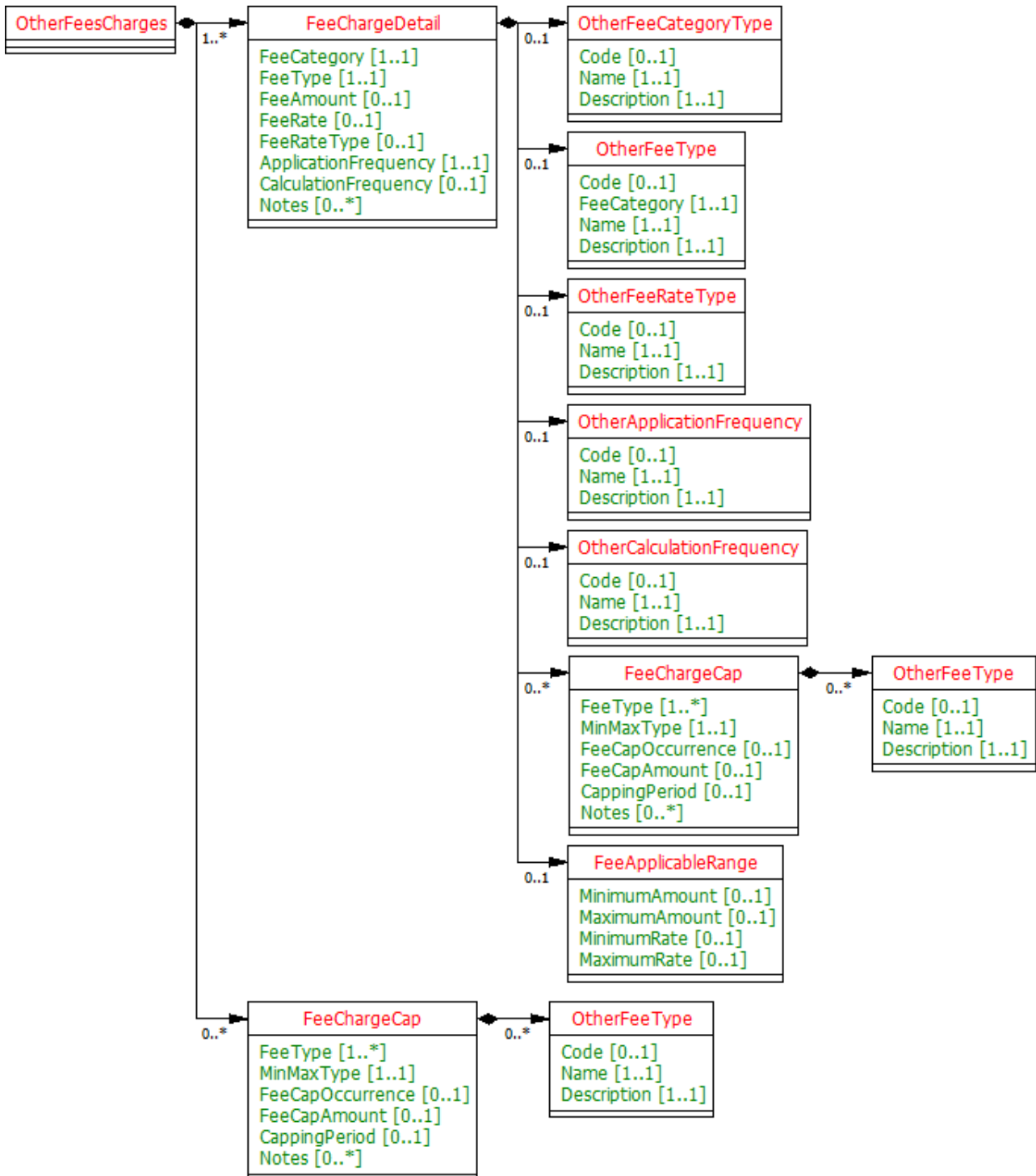
15.6.3 Data Model

15.6.3.1 Data Payload

PCA

UML Class Diagram

- This implementation is based on the assumption that all pending decisions were based on the OBIE recommended option.
- Other Fee Charges: Only Periodic Fee(service charge) has been included in the Code List.
- We have taken Open Data PCA Segements for PCA Account Info as well.
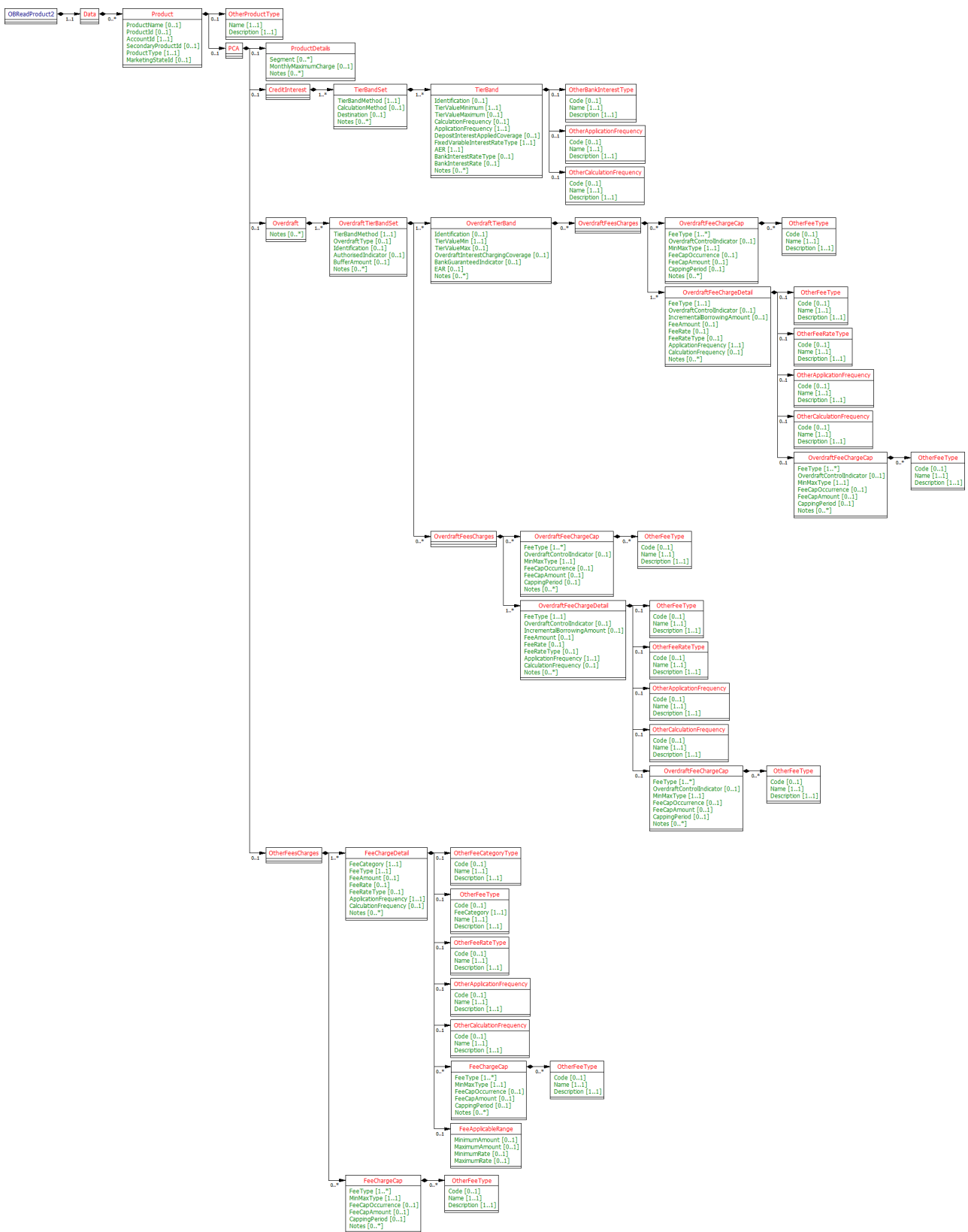
Data Dictionary

- PCA Product Info DataDictionary[10]

15.6.3.2 Data Payload - Enumerations

- PCA Product Info CodeList[11]

15.6.4 Usage Examples

15.6.4.1 Publish Open Data Standard PCA Product

Request

Get Accounts Product Request

```
GET /accounts/22289/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
   "Data":{
      "Product":[
         {
            "AccountId":"22289",
            "ProductId":"HSBC12234BAS",
            "ProductType":"PersonalCurrentAccount",
            "ProductName":"HSBC Basic Bank Account"
         }
      ]
   },
```

---

10 https://openbanking.atlassian.net/wiki/download/attachments/128909572/ainfopca.2.2.0.DD.xlsx?
   api=v2&cacheVersion=1&modificationDate=1519757866774&version=1
11 https://openbanking.atlassian.net/wiki/download/attachments/128909572/ainfopca.2.2.0.CodeLists.xlsx?
   api=v2&cacheVersion=1&modificationDate=1519757878801&version=1

```
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22289/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.6.4.2 Publish Open Data Standard PCA Product, along with new other fee charges

Additional £5 monthly account fee

Request

Get Accounts Product Request

```
GET /accounts/22299/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22299",
                "ProductId":"SNTNDR1234BSCA",
                "ProductType":"PersonalCurrentAccount",
                "ProductName":"Select Current Account",
                "PCA":{
                    "OtherFeesCharges":{
                        "FeeChargeDetail":{
                            "FeeCategory":"Servicing",
                            "FeeType":"ServiceCAccountFeeMonthly",
                            "FeeAmount":"5.0",
                            "CalculationFrequency":"Yearly",
                            "ApplicationFrequency":"Monthly",
                            "Notes":[
                                "Personal support from a Relationship Manager.",
                                "24 hour priority service at home and abroad",
```

```
                    "Preferential products",
                    "Access to Santander Select globally"
                ]
            }
        }
      }
    }
  ]
},
"Links":{
    "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22299/product"
},
"Meta":{
    "TotalPages":1
}
}
```

15.6.4.3 Publish Open Data Standard PCA Product along with Marketing State ID

Request

Get Accounts Product Request

```
GET /accounts/22305/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22305",
                "ProductId":"BARC1234STDNT",
                "ProductType":"PersonalCurrentAccount",
                "ProductName":"Higher Education Account",
                "MarketingStateId":"EAR2"
            }
        ]
    },
```

```
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22305/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.6.4.4 Publish Back Book product along with MMC

Request

Get Accounts Product Request

```
GET /accounts/22306/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22306",
                "ProductType":"PersonalCurrentAccount",
                "ProductName":"Barclays Current Account",
                "MarketingStateId":"EAR2",
                "PCA":{
                    "ProductDetails":{
                        "Segment":"General",
                        "MonthlyMaximumCharge":"32",
                        "Notes":[
                            "We'll only charge you a single fee – whichever is highest. So, for example, if
your've exceeded your overdraft limit, exceeded your Emergency Borrowing Limit and had a transaction
returned as unpaid, all on the same day, we'll only charge your the £8 Unpaid Transaction Fee"
                        ]
                    }
                }
            }
        ]
```

```
    },
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22306/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.6.4.5 Showing tiered interest rates (Example for back book prod)

Example is from Bank of Scotland Classic Vantage account (prior to 11th June 2017)

3.00% AER (2.96% Gross) variable on balances £3,000-£5,000

2.00% AER (1.98% Gross) variable on balances £1,000-£2,999.99

1.50% AER (1.49% Gross) variable on balances £1-£999.99

Request

Get Accounts Product Request

```
GET /accounts/22307/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22307",
                "ProductType":"PersonalCurrentAccount",
                "ProductName":"BankOfScotland Classic Vantage Account",
                "PCA":{
                    "CreditInterest":{
                        "TierBandSet":{
                            "TierBandMethod":"Tiered",
                            "CalculationMethod":"Compound",
                            "Notes":[
```

```
                        "From the 11th June 2017, we will be changing how we pat credit interest on our
Bank of Scotland current accounts with Vantage.",
                        "We are replacing the current tiered rates with a single interest rate of 2%
AER(1.98% gross) (variable) on credit balances between £1 and £5,000. Depending on the balance of your
account this may be an increase or decrease to the rate your currently receive."
                    ],
                    "TierBand":[
                        {
                            "Identification":"1",
                            "TierValueMinimum":"1.00",
                            "TierValueMaximum":"999.99",
                            "CalculationFrequency":"Monthly",
                            "ApplicationFrequency":"Monthly",
                            "DepositInterestAppliedCoverage":"Tiered",
                            "FixedVariableInterestRateType":"Variable",
                            "AER":"1.50",
                            "BankInterestRateType":"Gross"
                        },
                        {
                            "Identification":"2",
                            "TierValueMinimum":"1000.00",
                            "TierValueMaximum":"2999.99",
                            "CalculationFrequency":"Monthly",
                            "ApplicationFrequency":"Monthly",
                            "DepositInterestAppliedCoverage":"Tiered",
                            "FixedVariableInterestRateType":"Variable",
                            "AER":"2.00",
                            "BankInterestRateType":"Gross"
                        },
                        {
                            "TierValueMinimum":"3000.00",
                            "TierValueMaximum":"5000.00",
                            "CalculationFrequency":"Monthly",
                            "ApplicationFrequency":"Monthly",
                            "DepositInterestAppliedCoverage":"Tiered",
                            "FixedVariableInterestRateType":"Variable",
                            "AER":"3.00",
                            "BankInterestRateType":"Gross"
                        }
                    ]
                }
            }
        }
    ]
},
"Links":{
    "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22307/product"
},
"Meta":{
    "TotalPages":1
}
}
```

15.6.4.6 Showing whole interest rates

Example is Bank of Scotland Classic Vantage account (After 11th June 2017)

2% AER (1.98% Gross) variable on balances £1-£5,000

Request

Get Accounts Product Request

```
GET /accounts/22308/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22308",
                "ProductType":"PersonalCurrentAccount",
                "ProductName":"BankOfScotland Classic Vantage Account",
                "PCA":{
                    "CreditInterest":{
                        "TierBandSet":{
                            "TierBandMethod":"Whole",
                            "CalculationMethod":"Compound",
                            "Notes":[
                                "No interest on balances over £5000"
                            ],
                            "TierBand":[
                                {
                                    "Identification":"1",
                                    "TierValueMinimum":"1.00",
                                    "TierValueMaximum":"5000.00",
                                    "CalculationFrequency":"Monthly",
                                    "ApplicationFrequency":"Monthly",
                                    "DepositInterestAppliedCoverage":"Whole",
                                    "FixedVariableInterestRateType":"Variable",
                                    "AER":"2.00",
                                    "BankInterestRateType":"Gross",
```

```
                        "BankInterestRate":"1.98"
                    }
                ]
            }
          }
        }
      }
    ]
  },
  "Links":{
      "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22308/product"
  },
  "Meta":{
      "TotalPages":1
  }
}
```

15.6.4.7 Represent graduate overdraft limits

If you've graduated within the last 3 years, you can apply for an overdraft of upto £3,000 (subject to status).

This is the breakdown of the fee free amounts available based on how long ago you graduated. The maximum overdraft you can apply for this account is £3,000.

1st year after graduation: Up to £3,000

2nd year after graduation: Up to £2,000

3rd year after graduation: Up to £1,000

Request

Get Accounts Product Request

```
GET /accounts/22309/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
```

```
        {
          "AccountId":"22309",
          "ProductType":"PersonalCurrentAccount",
          "ProductName":"BankOfScotland Classic Vantage Account",
          "PCA":{
            "Overdraft":{
              "OverdraftTierBandSet":[
                {
                  "TierBandMethod":"Whole",
                  "OverdraftType":"Committed",
                  "Identification":"G1",
                  "AuthorisedIndicator":true,
                  "BufferAmount":"0.00",
                  "Notes":[
                    "If you've graduated within the last 3 years, you can apply for an overdraft of
upto £3,000 (subject to status). This is a breakdown of the fee free amounts available based on how long
ago you graduated.",
                    "The maximum overdraft you can apply for with this account is £3,000."
                  ],
                  "OverdraftTierBand":[
                    {
                      "Identification":"G-001",
                      "TierValueMin":"0.00",
                      "TierValueMax":"3000.00",
                      "BankGuaranteedIndicator":true,
                      "EAR":"0",
                      "Notes":[
                        "Upto £3000"
                      ]
                    },
                    {
                      "Identification":"G-002",
                      "TierValueMin":"0.00",
                      "TierValueMax":"2000.00",
                      "BankGuaranteedIndicator":true,
                      "EAR":"0",
                      "Notes":[
                        "Upto £2000"
                      ]
                    },
                    {
                      "Identification":"G-003",
                      "TierValueMin":"0.00",
                      "TierValueMax":"1000.00",
                      "BankGuaranteedIndicator":true,
                      "EAR":"0",
                      "Notes":[
                        "Upto £1000"
                      ]
                    }
                  ]
                }
              ]
            }
```

```
                }
            }
        ]
    },
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22309/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.6.4.8 Represent overdrafts with periodic & per item fees with caps

Example: Nationwide Flex Direct

Daily arranged overdraft fee: £0.50 per day (with £10 buffer amount)

Daily unarranged overdraft fee: £5 per day (capped at £60 per calendar month)

Fee for a paid or unpaid transaction when you have insufficient funds: £5 per transaction (capped at £35 per month)

Request

Get Accounts Product Request

```
GET /accounts/22310/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json


{
    "Data":{
        "Product":[
            {
                "AccountId":"22310",
                "ProductType":"PersonalCurrentAccount",
                "ProductName":"Nationwide FlexDirect",
                "PCA":{
                    "Overdraft":{
```

```
            "OverdraftTierBandSet":[
                {
                    "TierBandMethod":"Whole",
                    "Identification":"Arranged Overdraft",
                    "OverdraftFeesCharges":[
                        {
                            "OverdraftFeeChargeCap":[
                                {
                                    "CappingPeriod":"Month",
                                    "FeeType":[
                                        "UnauthorisedBorrowing"
                                    ],
                                    "FeeMinMaxType":"Maximum",
                                    "FeeCapAmount":"60.00"
                                },
                                {
                                    "CappingPeriod":"Month",
                                    "FeeType":[
                                        "BorrowingItem"
                                    ],
                                    "FeeMinMaxType":"Maximum",
                                    "FeeCapAmount":"35.00"
                                }
                            ],
                            "OverdraftFeeChargeDetail":[
                                {
                                    "ApplicationFrequency":"Monthly",
                                    "FeeType":"ArrangedOverdraft",
                                    "CalculationFrequency":"Daily",
                                    "FeeAmount":"0.50"
                                },
                                {
                                    "ApplicationFrequency":"Monthly",
                                    "FeeType":"UnauthorisedBorrowing",
                                    "CalculationFrequency":"Daily",
                                    "FeeAmount":"5.00"
                                },
                                {
                                    "ApplicationFrequency":"Monthly",
                                    "FeeType":"BorrowingItem",
                                    "CalculationFrequency":"Daily",
                                    "FeeAmount":"5.00"
                                }
                            ]
                        }
                    ],
                    "BufferAmount":"10.00",
                    "Notes":[
                        "The daily usage fee-free overdraft period is for 12 months starting on the date
you open a Current Account with us."
                    ]
                }
            ]
        }
```

```
                }
            }
        ]
    },
    "Links":{
        "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22310/product"
    },
    "Meta":{
        "TotalPages":1
    }
}
```

15.6.4.9 Represent overdrafts with periodic & per item fees with caps, another example

Example is from Lloydsbank current accounts, personal overdraft rates

Daily arranged overdraft fee: 1p per day for every £7 pound borrowing

Request

Get Accounts Product Request

```
GET /accounts/22311/product HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Product Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
    "Data":{
        "Product":[
            {
                "AccountId":"22311",
                "ProductType":"PersonalCurrentAccount",
                "ProductName":"LBG Student Account",
                "PCA":{
                    "Overdraft":{
                        "OverdraftTierBandSet":[
                            {
                                "TierBandMethod":"Tiered",
                                "OverdraftType":"OnDemand",
                                "Identification":"LSA-ODAR002",
```

```json
                    "AuthorisedIndicator":true,
                    "BufferAmount":"0.00",
                    "OverdraftTierBand":[
                        {
                            "Identification":"LSA-AT-003",
                            "TierValueMin":"0.00",
                            "TierValueMax":"999.99"
                        },
                        {
                            "Identification":"LSA-AT-004",
                            "TierValueMin":"1000.00",
                            "OverdraftFeesCharges":[
                                {
                                    "OverdraftFeeChargeDetail":[
                                        {
                                            "FeeType":"ArrangedOverdraft",
                                            "IncrementalBorrowingAmount":"7.00",
                                            "FeeAmount":"0.01",
                                            "ApplicationFrequency":"Daily",
                                            "CalculationFrequency":"Daily",
                                            "Notes":[
                                                "One Daily Overdraft Fee",
                                                "You'll pay a daily overdraft fee of 1p for every £7 you
borrow, over your £1000 fee-free amount. When calculating the daily overdraft fee, we will only use every
full £7 you have borrowed, so if you borrow less than £7 you won't be charged.",
                                                "Daily Charging Instead of paying all fees in one go each
month, any fees will be charged at the end of each day you use your overdraft - so you'll pay for what you
borrow on the day you borrow it. This will help you keep track of how much your overdraft costs you.",
                                                "If you go over your limit So all your payments are made, it's
important you manage your account within your planned overdraft limit. If you don't have enough money in
your account or you reach your limit, you may not be able to make any more payments. If a payment takes you
over your limit or we stop it, you won't be charged."
                                            ]
                                        }
                                    ]
                                }
                            ]
                        }
                    ]
                },
        "Links":{
            "Self":"https://api.alphabank.com/open-banking/v2.0/accounts/22310/product"
        },
        "Meta":{
            "TotalPages":1
        }
}
```

16 Scheduled Payments v2.0.0

16.1 Version Control

Version	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification
			Updates:
			
			• Clarified that a single scheduled payment is a single payment made at a future date
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.
			• Specified a OBExternalScheduleType1Code, and updated usage examples to reflect
			• Additional guidance for ReadScheduledPaymentsDetail permission

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3. Updates: • TDA request to update ScheduledPaymentId from 1..1 to 0..1 • Updated mandatory, conditional or optional as per Design Principles • Aligned description for the bulk endpoint with other resources

Version	Date	Author	Comments
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

16.2 Endpoints

Endpoints for the resource - and available methods.

	Resource	HTTP Operation	Endpoint	Mandatory?	Scope	Grant Type	Idempotent	Parameters	Request Object	Response Object
1	scheduled-payments	GET	GET /accounts/{AccountId}/scheduled-payments	Conditional	accounts	Authorization Code				OBReadScheduledPayment1
2	scheduled-payments	GET	GET /scheduled-payments	Optional	accounts	Authorization Code		Pagination		OBReadScheduledPayment1

16.2.1 GET /accounts/{AccountId}/scheduled-payments

An ASPSP may provide this endpoint for AISPs to retrieve the scheduled-payments for a specific AccountId (which is retrieved in the call to GET /accounts).

16.2.2 GET /scheduled-payments

If an ASPSP has implemented the bulk retrieval endpoints - an AISP may optionally retrieve the scheduled-payments resources in bulk.

This will retrieve the scheduled-payments resources for all authorised accounts linked to the account-request.

16.3 Data Model

16.3.1 Resource Definition

A resource that contains a set of elements that describes the scheduled payments that have been set up on a specific account (AccountId). A scheduled payment is a single one-off payment scheduled for a future date.

An account (AccountId) may have no scheduled payments set up, or may have multiple scheduled payments set up.

16.3.2 UML Diagram
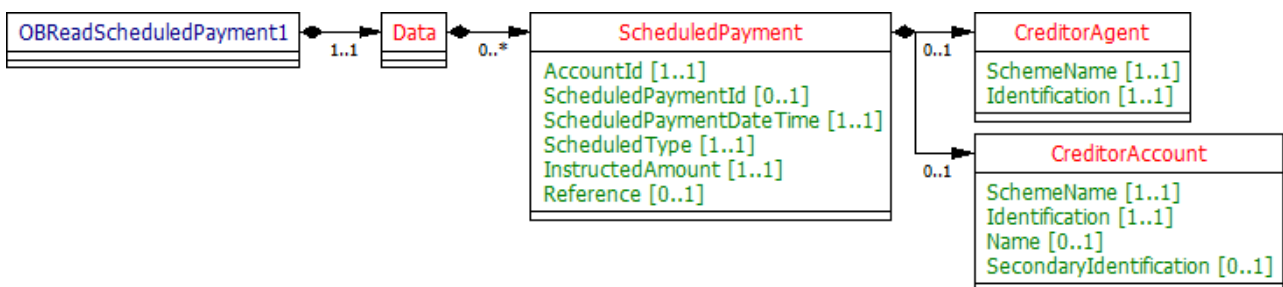
Notes:

- The **Account** and **CreditorAccount** blocks replicate what is used consistently throughout the Account Information APIs to identify an account.
- For the /accounts/{AccountId}/scheduled-payments endpoint - the **Account** and **CreditorAccount** blocks represent the account that is receiving funds (so has been named the CreditorAccount - for consistency with the PISP use case).
- A DateTime element has been used - so that there is consistency across all API endpoints using dates. Where time elements do not exist in ASPSP systems - the time portion of the DateTime element will be defaulted to 00:00:00+00:00
- The Amount elements all have embedded Currency elements - for consistency is ISO 20022, and across the other API endpoints

16.3.3 Permission Codes

The resource differs depending on the permissions (ReadScheduledPaymentsBasic and ReadScheduledPaymentsDetail) used to access resource. In the event the resource is accessed with both ReadScheduledPaymentsBasic and ReadScheduledPaymentsDetail, the most detailed level (ReadScheduledPaymentsDetail) must be used.

- These objects **must not** be returned **without** the **ReadScheduledPaymentsDetail** permission:
    - OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAgent
    - OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAccount
- If the **ReadScheduledPaymentsDetail** is granted by the PSU:
    - OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAgent **may** be returned if applicable to the account and ASPSP (0..1)
    - OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAccount **must** be returned (1..1)

16.3.4 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadScheduledPayment1		OBReadScheduledPayment1		OBReadScheduledPayment1		
Data	1..1	OBReadScheduledPayment1/Data		OBReadDataScheduledPayment1		
ScheduledPayment	0..n	OBReadScheduledPayment1/Data/ScheduledPayment		OBScheduledPayment1		
AccountId	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		
ScheduledPaymentId	0..1	OBReadScheduledPayment1/Data/ScheduledPayment/ScheduledPaymentId	A unique and immutable identifier used to identify the scheduled payment resource. This identifier has no meaning to the account owner.	Max40Text		
ScheduledPaymentDateTime	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/ScheduledPaymentDateTime	The date on which the scheduled payment will be made.	ISODateTime		
ScheduledType	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/ScheduledType	Specifies the scheduled payment date type requested	OBExternalScheduleType1Code	Arrival Execution	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
InstructedAmount	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/InstructedAmount	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party. Usage: This amount has to be transported unchanged through the transaction chain.	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/InstructedAmount/Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
Reference	0..1	OBReadScheduledPayment1/Data/ScheduledPayment/Reference	Unique reference, as assigned by the creditor, to unambiguously refer to the payment transaction. Usage: If available, the initiating party should provide this reference in the structured remittance information, to enable reconciliation by the creditor upon receipt of the amount of money. If the business context requires the use of a creditor reference or a payment remit identification, and only one identifier can be passed through the end-to-end chain, the creditor's reference or payment remittance identification should be quoted in the end-to-end transaction identification.	Max35Text		
CreditorAgent	0..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAgent	Party that manages the account on behalf of the account owner, that is manages the registration and booking of entries on the account, calculates balances on the account and provides information about the account. This is the servicer of the beneficiary account.	OBBranchAndFinancialInstitutionIdentification2		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Scheme Name	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAgent/SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalFinancialInstitutionIdentification2Code	BICFI	
Identification	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAgent/Identification	Unique and unambiguous identification of the servicing institution.	Max35Text		
CreditorAccount	0..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAccount	Provides the details to identify the beneficiary account.	OBCashAccount1		
Scheme Name	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAccount/SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalAccountIdentification2Code	IBAN SortCodeAccountNumber	
Identification	1..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAccount/Identification	Beneficiary account identification.	Max34Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Name	0..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAccount/Name	Name of the account, as assigned by the account servicing institution, in agreement with the account owner in order to provide an additional means of identification of the account. Usage: The account name is different from the account owner name. The account name is used in certain user communities to provide a means of identifying the account, in addition to the account owner's identity and the account number.	Max70Text		
Secondary Identification	0..1	OBReadScheduledPayment1/Data/ScheduledPayment/CreditorAccount/SecondaryIdentification	This is secondary identification of the account, as assigned by the account servicing institution. This can be used by building societies to additionally identify accounts with a roll number (in addition to a sort code and account number combination).	Max34Text		

16.3.4.1 Enumerations

Code Class	Name	Definition
OBExternalAccountIdentification2Code	IBAN	An identifier used internationally by financial institutions to uniquely identify the account of a customer at a financial institution, as described in the latest edition of the international standard ISO 13616. "Banking and related financial services - International Bank Account Number (IBAN)".
OBExternalAccountIdentification2Code	SortCodeAccountNumber	Sort Code and Account Number - identifier scheme used in the UK by financial institutions to identify the account of a customer. The identifier is the concatenation of the 6 digit UK sort code and 8 digit account number. The regular expression for this identifier is: ^[0-9]{6}[0-9]{8}$
OBExternalFinancialInstitutionIdentification2Code	BICFI	Valid BICs for financial institutions are registered by the ISO 9362 Registration Authority in the BIC directory, and consist of eight (8) or eleven (11) contiguous characters.

Code Class	Name	Definition
OBExternalScheduleType1Code	Execution	Scheduled payment date is specified as the execution date.
OBExternalScheduleType1Code	Arrival	Scheduled payment date is specified as the arrival date for the recipient.

16.4 Usage Examples

16.4.1 Specific Account

Request

Get Account Specific Scheduled Payments Request

```
GET /accounts/22289/scheduled-payments HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Specific Scheduled Payments Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "ScheduledPayment": [
      {
        "AccountId": "22289",
        "ScheduledPaymentId": "SP03",
        "ScheduledPaymentDateTime": "2017-05-05T00:00:00+00:00",
        "ScheduledType": "Execution",
        "InstructedAmount": {
          "Amount": "10.00",
          "Currency": "GBP"
        },
        "CreditorAccount": {
          "SchemeName": "SortCodeAccountNumber",
          "Identification": "23605490179017",
          "Name": "Mr Tee"
```

```
            }
          }
        ]
      },
      "Links": {
        "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/scheduled-payments/"
      },
      "Meta": {
        "TotalPages": 1
      }
    }
```

16.4.2 Bulk

Request

Get Bulk Scheduled Payments Request

```
GET /scheduled-payments HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Bulk Scheduled Payments Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "ScheduledPayment": [
      {
              "AccountId": "22289",
        "ScheduledPaymentId": "SP03",
        "ScheduledPaymentDateTime": "2017-05-05T00:00:00+00:00",
        "ScheduledType": "Execution",
        "InstructedAmount": {
          "Amount": "10.00",
          "Currency": "GBP"
        },
        "CreditorAccount": {
          "SchemeName": "SortCodeAccountNumber",
          "Identification": "23605490179017",
          "Name": "Mr Tee"
        }
```

```json
        },
        {
          "AccountId": "39570",
          "ScheduledPaymentId": "SP77",
          "ScheduledPaymentDateTime": "2017-04-05T00:00:00+00:00",
          "ScheduledType": "Execution",
          "InstructedAmount": {
            "Amount": "12.00",
            "Currency": "GBP"
          },
          "CreditorAccount": {
            "SchemeName": "SortCodeAccountNumber",
            "Identification": "23605490179017",
            "Name": "Mr Tee"
          }
        }
      ]
    },
    "Links": {
      "Self": "https://api.alphabank.com/open-banking/v2.0/scheduled-payments/"
    },
    "Meta": {
      "TotalPages": 1
    }
}
```

17 Standing Orders v2.0.0

17.1 Version Control

Version	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the initial version following specification restructuring.
			
			Updates:
			
			• Added a StandingOrderStatusCode (which reflects the same DirectDebitStatusCode in the direct-debits resource)
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.
			• Additional guidance for ReadStandingOrdersDetail permission

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	This is the initial version for release candidate 3 Updates: • Updated mandatory, conditional or optional as per Design Principles
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

17.2 Endpoints

Endpoints for the resource - and available methods.

	Resource	HTTP Operation	Endpoint	Mandatory?	Scope	Grant Type	Idempotent	Parameters	Request Object	Response Object
1	standing-orders	GET	GET / accounts/ {AccountId}/ standing-orders	Conditional	accounts	Authorization Code				OBReadStandingOrder2
2	standing-orders	GET	GET / standing-orders	Optional	accounts	Authorization Code		Pagination		OBReadStandingOrder2

17.2.1 GET /accounts/{AccountId}/standing-orders

An AISP may retrieve the standing-order resource for a specific AccountId (which is retrieved in the call to GET / accounts).

17.2.2 GET /standing-orders

If an ASPSP has implemented the bulk retrieval endpoints - an AISP may optionally retrieve the standing-order resources in bulk.

This will retrieve the resources for all authorised accounts linked to the account-request.

17.3 Data Model

The OBReadStandingOrder2 object will be used for the call to:

- GET /accounts/{AccountId}/standing-orders
- GET /standing-orders

17.3.1 Resource Definition

A resource that contains a set of elements that describes the list of standing-orders that have been set up on a specific account (AccountId).

An account (AccountId) may have no standing orders set up, or may have multiple standing orders set up.

17.3.2 UML Diagram
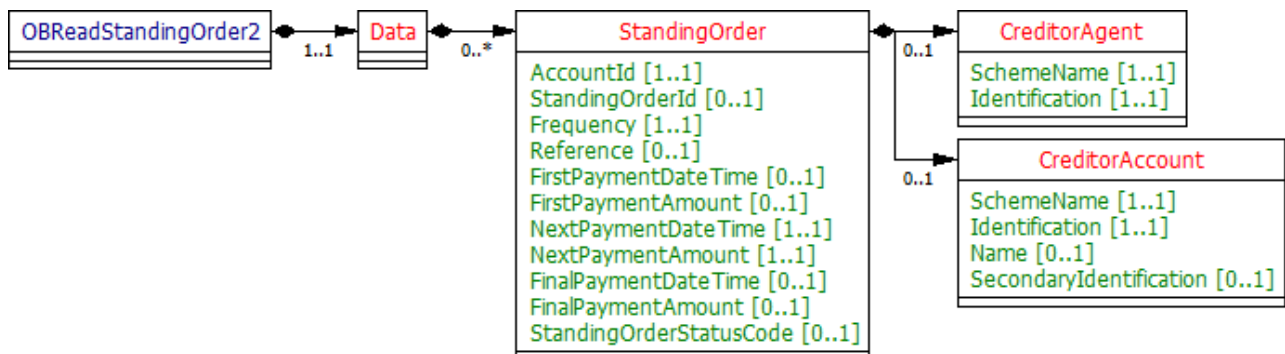
Notes:

- The **Account** and **Creditor** blocks replicate what is used consistently throughout the Account Information APIs to identify an account.
- For the /accounts/{AccountId}/standing-orders endpoint - the **Account** and **Creditor** blocks represent the account that is receiving funds (so has been named the CreditorAccount - for consistency with the PISP use case).
- A DateTime element has been used - so that there is consistency across all API endpoints using dates. Where time elements do not exist in ASPSP systems - the time portion of the DateTime element will be defaulted to 00:00:00+00:00
- The Amount elements all have embedded Currency elements - for consistency is ISO 20022, and across the other API endpoints

17.3.3 Permission Codes

The resource differs depending on the permissions (ReadStandingOrdersBasic and ReadStandingOrdersDetail) used to access resource. In the event the resource is accessed with both ReadStandingOrdersBasic and ReadStandingOrdersDetail, the most detailed level (ReadStandingOrdersDetail) must be used.

- These objects **must not** be returned **without** the **ReadStandingOrdersDetail** permission:
  - OBReadStandingOrder2/Data/StandingOrder/CreditorAgent
  - OBReadStandingOrder2/Data/StandingOrder/CreditorAccount
- If the **ReadStandingOrdersDetail** is granted by the PSU:
  - OBReadStandingOrder2/Data/StandingOrder/CreditorAgent **may** be returned if applicable to the account and ASPSP (0..1)
  - OBReadStandingOrder2/Data/StandingOrder/CreditorAccount **must** be returned (1..1)

17.3.4 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadStandingOrder2		OBReadStandingOrder2		OBReadStandingOrder2		
Data	1..1	OBReadStandingOrder2/Data		OBReadDataStandingOrder2		
StandingOrder	0..n	OBReadStandingOrder2/Data/StandingOrder	Account to or from which a cash entry is made.	OBStandingOrder2		
AccountId	1..1	OBReadStandingOrder2/Data/StandingOrder/AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		
StandingOrderId	0..1	OBReadStandingOrder2/Data/StandingOrder/StandingOrderId	A unique and immutable identifier used to identify the standing order resource. This identifier has no meaning to the account owner.	Max40Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Frequency	1..1	OBReadStandingOrder2/Data/StandingOrder/Frequency	Individual Definitions: EvryDay - Every day EvryWorkgDay - Every working day IntrvlWkDay - An interval specified in weeks (01 to 09), and the day within the week (01 to 07) WkInMnthDay - A monthly interval, specifying the week of the month (01 to 05) and day within the week (01 to 07) IntrvlMnthDay - An interval specified in months (between 01 to 06, 12, 24), specifying the day within the month (-5 to -1, 1 to 31) QtrDay - Quarterly (either ENGLISH, SCOTTISH, or RECEIVED) Individual Patterns: EvryDay (ScheduleCode) EvryWorkgDay (ScheduleCode) IntrvlWkDay:IntervalInWeeks:DayInWeek (ScheduleCode + IntervalInWeeks + DayInWeek) WkInMnthDay:WeekInMonth:DayInWeek (ScheduleCode + WeekInMonth + DayInWeek) IntrvlMnthDay:IntervalInMonths:DayInMonth (ScheduleCode + IntervalInMonths + DayInMonth) QtrDay: + either (ENGLISH, SCOTTISH or RECEIVED) ScheduleCode + QuarterDay The regular expression for this element combines five smaller versions for each permitted pattern. To aid legibility - the components are presented individually here: EvryDay EvryWorkgDay IntrvlWkDay:0[1-9]:0[1-7] WkInMnthDay:0[1-5]:0[1-7] IntrvlMnthDay:(0[1-6]|12|24):(-0[1-5]|0[1-9]|[12][0-9]|3[01]) QtrDay:(ENGLISH|SCOTTISH|RECEIVED)	Max35 Text		^(EvryDay)$\|^(EvryWorkgDay)$|^(IntrvlWkDay:0[1-9]:0[1-7])$\|^(WkInMnthDay:0[1-5]:0[1-7])$|^(IntrvlMnthDay:(0[1-6]|12|24):(-0[1-5]|0[1-9]|[12][0-9]|3[01]))$\|^(QtrDay:(ENGLISH\|SCOTTISH\|RECEIVED))$

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
			Full Regular Expression: ^(EvryDay)$|^(EvryWorkgDay)$| ^(IntrvlWkDay:0[1-9]:0[1-7])$| ^(WkInMnthDay:0[1-5]:0[1-7])$| ^(IntrvlMnthDay:(0[1-6]|12|24): (-0[1-5]|0[1-9]|[12][0-9]|3[01]))$| ^(QtrDay:(ENGLISH|SCOTTISH| RECEIVED))$			
Reference	0..1	OBReadStandingOrder2/Data/StandingOrder/Reference	Unique reference, as assigned by the creditor, to unambiguously refer to the payment transaction.

Usage: If available, the initiating party should provide this reference in the structured remittance information, to enable reconciliation by the creditor upon receipt of the amount of money.

If the business context requires the use of a creditor reference or a payment remit identification, and only one identifier can be passed through the end-to-end chain, the creditor's reference or payment remittance identification should be quoted in the end-to-end transaction identification. | Max35 Text | | |
| First Payment Date Time | 0..1 | OBReadStandingOrder2/Data/StandingOrder/FirstPaymentDateTime | The date on which the first payment for a Standing Order schedule will be made. | ISODateTime | | |
| First Payment Amount | 0..1 | OBReadStandingOrder2/Data/StandingOrder/FirstPaymentAmount | The amount of the first Standing Order | ActiveOrHistoricCurrencyAndAmount | | |

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Currency	1..1	OBReadStandingOrder2/Data/StandingOrder/FirstPaymentAmount/Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
Next Payment Date Time	1..1	OBReadStandingOrder2/Data/StandingOrder/NextPaymentDateTime	The date on which the next payment for a Standing Order schedule will be made.	ISODateTime		
Next Payment Amount	1..1	OBReadStandingOrder2/Data/StandingOrder/NextPaymentAmount	The amount of the next Standing Order	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadStandingOrder2/Data/StandingOrder/NextPaymentAmount/Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
Final Payment Date Time	0..1	OBReadStandingOrder2/Data/StandingOrder/FinalPaymentDateTime	The date on which the final payment for a Standing Order schedule will be made.	ISODateTime		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Final Payment Amount	0..1	OBReadStandingOrder 2/Data/ StandingOrder/ FinalPaymentAmount	The amount of the final Standing Order	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadStandingOrder 2/Data/ StandingOrder/ FinalPaymentAmount/ Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
StandingOrderStatusCode	0..1	OBReadStandingOrder 2/Data/ StandingOrder/ StandingOrderStatusCode	Specifies the status of the standing order in code form.	OBExternalStandingOrderStatus1Code	Active Inactive	
CreditorAgent	0..1	OBReadStandingOrder 2/Data/ StandingOrder/ CreditorAgent	Party that manages the account on behalf of the account owner, that is manages the registration and booking of entries on the account, calculates balances on the account and provides information about the account. This is the servicer of the beneficiary account.	OBBranchAndFinancialInstitutionIdentification2		
SchemeName	1..1	OBReadStandingOrder 2/Data/ StandingOrder/ CreditorAgent/ SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalFinancialInstitutionIdentification2Code	BICFI	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Identification	1..1	OBReadStandingOrder2/Data/StandingOrder/CreditorAgent/Identification	Unique and unambiguous identification of the servicing institution.	Max35 Text		
CreditorAccount	0..1	OBReadStandingOrder2/Data/StandingOrder/CreditorAccount	Provides the details to identify the beneficiary account.	OBCashAccount1		
SchemeName	1..1	OBReadStandingOrder2/Data/StandingOrder/CreditorAccount/SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalAccountIdentification2Code	IBAN SortCodeAccountNumber	
Identification	1..1	OBReadStandingOrder2/Data/StandingOrder/CreditorAccount/Identification	Beneficiary account identification.	Max34 Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Name	0..1	OBReadStandingOrder2/Data/StandingOrder/CreditorAccount/Name	Name of the account, as assigned by the account servicing institution, in agreement with the account owner in order to provide an additional means of identification of the account. Usage: The account name is different from the account owner name. The account name is used in certain user communities to provide a means of identifying the account, in addition to the account owner's identity and the account number.	Max70 Text		
Secondary Identification	0..1	OBReadStandingOrder2/Data/StandingOrder/CreditorAccount/SecondaryIdentification	This is secondary identification of the account, as assigned by the account servicing institution. This can be used by building societies to additionally identify accounts with a roll number (in addition to a sort code and account number combination).	Max34 Text		

17.3.4.1 Enumerations

Code Class	Name	Definition
OBExternalAccountIdentification2Code	IBAN	An identifier used internationally by financial institutions to uniquely identify the account of a customer at a financial institution, as described in the latest edition of the international standard ISO 13616. "Banking and related financial services - International Bank Account Number (IBAN)".
OBExternalAccountIdentification2Code	SortCodeAccountNumber	Sort Code and Account Number - identifier scheme used in the UK by financial institutions to identify the account of a customer. The identifier is the concatenation of the 6 digit UK sort code and 8 digit account number. The regular expression for this identifier is: ^[0-9]{6}[0-9]{8}$

Code Class	Name	Definition
OBExternalStandingOrderStatus1Code	Active	The standing order is active.
OBExternalStandingOrderStatus1Code	Inactive	The standing order is inactive.
OBExternalFinancialInstitutionIdentification2Code	BICFI	Valid BICs for financial institutions are registered by the ISO 9362 Registration Authority in the BIC directory, and consist of eight (8) or eleven (11) contiguous characters.

17.4 Usage Examples

17.4.1 Specific Account

Request

Get Accounts Standing Orders Request

```
GET /accounts/22289/standing-orders HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Accounts Standing Orders Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "StandingOrder": [
      {
        "AccountId": "22289",
        "StandingOrderId": "Ben3",
        "Frequency": "EvryWorkgDay",
        "Reference": "Towbar Club 2 – We Love Towbars",
        "FirstPaymentDateTime": "2017-08-12T00:00:00+00:00",
        "FirstPaymentAmount": {
          "Amount": "0.57",
          "Currency": "GBP"
```

```
        },
        "NextPaymentDateTime": "2017-08-13T00:00:00+00:00",
        "NextPaymentAmount": {
          "Amount": "0.56",
          "Currency": "GBP"
        },
        "FinalPaymentDateTime": "2027-08-12T00:00:00+00:00",
        "FinalPaymentAmount": {
          "Amount": "0.56",
          "Currency": "GBP"
        },
        "StandingOrderStatusCode": "Active",
        "CreditorAccount": {
          "SchemeName": "SortCodeAccountNumber",
          "Identification": "80200112345678",
          "Name": "Mrs Juniper"
        }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/standing-orders/"
  },
  "Meta": {
    "TotalPages": 1
  }
}
```

17.4.2 Bulk

Request

> **Get Standing Orders Request**

```
GET /standing-orders HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

> **Get Standing Orders Response**

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
```

```
"Data": {
  "StandingOrder": [
    {
      "AccountId": "22289",
      "StandingOrderId": "Ben3",
      "Frequency": "EvryWorkgDay",
      "Reference": "Towbar Club 2 - We Love Towbars",
      "FirstPaymentDateTime": "2017-08-12T00:00:00+00:00",
      "FirstPaymentAmount": {
        "Amount": "0.57",
        "Currency": "GBP"
      },
      "NextPaymentDateTime": "2017-08-13T00:00:00+00:00",
      "NextPaymentAmount": {
        "Amount": "0.56",
        "Currency": "GBP"
      },
      "FinalPaymentDateTime": "2027-08-12T00:00:00+00:00",
      "FinalPaymentAmount": {
        "Amount": "0.56",
        "Currency": "GBP"
      },
      "StandingOrderStatusCode": "Active",
      "CreditorAccount": {
        "SchemeName": "SortCodeAccountNumber",
        "Identification": "80200112345678",
        "Name": "Mrs Juniper"
      }
    },
    {
      "AccountId": "22289",
      "StandingOrderId": "Ben5",
      "Frequency": "WkinMnthDay(2)",
      "Reference": "Golf - We Love Golf",
      "FirstPaymentDateTime": "2017-06-12T00:00:00+00:00",
      "FirstPaymentAmount": {
        "Amount": "23.00",
        "Currency": "GBP"
      },
      "NextPaymentDateTime": "2017-07-12T00:00:00+00:00",
      "NextPaymentAmount": {
        "Amount": "23.00",
        "Currency": "GBP"
      },
      "FinalPaymentDateTime": "2018-06-12T00:00:00+00:00",
      "FinalPaymentAmount": {
        "Amount": "23.00",
        "Currency": "GBP"
      },
      "StandingOrderStatusCode": "Active",
      "CreditorAccount": {
        "SchemeName": "SortCodeAccountNumber",
        "Identification": "23605490179017",
        "Name": "Mr Tee"
```

```
            }
          }
        ]
      },
      "Links": {
        "Self": "https://api.alphabank.com/open-banking/v2.0/standing-orders/"
      },
      "Meta": {
        "TotalPages": 1
      }
    }
```

18 Statements v2.0.0

18.1 Version Control

Vers ion	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification
			
			Updates:
			
			• Added a Description field into statements resource
			• Clarified behaviour for GET /accounts/{AccountId}/statements/{StatementId}/file which may return different requested content types
			• Updated Amount type enumerations in the OBExternalStatementAmountType1Code
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.
			• Updated payloads for usage examples
			• Additional guidance for ReadStatementsDetail permission

Vers ion	Date	Author	Comments
2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	Updates: • Clarified that access to /accounts/{AccountId}/statements/ {StatementId}/transactions is the same as the access permissions to / accounts/{AccountId}/transactions • Updated the OBExternalStatementAmountType1Code from DirectDebitPayment to DirectDebitPaymentDue • For consistency - defined the pattern for the Rate field as per Open Data • Updated mandatory, conditional or optional as per Design Principles
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

18.2 Endpoints

Endpoints for the resource - and available methods.

	Reso urce	HTTP Operat ion	Endpoint	Mand atory ?	Sco pe	Grant Type	Idem poten t	Para mete rs	Reque st Object	Respons e Object
1	state ment s	GET	GET /accounts/ {AccountId}/ statements	Condi tional	acc oun ts	Authori zation Code		Pagin ation Filteri ng		OBRead Stateme nt1
2	state ment s	GET	GET /accounts/ {AccountId}/ statements/ {StatementId}	Condi tional	acc oun ts	Authori zation Code		Pagin ation Filteri ng		OBRead Stateme nt1
3	state ment s	GET	GET /accounts/ {AccountId}/ statements/ {StatementId}/file	Condi tional	acc oun ts	Authori zation Code				
4	trans actio ns	GET	GET /accounts/ {AccountId}/ statements/ {StatementId}/ transactions	Condi tional	acc oun ts	Authori zation Code		Pagin ation Filteri ng		OBRead Transact ion2

	Reso urce	HTTP Operat ion	Endpoint	Mand atory ?	Sco pe	Grant Type	Idem poten t	Para mete rs	Reque st Object	Respons e Object
5	state ment s	GET	GET /statements	Optio nal	acc oun t	Authori zation Code		Pagin ation Filteri ng		OBRead Stateme nt1

18.2.1 GET /accounts/{AccountId}/statements

An ASPSP may provide this endpoint for AISPs to retrieve the statements information resource for the AccountId (which is retrieved in the call to GET /accounts).

18.2.2 GET /accounts/{AccountId}/statements/{StatementId}

An ASPSP may provide this endpoint for AISPs to retrieve the statement information resource for a specific statement in the AccountId (which is retrieved in the call to GET /accounts).

18.2.3 GET /accounts/{AccountId}/statements/{StatementId}/file

An ASPSP may provide this endpoint for AISPs to retrieve a non-json representation of a specific statement.

18.2.4 GET /accounts/{AccountId}/statements/{StatementId}/transactions

An ASPSP may provide this endpoint for AISPs to retrieve transactions that appear on the selected statement.

The data model for the returned objects is documented in the **transactions** resource.

18.2.5 GET /statements

An ASPSP may provide this endpoint for AISPs to retrieve statement information for all accounts that the PSU has consented to. This will retrieve the statement resources for all authorised accounts linked to the account-request.

18.3 Data Model

The OBReadStatement1 object will be used for the call to:

- GET /statements
- GET /accounts/{AccountId}/statements
- GET /accounts/{AccountId}/statements/{StatementId}

The call to

- GET /accounts/{AccountId}/statements/{StatementId}/file

will return unstructured data in binary (e.g., pdf, doc) or text (e.g., csv) formats. This will be specified in the Accept header by the AISP.

The OBReadTransactions2 object (documented in the transactions resource) will be used the call to:

- GET /accounts/{AccountId}/statements/{StatementId}/transactions

18.3.1 Resource Definition

A resource that describes summary details for an account statement period.

For a specific date range - an account (AccountId) may have no statements, or may have multiple statements.

The /statements endpoint (if implemented by the ASPSP) **must** return all statements within the requested date range for all accounts selected during the authorisation of the account-request.

If an AISP would like to access a specific statement (StatementId) to retrieve a formal statement download or transactions for a specific statement - the AISP **must** specify the account (the AccountId) via the URI request path - i.e., via:

- GET /accounts/{AccountId}/statements/{StatementId}/file - to download the statement
- GET /accounts/{AccountId}/statements/{StatementId}/transactions - to return the transactions relating to a statement

18.3.2 UML Diagram
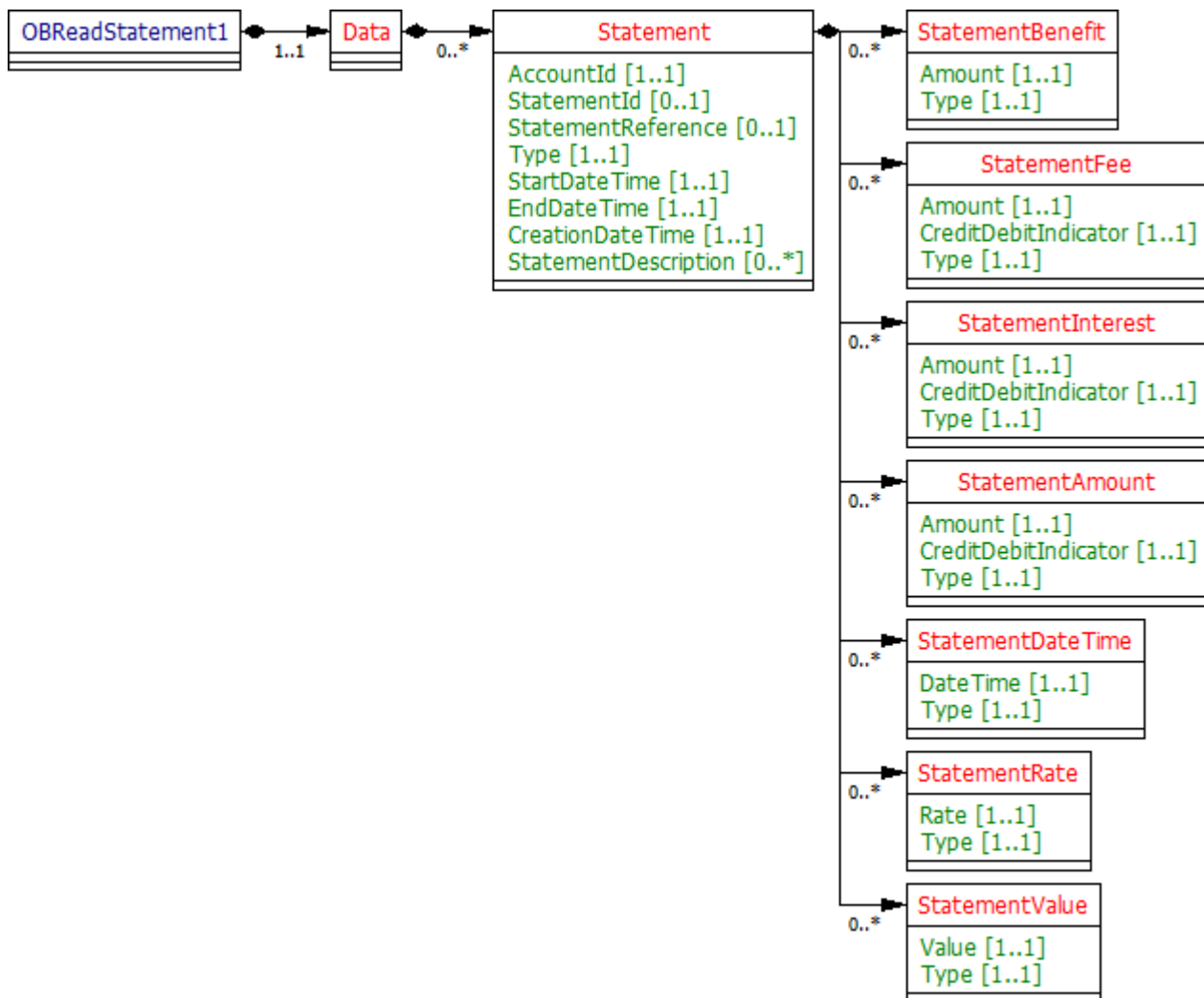
Notes:

- The statements resource **must** only be used for data that can be returned for a statement period.

18.3.3 Filtering

Limited support for filtering is provided on the **statements** resource.

Statements may be filtered based on their StartDateTime and EndDateTime using the **fromStatementDateTime** and **toStatementDateTime** parameters.

The ASPSP must treat the following as valid input:

- non-working days (e.g. a Sunday or a Bank holiday) or any other days on which no transactions are recorded
- dates that fall outside the range for which transaction information is provided through APIs
- dates that fall outside the range for which a consent authorisation is available.

In the above situations, the ASPSP must return statements where the StartDateTime and EndDateTime are both between the **fromStatementDateTime** and **toStatementDateTime** parameters.

Filtering Examples

```
// All statements from 1st Jan, 2015
GET /statements?fromStatementDateTime=2015-01-01T00:00:00

// All statements in 2016
GET /statements?fromStatementDateTime=2016-01-01T00:00:00&toStatementDateTime=2016-12-31T23:59:59

// All statements in a specific account up to 31-Mar-2017
GET /accounts/1/statements?toStatementDateTime=2017-03-31T23:59:59
```

18.3.4 Permission Codes

The resource differs depending on the permissions (ReadStatementsBasic and ReadStatementsDetail) used to access resource (the OBReadStatement1 object). In the event the resource is accessed with both ReadStatementsBasic and ReadStatementsDetail, the most detailed level (ReadStatementsDetail) must be used.

- These objects **must not** be returned **without** the **ReadStatementsDetail** permission:

- OBReadStatement1/Data/Statement/StatementAmount
- Calls to GET /accounts/{AccountId}/statements/{StatementId}/file

- If the **ReadStatementsDetail** is granted by the PSU:
  - OBReadStatement1/Data/Statement/StatementAmount **may** be returned if applicable to the statement and ASPSP (0..n)

The access to GET /accounts/{AccountId}/statements/{StatementId}/transactions will require the **ReadTransactionsBasic or ReadTransactionsDetail** (in addition to the appropriate **ReadTransactionsCredits** and/or **ReadTransactionsDebits**) permission codes. The ASPSP must apply the same access to GET /accounts/{AccountId}/statements/{StatementId}/transactions as GET /accounts/{AccountId}/transactions

18.3.5 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadStatement1		OBReadStatement1		OBReadStatement1		
Data	1..1	OBReadStatement1/Data		OBReadDataStatement1		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Statement	0..n	OBReadStatement1/Data/ Statement	Provides further details on a statement resource.	OBStatement1		
AccountId	1..1	OBReadStatement1/Data/ Statement/ AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		
StatementId	0..1	OBReadStatement1/Data/ Statement/ StatementId	Unique identifier for the statement resource within an servicing institution. This identifier is both unique and immutable.	Max40Text		
StatementReference	0..1	OBReadStatement1/Data/ Statement/ StatementReference	Unique reference for the statement. This reference may be optionally populated if available.	Max35Text		
Type	1..1	OBReadStatement1/Data/ Statement/Type	Statement type, in a coded form.	OBExternalStatementType1Code	AccountClosure AccountOpening Annual Interim RegularPeriodic	
StartDateTime	1..1	OBReadStatement1/Data/ Statement/ StartDateTime	Date and time at which the statement period starts.	ISODateTime		
EndDateTime	1..1	OBReadStatement1/Data/ Statement/ EndDateTime	Date and time at which the statement period ends.	ISODateTime		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
CreationDateTime	1..1	OBReadStatement1/Data/Statement/CreationDateTime	Date and time at which the resource was created.	ISODateTime		
StatementDescription	0..n	OBReadStatement1/Data/Statement/StatementDescription	Other descriptions that may be available for the statement resource.	Max500Text		
StatementBenefit	0..n	OBReadStatement1/Data/Statement/StatementBenefit	Set of elements used to provide details of a benefit or reward amount for the statement resource.	OBStatementBenefit1		
Amount	1..1	OBReadStatement1/Data/Statement/StatementBenefit/Amount	Amount of money associated with the statement benefit type.	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadStatement1/Data/Statement/StatementBenefit/Amount/Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
Type	1..1	OBReadStatement1/Data/Statement/StatementBenefit/Type	Benefit type, in a coded form.	OBExternalStatementBenefitType1Code	Cashback Insurance Travel Discount Travel Insurance	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
StatementFee	0..n	OBReadStatement1/Data/ Statement/ StatementFee	Set of elements used to provide details of a fee for the statement resource.	OBStatementFee1		
Amount	1..1	OBReadStatement1/Data/ Statement/ StatementFee/ Amount	Amount of money associated with the statement fee type.	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadStatement1/Data/ Statement/ StatementFee/ Amount/ Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
CreditDebitIndicator	1..1	OBReadStatement1/Data/ Statement/ StatementFee/ CreditDebitIndicator	Indicates whether the amount is a credit or a debit. Usage: A zero amount is considered to be a credit amount.	OBCreditDebitCode	Credit Debit	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Type	1..1	OBReadStatement1/Data/ Statement/ StatementFee/ Type	Fee type, in a coded form.	OBExternalStatementFeeType1Code	Annual BalanceTransfer CashAdvance CashTransaction ForeignTransaction Gambling LatePayment MoneyTransfer Monthly Overlimit PostalOrder PrizeEntry StatementCopy Total	
StatementInterest	0..n	OBReadStatement1/Data/ Statement/ StatementInterest	Set of elements used to provide details of a generic interest amount related to the statement resource.	OBStatementInterest1		
Amount	1..1	OBReadStatement1/Data/ Statement/ StatementInterest/Amount	Amount of money associated with the statement interest amount type.	ActiveOrHistoricCurrencyAndAmount		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Currency	1..1	OBReadStatement1/Data/ Statement/ StatementInterest/Amount/ Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
CreditDebitIndicator	1..1	OBReadStatement1/Data/ Statement/ StatementInterest/ CreditDebitIndicator	Indicates whether the amount is a credit or a debit. Usage: A zero amount is considered to be a credit amount.	OBCreditDebitCode	Credit Debit	
Type	1..1	OBReadStatement1/Data/ Statement/ StatementInterest/Type	Interest amount type, in a coded form.	OBExternalStatementInterestType1Code	BalanceTransfer Cash EstimatedNext Purchase Total	
StatementAmount	0..n	OBReadStatement1/Data/ Statement/ StatementAmount	Set of elements used to provide details of a generic amount for the statement resource.	OBStatementAmount1		
Amount	1..1	OBReadStatement1/Data/ Statement/ StatementAmount/Amount	Amount of money associated with the amount type.	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadStatement1/Data/ Statement/ StatementAmount/Amount/ Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Credit DebitIndicator	1..1	OBReadStatement1/Data/ Statement/ StatementAmount/ CreditDebitIndicator	Indicates whether the amount is a credit or a debit. Usage: A zero amount is considered to be a credit amount.	OBCredit DebitCode	Credit Debit	
Type	1..1	OBReadStatement1/Data/ Statement/ StatementAmount/Type	Amount type, in a coded form.	OBExternalStatementAmountType1Code	ArrearsClosingBalance AvailableBalance AverageBalanceWhenInCredit AverageBalanceWhenInDebit AverageDailyBalance BalanceTransferClosingBalance CashClosingBalance ClosingBalance CreditLimit Curre	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
					ntPayment DirectDebit PaymentDue FSCSInsurance MinimumPayment Due PreviousClosingBalance PreviousPayment PurchaseClosing Balance StartingBalance Total Adjustments Total CashAdvances Total Charges Total Credits Total Debits Total Purchases	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
StatementDateTime	0..n	OBReadStatement1/Data/Statement/StatementDateTime	Set of elements used to provide details of a generic date time for the statement resource.	OBStatementDateTime1		
DateTime	1..1	OBReadStatement1/Data/Statement/StatementDateTime/DateTime	Date and time associated with the date time type.	ISODateTime		
Type	1..1	OBReadStatement1/Data/Statement/StatementDateTime/Type	Date time type, in a coded form.	OBExternalStatementDateTimeType1Code	BalanceTransferPromoEnd DirectDebitDue LastPayment LastStatement NextStatement PaymentDue PurchasePromoEnd StatementAvailable	
StatementRate	0..n	OBReadStatement1/Data/Statement/StatementRate	Set of elements used to provide details of a generic rate related to the statement resource.	OBStatementRate1		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Rate	1..1	OBReadStatement1/Data/ Statement/ StatementRate/ Rate	Rate associated with the statement rate type.	Max10Text		^(-?\d{1,3}){1}(\.\d{1,4}){0,1}$

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Type	1..1	OBReadStatement1/Data/ Statement/ StatementRate/ Type	Statement rate type, in a coded form.	OBExternalStatementRateType1Code	AnnualBalanceTransfer AnnualBalanceTransferAfterPromo AnnualBalanceTransferPromo AnnualCash AnnualPurchase AnnualPurchaseAfterPromo AnnualPurchasePromo MonthlyBalanceTransfer MonthlyCash MonthlyPurchase code_6 code_7 code_8 code_9 n	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
StatementValue	0..n	OBReadStatement1/Data/ Statement/ StatementValue	Set of elements used to provide details of a generic number value related to the statement resource.	OBStatementValue1		
Value	1..1	OBReadStatement1/Data/ Statement/ StatementValue /Value	Value associated with the statement value type.	Number		
Type	1..1	OBReadStatement1/Data/ Statement/ StatementValue /Type	Statement value type, in a coded form.	OBExternalStatementValueType1Code	AirMilesPoints AirMilesPointsBalance Credits Debits Hotel Points Hotel Points Balance Retail ShoppingPoints Retail ShoppingPointsBalance	

18.3.5.1 Enumerations

This section gives the definitions for enumerations used in the statement resource.

Code Class	Name	Definition
OBExternalStatementType1Code	AccountOpening	First statement provided for an account.
OBExternalStatementType1Code	RegularPeriodic	Regular pre-agreed reporting statement.
OBExternalStatementType1Code	Annual	Annual statement report.
OBExternalStatementType1Code	Interim	Adhoc or customised statement period.
OBExternalStatementType1Code	AccountClosure	Final account closure statement.
OBExternalStatementAmountType1Code	PreviousClosingBalance	The closing balance of the previous statement.
OBExternalStatementAmountType1Code	StartingBalance	The new balance or starting balance carried forward since last statement period.
OBExternalStatementAmountType1Code	AvailableBalance	The available balance is the difference between the credit limit and the account balance – how much is avaialble to spend.
OBExternalStatementAmountType1Code	ClosingBalance	The ending balance or closing balance at the end of the current statement period.
OBExternalStatementAmountType1Code	ArrearsClosingBalance	The balance that is in arrears at the end of the statement period.
OBExternalStatementAmountType1Code	CashClosingBalance	The component of balance that relates to cash at the end of the statement period.
OBExternalStatementAmountType1Code	PurchaseClosingBalance	The component of balance that relates to purchases at the end of the statement period.
OBExternalStatementAmountType1Code	BalanceTransferClosingBalance	The component of balance that relates to balance transfers at the end of the statement period.

Code Class	Name	Definition
OBExternalStatementAmountType1Code	CreditLimit	The credit limit is the total amount of credit available to a borrower, including any amount already borrowed.
OBExternalStatementAmountType1Code	PreviousPayment	The previous payment amount in the last statement period.
OBExternalStatementAmountType1Code	DirectDebitPaymentDue	The total direct debit payments due for current statement period.
OBExternalStatementAmountType1Code	CurrentPayment	The total payments received since the last period.
OBExternalStatementAmountType1Code	MinimumPaymentDue	The minimum payment required for the current statement period.
OBExternalStatementAmountType1Code	TotalPurchases	The total transactions made during that statement period.
OBExternalStatementAmountType1Code	TotalCredits	Total amount credited in the account during the statement period.
OBExternalStatementAmountType1Code	TotalDebits	Total amount debited (money taken out from account) from the account during the statement period.
OBExternalStatementAmountType1Code	TotalCashAdvances	A cash advance is a short-term loan from a bank or alternative lender. The term also refers to a service provided by many credit card issuers allowing cardholders to withdraw a certain amount of cash.
OBExternalStatementAmountType1Code	TotalAdjustments	Total adjustments to the account during the statement period.
OBExternalStatementAmountType1Code	TotalCharges	The total charges including interest, late payment fee during the statement period.
OBExternalStatementAmountType1Code	AverageBalanceWhenInCredit	The average daily balance when the account is in crebit during the statement period.

Code Class	Name	Definition
OBExternalStatementAmountType1Code	AverageBalanceWhenInDebit	The average daily balance when the account is in debit during the statement period.
OBExternalStatementAmountType1Code	AverageDailyBalance	The average daily balance during the statement period. An average daily balance adds the closing balances at the end of each day in a given period of time and divides the sum by the number of calendar days in that period.
OBExternalStatementAmountType1Code	FSCSInsurance	The amount under which the FSCS scheme will protect consumers when authorised financial services firms fail.
OBExternalStatementDateTimeType1Code	PaymentDue	The date than an account holder must make the payment for the current statement period.
OBExternalStatementDateTimeType1Code	LastStatement	The date on which the last statement was made available to account holder.
OBExternalStatementDateTimeType1Code	LastPayment	The date than an account holder must make the payment for the previous statement period.
OBExternalStatementDateTimeType1Code	StatementAvailable	The date on which the current statement was made available to account holder.
OBExternalStatementDateTimeType1Code	PurchasePromoEnd	The date the purchase promo rate will end.
OBExternalStatementDateTimeType1Code	BalanceTransferPromoEnd	The date the balance transfer promo rate will end.
OBExternalStatementDateTimeType1Code	NextStatement	The date on which the next statement will be made available to account holder.
OBExternalStatementDateTimeType1Code	DirectDebitDue	The date that the direct debit payment is due for the current statement.

Code Class	Name	Definition
OBExternalStatementInterestType1Code	Cash	Interest on cash advances.
OBExternalStatementInterestType1Code	Purchase	Interest on purchases.
OBExternalStatementInterestType1Code	BalanceTransfer	Interest on balance transfers.
OBExternalStatementInterestType1Code	Total	Total interest charges during the statement period.
OBExternalStatementInterestType1Code	EstimatedNext	The estimated interest that will be charged if the closing balance is not paid in full.
OBExternalStatementRateType1Code	MonthlyPurchase	Monthly interest rate charged on purchases.
OBExternalStatementRateType1Code	AnnualPurchase	Annual interest rate charged on purchases.
OBExternalStatementRateType1Code	MonthlyCash	Monthly interest rate charged on cash advance.
OBExternalStatementRateType1Code	AnnualCash	Annual interest rate charged on cash advance.
OBExternalStatementRateType1Code	MonthlyBalanceTransfer	Monthly interest rate charged on balance transfer from other service provider.
OBExternalStatementRateType1Code	AnnualBalanceTransfer	Annual interest rate charged on balance transfer from other service provider.
OBExternalStatementRateType1Code	AnnualBalanceTransferPromo	Annual interest rate charged on balance transfer from other service provider during promotional period.

Code Class	Name	Definition
OBExternalStatementRateType1Code	AnnualPurchasePromo	Annual interest rate charged on purchases from during promotional period.
OBExternalStatementRateType1Code	AnnualBalanceTransferAfterPromo	Annual interest rate charged on balance transfer from other service provider after promotional period.
OBExternalStatementRateType1Code	AnnualPurchaseAfterPromo	Annual interest rate charged on purchases from after promotional period.
OBExternalStatementFeeType1Code	Overlimit	Over limit fees charged during the statement period..
OBExternalStatementFeeType1Code	LatePayment	Late payment fees charged during the statement period.
OBExternalStatementFeeType1Code	Total	Total fees charges during the statement period.
OBExternalStatementFeeType1Code	Monthly	Monthly account fees charged during the statement period.
OBExternalStatementFeeType1Code	BalanceTransfer	Balance transfer fees charged during the statement period.
OBExternalStatementFeeType1Code	CashAdvance	Cash advance fees charged during the statement period.
OBExternalStatementFeeType1Code	CashTransaction	Cash transaction fees charged during the statement period.
OBExternalStatementFeeType1Code	Gambling	Gambling transaction fees charged during the statement period.
OBExternalStatementFeeType1Code	PostalOrder	Postal order fees charged during the statement period.

Code Class	Name	Definition
OBExternalStatementFeeType1Code	PrizeEntry	Prize entry fees charged during the statement period.
OBExternalStatementFeeType1Code	ForeignTransaction	Foreign transaction fees charged during the statement period.
OBExternalStatementFeeType1Code	Annual	Annual fees charged during the statement period.
OBExternalStatementFeeType1Code	StatementCopy	Statement copy fees charged during the statement period.
OBExternalStatementFeeType1Code	MoneyTransfer	Money transfer fees charged during the statement period.
OBExternalStatementBenefitType1Code	Cashback	Cash back amount received during the statement period.
OBExternalStatementBenefitType1Code	TravelDiscount	Trave discound amount received during the statement period.
OBExternalStatementBenefitType1Code	TravelInsurance	Travel insurance amount during the statement period.
OBExternalStatementBenefitType1Code	Insurance	Insurance amount during the statement period.
OBExternalStatementValueType1Code	Credits	Total number of credits in statement period.
OBExternalStatementValueType1Code	Debits	Total number of debits in statement period.

Code Class	Name	Definition
OBExternalStatementValueType1Code	HotelPoints	Hotel points at the end of the statement period.
OBExternalStatementValueType1Code	AirMilesPoints	Air miles points at the end of the statement period.
OBExternalStatementValueType1Code	RetailShoppingPoints	Retail shopping points at the end of the statement period.
OBExternalStatementValueType1Code	HotelPointsBalance	Hotel points at the end of the statement period.
OBExternalStatementValueType1Code	AirMilesPointsBalance	Air miles points at the end of the statement period.
OBExternalStatementValueType1Code	RetailShoppingPointsBalance	Retail shopping points at the end of the statement period.
OBCreditDebitCode	Credit	Operation is a credit
OBCreditDebitCode	Debit	Operation is a debit

18.4 Usage Examples

18.4.1 Specific Account

Request

Get Accounts Standing Orders Request

```
GET /accounts/22289/statements HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
```

```
Accept: application/json
```

Response

Get Standing Orders Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Statement": [
      {
        "AccountId": "22289",
        "StatementId": "8sfhke-sifhkeuf-97813",
        "StatementReference": "002",
        "Type": "RegularPeriodic",
        "StartDateTime": "2017-08-01T00:00:00+00:00",
        "EndDateTime": "2017-08-31T23:59:59+00:00",
        "CreationDateTime": "2017-09-01T00:00:00+00:00",
        "StatementDescription": ["August 2017 Statement", "One Free Uber Ride"],
        "StatementAmount": [
          {
            "Amount": {
              "Amount": "400.00",
              "Currency": "GBP"
            },
                    "CreditDebitIndicator": "Credit",
                    "Type": "ClosingBalance"
          },
          {
            "Amount": {
              "Amount": "600.00",
              "Currency": "GBP"
            },
            "CreditDebitIndicator": "Credit",
            "Type": "PreviousClosingBalance"
          }
          ]
      },
      {
        "AccountId": "22289",
        "StatementId": "34hj24u-324h33-31i3p4",
        "StatementReference": "003",
        "Type": "RegularPeriodic",
        "StartDateTime": "2017-09-01T00:00:00+00:00",
        "EndDateTime": "2017-09-30T23:59:59+00:00",
        "CreationDateTime": "2017-10-01T00:00:00+00:00",
        "StatementDescription": ["September 2017 Statement"],
        "StatementAmount": [
          {
            "Amount": {
```

```
          "Amount": "200.00",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Credit",
        "Type": "PreviousClosingBalance"
      },
      {
        "Amount": {
          "Amount": "400.00",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Credit",
        "Type": "PreviousClosingBalance"
      }
      ]
    }],
    "Links": {
      "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/statements/"
    },
    "Meta": {
      "TotalPages": 1
    }
  }
}
```

18.4.2 Bulk

Request

Get Standing Orders Request

```
GET /statements HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Standing Orders Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json
{
  "Data": {
    "Statement": [
      {
        "AccountId": "22289",
```

```
      "StatementId": "8sfhke-sifhkeuf-97813",
      "StatementReference": "002",
      "Type": "RegularPeriodic",
      "StartDateTime": "2017-08-01T00:00:00+00:00",
      "EndDateTime": "2017-08-31T23:59:59+00:00",
      "CreationDateTime": "2017-09-01T00:00:00+00:00",
      "StatementDescription": ["August 2017 Statement", "One Free Uber Ride"],
      "StatementAmount": [
        {
          "Amount": {
            "Amount": "400.00",
            "Currency": "GBP"
          },
                "CreditDebitIndicator": "Credit",
                "Type": "ClosingBalance"
        },
        {
          "Amount": {
            "Amount": "600.00",
            "Currency": "GBP"
          },
          "CreditDebitIndicator": "Credit",
          "Type": "PreviousClosingBalance"
        }
        ]
    },
    {
      "AccountId": "22289",
      "StatementId": "34hj24u-324h33-31i3p4",
      "StatementReference": "003",
      "Type": "RegularPeriodic",
      "StartDateTime": "2017-09-01T00:00:00+00:00",
      "EndDateTime": "2017-09-30T23:59:59+00:00",
      "CreationDateTime": "2017-10-01T00:00:00+00:00",
      "StatementDescription": ["September 2017 Statement"],
      "StatementAmount": [
        {
          "Amount": {
            "Amount": "200.00",
            "Currency": "GBP"
          },
                "CreditDebitIndicator": "Credit",
                "Type": "ClosingBalance"
        },
        {
          "Amount": {
            "Amount": "400.00",
            "Currency": "GBP"
          },
          "CreditDebitIndicator": "Credit",
          "Type": "PreviousClosingBalance"
        }
        ]
    },
```

```json
    {
      "AccountId": "32389",
      "StatementId": "9034ee-4ewa4e-342er6",
      "StatementReference": "002",
      "Type": "RegularPeriodic",
      "StartDateTime": "2017-09-01T00:00:00+00:00",
      "EndDateTime": "2017-09-30T23:59:59+00:00",
      "CreationDateTime": "2017-10-01T00:00:00+00:00",
      "StatementAmount": [
      {
        "Amount": {
          "Amount": "2700.00",
          "Currency": "GBP"
        },
            "CreditDebitIndicator": "Credit",
            "Type": "ClosingBalance"
      },
      {
        "Amount": {
          "Amount": "4060.00",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Credit",
        "Type": "PreviousClosingBalance"
      }
      ]
    }
    ],
    "Links": {
      "Self": "https://api.alphabank.com/open-banking/v2.0/statements/"
    },
    "Meta": {
      "TotalPages": 1
    }
  }
}
```

19 Transactions v2.0.0

19.1 Version Control

Version	Date	Author	Comments

2.0-rc2	07 Feb 2018	Open Banking Read/Write API Team	This is the first Release Candidate with Split from One Page Specification.
			• Modified usage examples:
			  • Removed references to x-jws-signature
			  • Updated link URLs
			  • Name-spaced AccountRequestIds in usage examples - as IntentIds are name-spaced in other usage examples. ASPSPs may construct the IntentId as they wish.
			• Additional guidance for ReadTransactionsDetail permission

2.0-rc3	16 Feb 2018	Open Banking Read/Write API Team	Updates: • Added OBReadTransaction2/Data/Transaction/CreditorAccount and OBReadTransaction2/Data/Transaction/DebtorAccount to the ReadTransactionsDetail permission restrictions • Fixed OBExternalCardSchemeType1Code enumerations, and extended scheme names • Updated mandatory, conditional or optional as per Design Principles
2.0.0	27 Feb 2018	Open Banking Read/Write API Team	This is the baseline version. No changes from v2.0-rc3.

19.2 Endpoints

Endpoints for the resource - and available methods.

	Res ourc e	HTTP Opera tion	Endpoint	Man dato ry?	Sc op e	Grant Type	Idem pote nt	Para mete rs	Reque st Objec t	Respon se Object
1	trans actio ns	GET	GET / accounts/ {AccountId}/ transactions	Manda tory	acco unts	Authori zation Code		Pagina tion Filterin g		OBRead Transact ion2
2	trans actio ns	GET	GET / transactions	Option al	acco unts	Authori zation Code		Pagina tion Filterin g		OBRead Transact ion2

19.2.1 GET /accounts/{AccountId}/transactions

An AISP **may** retrieve the transaction resource for a specific AccountId (which is retrieved in the call to GET / accounts).

19.2.2 GET /transactions

If an ASPSP has implemented the bulk retrieval endpoints - an AISP **may** optionally retrieve the transactions in bulk.

This will retrieve the resources for all authorised accounts linked to the account-request.

19.3 Data Model

The OBReadTransaction2 object will be used for the call to:

- GET /accounts/{AccountId}/transactions
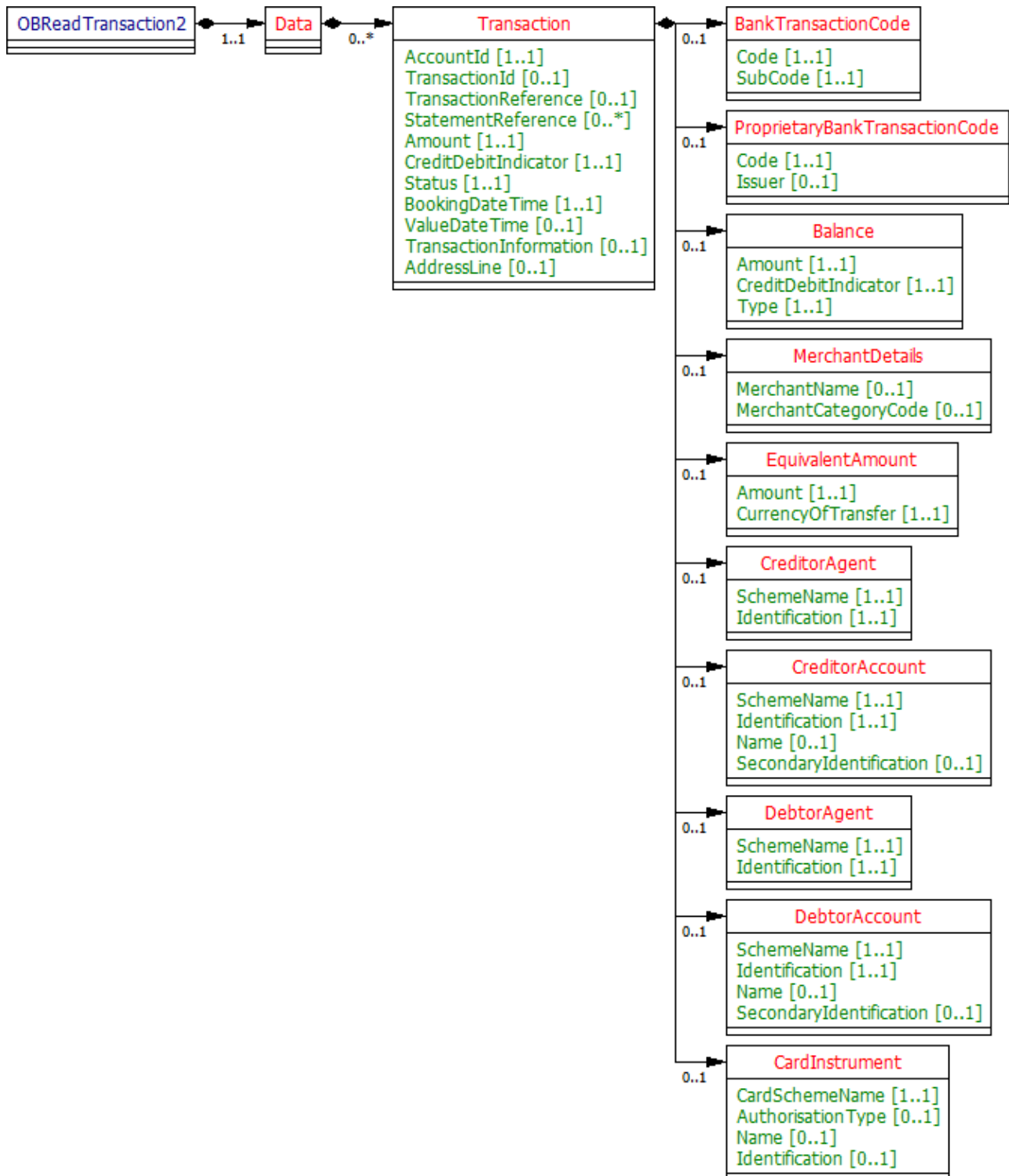- GET /transactions
- GET /accounts/{AccountId}/statements/{StatementId}transactions

19.3.1 Resource Definition

A resource that describes a posting to an account that results in an increase or decrease to a balance.

For a specific date range - an account (AccountId) may have no transactions booked, or may have multiple transactions booked.

19.3.2 UML Diagram

Notes:

- The use of the term "Transaction" has been made consistently in the Transaction endpoint payload (instead of "Entry" which is the ISO20022 element name)
- A DateTime element has been used instead of a complex choice element of Date and DateTime. Where time elements do not exist in ASPSP systems - the time portion of the DateTime element will be defaulted to 00:00:00+00:00
- The BookingDateTime has been set to mandatory - as all ASPSPs must provide this field for pagination and filtering. The BookingDateTime is the date the transaction is booked (or posted) and becomes immutable - which is not the date the transaction took place.
- Either the BankTransactionCode (which is the ISO transaction code list), **or** ProprietaryBankTransactionCode, **or both** may be populated. While the expectation is that at least one of BankTransactionCode or ProprietaryBankTransactionCode are populated - we have decided not to enforce this behaviour in the payload structure - as this would require nesting elements, and introducing complex choice elements.
- The BankTransactionCode (ISO) code-list is documented on the ISO20022 website: https://www.iso20022.org/external_code_list.page; and External Code Sets spreadsheet[12].
  - The ISO 20022 BankTransactionCode Code and SubCode are specified as a 4 letter codes. However - the principle we have applied for the code lists is to have longer more descriptive codes.
  - The BankTransactionCode Code and SubCode will be populated with the long form description of the ISO 20022 code, with delimiters removed. E.g., the Family Code "CNTR" has a description of "Counter Transactions" which is populated as "CounterTransactions"
- ASPSPs must have the ability to provide transactions through APIs for a period that at least equals the period provided through their online channels.

19.3.3 Filtering

Limited support for filtering is provided on the **transactions** resource.

Transactions may be filtered based on their BookingDateTime using the **fromBookingDateTime** and **toBookingDateTime** parameters

The ASPSP must treat the following as valid input:

- Non-working days (e.g. a Sunday or a Bank holiday) or any other days on which no transactions are recorded
- Dates that fall outside the range for which transaction information is provided through APIs
- Dates that fall outside the range for which a consent authorisation is available
- Timezone may be included in the filter request - but must be ignored by the ASPSP

In the above situations, the ASPSP must return data for the remaining valid period specified by the filter.

Filtering Examples

```
// All transactions from 1st Jan, 2015
GET /transactions?fromBookingDateTime=2015-01-01T00:00:00


// All transactions in 2016
GET /transactions?fromBookingDateTime=2016-01-01T00:00:00&toBookingDateTime=2016-12-31T23:59:59


// All transactions in a specific account up to 31-Mar-2017
GET /accounts/1/transactions?toBookingDateTime=2017-03-31T23:59:59
```

---

12 https://www.iso20022.org/sites/default/files/documents/External_code_lists/ ExternalCodeSets_4Q2016_February2017_v1.xls

19.3.4 Permission Codes

The resource differs depending on the permissions (ReadTransactionsBasic and ReadTransactionsDetail) used to access resource. In the event the resource is accessed with both ReadTransactionsBasic and ReadTransactionsDetail, the most detailed level (ReadTransactionsDetail) must be used.

- These objects **must not** be returned **without** the **ReadTransactionsDetail** permission:
  - OBReadTransaction2/Data/Transaction/TransactionInformation
  - OBReadTransaction2/Data/Transaction/Balance
  - OBReadTransaction2/Data/Transaction/MerchantDetails
  - OBReadTransaction2/Data/Transaction/CreditorAccount
  - OBReadTransaction2/Data/Transaction/DebtorAccount
- If the **ReadTransactionsDetail** is granted by the PSU:
  - OBReadTransaction2/Data/Transaction/TransactionInformation **may** be returned if applicable to the transaction and ASPSP (0..1)
  - OBReadTransaction2/Data/Transaction/Balance **may** be returned if applicable to the transaction and ASPSP (0..1)
  - OBReadTransaction2/Data/Transaction/MerchantDetails **may** be returned if applicable to the transaction and ASPSP (0..1)
  - OBReadTransaction2/Data/Transaction/CreditorAccount **may** be returned if applicable to the transaction and ASPSP (0..1)
  - OBReadTransaction2/Data/Transaction/DebtorAccount **may** be returned if applicable to the transaction and ASPSP (0..1)

19.3.5 Data Dictionary

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
OBReadTransaction2		OBReadTransaction2		OBReadTransaction2		
Data	1..1	OBReadTransaction2/Data		OBReadDataTransaction2		
Transaction	0..n	OBReadTransaction2/Data/ Transaction	Provides further details on an entry in the report.	OBTransaction2		
AccountId	1..1	OBReadTransaction2/Data/ Transaction/ AccountId	A unique and immutable identifier used to identify the account resource. This identifier has no meaning to the account owner.	Max40Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
TransactionId	0..1	OBReadTransaction2/Data/Transaction/TransactionId	Unique identifier for the transaction within an servicing institution. This identifier is both unique and immutable.	Max40Text		
TransactionReference	0..1	OBReadTransaction2/Data/Transaction/TransactionReference	Unique reference for the transaction. This reference is optionally populated, and may as an example be the FPID in the Faster Payments context.	Max35Text		
StatementReference	0..n	OBReadTransaction2/Data/Transaction/StatementReference	Unique reference for the statement. This reference may be optionally populated if available.	Max35Text		
Amount	1..1	OBReadTransaction2/Data/Transaction/Amount	Amount of money in the cash transaction entry.	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadTransaction2/Data/Transaction/Amount/Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
CreditDebitIndicator	1..1	OBReadTransaction2/Data/Transaction/CreditDebitIndicator	Indicates whether the transaction is a credit or a debit entry.	OBCreditDebitCode	Credit Debit	
Status	1..1	OBReadTransaction2/Data/Transaction/Status	Status of a transaction entry on the books of the account servicer.	OBEntryStatus1Code	Booked Pending	
BookingDateTime	1..1	OBReadTransaction2/Data/Transaction/BookingDateTime	Date and time when a transaction entry is posted to an account on the account servicer's books. Usage: Booking date is the expected booking date, unless the status is booked, in which case it is the actual booking date.	ISODateTime		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
ValueDateTime	0..1	OBReadTransaction2/Data/ Transaction/ ValueDateTime	Date and time at which assets become available to the account owner in case of a credit entry, or cease to be available to the account owner in case of a debit transaction entry. Usage: If transaction entry status is pending and value date is present, then the value date refers to an expected/requested value date. For transaction entries subject to availability/ float and for which availability information is provided, the value date must not be used. In this case the availability component identifies the number of availability days.	ISODateTime		
TransactionInformation	0..1	OBReadTransaction2/Data/ Transaction/ TransactionInformation	Further details of the transaction. This is the transaction narrative, which is unstructured text.	Max500Text		
AddressLine	0..1	OBReadTransaction2/Data/ Transaction/ AddressLine	Information that locates and identifies a specific address for a transaction entry, that is presented in free format text.	Max70Text		
BankTransactionCode	0..1	OBReadTransaction2/Data/ Transaction/ BankTransactionCode	Set of elements used to fully identify the type of underlying transaction resulting in an entry.	OBBankTransactionCodeStructure1		
Code	1..1	OBReadTransaction2/Data/ Transaction/ BankTransactionCode/Code	Specifies the family within a domain.	ExternalBankTransactionFamily1Code		
SubCode	1..1	OBReadTransaction2/Data/ Transaction/ BankTransactionCode/ SubCode	Specifies the sub-product family within a specific family.	ExternalBankTransactionSubFamily1Code		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
ProprietaryBankTransactionCode	0..1	OBReadTransaction2/Data/Transaction/ProprietaryBankTransactionCode	Set of elements to fully identify a proprietary bank transaction code.	ProprietaryBankTransactionCodeStructure1		
Code	1..1	OBReadTransaction2/Data/Transaction/ProprietaryBankTransactionCode/Code	Proprietary bank transaction code to identify the underlying transaction.	Max35Text		
Issuer	0..1	OBReadTransaction2/Data/Transaction/ProprietaryBankTransactionCode/Issuer	Identification of the issuer of the proprietary bank transaction code.	Max35Text		
Balance	0..1	OBReadTransaction2/Data/Transaction/Balance	Set of elements used to define the balance as a numerical representation of the net increases and decreases in an account after a transaction entry is applied to the account.	OBTransactionCashBalance		
Amount	1..1	OBReadTransaction2/Data/Transaction/Balance/Amount	Amount of money of the cash balance after a transaction entry is applied to the account..	ActiveOrHistoricCurrencyAndAmount		
Currency	1..1	OBReadTransaction2/Data/Transaction/Balance/Amount/Currency	A code allocated to a currency by a Maintenance Agency under an international identification scheme, as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds".	ActiveOrHistoricCurrencyCode		^[A-Z]{3,3}$
CreditDebitIndicator	1..1	OBReadTransaction2/Data/Transaction/Balance/CreditDebitIndicator	Indicates whether the balance is a credit or a debit balance. Usage: A zero balance is considered to be a credit balance.	OBCreditDebitCode	Credit Debit	

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Type	1..1	OBReadTransaction2/Data/ Transaction/ Balance/Type	Balance type, in a coded form.	OBBalanceType1Code	ClosingAvailable ClosingBooked Expected ForwardAvailable Information InterimAvailable InterimBooked OpeningAvailable OpeningBooked PreviouslyClosedBooked	
MerchantDetails	0..1	OBReadTransaction2/Data/ Transaction/ MerchantDetails	Details of the merchant involved in the transaction.	OBMerchantDetails1		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
MerchantName	0..1	OBReadTransaction2/Data/Transaction/MerchantDetails/MerchantName	Name by which the merchant is known.	Max350Text		
MerchantCategoryCode	0..1	OBReadTransaction2/Data/Transaction/MerchantDetails/MerchantCategoryCode	Category code conform to ISO 18245, related to the type of services or goods the merchant provides for the transaction.	Min3Max4Text		
EquivalentAmount	0..1	OBReadTransaction2/Data/Transaction/EquivalentAmount	Amount of money to be transferred between the debtor and creditor, before deduction of charges, expressed in the currency of the debtor's account, and to be transferred into a different currency. Usage : Currency of the amount is expressed in the currency of the debtor's account, but the amount to be transferred is in another currency. The debtor agent will convert the amount and currency to the to be transferred amount and currency, eg, 'pay equivalent of 100000 EUR in JPY'(and account is in EUR).	EquivalentAmount		
Amount	1..1	OBReadTransaction2/Data/Transaction/EquivalentAmount/Amount	Amount of money to be transferred between debtor and creditor, before deduction of charges, expressed in the currency of the debtor's account, and to be transferred in a different currency. Usage : Currency of the amount is expressed in the currency of the debtor's account, but the amount to be transferred is in another currency. The first agent will convert the amount and currency to the to be transferred amount and currency, eg, 'pay equivalent of 100000 EUR in JPY'(and account is in EUR).	CurrencyAndAmount		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
Currency	1..1	OBReadTransaction2/Data/Transaction/EquivalentAmount/Amount/Currency	Code allocated to a currency, by a maintenance agency, under an international identification scheme as described in the latest edition of the international standard ISO 4217 "Codes for the representation of currencies and funds". Valid currency codes are registered with the ISO 4217 Maintenance Agency, and consist of three contiguous letters.	Currency Code		^[A-Z]{3,3}$
CurrencyOfTransfer	1..1	OBReadTransaction2/Data/Transaction/EquivalentAmount/CurrencyOfTransfer	Specifies the currency of the to be transferred amount, which is different from the currency of the debtor's account.	Currency Code		^[A-Z]{3,3}$
CreditorAgent	0..1	OBReadTransaction2/Data/Transaction/CreditorAgent	Financial institution servicing an account for the creditor.	OBBranchAndFinancialInstitutionIdentification2		
SchemeName	1..1	OBReadTransaction2/Data/Transaction/CreditorAgent/SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalFinancialInstitutionIdentification2Code	BICFI	
Identification	1..1	OBReadTransaction2/Data/Transaction/CreditorAgent/Identification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.	Max35Text		
CreditorAccount	0..1	OBReadTransaction2/Data/Transaction/CreditorAccount	Unambiguous identification of the account of the creditor, in the case of a debit transaction.	OBCashAccount2		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
SchemeName	1..1	OBReadTransaction2/Data/ Transaction/ CreditorAccount/ SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalAccountIdentification3Code	IBAN PAN Sort CodeAccount Number	
Identification	1..1	OBReadTransaction2/Data/ Transaction/ CreditorAccount/ Identification	Identification assigned by an institution to identify an account. This identification is known by the account owner.	Max34Text		
Name	0..1	OBReadTransaction2/Data/ Transaction/ CreditorAccount/Name	Name of the account, as assigned by the account servicing institution, in agreement with the account owner in order to provide an additional means of identification of the account. Usage: The account name is different from the account owner name. The account name is used in certain user communities to provide a means of identifying the account, in addition to the account owner's identity and the account number. OB: No name validation is expected for confirmation of payee.	Max70Text		
SecondaryIdentification	0..1	OBReadTransaction2/Data/ Transaction/ CreditorAccount/ SecondaryIdentification	This is secondary identification of the account, as assigned by the account servicing institution. This can be used by building societies to additionally identify accounts with a roll number (in addition to a sort code and account number combination).	Max34Text		
DebtorAgent	0..1	OBReadTransaction2/Data/ Transaction/ DebtorAgent	Financial institution servicing an account for the debtor.	OBBranchAndFinancialInstitutionIdentification2		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
SchemeName	1..1	OBReadTransaction2/Data/ Transaction/ DebtorAgent/ SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalFinancialInstitutionIdentification2Code	BICFI	
Identification	1..1	OBReadTransaction2/Data/ Transaction/ DebtorAgent/ Identification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.	Max35Text		
DebtorAccount	0..1	OBReadTransaction2/Data/ Transaction/ DebtorAccount	Unambiguous identification of the account of the debtor, in the case of a crebit transaction.	OBCashAccount2		
SchemeName	1..1	OBReadTransaction2/Data/ Transaction/ DebtorAccount /SchemeName	Name of the identification scheme, in a coded form as published in an external list.	OBExternalAccountIdentification3Code	IBAN PAN Sort Code Account Number	
Identification	1..1	OBReadTransaction2/Data/ Transaction/ DebtorAccount /Identification	Identification assigned by an institution to identify an account. This identification is known by the account owner.	Max34Text		
Name	0..1	OBReadTransaction2/Data/ Transaction/ DebtorAccount /Name	Name of the account, as assigned by the account servicing institution, in agreement with the account owner in order to provide an additional means of identification of the account.\n\nUsage: The account name is different from the account owner name. The account name is used in certain user communities to provide a means of identifying the account, in addition to the account owner's identity and the account number.	Max70Text		

Name	Occurrence	XPath	EnhancedDefinition	Class	Codes	Pattern
SecondaryIdentification	0..1	OBReadTransaction2/Data/Transaction/DebtorAccount/SecondaryIdentification	This is secondary identification of the account, as assigned by the account servicing institution. This can be used by building societies to additionally identify accounts with a roll number (in addition to a sort code and account number combination).	Max34Text		
CardInstrument	0..1	OBReadTransaction2/Data/Transaction/CardInstrument	Set of elements to describe the card instrument used in the transaction.	OBTransactionCardInstrument1		
CardSchemeName	1..1	OBReadTransaction2/Data/Transaction/CardInstrument/CardSchemeName	Name of the card scheme.	OBExternalCardSchemeType1Code	AmericanExpress Diners Discover MasterCard VISA	
AuthorisationType	0..1	OBReadTransaction2/Data/Transaction/CardInstrument/AuthorisationType	The card authorisation type.	OBExternalCardAuthorisationType1Code	Contactless None PIN	
Name	0..1	OBReadTransaction2/Data/Transaction/CardInstrument/Name	Name of the cardholder using the card instrument.	Max70Text		
Identification	0..1	OBReadTransaction2/Data/Transaction/CardInstrument/Identification	Identification assigned by an institution to identify the card instrument used in the transaction. This identification is known by the account owner, and may be masked.	Max34Text		

19.3.5.1 Enumerations

This section gives the definitions for enumerations used.

Code Class	Name	Definition
OBBalanceType1Code	ClosingAvailable	Closing balance of amount of money that is at the disposal of the account owner on the date specified.
OBBalanceType1Code	ClosingBooked	Balance of the account at the end of the pre-agreed account reporting period. It is the sum of the opening booked balance at the beginning of the period and all entries booked to the account during the pre-agreed account reporting period.
OBBalanceType1Code	Expected	Balance, composed of booked entries and pending items known at the time of calculation, which projects the end of day balance if everything is booked on the account and no other entry is posted.
OBBalanceType1Code	ForwardAvailable	Forward available balance of money that is at the disposal of the account owner on the date specified.
OBBalanceType1Code	Information	Balance for informational purposes.
OBBalanceType1Code	InterimAvailable	Available balance calculated in the course of the account servicer's business day, at the time specified, and subject to further changes during the business day. The interim balance is calculated on the basis of booked credit and debit items during the calculation time/period specified.
OBBalanceType1Code	InterimBooked	Balance calculated in the course of the account servicer's business day, at the time specified, and subject to further changes during the business day. The interim balance is calculated on the basis of booked credit and debit items during the calculation time/ period specified.
OBBalanceType1Code	OpeningAvailable	Opening balance of amount of money that is at the disposal of the account owner on the date specified.
OBBalanceType1Code	OpeningBooked	Book balance of the account at the beginning of the account reporting period. It always equals the closing book balance from the previous report.

Code Class	Name	Definition
OBBalanceType1Code	PreviouslyClosed Booked	Balance of the account at the previously closed account reporting period. The opening booked balance for the new period has to be equal to this balance. Usage: the previously booked closing balance should equal (inclusive date) the booked closing balance of the date it references and equal the actual booked opening balance of the current date.
OBCreditDebitCode	Credit	Operation is a credit
OBCreditDebitCode	Debit	Operation is a debit
OBEntryStatus1Code	Booked	Booked means that the transfer of money has been completed between account servicer and account owner Usage: Status Booked does not necessarily imply finality of money as this depends on other factors such as the payment system used, the completion of the end- to-end transaction and the terms agreed between account servicer and owner. Status Booked is the only status that can be reversed.
OBEntryStatus1Code	Pending	Booking on the account owner's account in the account servicer's ledger has not been completed. Usage: this can be used for expected items, or for items for which some conditions still need to be fulfilled before they can be booked. If booking takes place, the entry will be included with status Booked in subsequent account report or statement. Status Pending cannot be reversed.
OBExternalAccountIdentification2Code	IBAN	An identifier used internationally by financial institutions to uniquely identify the account of a customer at a financial institution, as described in the latest edition of the international standard ISO 13616. "Banking and related financial services - International Bank Account Number (IBAN)".
OBExternalAccountIdentification2Code	SortCodeAccount Number	Sort Code and Account Number - identifier scheme used in the UK by financial institutions to identify the account of a customer. The identifier is the concatenation of the 6 digit UK sort code and 8 digit account number. The regular expression for this identifier is: ^[0-9]{6}[0-9]{8}$

Code Class	Name	Definition
OBExternalFinancialInstitution Identification2Code	BICFI	Valid BICs for financial institutions are registered by the ISO 9362 Registration Authority in the BIC directory, and consist of eight (8) or eleven (11) contiguous characters.
OBExternalCardAuthorisationType1Code	Contactless	Card authorisation was via Contactless.
OBExternalCardAuthorisationType1Code	None	No card authorisation was used.
OBExternalCardAuthorisationType1Code	PIN	Card authorisation was via PIN.
OBExternalCardSchemeType1 Code	AmericanExpress	AmericanExpress scheme.
OBExternalCardSchemeType1 Code	Diners	Diners scheme.
OBExternalCardSchemeType1 Code	Discover	Discover scheme.
OBExternalCardSchemeType1 Code	MasterCard	MasterCard scheme.
OBExternalCardSchemeType1 Code	VISA	VISA scheme.

19.4 Usage Examples

19.4.1 Specific Account

Request

Get Account Transactions Request

```
GET /accounts/22289/transactions HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Account Transactions Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Transaction": [
      {
        "AccountId": "22289",
        "TransactionId": "123",
        "TransactionReference": "Ref 1",
        "Amount": {
          "Amount": "10.00",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Credit",
        "Status": "Booked",
        "BookingDateTime": "2017-04-05T10:43:07+00:00",
        "ValueDateTime": "2017-04-05T10:45:22+00:00",
        "TransactionInformation": "Cash from Aubrey",
        "BankTransactionCode": {
          "Code": "ReceivedCreditTransfer",
          "SubCode": "DomesticCreditTransfer"
        },
        "ProprietaryBankTransactionCode": {
          "Code": "Transfer",
          "Issuer": "AlphaBank"
        },
        "Balance": {
          "Amount": {
            "Amount": "230.00",
            "Currency": "GBP"
          },
          "CreditDebitIndicator": "Credit",
          "Type": "InterimBooked"
        }
      }
    ]
  },
  "Links": {
    "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/transactions/"
  },
  "Meta": {
    "TotalPages": 1,
      "FirstAvailableDateTime": "2017-05-03T00:00:00+00:00",
      "LastAvailableDateTime": "2017-12-03T00:00:00+00:00"
  }
}
```

19.4.2 Bulk

None of the transactions included in the payload are Ecommerce transactions - so MerchantDetails are not included in the examples.

Request

Get Transactions Request

```
GET /transactions HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

Get Transactions Response

```
HTTP/1.1 200 OK
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Content-Type: application/json

{
  "Data": {
    "Transaction": [
      {
        "AccountId": "22289",
        "TransactionId": "123",
        "TransactionReference": "Ref 123",
        "Amount": {
          "Amount": "10.00",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Credit",
        "Status": "Booked",
        "BookingDateTime": "date",
        "ValueDateTime": "2017-04-05T10:45:22+00:00",
        "TransactionInformation": "Cash from Aubrey",
        "BankTransactionCode": {
          "Code": "ReceivedCreditTransfer",
          "SubCode": "DomesticCreditTransfer"
        },
        "ProprietaryBankTransactionCode": {
          "Code": "Transfer",
          "Issuer": "AlphaBank"
        },
        "Balance": {
          "Amount": {
```

```json
          "Amount": "230.00",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Credit",
        "Type": "InterimBooked"
      }
    },
    {
      "AccountId": "31820",
      "TransactionId": "567",
      "TransactionReference": "Ref 124",
      "Amount": {
        "Amount": "100.00",
        "Currency": "GBP"
      },
      "CreditDebitIndicator": "Debit",
      "Status": "Booked",
      "BookingDateTime": "2017-05-02T14:22:09+00:00",
      "ValueDateTime": "2017-05-02T14:22:09+00:00",
      "TransactionInformation": "Paid the gas bill",
      "AddressLine": "Coventry",
      "BankTransactionCode": {
        "Code": "IssuedCreditTransfer",
        "SubCode": "AutomaticTransfer"
      },
      "ProprietaryBankTransactionCode": {
        "Code": "DirectDebit",
        "Issuer": "AlphaBank"
      },
      "Balance": {
        "Amount": {
          "Amount": "57.36",
          "Currency": "GBP"
        },
        "CreditDebitIndicator": "Debit",
        "Type": "InterimBooked"
      }
    }
  ]
},
"Links": {
  "Self": "https://api.alphabank.com/open-banking/v2.0/accounts/22289/transactions/"
},
"Meta": {
  "TotalPages": 1,
    "FirstAvailableDateTime": "2017-05-03T00:00:00+00:00",
    "LastAvailableDateTime": "2017-12-03T00:00:00+00:00"
  }
}
```

19.4.3 No Access

In this example - the AISP does not have access to call the transactions endpoint. This will result in a 403 error.

Request

GET Account Transactions Request

```
GET /accounts/22289/transactions HTTP/1.1
Authorization: Bearer Az90SAOJklae
x-fapi-financial-id: OB/2017/001
x-fapi-customer-last-logged-time:  Sun, 10 Sep 2017 19:43:31 UTC
x-fapi-customer-ip-address: 104.25.212.99
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
Accept: application/json
```

Response

GET Account Transactions Response

```
HTTP/1.1 403 Forbidden
x-fapi-interaction-id: 93bac548-d2de-4546-b106-880a5018460d
```