THE Berlin GROUP

A EUROPEAN STANDARDS INITIATIVE

Berlin Group openFinance API Framework

Workplan 2022

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1 Introduction

1.1 From Core XS2A Interface to openFinance API

With the revised Payment Services Directive (PSD2) the European Union has published a directive on payment services in the internal market. Among others, PSD2 contains regulations on services to be operated by Third Party Providers (TPPs) on behalf of a Payment Service User (PSU). These services are

- Payment Initiation Service (PIS) to be operated by a Payment Initiation Service Provider (PISP) TPP as defined by article 66 of PSD2,
- Account Information Service (AIS) to be operated by an Account Information Service Provider (AISP) TPP as defined by article 67 of PSD2, and
- Confirmation on the Availability of Funds Service (FCS) to be used by a Payment Instrument Issuing Service Provider (PIISP) TPP as defined by article 65 of PSD2.

To support the TPP in accessing the accounts managed by an Account Servicing Payment Service Provider (ASPSP), each ASPSP has to provide an "access to account interface" (XS2A interface). Such an interface has been defined in the Berlin Group NextGenPSD2 XS2A Framework.

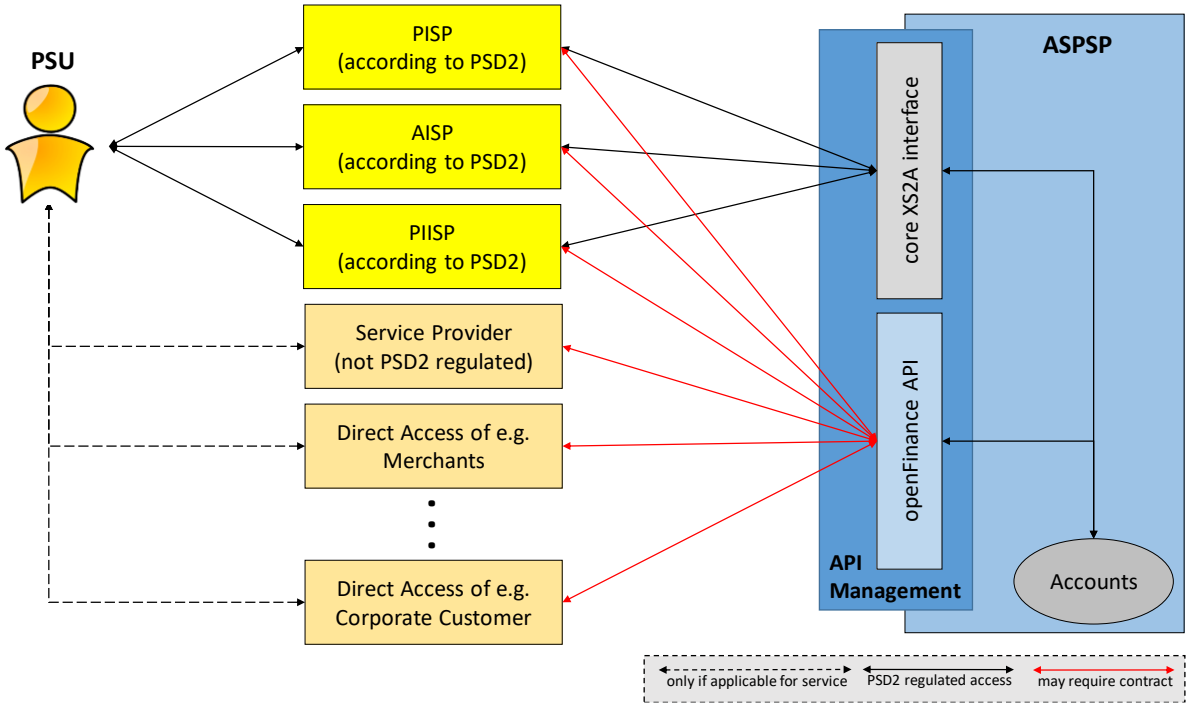
The XS2A Framework is now extended to premium value added services. This interface is addressed in the following as **openFinance API Framework** (ref. www.berlin-group.org/open-finance for more detailed information). The openFinance API interface differs from the XS2A interface in several dimensions:

- The extended services might not rely anymore solely on PSD2 but e.g. also on GDPR;
- The openFinance API can address different types of **API Clients**, e.g. TPPs regulated by an NCA according to PSD2, or corporates not regulated by an NCA;
- The extended services might require commercial contracts between the API Client and the ASPSP;
- The openFinance API could also be used by other institutions for any business not regulated by PSD2;
- API Client identification is not necessarily based on eIDAS PSD2 compliant certificates;
- The extended services might require e.g. the direct involvement of the API Client's bank for KYC processes;

Note: The notions of API Client and ASPSP are used because of the technical standardisation perspective of the openFinance API. These terms are analogous to "asset broker" and "asset holder" resp. in the work of the ERPB on a SEPA API access scheme.

Note: In implementations, several ASPSPs might offer their services in an aggregation platform. Such platforms will be addressed in the openFinance API Framework as "API provider".

The following access models are followed by this framework:



1.2 Workplan 2022

In November 2020, the openFinance Taskforce had issued a Workplan 2021. Many items of this workplan have been finalised or partially worked on. Subsequently the openFinance Taskforce has together with the Advisory Group & Board worked on a Workplan 2022 for

- the finalisation of premium value added services from the Workplan 2021,
- the creation of new premium value added services within the openFinance Interface, and
- the further evolution of the Core XS2A Interface architecture to support this.

Note: Depending on market input and feedback or new market developments, the Workplan 2022 and related timelines may be subject to further adjustments and finetuning.

Note: Where applicable, reference is made to the relevant detailed Change Request available on the detailed Change Requests overview (ref. https://www.berlin-group.org/nextgenpsd2-downloads, in the Available Documents – Change Management Process section).

Note: the distinction between short-term and mid-term extensions has been based on the fact, that the standardisation of some services had been driven already in 2021 and the need was

seen to finalise this work first in Q1/Q2 2022 before turning to new services. The mid-term extensions had been chosen from a wider set of potential services, where the selection has been based on a.o. the following quantifiable criteria (based on weighted averages):

- Interest measured as a commitment to implement
- Commercial value
- Expected usage rate

In addition, priorities from the openFinance Advisory Group & Board were taken into account as well as non-quantifiable criteria, e.g. urgency of already available Change Requests, easy-to-achieve targets, resources offered as support during standardisation, and connection to the ongoing publication of regulatory text and plans as e.g. in the European Commission Digital Finance Package. The services enriching the API Framework with technical architecture enhancements have been considered as a high priority.

2 Short-term extensions: Finalisation of 2021 work

These items are all items from the Roadmap 2021, where the work had been started already but not all items completely finished yet.

2.1 Payment Initiation Functionality Extensions

The following extensions to the payment functionalities as provided in the market consultation of the Operational Rules in April 2021, shall be finalised in detailed technical Implementation Guidelines:

- a reservation of funds functionality to the API (ref. CR0019);
  such a service would allow to reserve PSU funds for a certain time after PSU authorisation
- a deferred payment option (ref. CR0019);
  such a service would allow to execute API-initiated payments with reserved funds at a later stage and in several steps
- a recurring payment option with maximum authorised amounts and where execution with the correct amount is initiated by the API Client (ref. CR0019);
  such a service would allow to process (variable) recurring payments without rejections at payment processing level
- the initiation of a consumer loan into the payment initiation (Pay by Loan or now named Buy Now Pay Later - BNPL, ref. CR0006);
  such a service would allow the PSU to agree first with the ASPSP on a consumer loan to be used for the related payment. Additional functions like cancellation of remotely agreed loans and 'ex ante' information about all relevant rates (e.g. interest, installment details) shall be added as well.
- a new payment service type to support SEPA Direct Debit (SDD) collections via XML and JSON (ref. CR0007+CR0055);
  such a service would allow to initiate EPC-formatted SDDs or the JSON version as published in the payment data model version 2, together with relevant PSU-authorisations, by re-using the payment endpoint functionality of the core XS2A interface in introducing a new payment product

Todo:

- finalise Operational Rules and Implementation Guidelines as well as OpenAPI files after a public market consultation on the Implementation Guidelines planned for January 2022.

2.2 Basic Document Service

This service allows to send documents to the PSU via the openFinance API. This service comes together with a consent process, where the PSU needs to consent via the ASPSP that documents are posted to his/her account by a third party. This consent can e.g. be given

- either by a subscription process between the PSU and the ASPSP for a certain category of documents like e-receipts from card transactions
- or to a category of third parties, e.g. public authorities
- or as a consent to the third party as such.

Todo:

- provide Operational Rules and Implementation Guidelines as well as OpenAPI files

2.3 Securities AIS

The existing account information functionalities shall be extended by introducing

- New AIS reporting endpoints for securities accounts (showing depot details, transactions and orders)

- Additional reference capabilities for the related accounts in the consent model

Todo:

- Check with existing standards in the market

- Extend the related Operational Rules and provide Implementation Guidelines and OpenAPI files

2.4 SDD Mandate authorisation

Ref. CR0001

This service allows the Creditor to get a mandate authorised and/or to get an e-Mandate signed by the ASPSP using the PSU (in a Debtor role) consent and SCA.

Todo:

- write a first draft of an Operational Rules document and discuss the potential usage with the scheme holder

2.5 Integrated ID Services

This service allows to extend the payment initiation request with confirmation of certain PSU-related data (e.g. age, address data, TaxID etc.). A potential PSU consent could be part of the payments SCA process.

Todo:

- Extend the related extended payment service documentation as defined above.

2.6 Administration Functions: Discovery APIs and Commercial Onboarding Services

Ref. CR0025

The Discovery API service will allow API Clients to get an overview

- on the list of ASPSPs supported by a dedicated API provider;
- on the services and products supported by an ASPSP;
- on technical configurations of an ASPSP interface: variants supported, SCA supported, etc.

In addition, the Discovery API is meant to support links for documentation to be downloaded.

Further, the following Commercial Onboarding Services will be supported:

The Client Parameter service will allow openFinance API Clients to steer authorisation and service processes in more complex environments (e.g. in a corporate context).

The Service Offer service will provide service pricing and service details information to the market. The Service Registering service will provide means to subscribe to a service, where applicable. Signature Processes will be more globally defined to transmit signature processes results of PSUs to the ASPSP, particularly in the case of corporates.

Todo:

- Extend the related Operational Rules and provide Implementation Guidelines and OpenAPI files

3 Mid-term extensions

The mid-term extensions result from the prioritisation process by the openFinance Taskforce and the Advisory Group & Board and are aimed to start in Q3 2022. Please note that depending on market input and feedback or new market developments, the Workplan 2022 and related timelines may be subject to further adjustments and finetuning.

3.1 Combinations of document and payment/RTP services functionality

Payment and Request to Pay (RTP) services shall be extended to supporting document transmission. These documents can be documents like e.g. e-invoices to be transported with the related payment data to the ASPSP or it can be digital contracts or e-receipts only to be transported to the PSU via the ASPSP after a successful payment.

Todo:

- Extend the related Operational Rules and Implementation Guidelines and OpenAPI files

3.2 New Architecture Items

Version 2.x of the openFinance architecture shall support:

- Direct Access definitions: Direct Access is defined to be a direct consumption of the API, e.g. by corporate/SME users with support of the necessary security features.
- Digital Signature of content: This covers amongst others a SCA proof in a Direct Access scenario. It can also be used for e.g. processing digitally signed content.
- FAPI Profiles discussion: The recognition of current OpenID FAPI developments and its implication on the overall authentication framework shall be discussed.
- API Access Scheme(s) developments impact: upcoming API Access Schemes might require support of additional functionalities or adjustment of existing functionalities.

NOTE: Please note that the architecture items were not part of the prioritisation process as such, since the need to support will come with certain service prioritisations implicitly. These services are listed as part of the market communication character of this document.

Todo:

- Provide an overall document on security related features.

3.3 Payment Initiation Functionality: DLT Smart Contract Trigger Payments

Smart contracts in a customers / Market DLT Blockchain structure should be able to work with existing SEPA Payments. So the smart contract should address an API at the Payer site to do

a PIS. Operational rules should define how attributes in a SEPA Credit Transfer should be filled (e.g. by settings for purpose codes, remittance information and end-to-end identification). These settings shall enable a matching of the payment to a smart contract on sender and receiver side, e.g by using the Push AIS service which is currently built. In addition adaption to the current authorisation and extended payment initiation framework on elements like pre-authorisation terms needs to be reviewed.

Todo:

- write the related Operational Rules and extend the existing Implementation Guidelines and OpenAPI files for extended payment initiation services

3.4 Mortgage/Loan Management API;

Ref. CR0058

This service should allow (from the customer's perspective):

- with current bank involved
  - show existing mortgages/loans with all product details,
  - show current offers for expiring mortgages/loans,
  - manage a mortgage/loan (e.g. add documents, get status),
  - to prolong an expiring mortgage/loan,
  - increase an existing mortgage/loan while keeping the conditions,
  - change the conditions of an existing mortgage/loan (e.g. fixed-interest duration),
  - get offers and apply for new mortgage/loan,
  - calculate the costs of an early mortgage/loan repayment,
  - terminate an existing mortgage/loan.
- with other bank involved
  - apply for new financing of an existing mortgage/loan by another bank,
  - transfer current mortgage/loan to another provider.
- with multiple banks involved
  - get a list of available mortgage/loan products including conditions (e.g. as a link list).
  - generate a liquidity planning, based on the currently available financial information regarding any current mortgage.

Todo:

- Overlaps with the Buy Now Pay Later (BNPL) Service (cp. section 2.1) shall be checked
- Provide Operational Rules and Implementation Guidelines and OpenAPI files.

3.5 FX business (Direct Access Use Case)

This service shall support FX business once the Direct Access conditions have been set for payment initiation services. The service will offer:

- Exchange information;
- Initiate the exchange order for a future payment at the time of authorisation of a submitted payment;
- Buy/Sell options for FX;
- Bank check services integrated into this;

Todo:

- Provide Operational Rules and Implementation Guidelines and OpenAPI files.

3.6 Account Opening Service

(later in the process, due to potential impact from the eIDAS review)

This service supports a fully digital account opening. The following use cases are possible:

- The opening of an additional account for an existing customer.
- The account opening for a new customer including the KYC process, optionally with eID and eSignature involved.

Todo:

- Provide Operational Rules and Implementation Guidelines and OpenAPI files.

4 Watch List

openFinance will on a regular basis re-asses potential impacts of the related topics on the openFinance APIs. A first step to assess the impacts would always be to work on a White Paper about impacts.

4.1 eIDAS review (eID in general)

The European Commission is currently evaluating this regulatory framework and ran an open consultation from 24 July to 2 October 2020. The aim of the consultation was to collect feedback on drivers and barriers to the development and uptake of trust services and eID in Europe. The study also considered the impact of the options for delivering an EU digital identity.

The European Commission will assess to what extent the eIDAS framework remains fit for purpose, delivering the intended outcomes, results and impact, and if there are any barriers to the development and uptake of trust services and eID in Europe. The Commission will also consider whether it is appropriate to modify the scope of the Regulation or its specific provisions, taking into account the experience gained in the application, and technological, market and legal developments.

Berlin Group openFinance will assess the impact on the API Framework, starting with a White Paper study first.

4.2 Digital Euro impact

Central banks are frequently voicing the need for a digital euro as a simple, universally accepted, safe and trusted means of payment, as a digital complement to cash and accessible to all citizens and firms. The final requirements to the digital euro are currently being studied and a pilot may start in a few years. In order to anticipate the arrival of a digital euro, Berlin Group openFinance could start to assess the interbank interfaces and potential impacts on the API Framework.

4.3 Tokenized commercial bank money

In addition to a CDBC for retail banking (e.g. digital Euro), also commercial bank money could be tokenized and issued by ASPSPs. Money processed in such a token could be converted either into commercial bank money or into CDBC directly where needed. The related token issued by an ASPSP would be fungible with a related token issued by any other ASPSP within the system. Berlin Group openFinance could start to assess the interbank interfaces and potential impacts on the API Framework.

5 Back Log

The openFinance Taskforce and Advisory Board had discussed and evaluated other potential services in addition to the mid-term services. The evaluation showed that these services were either considered as not urgent, too early for standardisation or missing stakeholder involvement. Nevertheless these services are listed here to guarantee a full market transparency on the prioritisation process. The fact that the services are listed here **does not necessarily imply** that the services will be standardised in the near future: standardisation in the openFinance community will always be driven by current market needs.

5.1 Securities order business

This service will support three sub-services:

- Information about available stock exchange platforms, rates for a chosen security, other additional information (optional, maybe at a later step).
- Order submission with additional data like limits or order places and order authorisation.
- Status reports on order submissions restricted to submitted orders.

Todo:

- Check with existing market standards.
- Provide Operational Rules and Implementation Guidelines and OpenAPI files.

5.2 Savings contracting

This service will support two sub-services:

- show product details like interests, lifetime, etc.
- account opening authorisation (SCA, signatures etc.)

Todo:

- Provide Operational Rules and Implementation Guidelines and OpenAPI files.

5.3 Alignment MobileP2P Framework

The existing Berlin Group MobileP2P Framework is supporting amongst others a proxy-lookup service and reach functionality in a version 1.2 of the related MobileP2P Interoperability Framework. Technically this Framework is not directly compatible with the openFinance

architecture. The openFinance Request-to-Pay (RTP) service is now offering an RTP functionality not only for payment accounts but implicitly also for MobileP2P schemes. For this reason it is proposed to work on a version 2 of the MobileP2P Framework in order to have proxy lookup and RTP functionality with a common technical architecture and data model, aligned with the openFinance architecture. This will enable ASPSPs to more easily

- offer MobileP2P services directly to the market and
- achieve interoperability between existing MobileP2P services.

Todo:

- Review of the Mobile P2P Interoperability Implementation Guidelines and prepare OpenAPI files.

5.4 Trade Finance

The Trade Finance Service covers the following products and can be standardized in a phased approach:

5.4.1 Phase 1: Bank guarantee

- This service allows the Creditor to get a Bank Guarantee
- The definition of the possible types of guarantees for private and business clients is part of the business analysis phase by the Business Evaluation Working Group.

5.4.2 Phase 2: Letter of credit

This is an undertaking/promise given by a Financial Institute on behalf of the Buyer to the Seller, that, if the Seller presents the complying documents to the Buyer's designated Financial Institute as specified by the Buyer in the Purchase Agreement then the Buyer's Financial Institute will make payment to the Seller.

- Creation of an L/C Agreement
- Support of qualified signatures (creation / validation) for the Agreement and the documents
- Document upload

Event-driven payment initiation (evidences: scanned documents, signed documents, smart contracts, etc.)

Todo:

- Provide Operational Rules and Implementation Guidelines and OpenAPI files for phase 1.

5.5 Account Switching Service

This service supports fully digital account switching. The PSU initiates this via its new ASPSP.

- Interface to initiate the transfer (Subscription)
- Interface to transfer the date to the new ASPSP.
- Optional: Transfer of all Assets to the new ASPSP

Todo:

- Provide Operational Rules and Implementation Guidelines and OpenAPI files.

5.6 Factoring Services

Factoring - a company that wants to optimise their cash availability and/or reduce the risk of not being payed wants to sell its receivables to a factoring provider.

5.7 Open Insurance Use Case: Product offerings

SMEs need insurances - e.g. against fire or natural catastrophes. Either during a (e.g. annual) check of the costs of the insurances or change of situation (e.g. new building) SMEs have a look on the costs. Besides the "current costs" also information about "adequate market prices" are important - combined with the possibility to change the insurance if it is too expensive / another insurance fits better to SME's needs.

In Germany there are portals providing this information in web frontends. However, they are not integrated in existing systems like ERP systems. APIs would be useful to retrieve this information about quotes for insurances, display it in the user's workflow directly and having the possibility to change to another insurance.

5.8 Instant credit card issuing initiation

Allow third parties / companies to ask for new / virtual credit card issuing on demand. E.g. for one-time (pre-approved) payments for employees; dedicated subscription payments that can be managed by employees (using virtual cards that expire after its usage, limits can be realised and fraud reduced), or to facilitate expense management.