



openFinance API Framework
Operational Rules for Extended Services
Extended Payment Initiation Services

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1 Introduction

1.1 From Core XS2A Interface to openFinance API

With [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 so called Third Party Payment Service Providers (TPP) 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 implement these services (subject to PSU consent) a TPP needs to access the account of the PSU. The account is managed by another PSP called the Account Servicing Payment Service Provider (ASPSP). To support the TPP in accessing the accounts managed by an 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.

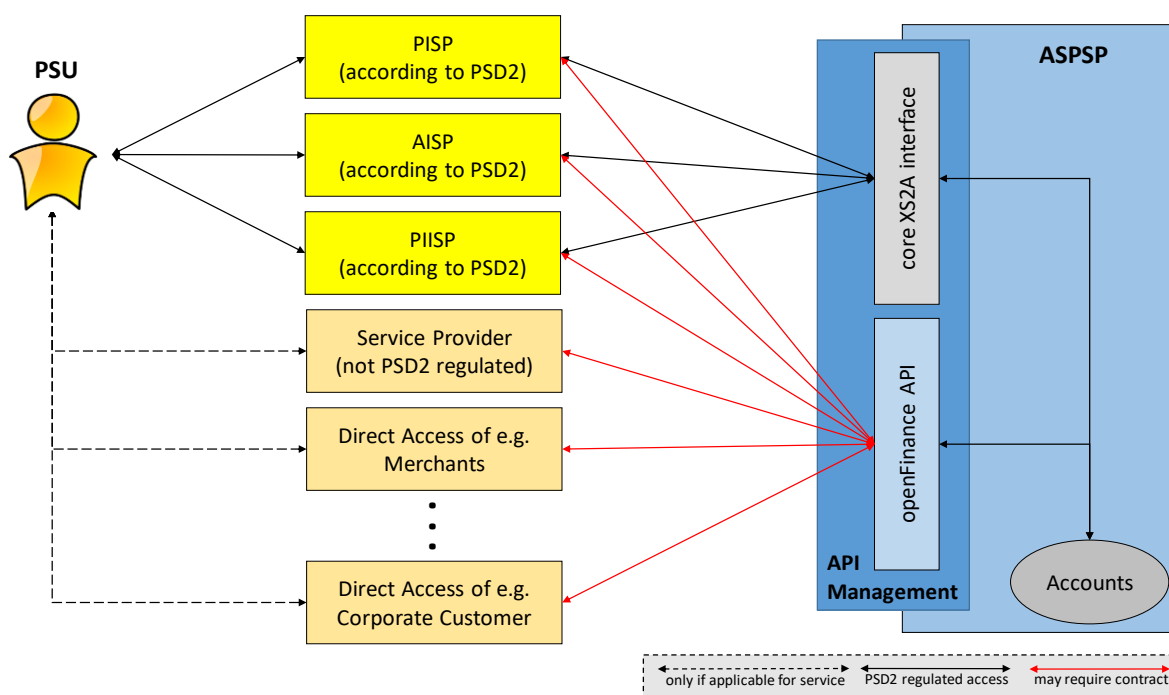
This XS2A Framework is now broadened to extended services. This interface is addressed in the following as **openFinance API**. This openFinance API differs from the XS2A interface in several dimensions:

- The extended services might not rely anymore solely on PSD2.
- Other important regulatory frameworks which apply are e.g. GDPR.
- The openFinance API can address different types of **API Clients** as access clients, e.g. TPPs regulated by an NCA according to PSD2, or corporates not regulated by an NCA.
- The extended services might require contracts between the API Client and the ASPSP.
- While the client identification at the openFinance API can still be based on eIDAS certificates, they do not need to be necessarily PSD2 compliant eIDAS 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 account access methods are covered by this framework:



The ASPSP may restrict the access to the services offered at its openFinance API and require dedicated onboarding. The requirements for the rights to access the services offered at the openFinance API are out of scope of this document. These requirements will be described in a dedicated operational rules document [oFA-OR-ADM].

1.2 Extended Payment Initiation Services

The core XS2A Interface as introduced above is already supporting Payment Initiation Services (PIS) for several products like single payments, bulk payments as well as standing orders. These services follow the sole functionality of online channels of the related ASPSP: After authorisation of the payment by the PSU, the payment is either directly initiated (single or bulk payment) or at a dedicated execution date/date and time. For all payments, the decision of execution is taken at a pre-defined time and will depend a.o. on the limits and current balances of PSUs ASPSPs. The latter are terms of the ASPSP's risk management.

For the envisaged Extended Services, the payment **initiation** function of the openFinance API will go beyond the ASPSP online channels functionality. But still, the payment as such will be a payment between the PSU and the defined creditor under the payment scheme addressed in the payment initiation, e.g. a SEPA Credit Transfer. All rules of the related payment scheme will apply once the payment is executed.

The specific function in the Extended Payment Initiation Services is to make the **initiation phase** more flexible, i.e.

- separate authorisation and actual initiation processes as well as
- unbundle risk management functionality from the actual payment initiation, but already apply e.g. limit and balance checks during the authorisation and hence
- potentially secure the future payment initiation in addition.

To enable this, the ASPSP needs to keep the result of the risk management processes during authorisation in mind – this is done e.g. via a reservation of the related funds at the related account. This will ensure that the funds are not available anymore for other payment initiations e.g. for other payments like other PIS, cards or in ASPSP online channels, if requested accordingly by the TPP. Commercial contracts between the TPP and the ASPSP (either bilaterally or multilaterally agreed via an API access scheme) could alternatively provide a bank guarantee for the authorised payments if applicable.

The flexible initiation phase will make it easy for the PISP to offer from their side products to the market like deferred payments (as needed e.g. for "e-commerce payments by delivery"), payment guarantee or partial payments. Payment functionalities where any sort of risk measures is applied supporting the future payment execution are called "secured payments" in this document. The ASPSP may communicate the actual chosen securing measure to the TPP in the response to the first call of a transaction towards the openFinance API for secured payments.

In addition, the same services with flexible authorisation and initiation processes will be offered without dedicated reservation funds as basic services. These basic services might be important e.g. in a corporate context where payment authorisation and payment initiation might diverge more in the timeline, such that a reservation of funds would not easily be applicable. Such extended payment functions will be referred to as "not secured payments" in this document.

The same extended service will also apply to recurring payments. The Extended Payment Initiation Services will support three variants to make the recurring payments more flexible, where the PSU is only authorising a maximum amount per dedicated period. In all variants, the authorisation of the recurring payment and the related periodical initiations are separated. The PSU is only directly involved in the authorisation process, the related initiations is without further interaction of the PSU in the API related initiation process. This leads to the following variants for the initiation processes after authorisation:

In the first variant, the PISP will initiate the payment just before the recurring execution date with the actual amount which might be less. The ASPSP is then processing it at the pre-defined execution date, while using the actual amount for the current period from the PISP,

In the second variant, the ASPSP will only offer a reservation of funds function in each period (about the actual amount in the current period). This reservation of funds will be requested by

the PISP when the amount is fixed and just before pulling the related amounts through a pull payment decoupled from the openFinance API e.g. in a direct debit.

In the third variant, the PISP is able to initiate several payments (funds transfers) during each period of the recurring payments, where the sum of all instructed amounts of these payments is less or equal to the authorised amount. Each initiation is executed separately by the ASPSP directly after the related initiation.

RFU: The Extended Payment Initiation Services will offer in the first version only the extended payment initiation services as such. In a second phase, these payments could in addition support the delivery of documents related to the payment to the PSU via the ASPSP. This could be related receipts, invoices or contractual documents. Sections where this has a potential future impact in this document are marked by RFU (Remark on Future Usage) to make these plans transparent to the market.

1.3 Documents

The document at hand gives an overview on the functional models of Extended Payment Initiation Services as outlined in Section 2.2.

The technical specification of the Extended Payment Initiation Services in form of an API specification is not part of this document. Please refer to the corresponding Implementation Guidelines [oFA-IG-XPIS] for this technical specification.

1.4 Document History

Version	Change/Note	Approved
0.9	Initial version for market consultation	openFinance TF 2021-02-17
1.0	Editorially reworked version after market consultation of the related Implementation Guidelines.	openFinance TF 2022-04-29
2.0	Adaptation to V2 of the openFinance API Framework. Adding the multiple recurring payment service.	openFinance TF 2023-11-03
2.1	Adaption of changes introduced with V2.1 of the openFinance API Framework	openFinance TF 2024-07-31

2 Extended Services of the openFinance API

2.1 Services of the openFinance API

The openFinance API supports different services. It might also subsume core services as they are offered in the core XS2A interface to fulfil the PSD2 requirements. In difference to the PSD2 compliant XS2A interface, the openFinance API is not necessarily requiring the API client to be a TPP regulated by PSD2.

The ASPSP might mandate a contract between the API Client and the ASPSP for accessing the openFinance API. All potentially used administrative processes in the openFinance API, e.g. for onboarding processes are described in [oFA-OR-ADM].

This openFinance API standard is not defining whether a service is to be supported in the openFinance API or not, but it might define a mandatory support of sub-services once a dedicated openFinance API service is offered.

2.2 Services covered in this document

The following **subservices** of Extended Payment Initiation Services are addressed in this document within the openFinance API Framework:

Services addressed	Usage
Payment with reservation of funds	This subservice is functioning like the Payment Initiation Service as defined for the compliance solution. In addition, it offers a reservation of the related funds.
Payment authorisation with one deferred initiation request	Within this subservice, the ASPSP offers technically separated building blocks of payment initiations to the TPP.
Payment authorisation with several deferred initiation requests	Within this subservice, the ASPSP offers in addition to the above subservice several partial deferred initiation requests.
Payment authorisation with dedicated reservation of funds and one (deferred) initiation request	Within this subservice, the ASPSP offers technically separated building blocks of payment initiations to the TPP. In addition, a reservation of funds functionality is introduced. As one specific implementation of this service, the payment with reservation of funds is offered, where the initiation request will be submitted directly after the authorisation, and where the transaction amount equals the authorised amount. This service is then functionally analogous to the "Payment with reservation of funds" but where the initiation is triggered explicitly by the TPP.
Payment authorisation with dedicated	Within this subservice, the ASPSP offers in addition to the above subservice several partial deferred initiation requests, where the sum

Services addressed	Usage
reservation of funds and several deferred initiation requests	of the partial amounts initiated is less or equal to the transaction amount authorised.
Recurring payment initiations with dynamic amounts	This sub-service offers the TPP to let the PSU authorise a recurring payment with a maximum amount. The TPP then initiates until each pre-defined (periodical) execution day the payment execution with a dynamic amount smaller than or equal to the authorised amount.
Recurring payment initiations with dynamic amounts and reservation of funds.	This sub-service offers the TPP to let the PSU authorise a recurring payment with a maximum amount. The TPP then initiates until each pre-defined execution day the payment with a dynamic amount smaller than or equal to the authorised amount. In addition, a reservation of funds is introduced for these initiations. The reservation of funds is activated each time when the (periodical) payment execution is initiated by the TPP.
Recurring funds reservation with decoupled pull payments	This subservice offers the TPP to let the PSU authorise a recurring payment with a maximum amount. The TPP then requests a reservation of funds until each pre-defined transaction day with a dynamic amount smaller than or equal to the authorised amount. After a positive reservation of funds, the TPP pulls the money through the creditor bank by using a debit mechanism.
Recurring payments with several initiations per execution period	This sub-service offers the TPP to let the PSU authorise a recurring payment with a maximum amount. The TPP then initiates several payments during each execution period defined in the authorisation. The sum of the related payment shall be less or equal to the authorised maximum amount. Each of these payments are then directly processed by the ASPSP, i.e. all payments initiated during one period are processed separately.

Table 1: Extended services scheduled for further detailed work

3 Actors and roles

3.1 Third party related scenario

In general, services offered by an ASPSP at his openFinance API may be accessed/used not only by clients registered by an NCA in the role of a TPP according to the PSD2 regulation but by any third party. Nevertheless, for Extended Payment Initiation Services this might still apply for many subservices due to the current regulation. For this reason, the API Client in this document is still addressed as a TPP/PISP for simplicity reasons. An ASPSP might offer some of the subservices under specific conditions also to non-regulated API Clients.

Actors and roles of related parties in a scenario where the extended service is defined via a TPP are described in the underlying core PSD2 compliant XS2A framework, cp. Section 3 of [XS2A-OR-Core].

3.2 Direct access scenario

The openFinance API Framework plans to develop best practices for re-using the TPP-ASPSP openFinance API also as an PSU-ASPSP interface, especially for the corporate case, where the broad functionality like multi-signing etc. applies. The direct access might also apply to extended payment services.



4 API Services supported for the Extended Payment Initiation Services

The current version of the Extended Payment Initiation Services supports the following API services. The **Service Type** is indicating a bundling of several API services to a service family. This document introduces the service types

- Extended Payment Initiation with funds reservation (XFPIS)
- Extended Deferred Payment Initiation (XDPIIS)
- Extended Deferred Payment Initiation with funds reservation (XDPIIS)
- Extended Multiple Deferred Payment Initiations (XMDPIIS)
- Extended Multiple Deferred Payment Initiation with funds reservation (XMDPIIS)
- Extended Recurring Payments (XRPIS)
- Extended Recurring Payments with funds reservation (XRPIS),
- Extended Recurring Reservation of Funds (XRPIS), and
- Extended Multiple Recurring Payments (XMRPIS).

Remark: Service types for one off or multiple deferred payments like XPIIS and XMDPIIS start with an analogous authorisation phase. Still, the API Client needs to decide in the very first step of the service whether to initiate the single deferred or the multiple deferred payment service. A later change into the other service during the actual payment initiations is not possible.

The following table gives an overview of the API services:

API Services	Service Type	Technical Functionalities	PSU directly involved
Payment with reservation of funds	XFPIS	Authorisation and implicit start of the payment execution afterwards	yes
Payment with one (partial) deferred initiation	XDPIIS	Authorisation	yes
		(partial) deferred initiation request of a payment	no
Payment with reservation of funds and one (partial) deferred initiation request	XDPIIS	Authorisation and reservation of funds	yes
		(partial) deferred request with explicit closing of the reserved funds	no
Payment with one or more partial deferred initiation requests	XMDPIIS	Authorisation	yes
		several partial deferred initiation requests	no

API Services	Service Type	Technical Functionalities	PSU directly involved
		explicit closing of the authorisation if not fully used	no
Payment with reservation of funds and one or more partial deferred initiation requests	XMDFPIS	Authorisation and reservation of funds	yes
		several partial deferred initiation requests	no
		explicit closing of the reservation of funds if not fully used	no
Recurring payment with maximum amount and recurring initiation requests	XRPIS	Authorisation of a maximum amount per period	yes
		recurring initiation requests	no
Recurring payment with maximum amount and recurring initiation requests with funds reservations	XRFPIIS	Authorisation of a maximum amount per period	yes
		recurring initiation requests with reservation of funds	no
Multiple Recurring Payment with maximum amount and several initiations in each execution period	XMRPIS	Authorisation of maximum amount per period	yes
		recurring initiation requests, several in each execution period, directly and separately processed	no
Cancel a recurring payment with maximum amount and recurring execution requests	XRPIS, XRFPIIS, XMRPIS	Cancel an existing recurring payment	no
Recurring reservation of funds	XRPIIS	funds confirmation consent request with a payment period and maximum period amount	yes
		reservation of funds via a funds confirmation request	no
		NOTE: processing the related payment via e.g. a direct debit is	

API Services	Service Type	Technical Functionalities	PSU directly involved
		not addressed by the openFinance API.	
Cancel a recurring reservation of funds	XRPIIS	Cancel an existing consent on reservation of funds	no

Table 2: API services of the Extended Payment Initiation Services

In addition, the openFinance API will support technical use cases within the RESTful API approach which are not necessarily used within the above mentioned use cases, e.g. to read details on payment objects or other created resources. Further details on the technical use cases will be defined in [oFA-IG-XPIS].

The API service XRPIIS could also be used by PISP, not only PIISP. Not all of the above API service types have to be supported at the openFinance API of an ASPSP for the Extended Payment Service, this is left to the ASPSP decision or of a related API access scheme, which might be based on the openFinance API. But if a service type is supported, all services of that dedicated service type have to be supported by an ASPSP as a set. So, if e.g. a reservation of funds is offered by an ASPSP within the XPIS service, then all variants (one deferred payment, two deferred payment etc) shall be supported by this ASPSP.

The execution of any payment transaction at the openFinance API is subject to the consent of the PSU. Some use cases require direct involvement of the PSU while others do not. This is specified in column "PSU directly involved".

If a payment transaction based on an API service requires direct involvement of a PSU, strong customer authentication of the PSU may be necessary. Please refer to [XS2A-OR-Core] for details about strong customer authentication. One of the purposes of a strong customer authentication is to prove that the payment transaction is executed with the consent of the PSU.

A longer time period may elapse between the PSU giving the consent and the actual execution of the payment transaction by the TPP. The steps necessary for giving and proving the consent of the PSU depend on the use case and will be explained in the following sections and in section 5.1.

NOTE: The Use Case of a Payment with deferred reservation of funds and further deferred execution request is not yet considered within this document, due to the related frontend complexity.

RFU: A future version of this service is planned to be able to transport in addition documents related to the payments like e.g. a receipt, an invoice or contract information related to this payment.

4.1 API Service: Payment with reservation of funds

The following figure shows only the very top level information flow:

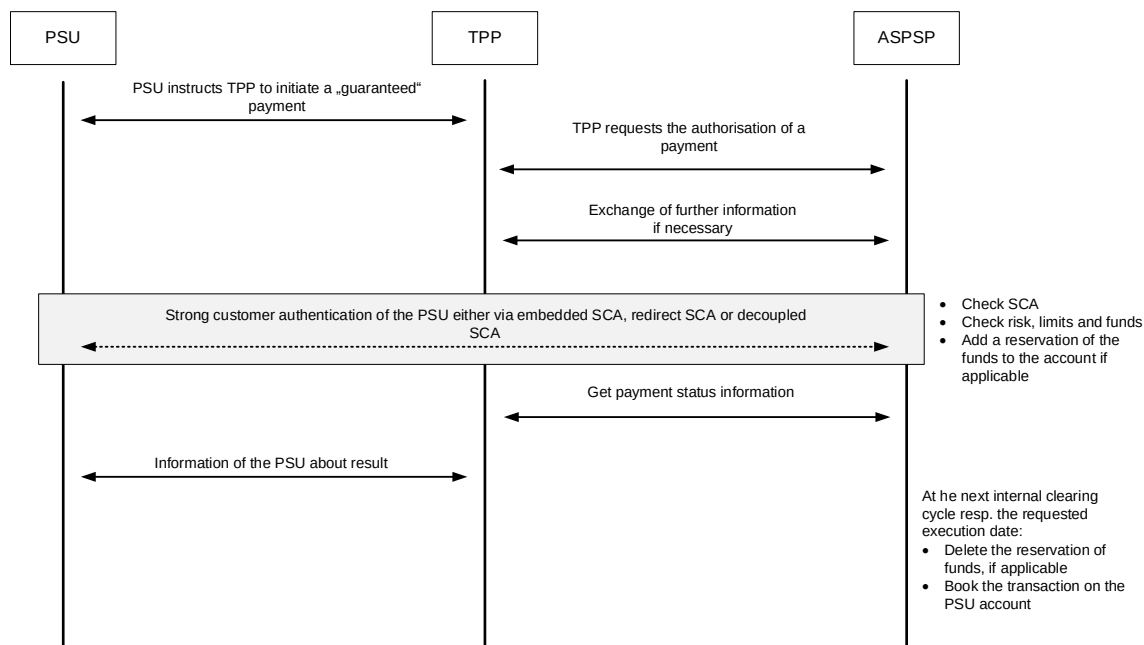


Figure 1: API Service Payment initiation with reservation of funds

The TPP is agreeing in a first step with the PSU on a payment.

The TPP starts with a payment initiation with indicating a reservation of funds.

In the next step, the PSU authorises the payment towards the ASPSP by SCA. The strong customer authentication might be exempted by the ASPSP. In the same step, the ASPSP checks the limits and availability of funds.

If the authorisation is successful, then the related funds are reserved on the account, if not directly booked. In the case of explicit funds reservation, the payment is executed later (e.g. in an end of day process or at the requested execution date) and the related funds reservation is removed at the time of payment execution.

4.2 API Service: Payment with one deferred initiation request, potentially with reservation of funds

The following figure shows only the very top level information flow:

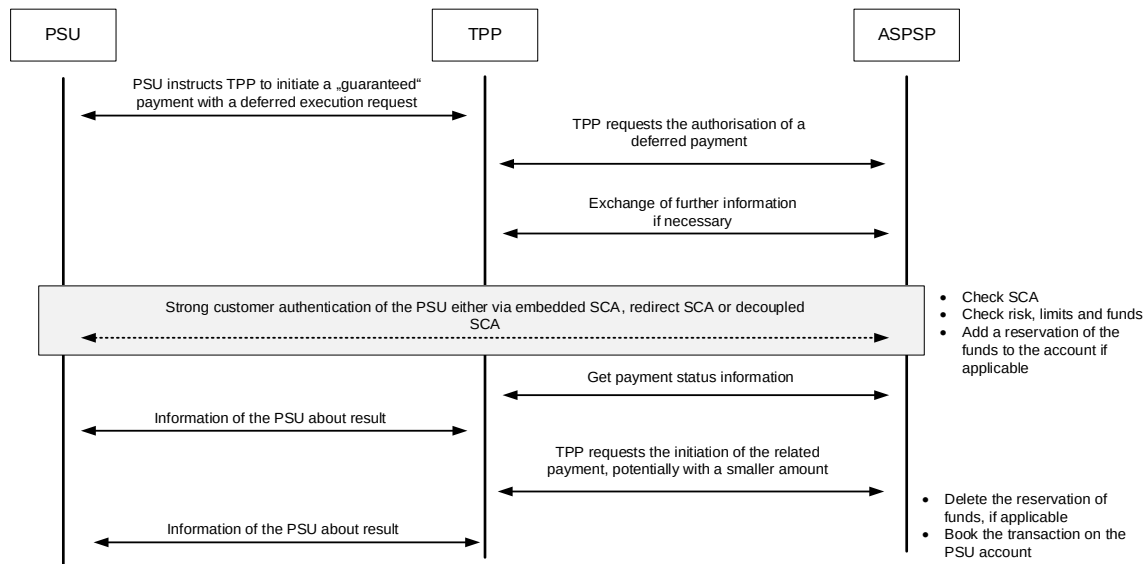


Figure 2: API Service Payment with one deferred initiation request

The TPP is agreeing in a first step with the PSU on a payment with a maximum payment amount. The TPP starts a payment submission with indicating a deferred payment together with a maximum requested expiration timestamp. The maximum **execution period** is the period from time of authorisation till the expiration timestamp. The TPP can request the funds reservation for this execution period in addition by choosing the service with funds reservation. This execution period can be minutes, hours or days. The ASPSP might reduce the requested maximum execution period due e.g. to contractual or legal restrictions and will inform the TPP about the reduction.

In the next step, the PSU authorises the payment towards the ASPSP by SCA. The strong customer authentication might be exempted by the ASPSP. In the same step, the ASPSP checks the limits and availability of funds.

If the authorisation is successful, then the related funds are reserved on the addressed account for the pre-agreed execution period, if a reservation of funds was requested in addition, see above.

The TPP requests the initiation of the payment at a later point in time, where the requested transaction amount might be smaller than the original authorised transaction amount. The related funds reservation is removed at the time of payment execution, if applicable.

The funds reservation will also be removed at the end of the pre-agreed execution period if still in place, if applicable.

Note: It is out of scope of this standard to define whether and if how long an ASPSP might still accept payment initiations on an authorised deferred payment after the pre-agreed execution period has been outdated without a closing. Anyhow, the reservation of funds and related contractual conditions might not any more apply.

4.3 API Service: Payment with one or more partial deferred initiation requests, potentially with reservation of funds

The following figure shows only the very top level information flow:

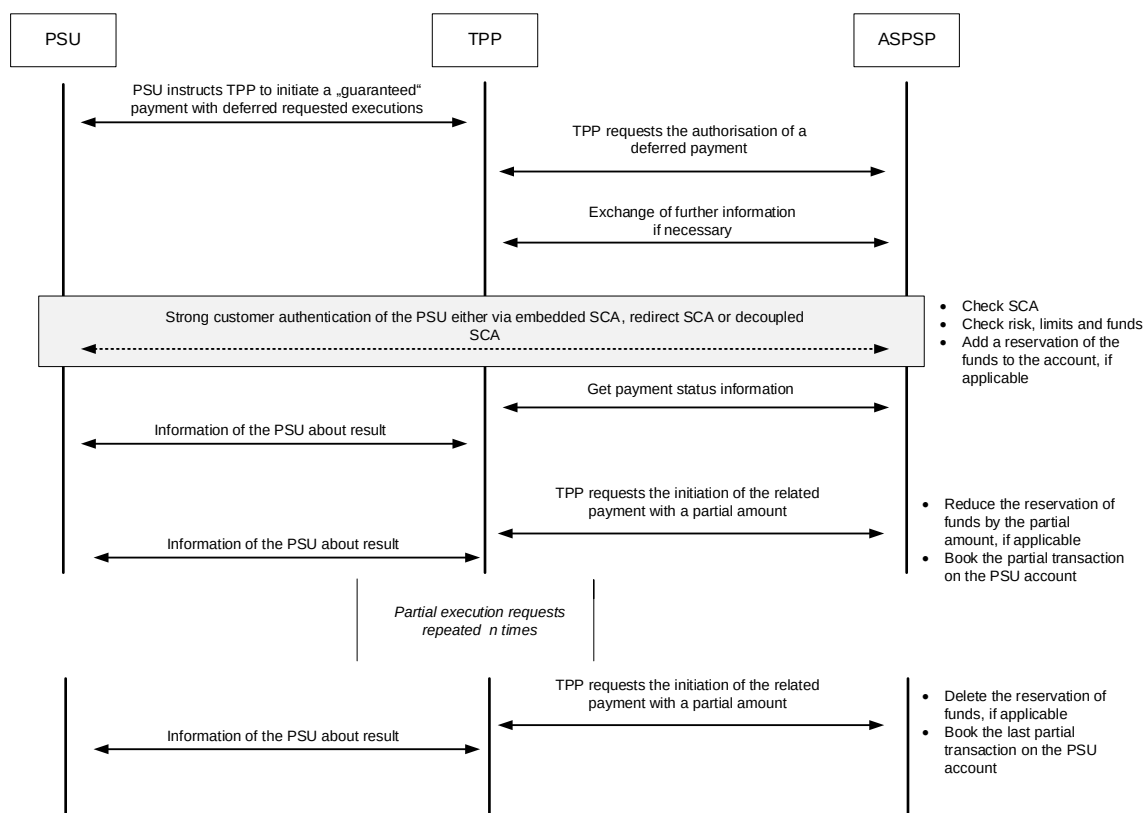


Figure 3: Payment with partial deferred initiation requests

The TPP is agreeing in a first step with the PSU on a payment with a maximum payment amount and potential execution in several steps. The TPP starts a payment submission with indicating several deferred payments together with a maximum requested execution period. The maximum execution period is the period from time of authorisation till the expiration timestamp. The TPP can request the funds reservation for this execution period in addition by choosing the service with funds reservation. This execution period can be minutes, hours or days. The ASPSP might reduce the requested maximum execution period due e.g. to contractual or legal restrictions and will inform the TPP about the reduction.

In the next step, the PSU authorises the payment towards the ASPSP by SCA. The strong customer authentication might be exempted by the ASPSP. In the same step, the ASPSP checks the limits and availability of funds.

If the authorisation is successful, then the related funds are reserved on the addressed account for the pre-agreed reservation period, if a reservation of funds was requested in addition, see above.

The TPP repeats the following sub function 1 to n times within the pre-agreed authorisation period: The TPP initiates the execution of a part of the payment at a later point in time, where the requested transaction amount might be smaller than the currently authorised amount at that point in time. The related authorised amount is reduced by the requested partial transaction amount.

The TPP can communicate in each step that the current payment initiation request is the last one. In that case, the authorised amount for this payment is set to zero. In addition the addressed funds reservation will be removed from the account/limit, if applicable. If the TPP is aware of the finality of the payment only after the last payment initiation request has been submitted, then the TPP may also explicitly close the authorisation which leads also to a removal from the account/limit in case where funds have been reserved.

The funds reservation will also be removed at the end of the pre-agreed execution period if still in place, if applicable.

Note: It is out of scope of this standard to define whether and if how long an ASPSP might still accept payment initiations on an authorised deferred payment after the pre-agreed execution period has been outdated without closing as long as the authorised amount left is still sufficient for the then instructed transaction amount. Anyhow, the reservation of funds and related contractual conditions might not any more apply.

4.4 API Service: Recurring payment with maximum amount and recurring initiation requests, potentially with reservation of funds

The following figure shows only the very top level information flow:

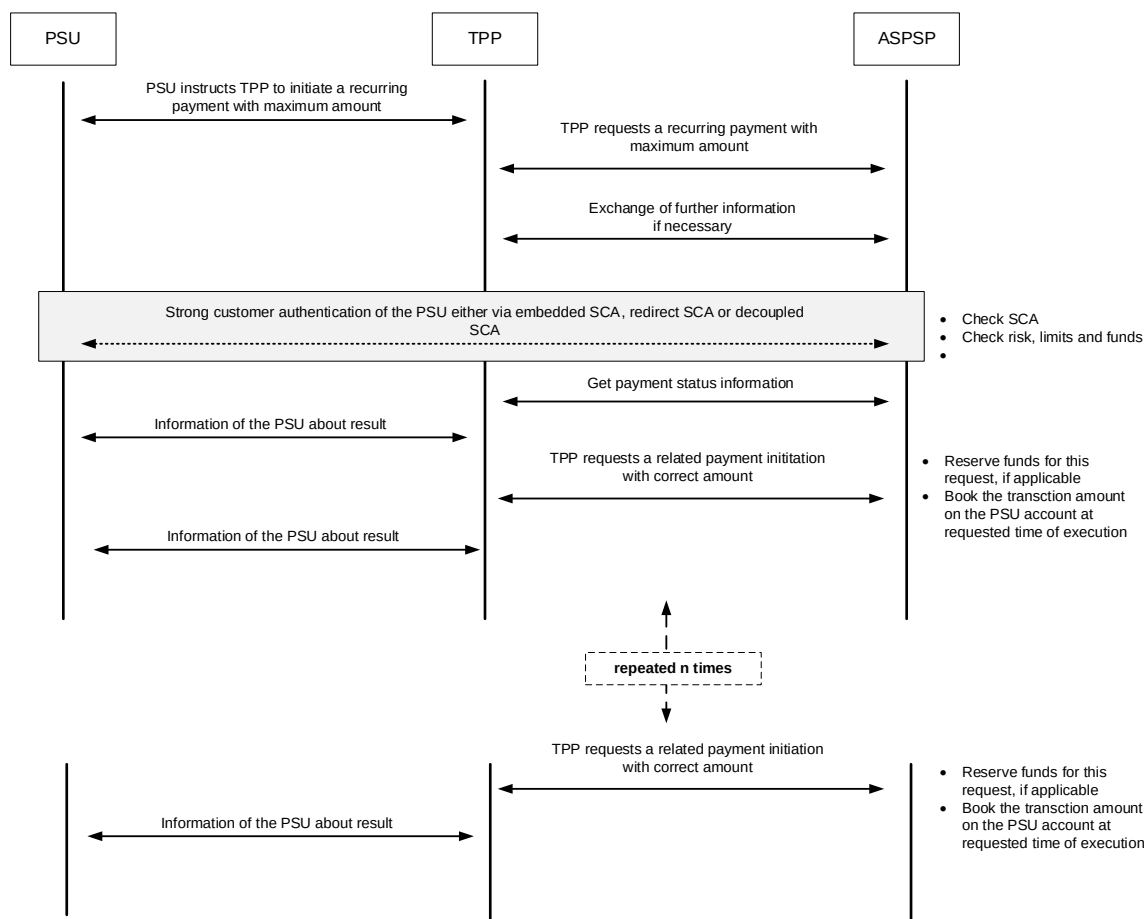


Figure 4: Recurring payment with maximum amount and recurring execution requests

The TPP is agreeing in a first step with the PSU on a recurring payment with a periodical maximum payment amount and other periodical details as the period length and the requested execution day. The TPP starts a payment submission with indicating a recurring payment together with a maximum periodical payment amount. In addition the TPP might require for every recurring payment initiation a check if funds are available and to reserve the related funds for this period by choosing the specific funds reservation service.

In the next step, the PSU authorises the recurring payment towards the ASPSP by SCA. In the same step, the ASPSP checks the limits and availability of funds (the latter as a first risk assessment).

The TPP repeats the following sub function 1 to n times or until cancellation of the service in every pre-agreed period:

- The TPP requests the initiation of the agreed recurring payment amount or potentially a smaller amount.
- The TPP addresses in the initiation request the correct regular execution date as defined within the authorisation phase. If the TPP submits the initiation too early or too late, the initiation request will be rejected by the ASPSP with a dedicated error code. For the intervals, the local time of the ASPSP is applying. For daily period, only one execution per calendar day should be accepted.

The ASPSP checks each time whether the funds for the amount are available and shall reserve the funds, if in addition the reservation of funds was authorised. At the regular execution day, the payment is executed by the ASPSP. If a funds reservation has not been requested during the authorisation phase, then the payment will only be executed if enough funds are available at the time of execution.

If the initiation fails due to not sufficient funds or other reasons, the TPP might re-try the initiation later as long as the addressed regular execution date is respected, cp. Section 6.9.

This execution might be delayed till the next business day, if the regular execution day is a bank holiday, depending on the underlying payment product. The funds reservation will be removed by the ASPSP after execution of the payment, if applicable.

In general: If a payment initiation request is not provided within a period, no payment will be processed in this period.

Note: The ASPSP might reject a payment initiation within a secured recurring payment when it arrives too early because this might effect a reservation of funds for a too long period. In a non-secured recurring payment this could also apply where the (periodical) payment is initiated before the payment of the pre-ceding period had been executed. In all cases, the TPP needs to reiterate the payment initiation later.

4.5 API Service: Recurring payment with maximum amount and recurring initiation requests, potentially with reservation of funds

The following figure shows only the very top level information flow:

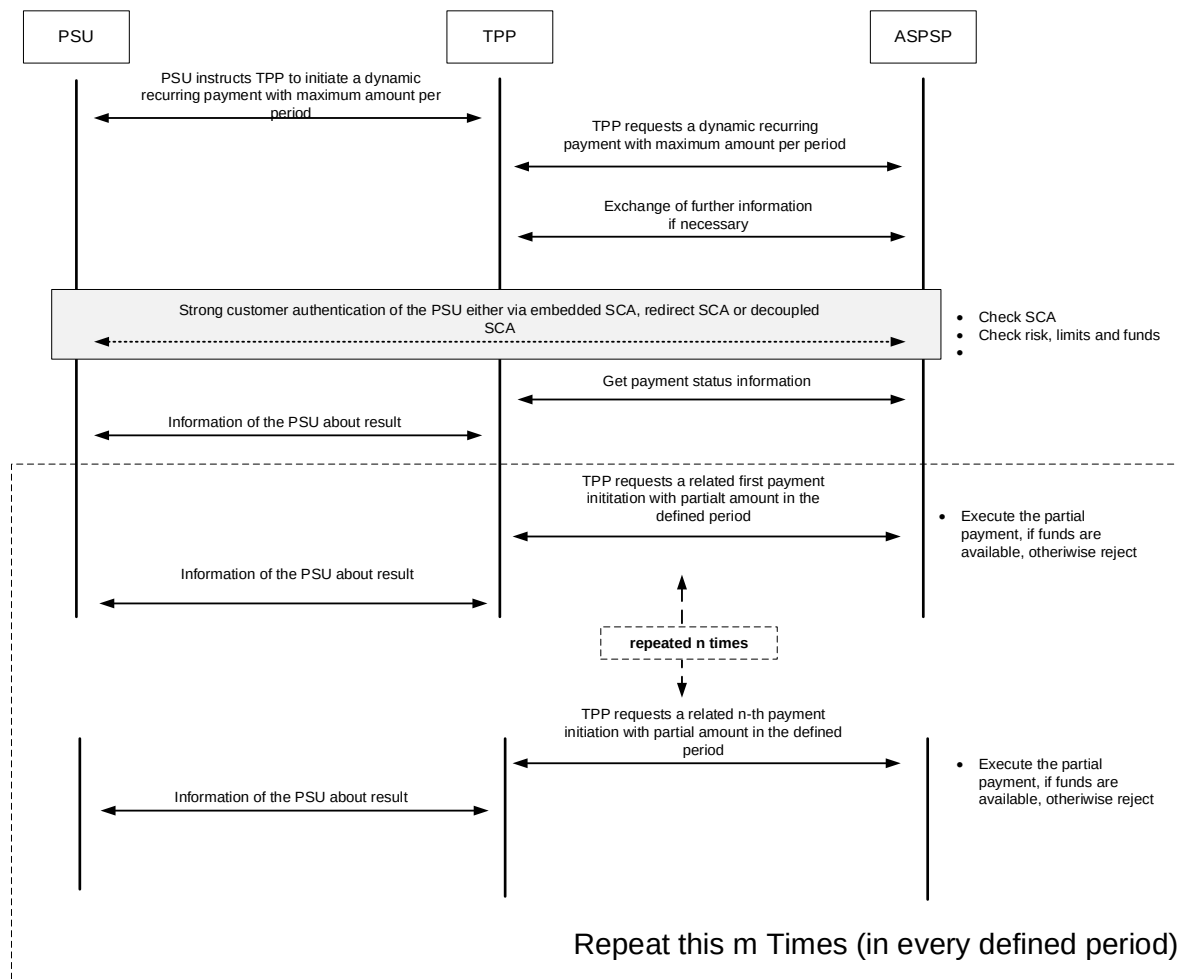


Figure 5: Recurring payment with maximum amount and several execution requests per execution period

The TPP is agreeing in a first step with the PSU on a multiple recurring payment with a periodical maximum payment amount and other periodical details as the period length and the requested execution day (as the start of each execution period) where applicable. The TPP starts a payment submission with indicating a multiple recurring payment together with a maximum periodical payment amount.

In the next step, the PSU authorises the recurring payment towards the ASPSP by SCA. In the same step, the ASPSP might apply certain risk checks. The ASPSP might also tell the TPP that at a maximum m (successful) initiations might be performed in any execution period.

The TPP repeats the following sub function 1 to n times or until cancellation of the service in every pre-agreed period:

- The TPP requests up to m initiations of a smaller amount than authorised, where the sum of all initiation amounts within a period is less equal to the authorised maximum amount,
- Within each initiation request, the TPP indicate may indicated that a 2-step initiation is required.

If a one-step initiation is requested by the TPP explicitly (or implicitly by not requiring a two-step initiation), the following happens with each such initiation:

The ASPSP checks each time whether the funds for the initiated amounts are available. If not, the related initiation is rejected. If yes, the processing of the initiation is started, if

- the maximum number of (successful) initiations has not been reached yet, and
- the sum of all successful initiations of the addressed execution period plus the current initiation amount are still less equal to the authorised maximum amount, and
- no other risk management reason results in a rejection,

then the related initiation is processed by the ASPSP as soon as possible. If the ASPSP is a batch booking bank, then the funds of the related initiation might be reserved on the addressed PSU account before processing it in the next batch cycle, depending on bilateral contracts between TPP and ASPSP or depending on API Access Scheme rules.

If a two-step initiation is requested by the TPP explicitly, the following happens with each such initiation:

The ASPSP checks each time whether the funds for the initiated amounts are available. If

no funds are available, or

- no funds are available, or
- the maximum number of (successful) initiations had been reached already, or
- the sum of all successful initiations of the addressed execution period plus the current initiation amount are greater than the authorised maximum amount, or
- other risk management reason results apply,

then the initiation is rejected. Otherwise the TPP is informed, that the initiation will be processed as soon as a confirmation for the processing is provided by the TPP with a dedicated second API call on the related initiation resource. If this confirmation is not provided by the TPP in a certain time frame defined by the ASPSP or if the related initiation is explicitly

cancelled, than no payment is executed. If the confirmation is sent by the TPP then the following applies: If the ASPSP is a batch booking bank, then the funds of the related initiation might be reserved on the addressed PSU account before processing it in the next batch cycle, depending on bilateral contracts between TPP and ASPSP or depending on API Access Scheme rules.

If any of the initiations fail due to not sufficient funds, the TPP might re-try the initiation.

In general: If a payment initiation request is not provided within a period, no payment will be processed in this period.

4.6 API Service: Cancel existing recurring payments

This use case is following the same rules as for cancelling recurring payments/standing orders in the core XS2A interface, see [XS2A-OR-Core].

4.7 API Service: Recurring reservation of funds

The following figure shows only the very top level information flow:

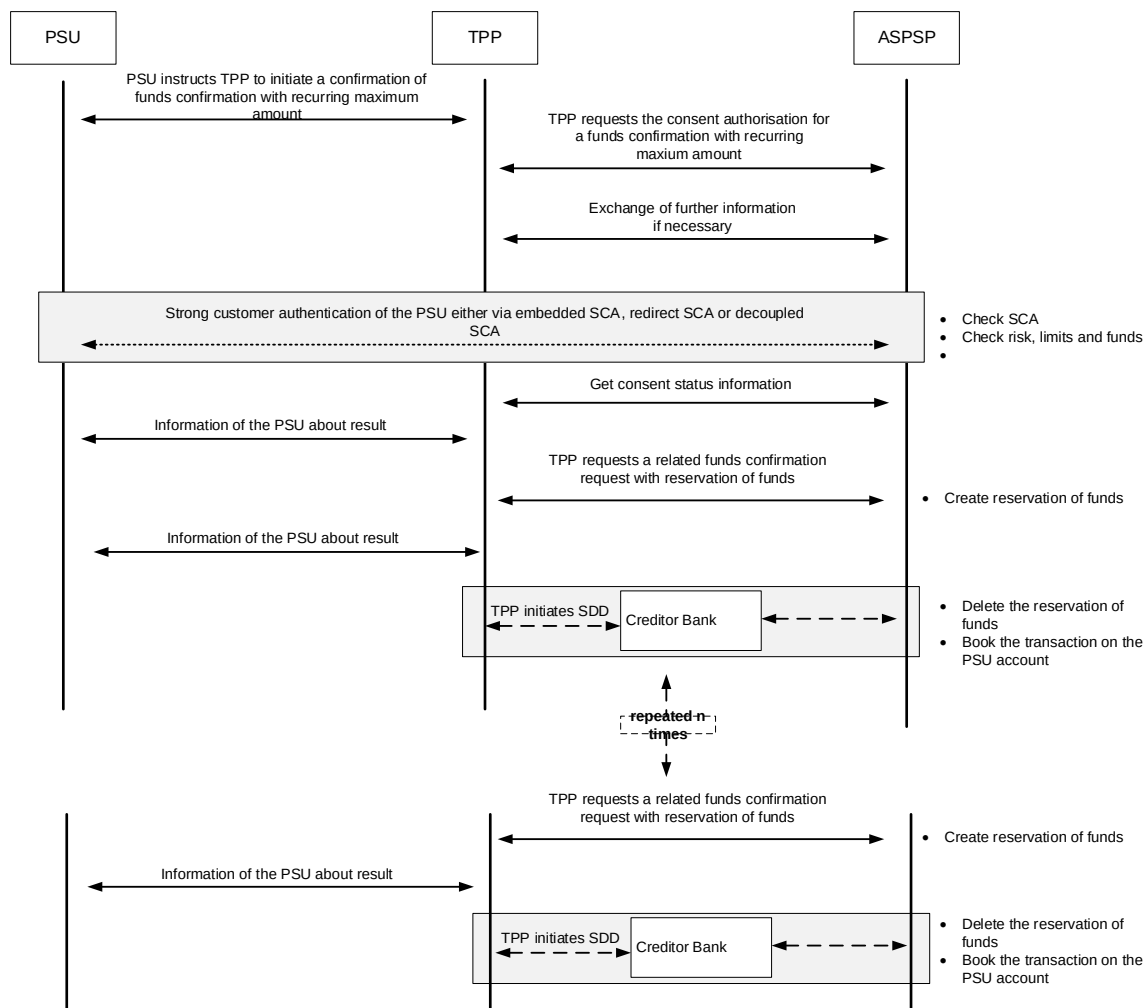


Figure 6: Recurring reservation of funds

The PSU is consenting with the TPP a recurring debit payment with a periodical maximum payment amount and other periodical details. The TPP starts a funds confirmation consent by indicating a recurring debit payment together with a maximum periodical payment amount.

In the next step, the PSU authorises the consent towards the ASPSP by SCA. In the same step, the ASPSP might check the current limits and availability of funds.

The TPP repeats the following sub function 1 to n times or until cancellation of the service in every pre-agreed period:

- The TPP requests the reservation of funds on the agreed recurring payment amount or potentially a smaller amount.
- The TPP addresses in the initiation request the correct regular reservation date as defined within the authorisation phase. If the TPP submits the initiation too early or too late, the initiation request will be rejected by the ASPSP with a dedicated error code. For the intervals, the local time of the ASPSP is applying. For daily period, only one execution per calendar day should be accepted.
- The ASPSP checks whether the funds for the amount are available.
- If the availability check is successful, then the related funds are reserved on the account.
- The TPP is then submitting a direct debit on the agreed amount.

If the TPP is not sending any reservation of funds requests before the date/time set for the recurring payment at that recurring period, then no funds reservation is generated in this period.

NOTE: After public market consultation, it has been agreed that this service is not further specified in a first step.

4.8 API Service: Cancel existing recurring reservation of funds

This use case is following the same rules as for cancelling consents in the core XS2A interface, see [XS2A-OR-Core].

5 Key concepts of the XS2A interface for the Premium Payment Service

This section contains an overview of key concepts of the openFinance API specific to the Extended Payment Initiation Services. For basic key concepts please refer to [XS2A-OR-Core]. For the detailed specification of this extended service please refer to the document [oFA-IG-XPIS].

5.1 Confirmation of the consent of the PSU

Each payment transaction at the openFinance API is subject to the consent of the PSU. How consent of the PSU is confirmed during a payment transaction specific to this extended service depends on the API service as shown in the following table:

API Service	How the PSU grants consent	How consent of the PSU is verified
Payment with reservation of funds	Identifies itself as part of the payment transaction, if necessary by strong customer authentication.	Verification of the identity of the PSU, if necessary by strong customer authentication, including dynamic linking.
Payment with one (partial) deferred initiation request	Identifies itself as part of the payment authorisation, if necessary by strong customer authentication. No specific consent for the deferred initiation request.	Verification of the identity of the PSU, if necessary by strong customer authentication, including dynamic linking.
Payment with partial deferred initiation requests	Identifies itself as part of the payment authorisation, if necessary by strong customer authentication. No further consent for the deferred initiation requests.	Verification of the identity of the PSU, if necessary by strong customer authentication, including dynamic linking.
Recurring payment with maximum amount and recurring initiation requests	Identifies itself as part of the one-time payment authorisation, by strong customer authentication. Recurring period and maximum amount consented during the authorisation.	Verification of the identity of the PSU, if necessary by strong customer authentication, including dynamic linking. Note: Dynamic linking with SCA during authorisation only needs to be cross-checked with legal departments yet on compliance to PSD2.
Recurring payment with maximum amount and several initiations per period	Identifies itself as part of the one-time payment authorisation by strong customer authentication. Recurring period and maximum amount consented during the authorisation.	Verification of the identity of the PSU, if necessary by strong customer authentication, including dynamic linking. Note: Dynamic linking with SCA during authorisation only needs to be

API Service	How the PSU grants consent	How consent of the PSU is verified
		cross-checked with legal departments yet on compliance to PSD2.
Cancel a recurring payment with maximum amount and recurring initiation requests	Agrees with the TPP on the cancellation.	no verification of the consent
Recurring reservation of funds	Identifies itself as part of the one-time consent authorisation by strong customer authentication. Recurring period and maximum amount consented during the authorisation	Verification of the identity of the PSU together with consent data integration (dynamic linking) by strong customer authentication
Cancel existing recurring reservation of funds	The consent is granted between the PSU and the API Client	No specific verification on ASPSP side

Table 3: Consent of the PSU within API Services

A payment transaction at the openFinance API may only be executed if the consent of the PSU can be confirmed where needed. Otherwise the ASPSP will reject the related payment initiation.

6 Operational rules

This section summarises the operational rules specifically to be observed by each TPP accessing the openFinance API for the Extended Payment Initiation Service and each ASPSP providing the Extended Payment Initiation Service at the openFinance API. In addition, the general operational rules as specified in [XS2A-OR-Core] apply.

Not all of these rules are enforced by technical means of the Extended Service within the openFinance API.

The order of the rules does not represent an order of importance.

6.1 Client Identification

Accessing clients are identified based on eIDAS certificates in analogy to the Core XS2A Interface, but without mandating PSD2 specific attributes in the certificate.

6.2 Client Authorisation

ASPSPs might refuse access to the openFinance API even if the related eIDAS certificate is valid, if not all related contract conditions are fulfilled. This might be controlled e.g. via a scheme directory.

6.3 Payment nature of related credit transfers

The TPP is addressing existing payment services when initiating payment transactions of service type XPIS or XRPIS within this extended service which are defined in related payment schemes, e.g. the SEPA Credit Transfer Scheme – SCT or SCT INST. The operational rules within this document only address initiation related items. The payment processing as such will follow the related payment scheme rule.

6.4 Payment nature of related direct debits

The TPP is addressing existing payment services on interbank level after initiating payment transactions of service type XRPIIS within this extended service which are defined in related payment schemes, e.g. the SEPA Direct Debit Scheme (SDD). A rejection of the debit payment transaction due to missing funds is excluded by the API reservation of funds functionality.

6.5 Coding of business data

The API data coding of payment data for XPIS and XRPIS will be JSON encoding. ASPSPs may offer XML based data encoding in addition.

6.6 Changing business information by payment initiations

The API Client may submit within all deferred or recurring payment initiation requests not only an adapted instruction amount, but also adapted end to end references and remittance information. This information shall be forwarded by the ASPSP in the related payments.

6.7 Reservation of funds

In all process steps, where the ASPSP grants a reservation of funds for a certain time frame, this should be provided by technical measures of the ASPSP, either on the account holding system or via limits, depending on the infrastructure of the ASPSP.

6.8 Time frame for reservation of funds

The time frame for reservation of funds is a short term period. The maximum time frame supported by an ASPSP is defined by the ASPSP or an API access scheme.

The TPP may request a dedicated time frame. The ASPSP might reject this time frame, depending on the supported maximum time frame and communicate the maximum available time frame to the TPP in the related communication.²

If the TPP is not requesting a time frame, then the ASPSP will respond with the applied time frame.

Note: It is out of scope of this standard to define whether and if how long an ASPSP might still accept payment initiations after the defined time frame, if the submitted payment has **not** been explicitly closed by the TPP, cp. Section 6.11. Additional requirements might be provided e.g. by an API access scheme.

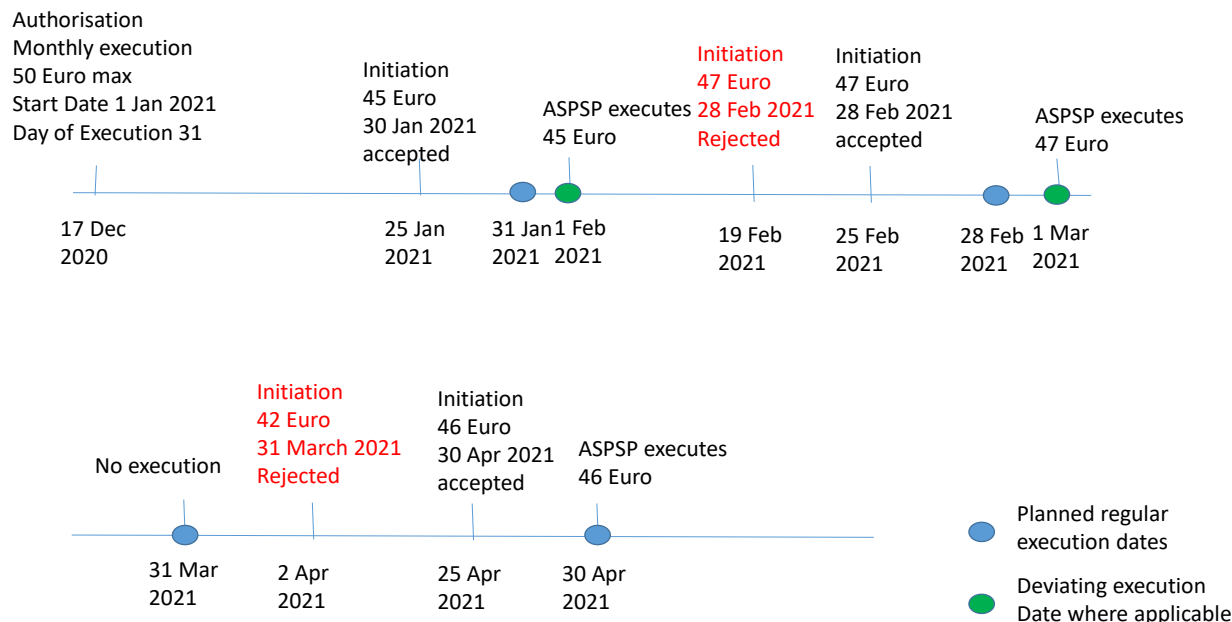
6.9 Time frames for recurring payment initiations

The authorisation of an extended recurring payment defines so called regular execution dates by the execution frequency data submitted within the initial data. These dates determine when the recurring payments are planned to be executed, potentially with adapted amount and adapted detailed remittance information.

The TPP shall use within the single recurring payment initiations the related regular execution date. The recurring payment initiation shall arrive at the ASPSP a certain time before the regular execution date, depending on the underlying payment product. This applies specifically to non-instant payment products. For instant payment products, the initiation might arrive till the end of the agreed execution day.

² Generic maximum time frames will be part of the openFinance discovery API. On PSU level, this time frame might be higher due to ASPSP decisions. Depending on the nature of the reservation of funds defined in API Access Scheme contract or by the ASPSP bilaterally, the time frame should not be too long to avoid the nature of a credit related to European or domestic legislation.

The following picture gives an example:



6.10 Time frame for multiple recurring payments

For multiple recurring payments, there are no restrictions when to initiate payments, since the related initiations will directly be processed. Please note that the usage of the execution day in the periodical data submitted by the TPP is steering the beginning of the execution period. Thus, a TPP could ask for a monthly maximum amount for multiple recurring payments on the 5th of a month by indicating the 1st of the month as the start of each execution period. If no execution day is provided, the period would start each month at the related date (here the 5th of the month – a "rolling limit").

6.11 Closing of an authorisation and the related reservation of funds by the TPP

The TPP should close an existing authorisation in case the business between the PSU and TPP has been finalised. The procedure of explicitly closing an authorisation shall be supported by the ASPSP. The closing of the authorisation shall also imply a closing of the related reservation of funds, if applicable.

6.12 Liability for Multiple Recurring Payments

The liability for payments executed by an ASPSP after the dedicated initiation of the API Client in a Multiple Recurring Payments context might switch from the ASPSP to the API Client in some scenarios, depending on multilateral (API Access Scheme) or bilateral contracts between API Client and ASPSP.

6.13 Cancellation of authorisations and reservation of funds by the TPP

The TPP should cancel an existing authorisation in case an error in the process between TPP and PSU was identified and where a payment initiation was not requested yet. In addition, the ASPSP shall then close the related reservation of funds, if applicable.

6.14 Consent of the PSU

A TPP may initiate a payment transaction at the openFinance API of an ASPSP if it has the necessary consent of the PSU. The consent will be authorised by the PSU towards the ASPSP by performing an SCA procedure. In cases of exemptions, authorisation by the PSU is omitted or alternative authentication procedures might be agreed between PSU and ASPSP and might be integrated into the consent authorisation flow.

An ASPSP will reject any payment transaction at the openFinance API if the consent of the PSU cannot be proven and was required at the same time by the ASPSP.

6.15 Decision about strong customer authentication

The ASPSP has to decide

- if SCA has to be executed as part of a payment transaction at the openFinance API interface for this extended service,
- which method and personalised credentials have to be used for SCA, where the PSU will be involved in a selection process if several SCA procedures are available, and
- which approach has to be used for executing SCA, taking into account the redirection preference of the TPP.

The TPP has to follow the decision of the ASPSP.

6.16 Regulatory and fraud checks

When executing payments of the addressed underlying payment service, the ASPSP applies several regulatory checks on the payment transactions like e.g. embargo or AML checks. Due to such checks, the underlying payment might not be processed by the ASPSP.

In addition, the ASPSP might apply fraud checks. Resulting from such fraud checks, the ASPSP might not process the underlying payment. Such regulatory or fraud checks should result in a technical failure on the openFinance API as a status information.

6.17 Signing baskets

In addition to operational rules on signing baskets in [XS2A-OR-Core], the authorisation of an extended payment request might be signed by the PSU in a signing basket transaction if offered by the ASPSP.

7 Message and data model

In the following, an abstract data model is presented for the specific usage of the Extended Service within the openFinance API. The basic abstract data model for the openFinance API is defined in [XS2A-OR-Core].

Please note that this model does not apply to the XFPIs service which is following fully the data model for PIS as defined in [oFA-PFDom].

A detailed data model for this Extended Service is defined in [oFA-IG-XPIS].

7.1 Protocol Level

There are no specific requirements on data modelling on protocol level. The following data elements are used independently of the semantic of the related messages, building an abstract basic protocol level.

7.2 Authorisation Data Model

For payment transactions specific to this Extended Service which mandate authorisation, a uniform authorisation data model is used. To enable such a uniform authorisation, to each payment transaction to be authorised an authorisation sub-resource is associated. In cases where several authorisations are needed, this sub-resource is repeated.

7.3 Extended Payment Initiation related data model

Within the openFinance API, an extended payment initiation transaction consists of at least the two pairs

- Payment Authorisation Request and the Payment Authorisation Response as well as
- One or more Initiation Request and Initiation Response.

For the Decoupled, Redirect SCA Approach or OAuth2 SCA approach, there must be at least another message pair Payment Status Request and Payment Status Response to retrieve the information whether the SCA method was successful. In all cases, the ASPSP may ask the TPP to create/update the authorisation sub-resource created after the Payment Authorisation Request with additional data via an Update Data Request.

In case of the Embedded SCA Approach, a dedicated message pair consists of the technical Transaction Authorisation Request and the Transaction Authorisation Response for processing PSU SCA credentials directly within the XS2A interface. This message pair is conditional, depending on the result of the ASPSP's risk management on SCA necessity. It can be repeated in case of a non-successful SCA of the PSU.

7.3.1 Payment Authorisation Request

In the following, a minimum set of requirements on the Payment Authorisation Request is defined. These requirements are independent of the encoding.

7.3.1.1 PSU data

- PSU Identification and Type (conditional, only if mandated by parameters published by the ASPSP)
- PSU Corporate Identification and Type (conditional, only if mandated by parameters published by the ASPSP and only if PSU is a corporate)
- PSU Risk Management Data. If not included in the message the ASPSP will take this into account in its risk management.
 - IP Address PSU (mandatory)
 - PSU Device and Application Software Information (operating system, browser etc.) (optional),
 - GEO Location PSU (optional)

7.3.1.2 TPP relevant data

- API-Contract-ID (mandatory)

The TPP needs to add the API Contract Identification, which refers to the service contract agreed on during onboarding to the ASPSP.

- Redirect Preferred Indicator (optional)

With this indicator, the TPP can set its priority for a re-direct based SCA Approach (Redirect SCA Approach or OAuth2 SCA Approach) vs. a SCA Approach without a re-direction to a bank site (Embedded SCA Approach or Decoupled SCA Approach, depending on the authentication method).

- Explicit Authorisation Preferred Indicator (optional)

With this indicator, the TPP can set its priority to create an authorisation sub-resource explicitly. This should be used by the TPP in cases where the corresponding payment transaction is put into a signing basket later.

- Redirect URL-TPP (conditional, only mandated if the Redirect Preferred Indicator equals true or if this Indicator is not contained)

This data element defines an URL to which the ASPSP shall redirect the PSU browser session once the SCA on bank websites is performed.

7.3.1.3 Payment payload data

The payment related payload data of the Payment Authorisation Request consist of all payment related data of the payment submission. This data varies for different payment products. In [oFA-PFDom] data definitions for

- SCT
- SCT INST
- Cross-currency credit transfer
- Some Domestic Credit Transfer Services in non-euro currency

are defined in detail.

Remark: Rules on more complex corporate payments will not be considered. These payments will be supported only for initiating corporate formats for TPPs published already today by ASPSPs.

7.3.1.4 Specific data for Payment Authorisation Request for deferred payments

In addition to payment related data, the Payment Authorisation Request supports the following:

- Requested Validity DateTime (optional)

With this timestamp, the TPP can request a certain time, for which the payment authorisation should be valid at the minimum. The related requested maximum execution period might have an impact on related fees from commercial agreements between ASPSP and TPP.

7.3.1.5 Specific data for Payment Authorisation Response for deferred payments

The Payment Authorisation Response supports the following additional data:

- Validity DateTime (optional)

This is the time stamp, until which the payment authorisation should be valid at the minimum from an ASPSP perspective. Validity DateTime might deviate from the Requested Validity DateTime.

- Maximum Initiation Number (optional)

The maximum number of initiations permitted for one submitted payment in the context of a payment submission with multiple deferred payment initiations.

7.3.1.6 Specific data for Payment Authorisation Request for recurring payments

In addition to payment related data, the Payment Authorisation Request supports the following:

- Start Date (mandatory)

The first date the recurring payment is requested to be executed.

- End Date (optional)

The last date the recurring payment is requested to be executed. If not presented, the recurring payment has no end date and needs to be cancelled explicitly at a point in time to stop the recurring payment being executed from the account or implicitly e.g. by closing the account.

- Frequency (mandatory)

The frequency of the recurring payment (e.g. monthly or weekly).

- Day Of Execution (conditional)

For some provided frequencies, the Start Date is not enough to determine the execution day for all succeeding periods. In this case, a Day of Execution is needed explicitly to define the first execution day.

7.3.1.7 Specific data for Payment Authorisation Response for recurring payments

No service specific data applicable.

7.3.1.8 Specific data for Payment Authorisation Request for multiple recurring payments

In addition to payment related data, the Payment Authorisation Request supports the following:

- Start Date (mandatory)

The first date an initiation might be submitted.

- End Date (optional)

The last date an initiation might be requested. If not presented, the multiple recurring payment has no end date and needs to be cancelled explicitly at a point in time to stop the multiple recurring payment being open for initiations to the account or implicitly e.g. by closing the account.

- Frequency (mandatory)

The frequency of the recurring payment (e.g. monthly or weekly).

- Day Of Execution (conditional)

For some provided frequencies, the ASPSP may offer the TPP to define the actual start of each execution period (e.g. day in a month or weekday).

7.3.1.9 Specific data for Payment Authorisation Response for multiple recurring payments

The Payment Authorisation Response supports the following additional data:

- Maximum Initiation Number (optional)

The maximum number of initiations permitted during one execution period.

7.3.2 Payment Initiation Request

The Payment Initiation Request is a request to initiate payments after a successful payment submission process, cp. Section 7.3.1. The Payment Initiation Requests support the following attributes:

- Explicit Confirmation Requested (optional)

Boolean value. If equals true then the initiation is performed in a two-step approach, if supported by the ASPSP.

Only supported for multiple recurring payments.

- Instructed Amount (conditional)

This is the amount initiated with this request. This amount is less or equal to the amount currently still authorised in case of a submitted deferred payment, and maximum authorised amount for a period in case of a submitted recurring payment.

If no amount is provided, no payment initiation will be performed, but the related submitted payment might be closed by using the Closing Flag, see below. This only applies to deferred payments.

- Remittance Information – structured or unstructured (optional)

This is the remittance information to be used by the ASPSP for the payment initiated. If not provided, the remittance information as provided during payment submission is used.

- Payment Identification (optional)

This is the payment identification data to be used by the ASPSP for the payment initiated. If not provided, the reference as provided during payment submission is used.

- Requested Execution Date or Requested Execution Date Time(conditional)

The requested date (and time) of execution for the initiated payment. This attribute is mandated to match the payment initiation with the execution period/day of the related submitted recurring payment.

Applicable only to recurring payments.

- Closing Flag (mandatory)

This flag indicates whether this is the last payment initiation in a row for deferred or recurring payments. If this flag is set to `true`, then the related submitted deferred or recurring payment will not be addressable any more for payment initiations afterwards. If this flag is set to `false`, this has no impact.

7.3.3 Payment Initiation Response

The Payment Initiation Request is a request to initiate payments after a successful payment submission process, cp. Section 7.3.1. The Payment Initiation Requests support the following attributes:

- Initiation ID (mandatory)

A unique identification provided for this payment initiation.

- Authorised Amount (conditional)

The amount still available to be initiated in the context of the originally submitted payment. Only applicable to multiple deferred payments.

- Transaction Status (Mandatory)

The transaction status of the initiated payment.

- Status Reason (Optional)

A reason optionally provided in case of a rejection of a transaction.

- Requested Execution Date (conditional)

The requested date of execution for the initiated payment. This attribute is confirming the execution period to the TPP.

Applicable only to recurring payments.

7.3.4 Payment Initiation Confirmation Request

The Payment Initiation Confirmation Request is a request to confirm a formerly successfully initiated payment, requesting a two-step initiation, cp. Section 7.3.2. This is supported only for multiple recurring payments.

No specific data elements supported.

7.4 Payment Initiation Confirmation Response

The Payment Initiation Confirmation Response supports the following attributes:

- Transaction Status (Mandatory)

The transaction status of the initiated payment.

- Status Reason (Optional)

A reason optionally provided in case of a rejection of a transaction.

7.4.1 Payment Status Request

This request is used, when a status of the payment is needed by the TPP, i.e. in the redirect and decoupled SCA approach.

No specific data elements.

7.4.2 Payment Status Response

This message can contain several data elements in addition to the transaction status, specifically when an XML based transaction status message is supported. Details are defined in [oFA-IG-XPIS].

8 Annex

8.1 Glossary

AIS

Account Information Service according to article 4 (16) of [PSD2] and as regulated by article 67 of [PSD2].

AISP

Payment service provider offering an AIS to its customer. See article 4 (19) of [PSD2].

ASPSP

Account Servicing Payment Service Provider providing and maintain a payment account for a payer. See article 4 (17) of [PSD2].

PIISP

Payment Instrument Issuer Service Provider according to article 4 (14) and 45) of [PSD2]. A PIISP can use the service "Confirmation on the availability of funds" as regulated by article 65 of [PSD2].

PIS

Payment Initiation Service according to article 4 (15) of [PSD2] and as regulated by article 66 of [PSD2].

PISP

Payment service provider offering a PIS to its customer. See article 4 (18) of [PSD2].

PSP

Payment service provider according to article 4 (11) of [PSD2].

PSU

Payment Service User according to article 4 (10) of [PSD2].

QTSP

Qualified Trust Service Provider, e. g. a trust centre issuing qualified certificates

SCA

Strong Customer Authentication – authentication procedure based on two factors compliant with the requirements of [PSD2] and [RTS].

TPP

Third Party Provider – generic term for AISP/PIISP/PISP.

TSP/QTSP

Trust Service Provider according to [eIDAS]. Within the context of the XS2A interface specification only qualified TSPs (QTSPs) according to section 3 of [eIDAS] issuing qualified certificates for electronic seals and/or qualified certificates for website authentication which are compliant with the requirements of [RTS] are relevant.

XS2A interface

Access to account interface – interface provided by an ASPSP to TPP for accessing accounts.

8.2 References

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- [TS 119 495] Draft ETSI TS 119 495, Electronic Signatures and Infrastructures (ESI); Sector Specific Requirements; Qualified Certificates Profiles and TSP Policy Requirements under the Payment Service Directive 2015/2366/EU, V1.1.2 (2018-07)
- [PSD2] Directive (EU) 2015/2366 of the European Parliament and of the Council on Payment Services in the Internal Market, published 25 November 2016

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