# PSD2 - APIs Implementation Guide v1.1 for TPPs

Version: 1.9.6

February 2025

## Authorisation and version control

| Version | Date | Concerns | Brief description of the change |
|---|---|---|---|
| 1.8.4 | March 2021 | ALL | Adaptation to BG v1.3.8 |
| 1.8.5 | July 2022 | ALL | Minor bug fixes:<br>- Chapter 2.0: supported services review<br>- Chapter 4: general review |
| 1.9.0 | December 2022 | | - Added the optional psuName attribute of Type Max140Text to the account details data structure to carry the PSU name. In the case of a corporate account, this could be the person acting on behalf of the company.<br>- Added the "Account Owner" data type in the account detail structure to include the name of the account owners.<br>- Added "psuName" and compound data type "account Owner" in request 6.3.6 Obtain payment status.<br>- Correction of errata SVA: START OF PAYMENT WITH LIST OF AVAILABLE ACCOUNTS FOR PISP<br>- Errata correction SVA: START ORDERS FOR RECURRING/PERIODIC PAYMENTS WITH LIST OF AVAILABLE ACCOUNTS FOR PISP |
| 1.9.1 | July 2023 | | 6.3.7: Retrieve payment initiation information.<br>- Optional return endToEndIdentification field by the ASPSP to return the identifier (endToEnd) assigned by the ASPSP in the transfer for SEPA and SEPA Inst payments. |
| 1.9.2 | July 2023 | | - Error correction in example column "Format", where for the field ownerNames appeared as example "ownername" instead of "ownerNames".<br>- Error correction when naming the "endToEndIdentification" field. Before it was wrongly mentioned ("EndToEndIdentification") in some services.<br>- Modification of *NOTES in the endToEndIdentification field. |
| 1.9.3 | November 2023 | | Correction of minor errata. |
| 1.9.4 | June 2024 | | Address:<br>- TownName: Change from optional to mandatory |
| 1.9.5 | September 2024 | | New Client-VOP-Requested header in the payment start request.<br><br>New header Client-VOP-Requested in the payment initiation response. |

| | | | |
|---|---|---|---|
| | | | Additional fields in the response body:<br>creditorNameMatch, creditorOrganisationIdMatch,<br>creditorName,<br>_links<br><br>Payment confirmation and beneficiary name |
| 1.9.6 | February 2025 | 6.1.2.3 Error response<br>6.1.3.3 Error response | New optional query param error_description for error response in the get OAuth2 authorization flow.<br>New optional error_description field for error response in the get OAuth2 access token flow. |

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# 1. INTRODUCTION

## 1.1 Scope

This document corresponds to the Technical Design of the interface between payment service providers (TPPs) and HUB for compliance with the PSD2 directive.

## 1.2 Context

Final document between Redsys and Financial Entities associated with the HUB.

## 1.3 Glossary

The following table lists the acronyms and definitions used throughout the document.

| Abbreviation | Definition |
|---|---|
| **ASPSP** | Payment service provider account manager |
| | Provides and maintains client accounts from which payments can be made. |
| **PISP** | Payment initiation service provider |
| | initiates a payment order, at the user's request, from a payment account of another provider |
| **AISP** | Account information service provider |
| | Provide the client with information about his/her payment accounts with other providers. |
| **TPP** | Third party provider |

| | |
|---|---|
| | runs the services defined by PSD2 on behalf of a PSU. If required for service, access the account (s) of the PSU managed by an ASPSP using the XS2A Interface of that ASPSP. It sends request messages to the XS2A interface of the ASPSP and receives corresponding response messages from that ASPSP. |
| **PIISP** | Payment service provider issuing payment instruments |
| | Provides the user with a payment instrument with which to initiate and process payment transactions. |
| **PSU** | |
| | It can be a natural or legal person following PSD2 legislation. It instructs the TPP implicitly or explicitly to perform any PSD2 service towards its ASPSP. |
| **MA** | Mandatory |
| **COND** | Conditional |
| **OP** | Optional |

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## 2. SYSTEM OVERVIEW

The following shows the different Figure 1: Core Module Diagram Functional Modules of which it is composed, and which will be detailed later on.

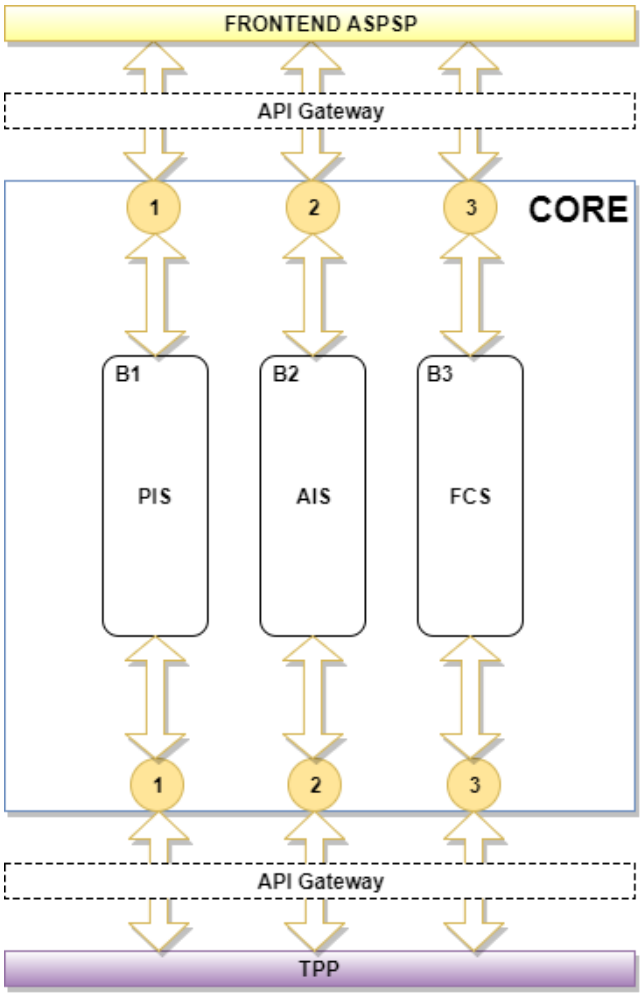


**Figure 1: Core Module Diagram**

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| Service | | Function | State |
|---|---|---|---|
| CORE | PIS | Start of simple single-signature payment | Available |
| | | Start of recurring payments | Available |
| | | Initiation of multiple payments/bulk | Available |
| | | Start of future payments | Available |
| | | Check Payments State | Available |
| | | Retrieve payment initiation information | Available |
| | | Execute payment start | Available |
| | | Payment Cancellation | Available |
| | AIS | Consent of information about payment accounts and / or cards | Available |
| | | Retrieve consents information | Available |
| | | Check consent state | Available |
| | | Remove consent | Available |
| | | Reading list of accounts available with / without balances | Available |
| | | Reading list of accessible accounts with / without balances | Available |
| | | Reading account details with / without balances | Available |
| | | Balance reading | Available |
| | | Read transactions with / without balances | Available |
| | | Reading of transaction detail | Not Supported |
| | | List of standing orders | Available |
| | | Trusted payees | Available |
| | | Reading card account list | Not Supported |
| | | Reading card account details | Not Supported |
| | | Reading of card account balances | Not Supported |
| | | Reading card account transactions | Not Supported |
| | FCS | Establish consent | Available |
| | | Retrieve consent information | Available |
| | | Check consent state | Available |
| | | Remove consent | Available |
| | | Confirmation of funds | Available |
| | SCA | SCA per flow redirect | Available |
| | | Uncoupled flow SCA | Available |

| | | | |
|---|---|---|---|
| | | SCA embedded | Not Supported |
| | Common processes | Start explicit authorization | Available |
| | | SCA state query | Available |
| | | Get authorization sub-resources | Available |
| | | Update authorization data | Available |
| | OAUTH | Obtaining access token | Available |
| | | Access token renewal | Available |

**Table 1: CORE Services**

| Service | | Function | State |
|---|---|---|---|
| SVA | PIS | Start of payment with list of accounts available for PISP | Available |
| | | Start of recurring payments with list of accounts available for PISP | Available |
| | AIS | Notice of data available in PUSH mode | GN pending |
| | DIR. TPPs | List of available TPPs | Available |
| | | TPP information query | Available |
| | | New TPP notification | Available |

**Table 2: Value Added Services**

# 3. TRANSPORT LAYER

The following information is valid for PRODUCTION environment.

## 3.1 Communications between TPP - ASPSP

### Channel https (TLS 1.2) + TWOWAY-SSL

The communication between the TPP and the ASPSP is always secured by the use of a MATLS 1.2 connection (2WAYSSL) with client authentication.

In summary, the validations to apply:

- TLS 1.2 communication with Mutual Authentication with Client Certificate (MATLS 1.2)
- Based on X509 certificates from recognized CAs (Digicert) and eIDAS certificates from TPPs issued by valid QTSPs PSD2
- Temporary validity of the certificate
- Common Name of the certificate Subject should be the one expected
- Complete certification chain validation
- CRL validation

# 4. APPLICATION LAYER

## 4.1 Location of message parameters

The definition of the interface follows the REST services approach. This approach allows message parameters to be transported at different levels:

- Message parameters as part of the HTTP layer (HTTP headers)
- Message parameters defining additional query parameters in the path (information in the path of the URL)
- Message parameters as part of the HTTP body

The parameters contained in the corresponding HTTP body will be encoded in JSON.

The parameters are encoded in:

- spinal-case (lowercase letters) at path level
- Spinal-case (starting with capital letters) at the HTTP header level
- lowerCamelCase for query parameters (query params) and JSON-based parameters.

The following principles apply in the definition of the API:

- Defining the content syntax
- Certificates and signature data required
- PSU identification data (based on access token)
- Protocol level data such as request timestamp or request/transaction identifiers

Message parameters as part of the path level:

- Provider identification
- Service identification
- Payment Type Identification
- Resource ID

Query parameters:

- Additional information needed to process GET requests to filter information

Message parameters as part of the HTTP body:

- Business data
- PSU authentication data
- Information Messages
- Hyperlinks to fully address the TPP-ASPSP process

## 4.2 Signing messages under BG 1.3.x specifications

All requests will be signed to the ASPSP.

### 4.2.1 Signing Messages Between Tpp - Aspsp Tpp -

The TPP will always sign all petitions sent to the ASPSP and the ASPSP must validate them.

The signature must be included in the HTTP headers as defined in the Berlin Group - Implementation Guidelines, chapter 4.

The electronic signature of the TPP is based on a certificate for electronic signature. This certificate must be issued by a valid QTSP PSD2.

In summary, the validations to apply:

- Based on eIDAS issued by valid QTSP PSD2
- Temporary validity of the certificate
- Common Name of the certificate Subject should be the one expected
- Complete certification chain validation
- CRL validation
- Signing of the message following the Berlin Group standard - Implementation Guidelines v1.3.x

In general, all requests (except for OAuth2 authorize as a pre-step) will include the following header fields for the message signature:

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Digest** | It is contained if the Signature field is travelling.<br>See 9.1 Signature for more information.<br>tpp documentation. | String | MA | ^.{1,100} $<br>Ex: Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ== |
| **Signature** | Signing of the request by the HUB.<br>See 9.1Signature for more information. | String | MA | See 9.1Signature for more information. |

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| | | | | |
|---|---|---|---|---|
| **TPP-Signature-Certificate** | HUB certificate used to sign the Base64 request.<br>See 9.1Signature for more information. | String | MA | ^.{1,5000}$<br>EX: TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA |

## 4.3 API interface structure

The interface is resource oriented. Resources can be directed under the API endpoints.

Using additional content parameters {parameters}, where:

- {provider} is the host and path of the API
- v1.1 is the version of this specification
- {service} has the values consents, Payments, bulk-payments, periodic-payments, accounts, card-accounts, or funds-confirmations, and which are extended by adding more information related to the type of product and the scope requested.
- {¿query-parameters} are parameters that provide details about GET access methods
- {parameters} are attributes defined in JSON encoding

The structure of the request / response is described according to the following categories:

- Path: attributes encoded in the Path
- Query parameters: attributes added to the path after the sign '?' as flags to address processes or filter attributes for GET access methods. Boolean type access parameters must always be used with the values true or false.
- Header: attributes encoded in the HTTP header of the request or the response
- Request: attributes of the request
- Response: response attributes in JSON

The HTTP response codes, which can be used in the interface, will be defined later.

## 4.4 PSU Context Data Requirements (HTTP headers)

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The following elements are used to send information about the PSU-TPP interface and are used for the ASPSP risk management procedures. It is highly recommended to send these elements in all requests for Initiate Payment or Establish Consent transaction flows. For example, in flows where a PSU authentication is required (Except in OAuth2 as a pre-step). The following table will not be repeated in the following sections for better readability. The only exception is in certain requests where a condition other than "optional" applies. For example, PSU-IP-Address.

**Note**: the information about the PSU-TPP interface could be used by the ASPSP as input for fraud detection and risk management systems. You can use this information also to exclude some authentication methods (for example, some ASPSP does not allow to receive an OTP by SMS on the same device that triggers the transaction). In addition, it allows ASPSPs to receive specific information from the partner device in order to be able to support an app-to-app redirection procedure for the TPP. For these reasons, it is highly recommended that TPPs include all of this information in related requests. Failure to provide all the necessary information could lead to a classification of the PSU device as unusable for the authentication method or a classification of the current transaction as "high risk", for example due to session attacks. Due to this, the probability of a rejection of the transaction due to fraud detection and / or risk management could be increased.

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **PSU-IP-Address** | IP address of the HTPP request between the PSU and the TPP. | String | OP | IPv4 and IPv6<br>Ex:<br>PSU-IP-Address: 192.168.16.5 |
| **PSU-IP-Port** | IP port of the HTTP request between the PSU and the TPP if available. | String | OP | ^.{1,5}$<br>Ex: PSU-IP-Port: 443 |
| **PSU-Accept** | Accept header of the HTTP request between the PSU and the TPP. | String | OP | ^.{1,50}$<br>Ex: PSU-Accept: application / json |
| **PSU-Accept-Charset** | Accept charset header of the HTTP request between PSU and the TPP. | String | OP | ^.{1,50}$<br>Ex: PSU-Accept-Charset: utf-8 |
| **PSU-Accept-Encoding** | Accept encoding header of the HTTP request between PSU and the TPP. | String | OP | ^.{1,50}$<br>Ex: PSU-Accept-Encoding: gzip |

| | | | | |
|---|---|---|---|---|
| **PSU-Accept-Language** | Accept language header of the HTTP request between PSU and the TPP. | String | OP | ^.{1,50}$<br>Ex: PSU-Accept-Language: es-ES |
| **PSU-User-Agent** | Browser or operating system of the HTTP request between the PSU and the TPP. | String | OP | Ex:<br>PSU-User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.1.5) Gecko/20091102 Firefox/3.5.5 (.NET CLR 3.5.30729) |
| **PSU-Http-Method** | HTTP method used in the interface between PSU and TPP. Allowed values:<br>• POST<br>• GET<br>• PUT<br>• PATCH<br>• DELETE | String | OP | Ex: PSU-Http-Method: POST |
| **PSU-Device-ID** | UUID (Universally Unique Identifier) for a device.<br>The UUID identifies the device or an installation of an application on a device. This ID should not be modified until the application is uninstalled from the device. | String | OP | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **PSU-Geo-Location** | Location corresponding to the HTTP request between the PSU and the TPP | String | OP | **RFC 2426**<br>^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$<br>Ex:<br>PSU-Geo-Location: GEO:90.023856;25.345963 |

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## 4.5 Requirements on TPP URIs to be applied by the ASPSP

The TPP can provide multiple URIs to the ASPSP as parameters for the next steps of the protocol.

For security reasons, it must be ensured that these URIs are secured by the certificate used by the TPP for their identification. Apply as follows:

The URIs provided by the Hub in the TPP-Redirect-URI or TPP-Nok-Redirect-URI fields must comply with the domain secured by the TPP certificate in the CN field or in its SubjectAltName. It is taken into account that for cases like example-hub.com in the TPP-Redirect-URI like:

- www.example-hub.com/xs2a/v1.1/service/asdf o
- redirections.example-hub.com/xs2a/v1.1/service/asdf

They would be valid cases.

Wildcard certificates are taken into account to validate.

Requests that do not meet the requirement will be rejected.

## 4.6 Addressing process of the API by hyperlinks

The XS2A API requires several requests for the initiation of payment and account information services from the TPP to the ASPSP. In Initiate Payment requests and Establish Consent requests, a resource is generated by the ASPSP. The "location" header of the response will normally contain a link to the created resource.

Additionally, the ASPSP can embed the hyperlink together with a "tag" for the semantics of the same in the response of these first requests and for all the following requests in the services. This hyperlink will be relative to save space, except in cases such as redirections where it will be absolute.

The hyperlink "tag" carries the functionality of the resource directed by the link. For example, "authorise-transaction". This link indicates that the results of the SCA method must be sent to the resource directed by this link to authorize, for example, a payment.

The hyperlinks for addressing are carried in the "_links" element. This can contain one or more hyperlinks.

# 5. API ACCESS METHODS

The following tables provide an overview of the HTTP access methods supported by API endpoints and API-generated resources.

**Conditions in the following tables**

Additionally, it is defined when a supported method is mandatory for ASPSP by this specification or when it is an optional feature. It should be noted that the given condition is relative to the parent node of the path. For example, the condition on the GET method /v1.1/consents/{consentId} applies only if the POST endpoint /v1.1/consents is supported.

It should be noted that any of the methods used by the TPP, which are addressing dynamically created resources in this API, can only apply to resources which have been created before by the TPP itself.

## 5.1 OAuth2 endpoints

| Endpoint | Method | Cond. | Description |
|---|---|---|---|
| **/authorize** | GET | MA | Redirection to the ASPSP login website to obtain the authCode. |
| **/token** | POST | MA | Allows to send the authCode to obtain the access token. |
| **/token** | POST | MA | Refresh the access token if it has expired. |

## 5.2 Payment Endpoints

| Endpoint | Method | Cond. | Description |
|---|---|---|---|
| **/payments/{payment-product}** | POST | MA | Creates a payment initiation resource accessible under the {paymentId} with all relevant data for the corresponding payment product. This is the first step in the API to initiate the referred payment. |
| **/ payments / {payment-product} / {paymentId}** | GET | MA | Gets the details of an initiated payment. |
| **/payments/{payment-product}/{paymentId}/state** | GET | MA | Gets the state of the payment transaction. |
| **/bulk-payments/{payment-product}** | POST | OP | Creates a bulk payment initiation resource accessible under the {paymentId} with all relevant data for the corresponding payment product. This is the first step in the API to initiate the bulk referral payment. |
| **/bulk-payments/{payment-product}/{paymentId}** | GET | MA | Gets the details of an initiated payment. |
| **/bulk-payments/{payment-product}/{paymentId}/state** | GET | MA | Gets the state of the bulk payment transaction. |

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|---|---|---|---|
| **/periodic-payments/{payment-product}** | POST | OP | Creates a standing order resource for periodic/recurring payment accessible under the {paymentId} with all relevant data for the corresponding payment product. This is the first step in the API to initiate the referred periodic/recurring payment. |
| **/ payments / {payment-product} / {paymentId}** | GET | MA | Gets the details of an initiated standing order for periodic/recurrent payment. |
| **/periodic-payments/{payment-product}/{paymentId}/state** | GET | MA | Gets the state of the standing order transaction for periodic/recurrent payment. |
| **{payment-service}/{payment-product}/{paymentId}/authorisations** | POST | MA | Create an authorization sub-resource and start the authorization process.<br>The ASPSP could make the use of this access method unnecessary in case only a single SCA process is needed, as the related authorisation resource could be automatically created by the ASPSP after the payment data is sent with the first POST request to /payments/{payment-product}. |
| **{payment-service}/{payment-product}/{paymentId}/authorisations** | GET | MA | Gets the list of authorization sub-resource IDs that have been created. |

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|---|---|---|---|
| **{payment-service}/{payment-product}/{paymentId}/authorisations/{authorisationId}** | GET | MA | Gets the SCA state of the authorization. |
| **{payment-service}/{payment-product}/{paymentId}/authorisations/{authorisationId}** | PUT | MA | Updates data in the authorization resource, if necessary. |
| **{payment-service}/{payment-product}/{paymentId}** | DELETE | OP | Cancel the accessible payment under the paymentId resource if applicable for the payment service, payment product and received in the period of time that the cancellation is allowed.<br>The response to this DELETE command will tell the TPP when:<br>• The access method was rejected<br>• The access method was correct<br>• The access method is generally applicable but requires an additional authorization process. |
| **{payment-service}/{payment-product}/{paymentId}/cancellation-authorisations** | POST | OP | Initiates the authorisation of the cancellation of the payment accessible under the paymentId resource if requested by the ASPSP (e.g. DELETE method is not sufficient) and if applicable for the payment service, and received within the time period that is cancellable. |

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|---|---|---|---|
| **{payment-service}/{payment-product}/{paymentId}/ cancellation-authorisations** | GET | MA | Gets the list of cancellation authorization sub-resources that have been created.<br>**Note**: if the POST command on this endpoint is supported, then this GET method must also be supported. |
| **{payment-service}/{payment-product}/{paymentId}/ cancellation-authorisations/{authorisationId}** | GET | MA | Gets the SCA state of the cancellation authorisation.<br>**Note**: if the POST command on this endpoint is supported, then this GET method must also be supported. |
| **{payment-service}/{payment-product}/{paymentId}/ cancellation-authorisations/{authorisationId}** | PUT | MA | Updates data in the authorization resource, if necessary.<br>**Note**: if the POST command on this endpoint is supported, then this PUT method must also be supported. |

## 5.3 AccountEndpoints

| Endpoint | Method | Cond. | Description |
|---|---|---|---|

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|---|---|---|---|
| **/accounts** | GET | MA | Reads all account identifiers for which the PSU has granted access on the /consents endpoint. In addition, relevant account information and links to the corresponding account information resources may be provided if the necessary permissions have been provided.<br><br>**Note**: the endpoint / consents optionally offer to grant access on all **available** PSU payment **accounts** .In this case, this endpoint will release the information of all available payment accounts from the PSU to the ASPSP. |
| **/accounts?withBalance** | GET | MA | Obtain the identifiers of the available payment accounts along with balance information, depending on the consent granted. |
| **/accounts/{account-id}** | GET | MA | Gets detailed information about the accessed account. |
| **/accounts/{account-id}?withBalance** | GET | MA | Gets detailed information on the accessed account along with balance information. |
| **/accounts/{account-id}/balances** | GET | MA | Obtains detailed information on the balances of the account accessed. |
| **/ accounts / {account-id} / transactions** | GET | MA | Obtains a list of movements (transactions) of the accessed account. |

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|---|---|---|---|
| | | | For a given account, additional parameters are, for example, date from, date from, and date to. |
| **/accounts/{account-id}/transactions?withBalance** | GET | MA | Obtains a list of movements (transactions) of the accessed account together with balances. |

**Note**: the {account-id} parameter can be tokenized by the ASPSP in such a way that the current account numbers, such as IBANs or PANs, are not part of the API path definition for data protection reasons. This tokenization is managed by the ASPSP.

## 5.4 Trusted Payees Endpoints

| Endpoint | Method | Cond. | Description |
|---|---|---|---|
| **/trusted-beneficiaries?{account-id}** | GET | OP | Obtain a list of trusted payees. |

## 5.5 Account Consent Endpoints

| Endpoint | Method | Cond. | Description |
|---|---|---|---|
| **/consents** | POST | MA | Creates a consent resource, defining access permissions on specific accounts of a PSU. These accounts are explicitly routable on the PATH as parameters. |
| **/consents** | POST | MA | Optionally, an ASPSP could accept specific access permissions to access all PSD2 services on all available accounts. |

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|---|---|---|---|
| | | | Another option is that an ASPSP could accept a request where only the access permissions are reported but not the accounts. In this case, the selection of accounts is subsequently managed between the PSU and the ASPSP.<br>As a last option, the ASPSP can accept requests with the following access permissions:<br>• Get a list of available payment accounts<br>• Get a list of available payment accounts with balances |
| **/consents/{consentId}** | GET | MA | Gets the exact definition of the consent resource, including the validity state. |
| **/consents/{consentId}** | DELETE | MA | Ends the directed consent. |
| **/consents/{consentId}/state** | GET | MA | Gets the state of the directed consent. |
| **/consents/{consentId}/authorisations** | POST | MA | Create an authorization sub-resource and start the authorization process. |

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|---|---|---|---|
| | | | The ASPSP could make the use of this access method unnecessary in case only a single SCA process is needed, as the related authorisation resource could be automatically created by the ASPSP after the consents data is sent with the first POST /consents request. |
| **/consents/{consentId}/authorisations** | GET | MA | Gets the list of authorization sub-resource IDs that have been created. |
| **/consents/{consentId}/authorisations/{authorisationId}** | GET | MA | Gets the SCA state of the authorization. |
| **/consents/{consentId}/authorisations/{authorisationId}** | PUT | MA | Updates data in the authorization resource, if necessary. |

## 5.6 Fund confirmation Consent endpoints

| Endpoint | Method | Cond. | Description |
|---|---|---|---|
| **/consents/confirmation-of-funds** | POST | MA | Create a consent resource for funding confirmation. |
| **/consents/confirmation-of-funds/{consentId}** | GET | MA | Gets the exact definition of the consent resource, including the validity state. |
| **/consents/confirmation-of-funds/{consentId}** | DELETE | MA | Ends the directed consent. |
| **/consents/confirmation-of-funds/{consentId}/state** | GET | MA | Gets the state of the directed consent. |

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| | | | |
|---|---|---|---|
| **/consents/confirmation-of-funds/{consentId}/authorisations** | POST | MA | Create an authorization sub-resource and start the authorization process.<br>The ASPSP could make the use of this access method unnecessary in case only a single SCA process is needed, as the related authorisation resource could be automatically created by the ASPSP after the submission of the consent data with the first POST /consents/confirmation-of-funds request. |
| **/consents/confirmation-of-funds/{consentId}/authorisations** | GET | MA | Gets the list of authorization sub-resource IDs that have been created. |
| **/consents/confirmation-of-funds/{consentId}/authorisations/{authorisationId}** | GET | MA | Gets the SCA state of the authorization. |
| **/consents/confirmation-of-funds/{consentId}/authorisations/{authorisationId}** | PUT | MA | Updates data in the authorization resource, if necessary. |

## 5.7 Fund Confirmation Endpoints

| Endpoint | Method | Cond. | Description |
|---|---|---|---|
| **/ funds-confirmations** | POST | MA | Checks when a specific amount is available at a certain point in time for an account related to a TPP/card or targeted by TPP and IBAN. |

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## 5.8 Value Added Services (VAS) Endpoints

| Endpoint | Method | Cond. | Description |
|---|---|---|---|
| **/sva/payments/{payment-product}** | POST | MA | Creates a payment initiation resource accessible under the {paymentId} with all relevant data for the corresponding payment product. This is the first step in the API to initiate the referred payment without having to inform the issuer's account. |
| **/sva/periodic-payments/{payment-product}** | POST | MA | Creates a periodic payment initiation resource accessible under the {paymentId} with all relevant data for the corresponding payment product. This is the first step in the API to initiate the referenced periodic payment without the need to inform the issuer's account. |
| **/tpps** | GET | OP | Get the list of TPPs in the Hub. |
| **/tpps/{tppId}** | GET | OP | Get the detail of a TPP. |

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# 6. DESCRIPTION OF CORE SERVICES

## 6.1 OAuth2 as a pre-step

### 6.1.1 Flow

In the scenario shown in the figure, only OAuth2 Figure 2: OAuth2 scenario as a pre-step is represented with its "Authorisation Code Grant" flow and the involvement of the parts.

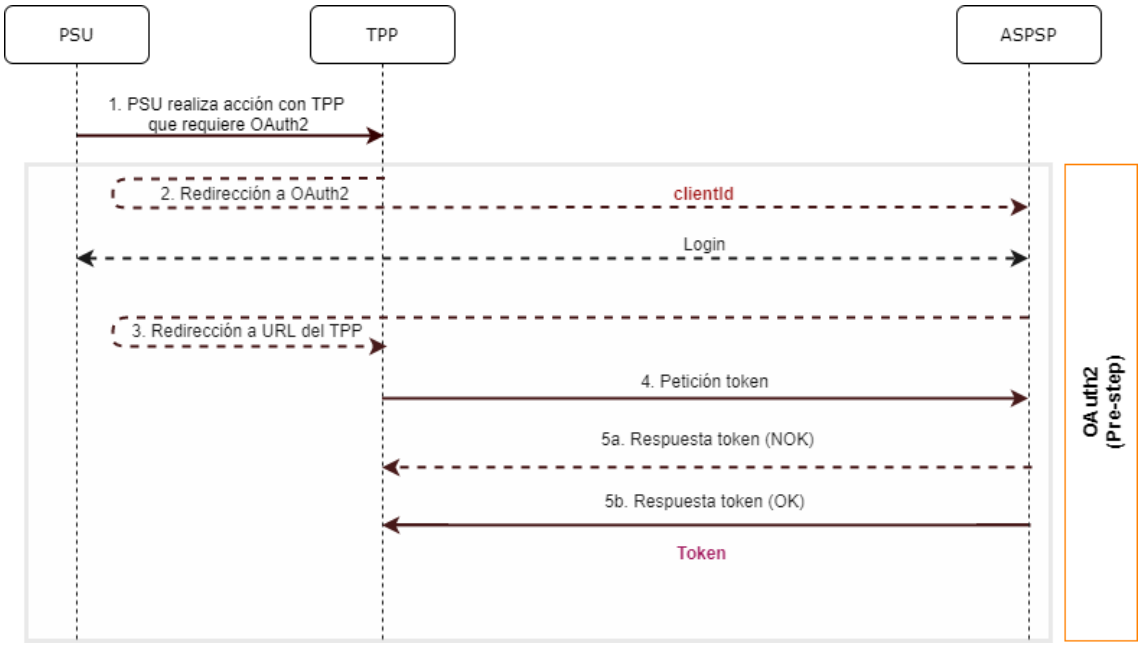


**Figure 2: OAuth2 scenario as a pre-step**

The points indicated in the flow are described below:

**1. PSU performs action with TPP that requires OAuth2**

PSU executes action that requires OAuth2.

**2. Redirection to OAuth2**

The TPP detects that the PSU that is trying to perform the action has not yet logged into the system and, therefore, does not have a valid access token to consume the resources.

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In this situation, the TPP routes the PSU browser to perform a redirect to the authorisation URL of the OAuth2 server by informing, among other values, the clientIdTPP and the *redirect_uri* of the TPP to which the *callback* will be performed.

```
GET / authorize?response_type=code&client_id=PSDES-BDE-3DFD21
&state=asd&redirect_uri=https%3A%2F%2Ftpp%2Eexample%2Ecom%2Fcb&code_c
hallenge=E9Melhoa2OwvFrEMTJguCHaoeK1t8URWbuGJSstw-
cM&code_challenge_method=S256

HTTP/1.1
Host: hub.example.com/aspsp-name
```

**Login**

The PSU enters its credentials, *user / pass,* on the *login* page of its ASPSP.

**3. Redirection to TPP URL**

Once the *login* has been successfully completed, the ASPSP instructs the PSU browser to perform the *callback* to the URL informed of the initial redirection (point 3 of the flow).

In this return redirection, the ASPSP, in case of successful *login*, reports an authorization code, *authCode,* which will be used in a subsequent request to request the access token from the ASPSP.

```
HTTP/1.1 302 Found
Location:
https://hub.example.com/cb?code=SplxlOBeZQQYbYS6WxSbIA&state=xyz
```

**4. Token request (TPP ASPSP)**

The TPP makes a POST request to the OAuth2 server to obtain the access token that will allow it to consume the displayed API services.

Among the possible values to send, the TPP informs its *clientId* and the *authCode* returned in the redirection (point 3).

**5. Token response (ASPSP TPP)**

The ASPSP evaluates the data provided in the token request and, if everything was correct, generates an access token (*token)* that will return it in the response.

**Note**: those ASPSPs that require a payment execution request, may also return an additional token (authToken*)* at this point that will be used later to authorize the payment.

```
HTTP / 1.1 200 OK
Content-Type: application/json; charset=utf-8
Cache-Control: no-store
Pragma: no-cache
{
   "access_token": "1zCsicMWpAA2YotnFZFEjr",
   "token_type": "Bearer",
   "expires_in": 3600,
   "refresh_token": "G5Qx2TlKWIAtGzv3JOkF0X"
}
```

### 6.1.2 Get authorization

#### 6.1.2.1 Request

The TPP redirects the PSU to make one of the following requests to the Hub:

- Login via web redirect
- Login using biometric authentication by app-to-app redirection

**Endpoint for web and biometric authentication by app-to-app redirection**

GET
/{aspsp}/authorize?response_type={response_type}&client_id={client_id}&scope={scope}&state={state}&redirect_uri={redirect_uri}&code_challenge={code_challenge}&code_challenge_method={code_challenge_method}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the ASPSP where the service is published. | String | MA | Ex: aspsp.example.es |

**Query parameters:**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| **response_type** | The value must be set to "code". | String | MA | Ex: response_type = code |
| **client_id** | "organizationIdentifier" provided in the eIDAS certificate formed as:<br>- PSD<br>- 2 characters of the EQS country code according to ISO 3166<br>- Character "-"<br>- 2-8 characters for NCA identifier (AZ in uppercase)<br>- Character "-"<br>- PSP identifier<br><br>This registration number will be that of the HUB or the TPP depending on the ASPSP configuration. | String | MA | ^.{1,70}$<br>Ex: client_id=PSDES-RDS-4000 |
| **scope** | Scope possible:<br>• PIS<br>• AIS<br>• SVA<br><br>You can specify more than one by separating it by a space (% 20). | String | MA | ^.{1,64}$<br>Ex: scope=PIS%20AIS%20SVA |
| **state** | Opaque value generated by the TPP. Used to prevent cross-site request forgery XSRF attacks. | String | MA | ^.{1,64}$<br>Ex: state = XYZ |
| **redirect_uri** | URL back to the HUB where the authorization code | String | MA | ^.{1,250}$<br>Ex: |

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| | | | | |
|---|---|---|---|---|
| | "code" that will be used later to obtain the access token will be reported. | | | redirect_uri=https%3A%2F%2Fwww%2Ehub%2Ecom%2Fcb |
| **code_challenge** | PKCE challenge used to prevent code injection attacks. According to RFC 7636. | String | MA | ^.{1,128}$<br>Ex: code_challenge=E9Melhoa2OwvFrEMTJguCHaoeK1t8URWbuGJSstw-cM |
| **code_challenge_method** | Method to verify the code that can be "plain" or "S256". Preferred S256 (SHA 256) | String | OP | ^.{1,120}$<br>Ex: code_challenge_method = S256 |
| **second_client_id** | It will receive the value of the clientId from the HUB or the TPP depending on the value of the clientId attribute depending on the ASPSP configuration. | String | OP | ^.{1,70}$<br>Ex: second_client_id=PSDES-BDE-3DFD246 |
| **app_to_app_preferred** | Indicates whether the TPP has used the biometric authentication endpoint to receive a deeplink for app-to-app redirection.<br>Possible values:<br>• staff<br>• business | String | OP | Ex: app_to_app_preferred=true |

**Header**

No additional fields are specified.

**Body**

No data travels in the body of this response.

#### 6.1.2.2 OK response

Response in case the request has passed correctly. It results from the redirection initiated by the ASPSP from the PSU browser to the return URL provided by the HUB.

**Path**

No additional fields are specified.

**Query parameters:**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Location** | Contains the URI where the redirect to the HUB is performed. | String | MA | Ex: Location: https://hub.example.es/cb |
| **code** | One-time authorization code generated by the HUB. Recommended life time of no more than 10 minutes. | String | MA | [A-Za-z0-9]{32}<br>Ex: code=SplxlOBeZQQYbYS6WxSbIA |
| **state** | Opaque value generated by the TPP. Used to maintain state between request and response. The ASPSP will include this when redirecting the PSU browser back to the HUB. Used to prevent cross-site request forgery attacks. | String | MA | ^.{1,64}$<br>Ex: state = XYZ |

**Body**

No data travels in the body of this request.

f

#### 6.1.2.3 Error response

Response in case an error has occurred in the request. It results from the redirection initiated by the ASPSP from the PSU browser to the return URL provided by the HUB.

**Path**

No additional fields are specified.

**Query parameters:**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Location** | Contains the URI where the redirection to the HUB takes place | String | MA | Ex: Location: https://hub.example.es/cb |
| **error** | Code indicating the error that occurred. | String | MA | Ex: error = invalid_request |
| **error_description** | Description of the error occurred. | String | OP | Ej: error_description=failure_entering_credentials |
| **state** | Value generated by the TPP. Used to maintain state between request and response. The HUB will send it back in the reply. | String | MA | ^.{1,64}$<br>Ex: state = XYZ |

**Body**

No data travels in the body of this request.

#### 6.1.2.4 Examples

**Example of request**

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```
GET
https://hub.example.es/authorize?response_type=code&client_id=PSDES-
RDS-
4000&scope=PIS%20AIS%20SVA&state=xyz&redirect_uri=https%3A%2F%2Fwww%2E
hub%2Ecom%2Fcb&code_challenge=E9Melhoa2OwvFrEMTJguCHaoeK1t8URWbuGJSstw
-cM&code_challenge_method=S256&second_client_id=PSDES-BDE-3DFD246
```

**Example of OK response:**

```
HTTP/1.1 302 Found

Location:
https://hub.example.es/cb?code=SplxlOBeZQQYbYS6WxSbIA&state=xyz
```

**Example of NOK response:**

```
HTTP/1.1 302 Found

Location:
https://hub.example.es/cb?error=access_denied&error_description=failur
e_entering_credentials&state=xyz
```

### 6.1.3 Get access token

This message is sent by the TPP to the ASPSP to exchange the authorization code obtained in the previous step and obtain an access token and refresh token.

#### 6.1.3.1 Request

**Endpoint**

POST {provider}/token

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: hub.example.es |

**Request Parameters**

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| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **grant_type:** | It must take the value of "authorization_code" | String | MA | Ex: grant_type=authorization_code |
| **client_id** | "organizationIdentifier" provided in the eIDAS certificate formed as:<br>- PSD<br>- 2 characters of the EQS country code according to ISO 3166<br>- Character "-"<br>- 2-8 characters for NCA identifier (AZ in uppercase)<br>- Character "-"<br>- PSP identifier | String | MA | ^.{1,70}$<br>Ex: client_id=PSDES-RDS-4000 |
| **code** | Authorisation code returned by the ASPSP in the previous request for an authorisation code application | String | MA | ^.{1,64}$<br>Ex: code = SplxlOBeZQQY<br>bYS6WxSbIA |
| **redirect_uri** | Exact URL of the TPP where the OAuth2 server redirected the user agent for this particular transaction | String | MA | ^.{1,250}$<br>Ex: redirect_uri=https%3A%2F%2Fwww%2Ehub%2Ecom%2Fcb |
| **code_verifier** | PKCE verification code used to prevent code injection attacks. Based on RFC 7636. | String | MA | Ex: code_verifier=dBjftJeZ4CVP-mB92K27uhbUJU1p1r_wW1gFWFOEjXk |

**Header**

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No additional fields are specified.

**Body**

No fields travel in the Body.

### 6.1.3.2 OK response

Response in case the request has passed correctly. It is given as a result of the request to obtain access token sent by the TPP to the ASPSP.

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **access_token:** | Access token issued by the ASPSP and linked to the scope requested in the submission and confirmed by the PSU. | String | MA | ^.{1,64}$<br>Ex: "access_token":"2YotnFZFEjr1zCsicMWpAA" |
| **token_type** | Type of the issued token. It will take the value "Bearer". | String | MA | Ex: "token_type": "Bearer" |
| **expires_in** | Access token lifetime in seconds. | Integer | OP | Ex: "expires_in": 300 |
| **refresh_token** | Refresh token. It can be used to obtain a new access token if it has expired. | String | OP | ^.{1,64}$<br>Ex: "refresh_token": "tGzv3JOkF0XG5Qx2TlKWIA" |

### 6.1.3.3 Error response

Response in case an error has occurred in the request. It is given as a result of the access token request made by the TPP to the HUB.

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**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **error** | Code indicating the error that occurred. See more return codes in the annexes. | String | MA | Ex: "error":"invalid_request" |
| **error_description** | Description of the error occurred. | String | OP | Ej: "error_description"="Token failure description" |

### 6.1.3.4 Examples

**Example of request**

```
POST /token HTTP/1.1
Host: https://aspsp.example.es
Content-Type: application/x-www-form-urlencoded
grant_type=authorization_code&client_id=PSDES-RDS-4000&code=SplxlOBeZQQYbYS6WxSbIA&redirect_uri=https%3A%2F%2Fwww%2Etpp%2Ecom%2Fcb&code_verifier=dBjftJeZ4CVP-mB92K27uhbUJU1p1r_wW1gFWFOEjXk
```

**Example of OK response:**

```
HTTP / 1.1 200 OK
Content-Type: application/json; charset=utf-8
Cache-Control: no-store
Pragma: no-cache
{
      "access_token": "2YotnFZFEjr1zCsicMWpAA",
      "token_type": "Bearer",
      "expires_in": 3600,
      "refresh_token": "tGzv3JOkF0XG5Qx2TlKWIA"
}
```

**Example of NOK response:**

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```
HTTP / 1.1 400 Bad Request
Content-Type: application/json; charset=utf-8
Cache-Control: no-store
Pragma: no-cache
{
      "error":"invalid_request"
      “error_description”=”Token failure description”
}
```

## 6.2 Token renewal

This service is used when the ASPSP reports that the accessToken is expired. Through this request we can refresh the accessToken by sending the refreshToken associated with the expired accessToken.

### 6.2.1 Flow

Service to renew the access token, either the TPP access token or the HUB access token, when it has expired.

The next scenario shown in the image Figure 3: Access token renewal scenario occurs when the access token is expired, and it is necessary to perform the process to activate the access token again.

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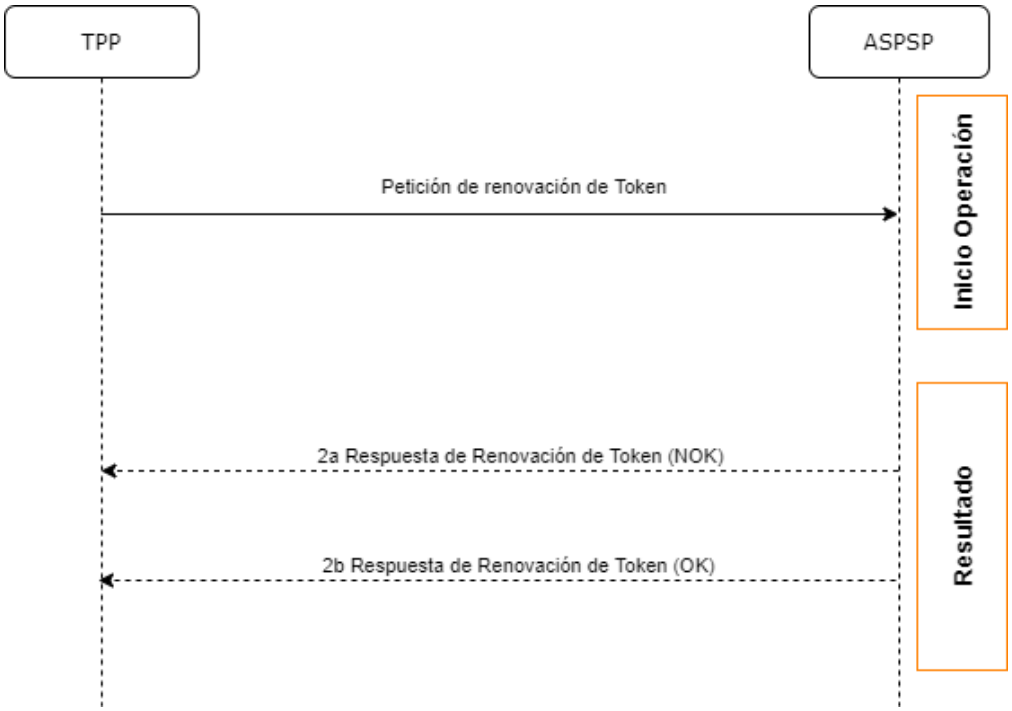


**Figure 3: Access token renewal scenario**

This process is described below:

### 1. Token Renewal Request (TPP  ASPSP)

The TPP makes a POST request to the ASPSP's OAuth2 server to refresh the access token that will allow it to consume the displayed API services.

The ASPSP to renew the access token that will allow it to consume the entity's displayed API services.

```
POST /token HTTP/1.1
Host: aspsp.example.com
Authorization: Basic czZCaGRSa3F0MzpnWDFmQmF0M2JW
Content-Type: application/x-www-form-urlencoded

grant_type=refresh_token&refresh_token=tGzv3JOkF0XG5Qx2TlKWIA
```

### 2. Token Renewal Response (ASPSP  TPP)

The ASPSP evaluates the data provided by the TPP in the token renewal request and, if everything went correct, it will respond by renewing the token.

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### 6.2.2 Request

**Endpoint**

POST {provider}/token

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the ASPSP where the service is published. | String | MA | Ex: aspsp.example.es |
| **grant_type:** | It must take the value of "refresh_token" | String | MA | Ex: grant_type=refresh_token |
| **client_id** | "organizationIdentifier" provided in the eIDAS certificate formed as:<br>- PSD<br>- 2 characters of the EQS country code according to ISO 3166<br>- Character "-"<br>- 2-8 characters for NCA identifier (AZ in uppercase)<br>- Character "-"<br>- PSP identifier | String | MA | ^.{1,70}$<br>Ex: client_id=PSDES-RDS-4000 |
| **refresh_token** | Refresh token to obtain an unexpired accessToken. | String | MA | ^.{1,64}$<br>Ex: refresh_token=tGzv3JOkF0XG5Qx2TlKWIA |

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**Header**

No additional data is specified.

**Body**

No additional data is specified.

### 6.2.3 Response

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **access_token:** | Access token issued by the ASPSP and linked to the scope requested in the submission and confirmed by the PSU. | String | MA | ^.{1,64}$<br>Ex: "access_token": "83kdFZFEjr1zCsicMWBB" |
| **token_type** | Type of the issued token. It will take the value "Bearer". | String | MA | Ex: "token_type": "Bearer" |
| **expires_in** | Access token lifetime in seconds. | Integer | OP | Ex: "expires_in": 300 |
| **refresh_token** | Refresh token. It can be used to obtain a new access token if it has expired. | String | OP | ^.{1,64}$<br>Ex: "refresh_token": "28JD3JOkF0NM5Qx2TlCCC" |

### 6.2.4 Examples

```
POST /token HTTP/1.1
Host: https://hub.example.es
Content-Type: application/x-www-form-urlencoded
grant_type = refresh_token & client_id = PSDES-RDS-4000 & refresh_token
= tGzv3JOkF0XG5Qx2TlKWIA
```

**Example of OK response:**

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```
HTTP / 1.1 200 OK
Content-Type: application/json; charset=utf-8
Cache-Control: no-store
Pragma: no-cache
{
      "access_token": "83kdFZFEjr1zCsicMWBB",
      "token_type": "Bearer",
      "expires_in": 300,
      "refresh_token": "28JD3JOkF0NM5Qx2TlCCC"
}
```

## 6.3 PIS: Payment Initiation Service

### 6.3.1 Payment Initiation Flows

The payment initiation flow depends on the SCA approach implemented by the ASPSP.

**Note**: The flows do not always cover all the variations or complexities of the implementation and are sample flows.

#### 6.3.1.1 SCA flow by redirection: implicit start of authorization process

The image below depicts Figure 4: Start of payment with OAuth2 as pre-step and SCA flow by redirectionthe sequence of requests/responses and redirections that are necessary in the flow where strong authentication (SCA) by redirection is needed (SCA over OAuth2 is not applied).

The characteristics of this flow are:

- TPP-Redirect-Preferred: true (SCA's TPP preference for redirection) or not reported (ASPSP decides for redirection)
- TPP-Explicit-Authorization-Preferred: false - TPP preference to initiate the payment authorization process implicitly
- The PSU has only one SCA method

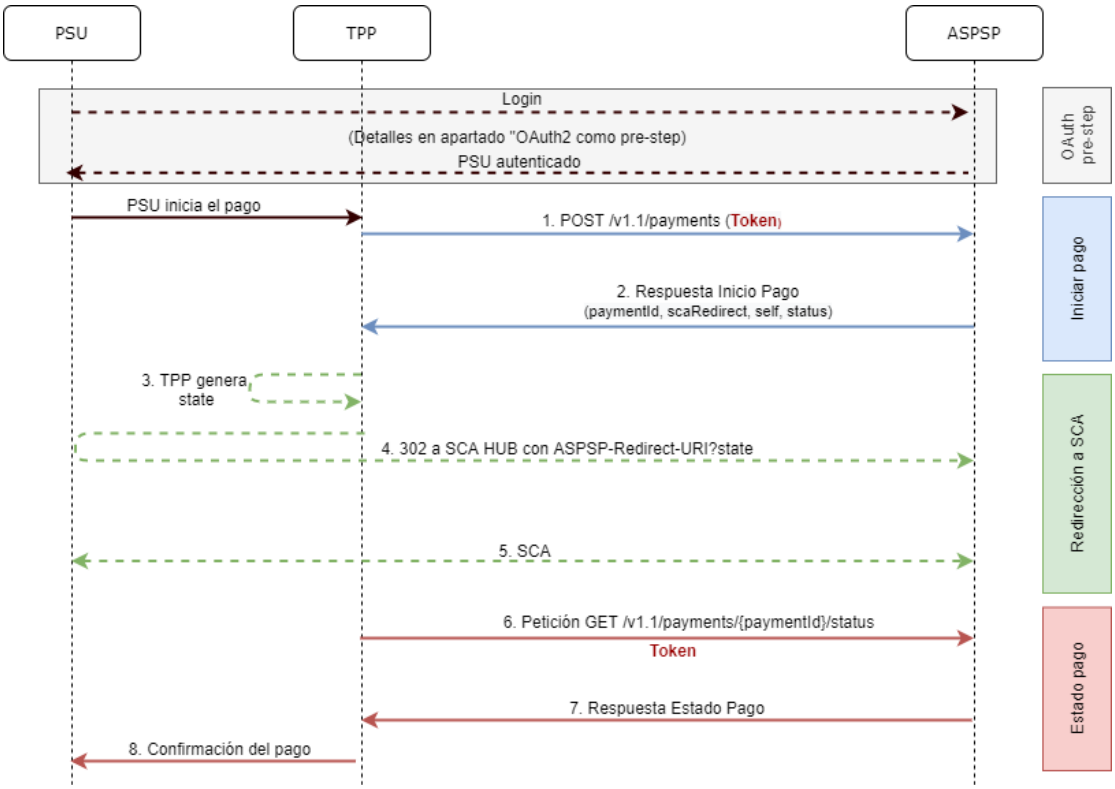


**Figure 4: Start of payment with OAuth2 as pre-step and SCA flow by redirection and start of the implicit authorization process**

## OAuth2 (pre-step)

The main purpose of this flow is to authenticate the PSU to get access to the services displayed by its ASPSP through the use of an access token obtained after the application of this protocol.

In order to simplify, the detail of this flow has been omitted from the Figure 4 Figure 4: Start of payment with OAuth2 as pre-step and SCA flow by redirection and can be found in the section 6.16.1 OAuth2 as a pre-step.VERIFY

**Note**: this step is optional. Only applies if no valid access token is available.

## PSU initiates payment

The PSU wants to pay through the TPP.

### 1. Start Payment Request (TPP → ASPSP)

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The TPP sends a POST request to initiate payment with *token* to the ASPSP. Among the data reported by the TPP are:

- **TPP data:** identifier, name, roles, NCA, certificate ...
- **Payment data:** transfer type, ordering IBAN, beneficiary IBAN, amount, currency, concept ...
- **Data for risk scoring calculation:** IP, port, user-agent, language, location, HTTP headers ...
- **X-Request-ID:** identifier of the operation assigned by the TPP.
- **Access token** from TPP to Hub
- **TPP-Redirect-Preferred:** true (SCA flow preference by redirection) or not reported (ASPSP decides SCA by redirection).
- **TPP-Redirect-URI:** Return URI of the TPP after redirection to SCA.
- **TPP-Explicit-Authorization-Preferred:** false - TPP preference to initiate authorization implicitly

- **Other data**

### 2. Start Payment Response (ASPSP → TPP)

The ASPSP responds to the TPP indicating that strong authentication (SCA) is required, returning:

- **transactionStatus**: ISO 20022 state of the received payment start.
- **paymentId**: identifier of the generated resource that refers to the current payment initiation operation.

- **_links**

    - **scaRedirect**: links to the Hub endpoint where after receiving the redirect from the TPP it redirects back to the scaRedirect of the ASPSP. This URL can add security parameters to allow session maintenance during redirection.

      `https://hub.example.com/auth`

    - **self**: link to the payment resource generated by the Hub for the payment initiation request received from the TPP.
    - **state**: link of the Hub to which the TPP can make a request to check the state of the payment.

- **Other data**

### 3. TPP generates state

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The TPP, after receiving the response to initiate payment, generates a value for *state* (XSRF token) that it must link to the PSU browser session.

**4. Redirect to scaRedirect Hub (TPP → ASPSP)**

The TPP redirects the PSU to the authentication endpoint by adding to it the field*state* as a query-param.

```
HTTP/1.1 302 Found
Location: https://hub.example.com/auth?state=qwerty
```

**5. SCA between PSU ←→ ASPSP**

During this redirection process, the ASPSP will be able to:

- Show commissions to the PSU if required
- Show ASPSP-PSU interface for SCA

**8. Payment State Request (TPP → ASPSP)**

The TPP will send a request for payment state with *token* to know the state of the payment.

**9. Payment State Response (ASPSP → TPP)**

The ASPSP updates the state of the operation and responds to the TPP.

**10. Payment confirmation**

The TPP confirms the states of the payment to the PSU.

#### 6.3.1.2 SCA flow by redirection: implicit start of authorization process.

Below in Figure 5: Initiation of payment with OAuth2 as pre-step and SCA flow by redirection and initiation of explicit authorisation process with/without selection of SCA methodthe sequence of requests/responses and redirections that are necessary in the flow where strong authentication (SCA) by redirection is needed (SCA over OAuth2 is not applied).

The characteristics of this flow are:

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- TPP-Redirect-Preferred: true (SCA's TPP preference for redirection) or not reported (ASPSP decides for redirection)
- TPP-Explicit-Authorization-Preferred: true - TPP's preference to start the payment authorization process explicitly or, if you select implicit and the PSU has more than one SCA method, the ASPSP switches to the explicit authorization process.

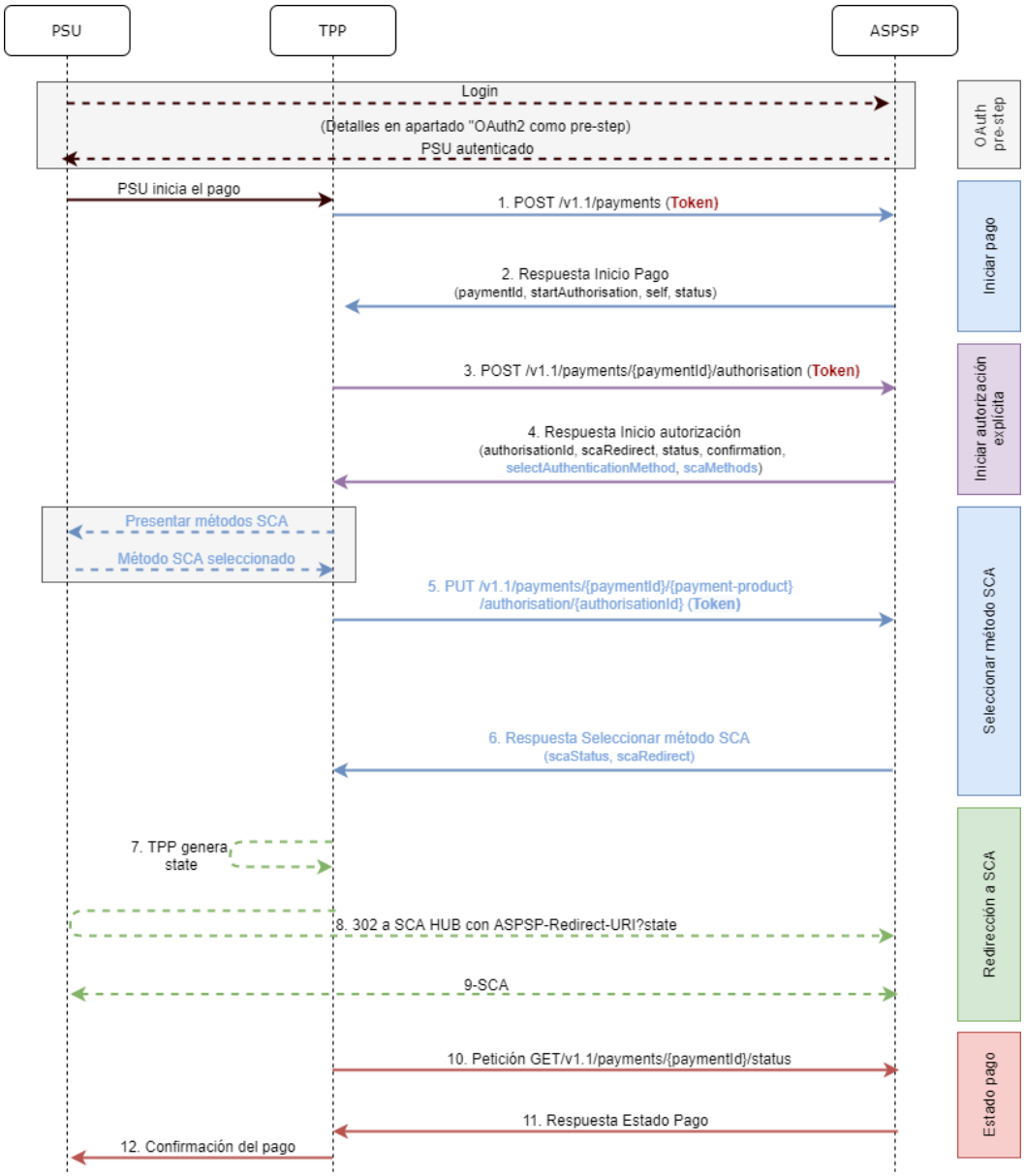


**Figure 5: Start of payment with OAuth2 as pre-step and SCA flow by redirection and start of the explicit authorization process with / without selection of the SCA method**

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### OAuth2 (pre-step)

The main purpose of this flow is to authenticate the PSU to get access to the services displayed by its ASPSP through the use of an access token obtained after the application of this protocol.

In order to simplify, the detail of this flow has been omitted from Figure 4: Payment initiation with OAuth2 as pre-step and SCA flow by redirection and can be found in the section 6.16.1 OAuth2 as a pre-step.VERIFY

**Note**: this step is optional. Only applies if no valid access token is available.

### PSU initiates payment

The PSU wants to pay through the TPP.

### 1. Start Payment Request (TPP → ASPSP)

The TPP sends a POST request to initiate payment with *token* to the ASPSP. Among the data reported by the TPP are:

- **TPP data:** identifier, name, roles, NCA, certificate ...
- **Payment data:** transfer type, ordering IBAN, beneficiary IBAN, amount, currency, concept ...
- **Data for risk scoring calculation:** IP, port, user-agent, language, location, HTTP headers ...
- **X-Request-ID:** identifier of the operation assigned by the TPP.
- Hub access **token**
- **TPP-Redirect-Preferred:** true - SCA flow preference by redirect
- **TPP-Redirect-URI:** Return URI of the TPP after redirection to SCA.
- **TPP-Explicit-Authorization-Preferred:** true - TPP preference to initiate authorization explicitly (current flow)
- **Other data**

### 2. Initiate Payment Response (ASPSP → TPP)

The Hub, after receiving the response from the ASPSP, responds to the TPP by returning:

- **transactionStatus**: ISO 20022 state with the state of the transaction
- **paymentId**: resource identifier generated by the Hub referring to the current payment initiation transaction.

- **_links**
    - **self**: link to the resource that refers to the payment in the Hub
    - **state**: link of the Hub to which the TPP can make a request to check the state of the payment.
    - **startAuthorisation:** link of the Hub to which the TPP can make a POST request to initiate the authorization of the payment explicitly.
- **Other data**

### 3. Initiate Authorization Request (TPP → ASPSP)

The TPP sends a POST request to initiate explicit authorization to initiate *token* payment to the ASPSP. Among the data reported by the TPP are:

- **TPP data:** identifier, name, roles, NCA, certificate ...
- **paymentId:** identifier of the payment to be authorized
- **X-Request-ID:** request identifier assigned by the TPP.
- **Access token** from the TPP

### 4. Initiate Authorization Response (ASPSP → TPP)

The ASPSP responds to the TPP indicating:

Response 1 - There is only one SCA method available, redirect to SCA is returned:

- **scaStatus**: state in which the SCA is.
- **authorizationId**: identifier of the authorization sub-resource created by the Hub
- **_links**
    - **scaRedirect**: link to the Hub's authentication server to start SCA through a redirect (SCA does not apply over OAuth2). This URL can add security parameters to allow session maintenance during redirection.

      Ex: https://hub.example.com/auth
    - **scaStatus**: link of the Hub to which the TPP can make a request to consult the state of the SCA of the corresponding authorization sub-resource.

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Ex: https://hub.example.com/v1.1/payments/{payment-product}/{paymentId}/authorisations/{authorisationId}

- **Other data**

Response 2 - More than one SCA method available, selection by PSU necessary:

- **scaStatus**: state in which the SCA is.
- **authorizationId**: identifier of the authorization sub-resource created by the Hub
- **scaMethods-** Authentication objects that the PSU has available.
- **_links**
  - **selectAuthenticationMethod**: link of the Hub to which the TPP will be able to refer the SCA method selected by the PSU.

    Ex: https://hub.example.com/v1.1/payments/{payment-product}/{paymentId}/authorisations/{authorisationId}
  - **scaStatus**: link of the Hub to which the TPP can make a request to consult the state of the SCA of the corresponding authorization sub-resource.

    Ex: https://hub.example.com/v1.1/payments/{payment-product}/{paymentId}/authorisations/{authorisationId}
- **Other data**

### Present SCA Methods (TPP → PSU) and select method (PSU → TPP)

The TPP, in case of receiving response 2 from the Hub (more than one SCA method), shows the PSU the SCA methods it has available to be selected.

The PSU selects one of the methods available to it.

### 5. Request Update PSU data (SCA Methods) (TPP → ASPSP)

The TPP sends a PUT request to update the SCA method selected by the PSU with *token* to the Hub. Among the data reported by the TPP are:

- **TPP data:** identifier, name, roles, NCA, certificate ...
- **authorizationId:** identifier of the authorization sub-resource created by the Hub
- **X-Request-ID:** request identifier assigned by the TPP.
- **Access token** from TPP to Hub

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- **methodId:** identifier of the SCA method selected by the PSU

## 6. Response update PSU data (ASPSP → TPP)

The ASPSP responds to the TPP indicating:

- **scaStatus**: state in which the SCA is.
- **_links**
  - **scaRedirect**: link to the Hub's authentication server to start SCA through a redirect (SCA does not apply over OAuth2). This URL can add security parameters to allow session maintenance during redirection.

    Ex: https://hub.example.com/auth
  - **scaStatus**: link of the Hub to which the TPP can make a request to consult the state of the SCA of the corresponding authorization sub-resource.

    Ex: https://hub.example.com/v1.1/payments/{payment-product}/{paymentId}/authorisations/{authorisationId}
- **Other data**

## 7. TPP generates state

The TPP, after receiving the response, generates a value for *state* (XSRF token) to be linked to the PSU browser session.

## 8. Redirection to scaRedirect (TPP → ASPSP)

The TPP, after receiving the response to initiate authorization (or to update the SCA method), redirects the PSU to the authentication endpoint of the Hub and appends the *state* to it as query-param

```
HTTP/1.1 302 Found
Location: https://hub.example.com/auth?state=qwerty
```

**SCA entre PSU ←→ASPSP**

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During this redirection process, ASPSP will be able to show ASPSP-PSU interface for SCA

**9. Payment State Request (TPP → ASPSP)**

The TPP will send a tokenised payment state request to the ASPSP for payment state.

**10. Payment State Response (ASPSP → TPP)**

The ASPSP updates the state of the operation and responds to the TPP.

#### 6.3.1.3 Decoupled SCA flow: implicit start of authorization process

Payment initiation with SCA by decoupled flow is similar to flow by redirection. In whichFigure 6: Start of payment with OAuth2 as pre-step and SCA flow by redirection and start of the implicit authorization process the same can be seen.

The characteristics of this flow are:

- TPP-Redirect-Preferred: false - Decoupled SCA TPP preference
- TPP-Explicit-Authorization-Preferred: false - TPP preference to initiate the payment authorization process implicitly
- The PSU has only one SCA method

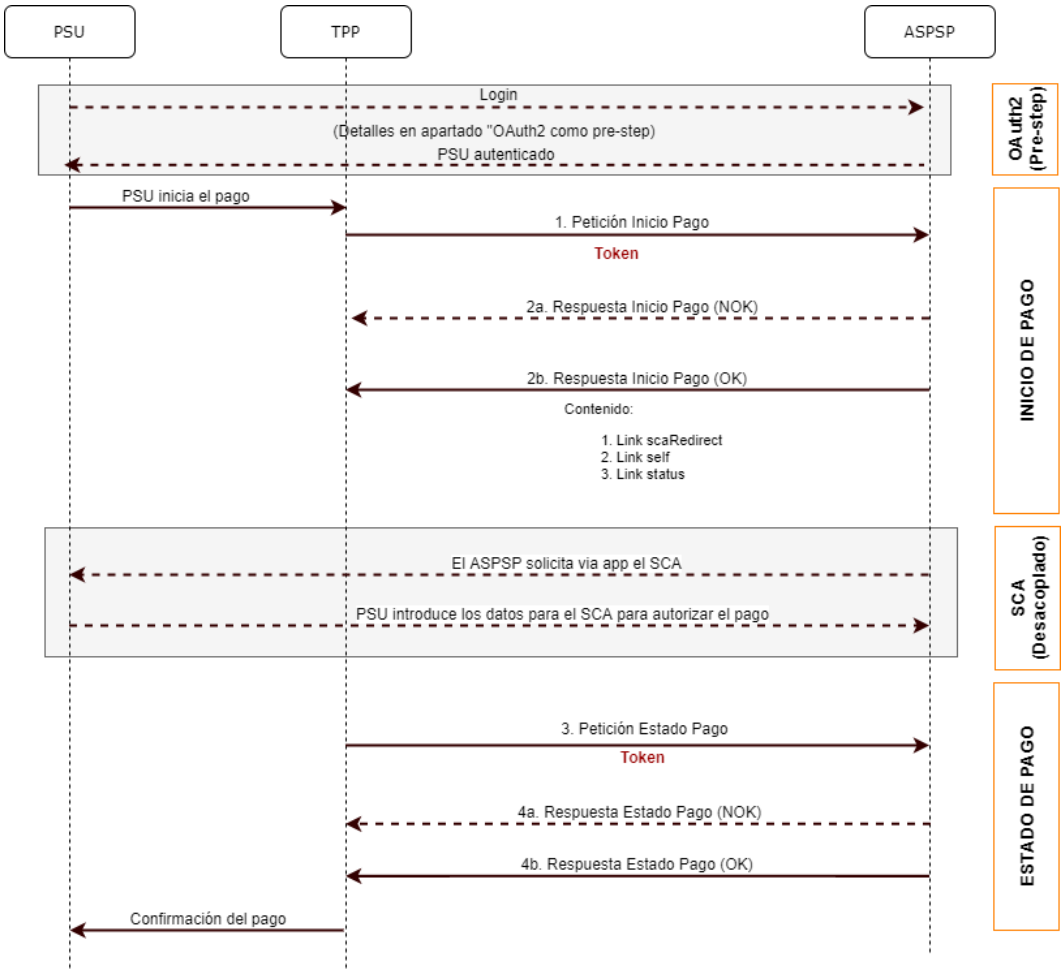


**Figure 6: Start of payment with OAuth2 as pre-step and SCA flow by redirection and start of the implicit authorization process**

## OAuth2 (pre-step)

The main purpose of this flow is to authenticate the PSU to get access to the services displayed by its ASPSP through the use of an access token obtained after the application of this protocol.

In order to simplify, the detail of this flow has been omitted from the Figure 4 Figure 4: Start of payment with OAuth2 as pre-step and SCA flow by redirection and can be found in the section 6.16.1 OAuth2 as a pre-step.VERIFY

**Note**: this step is optional. Only applies if no valid access token is available.

## PSU initiates payment

f

The PSU wants to pay through the TPP.

### 1. Start Payment Request (TPP → ASPSP)

The TPP sends a POST request to initiate payment with *token* to the ASPSP. Among the data reported by the TPP are:

- **TPP data:** identifier, name, roles, NCA, certificate ...
- **Payment data:** transfer type, ordering IBAN, beneficiary IBAN, amount, currency, concept ...
- **Data for risk scoring calculation:** IP, port, user-agent, language, location, HTTP headers ...
- **X-Request-ID:** identifier of the operation assigned by the TPP.
- **Access token** from the TPP
- **TPP-Redirect-Preferred:** true - SCA flow preference by redirect
- **TPP-Explicit-Authorisation-Preferred:** false - TPP preference to initiate authorisation implicitly (current flow)

- **Other data**

### 2. Start Payment Response (ASPSP → TPP)

The ASPSP responds to the TPP indicating that strong authentication (SCA) is required using your bank's app, returning:

- **transactionStatus**: ISO 20022 state of the received payment start.
- **paymentId**: resource identifier generated by the ASPSP that refers to the current payment initiation transaction.

- **_links**

    - **self**: link to the payment resource generated by the ASPSP for the payment initiation request received from the TPP.
    - **state**: link of the Hub to which the TPP can make a request to check the state of the payment.
- **psuMessage**: message that the ASPSP sends to the TPP via the Hub and that should be displayed by the PSU informing it to use its bank's app to authorise the transaction.

- **Other data**

The TPP, after receiving the response to initiate payment, shows the PSU the message sent by the ASPSP informing them to open their bank's app to authorise the transaction.

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**SCA between PSU ←→ ASPSP**

During this process that occurs in the app environment, the ASPSP will be able to:

- Show commissions to the PSU if required
- Show ASPSP-PSU interface for SCA

Payment execution:

- Payment execution linked: if the SCA process is executed correctly, the payment is started.
- Unlinked payment execution: if the SCA process is successfully executed, the ASPSP app is in charge of triggering the payment execution request against the same ASPSP.

**3. Payment State Request (TPP → ASPSP)**

The TPP will send a payment state request with *token* to the ASPSP to know the payment state.

**4. Payment State Response (ASPSP → TPP)**

The ASPSP updates the state of the operation and responds to the TPP.

#### 6.3.1.4 Multilevel SCA flow for payments

For multi-level SCA, the ASPSP should allow the initiating PSU to apply SCA through the API. Additionally, the ASPSP will report the PSU through the psuMessage field that the operation requires the application of SCA from other PSUs.

In case of SCA flow by redirection, the TPP may redirect the initiating PSU to the scaRedirect link to apply SCA.

In case of SCA flow by decoupling, the TPP will receive in the psuMessage field the message to be displayed to the PSU and directed to its banking app.

### 6.3.2 Payment start

Message sent by the TPP to the ASPSP through the Hub to create a payment start.

#### 6.3.2.1 Request

**Endpoint**

POST {provider}/{aspsp}/v1.1/payments/{payment-product}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | MA | Ex: {provider}/{aspsp}/v1.1/payments/sepa-credit-transfers/ |

**Query parameters:**

No additional parameters are specified for this request.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Content-Type** | Value: application / json | String | MA | Content-Type: application/json |
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex: |

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| | | | | |
|---|---|---|---|---|
| | | | | X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |
| **Consent-ID** | This field will be ignored by the ASPSP. The session support is specified by the access token. | String | OP | ^.{1,36}$<br>Ex: Consent-ID: 7890-asdf-4321 |
| **PSU-ID** | Identifier that the PSU uses to identify itself in its ASPSP.<br>It can be reported even if an OAuth token is being used and, in such a case, the ASPSP could check if the PSU-ID and the token match. | String | OP | Ex: PSU-ID: 12345678W |
| **PSU-ID-Type** | Type of the PSU-ID. Necessary in scenarios where the PSU has several PSU-IDs as access possibilities. | String | OP | Ex: PSU-ID-Type: NIF |
| **PSU-Corporate-ID** | Identifier of "company" in Online Channels. | String | OP | Ex: PSU-Corporate-ID: user@corporate.com |
| **PSU-Corporate-ID-Type** | Type of the PSU-Corporate-ID required by the ASPSP to identify its content. | String | OP | Ex: PSU-Corporate-ID-Type: email |
| **PSU-IP-Address** | IP address of the HTPP request between the PSU and the TPP. | String | MA | ^[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}$ |

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| | | | | |
|---|---|---|---|---|
| | If not available, the TPP should use the IP address used by the TPP when it sends this request. | | | Ex:<br>PSU-IP-Address: 192.168.16.5 |
| **TPP-Redirect-Preferred** | If "true", the TPP has communicated to the HUB that it prefers SCA by redirection.<br>If "false", the TPP has informed the HUB that it prefers not to be redirected to SCA and the procedure will be by decoupled flow.<br>If the parameter is not used, the ASPSP will choose the SCA flow to apply depending on the SCA method chosen by the TPP / PSU.<br>**EMBEDDED NOT SUPPORTED IN THIS VERSION** | Boolean | OP | Ex: TPP-Redirect-Preferred: true |
| **TPP-Redirect-URI** | URI of the TPP where the transaction flow must be redirected after any of the SCA phases.<br>It is recommended to always use this header field.<br>In the future, this field could change to mandatory. | String | COND | ^.{1,250}$<br>Ex: TPP-Redirect-URI":"https://tpp.example.es/cb" |
| **TPP-Nok-Redirect-URI** | If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of the TPP-Redirect-URI in case of a negative result of the SCA method by redirection. | String | OP | ^.{1,250}$<br>Ex: TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok" |

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| | | | | |
|---|---|---|---|---|
| **TPP-Explicit-Authorisation-Preferred** | If equal to true, the TPP chooses to initiate the authorisation process separately, e.g. due to the need for authorisation of a set of operations simultaneously.<br>If false or the parameter is not used, there is no TPP preference. The TPP takes a direct authorisation of the transaction in the next step.<br>**Note**: ASPSP might not take it into account if it doesn't support it. | Boolean | OP | Ex: TPP-Explicit-Authorisation-Preferred: false |
| **TPP-Notification-URI** | URI for the Endpoint of the TPP-API to which the status of the payment initiation should be sent.<br>**Note**: ASPSP might not take it into account if it doesn't support it. | String | OP | ^.{1,250}$<br>Ex: TPP-Notification-URI":"https://tpp.example.es/notification" |
| **TPP-Notification-Content-Preferred** | The string has the form<br>status=X1, …, Xn<br>where Xi is one of the constants SCA, PROCESS,<br>LAST and where constants are not repeated.<br>The usage of the constants supports the following<br>semantics:<br>SCA: A notification on every change of the | Boolean | OP | Ex: TPP-Notification-Content-Preferred: SCA |

| | | | | |
|---|---|---|---|---|
| | scaStatus attribute for all related authorisation<br>processes is preferred by the TPP.<br>PROCESS: A notification on all changes of<br>consentStatus or transactionStatus attributes is<br>preferred by the TPP.<br>LAST: Only a notification on the last consentStatus<br>or transactionStatus as available in the XS2A<br>interface is preferred by the TPP.<br>**Note**: ASPSP might not take it into account if it doesn't support it. | | | |
| **TPP-Brand-Logging-Information** | This field could be used by the TPP to inform the ASPSP about the brand used by the TPP for the PSU. This information can be used to improve communication between the ASPSP and the PSU or the ASPSP and the TPP. | String | OP | ^.{1,70}$<br>Ex: TPP-Brand-Logging-Information: TPP Brand |
| **TPP-Rejection-NoFunds-Preferred** | **Note:** This field will be ignored if it is reported by the TPP. | String | OP | |
| **Client-VOP-Requested** | This field indicates the request for a VOP request. | Boolean | OP | True : VOP<br>False: no VOP |

**Body**

The content of the Body is defined in 8.20 SinglePayment following the conditions of the following table.

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The fields marked as mandatory (OB) and optional (OP) are supported by the ASPSP with this type of condition.

The fields marked as COND depend on each ASPSP.

| Field | SCT | SCT INST | Target 2 | Cross Border CT |
|---|---|---|---|---|
| **endToEndIdentification*** | OP | OP | NA | NA |
| **instructionIdentification** | COND | COND | COND | COND |
| **debtorName** | COND | COND | COND | COND |
| **debtorAccount** | MA | MA | MA | MA |
| **debtorId** | COND | COND | COND | COND |
| **ultimateDebtor** | COND | COND | COND | COND |
| **instructedAmount** | MA | MA | MA | MA |
| **currencyOfTransfer** | COND | COND | COND | COND |
| **exchangeRateInformation** | COND | COND | COND | COND |
| **creditorAccount** | MA | MA | MA | MA |
| **creditorAgent** | OP | OP | OP | OB/OP |
| **creditorAgentName** | COND | COND | COND | COND |
| **CreditorName** | MA | MA | MA | MA |
| **creditorId** | COND | COND | COND | COND |
| **creditorAddress** | OP | OP | OP | OP |
| **creditorNameAndAddress** | COND | COND | COND | COND |
| **ultimateCreditor** | COND | COND | COND | COND |
| **purposeCode** | COND | COND | COND | COND |
| **chargeBearer** | COND | COND | COND | COND |
| **serviceLevel** | COND | COND | COND | COND |
| **remittanceInformationUnstructured** | OP | OP | OP | OP |
| **remittanceInformationUnstructuredArray** | COND | COND | COND | COND |
| **remittanceInformationStructured** | COND | COND | COND | COND |

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| | | | | |
|---|---|---|---|---|
| **remittanceInformationStructuredArray** | COND | COND | COND | COND |
| **requestedExecutionDate** | n.a. | n.a. | n.a. | n.a. |
| **requestedExecutionTime** | n.a. | n.a. | n.a. | n.a. |

***NOTE: This field will be used by the ASPSP, optionally to be sent by you, to inform the TPP of the value of the endToEndIdentification that the ASPSP itself includes in this identifier in the transfer itself.**

#### 6.3.2.1.1 Response

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Location** | Contains the link to the generated resource. | String | MA | ^.{1,512}$<br>Ex: Location: /v1.1/payments/{payment-product}/{payment-id} |
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **ASPSP-SCA-Approach** | Value returned if the SCA method has been set. Possible values:<br>• EMBEDDED<br>• DECOUPLED<br>• REDIRECT<br>The OAuth based SCA will be taken as REDIRECT. | String | COND | Ex: ASPSP-SCA-Approach: REDIRECT |

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|---|---|---|---|---|
| **ASPSP-Notification-Support** | true if the ASPSP supports resource status<br>notification services.<br>false if the ASPSP supports resource status notification in general, but not for the current request.<br>Not used, if resource status notification services are generally not supported by the<br>ASPSP. | Boolean | COND | ASPSP-Notification-Support: = true |
| **ASPSP-Notification-Content** | The string has the form<br>status=X1, …, Xn<br>where Xi is one of the constants SCA,<br>PROCESS, LAST and where constants are<br>not repeated.<br>The usage of the constants supports the<br>following semantics:<br>SCA: Notification on every change of the<br>scaStatus attribute for all related<br>authorisation processes is provided by the<br>ASPSP for the related resource.<br>PROCESS: Notification on all changes of<br>consentStatus or transactionStatus attributes<br>is provided by the ASPSP for the related | String | COND | ASPSP-Notification-Content: SCA |

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|---|---|---|---|---|
| | resource.<br>LAST: Notification on the last consentStatus<br>or transactionStatus as available in the XS2A<br>interface is provided by the ASPSP for the<br>related resource.<br>This field must be provided if the ASPSPNotification-Support =true. The ASPSP might<br>consider the notification content as preferred<br>by the TPP, but can also respond<br>independently of the preferred request. | | | |
| **Client-VOP-Requested** | This field indicates the request for a VOP request. | Boolean | OP | True : VOP<br>False: no VOP |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **transactionStatus** | Transaction state. Values defined in annexes in 9.4 Transaction states | String | MA | **ISO 20022**<br>Ex: "transactionStatus": "RCVD" |
| **paymentId** | Resource identifier that refers to the initiation of payment. | String | MA | ^.{1,36}$<br>Ex: "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7" |
| **transactionFees** | Commissions associated with payment. | Amount | OP | Ex: "transactionFees": {…} |

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|---|---|---|---|---|
| **transactionFeeIndicator** | If equal to "true", the transaction will incur a commission according to the ASPSP or as agreed between ASPSP and PSU.<br>If equal to "false", the transaction will not imply any additional commission for the PSU. | Boolean | OP | Ex: "transactionFeeIndicator": true |
| **currencyConversionFee** | It could be used by the ASPSP to carry currency-specific conversion fees associated with the initiated credit transfer. | Amount | OP | Ex: "currencyConversionFee": {…} |
| **estimatedTotalAmount** | Amount which is estimated to be withdrawn from the issuer's account.<br>Note: this amount includes commissions. | Amount | OP | Ex: "estimatedTotalAmount": {…} |
| **estimatedInterbankSettlementAmount** | Estimated amount to be transferred to the beneficiary. | Amount | OP | Ex: "estimatedInterbankSettlementAmount": {…} |
| **scaMethods** | This element is contained if SCA is required and if the PSU can choose between different authentication methods.<br>If this data is contained, the link "startAuthorisationWithAuthenticationMethodSelection" will also be reported. | List<AuthenticationObject> | COND | Ex: "scaMethods": […] |

| | | | | |
|---|---|---|---|---|
| | These methods must be presented to the PSU.<br><br>**Note:** Only if ASPSP supports SCA method selection | | | |
| **chosenScaMethod** | **NOT SUPPORTED IN THIS VERSION. ONLY EMBEDDED** | AuthenticationObject | COND | |
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU browser must be redirected by the TPP.<br>• startAuthorisation: in case an explicit start of transaction authorization is required (no SCA method selection)<br>• startAuthorisationWithAuthenticationMethodSelection: link to the authorisation end-point where the authorisation sub-resource has to be generated while selecting the SCA method. This link is contained under the same conditions as the "scaMethods" field | Links | MA | Ex: "_links": {…} |

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| | | | | |
|---|---|---|---|---|
| | • self: link to the resource created by this request.<br>• state: link to retrieve the state of the transaction.<br>• scaStatus: link to consult the SCA state corresponding to the authorisation sub-resource. This link is only contained if an authorization sub-resource has been created. | | | |
| **psuMessage** | Text to show to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |
| **creditorNameMatch** | Beneficiary name match | Party Name Match Code | OB | Ej: 8.15 Party Name Match Code |
| **creditorOrganisationIdMatch** | Matching beneficiary organization | Party Identifi-cation Match Code | CD | Ej: 8.16 Party Name Match Code |
| **creditorName** | Creditor Name | String | OP | ^.{1,140}$<br>Ej: "creditorName": "Información para PSU" |

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#### 6.3.2.2 Examples

**Example request for SCA by redirection**

```
POST https://www.hub.com/aspsp-name/v1.1/payments/sepa-credit-transfers
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount": "153.50"
      },
      "debtorAccount": {
            "iban": "ES1111111111111111111111"
      },
      "creditorAccount": {
            "iban": "ES2222222222222222222222"
      },
```

```
      "creditorName": "Nombre123",
      "remittanceInformationUnstructured": "Información adicional"
}
```

### Example response in case of SCA by redirection with an implicitly created authorization sub-resource

```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: REDIRECT
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1.1/payments/sepa-credit-transfers/123-qwe-456
Content-Type: application/json
{
      "transactionStatus": "RCVD",
      "paymentId": "123-qwe-456",
      "_links": {
            "scaRedirect": {
                  "href": "https://hub.example.es/authorize "
            },
            "self": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456",
            "state": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/state"
            },
            "scaStatus": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/authorisations/123auth456"
            }
      }
}
```

### Request example for decoupled SCA

```
POST https://hub.example.es/asp-name/v1.1/payments/sepa-credit-transfers
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: false
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount": "153.50"
      },
      "debtorAccount": {
            "iban": "ES1111111111111111111111"
      },
      "creditorAccount": {
            "iban": "ES2222222222222222222222"
      },
      "creditorName": "Nombre123",
      "remittanceInformationUnstructured": "Información adicional"
}
```

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**Example response in case of SCA by decoupled flow with implicitly created authorisation sub-resource**

```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: DECOUPLED
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1.1/payments/sepa-credit-transfers/123-qwe-456
Content-Type: application/json
{
      "transactionStatus": "RCVD",
      "paymentId": "123-qwe-456",
      "_links": {
            "self": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456"
            },
            "state": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/state"
            },
            "scaStatus": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/authorisations/123auth456"
            }
      },
      "psuMessage": "Please use your XXX Bank application to authorize
the payment"
}
```

### 6.3.3 Future payment start

Message sent by the TPP to the ASPSP to create a future payment start.

This functionality is similar to the Payment Initiation. The only difference that exists is in the messaging of the Start of payment request that supports an optional extra parameter "requestedExecutionDate" to indicate the future date on which the payment would be executed.

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In this type of payment, after the execution of SCA, the payment is not executed, but the ASPSP leaves it scheduled to execute on the specified date.

#### 6.3.3.1 Request

**Endpoint**

POST {provider}/{aspsp}/v1.1/payments/{payment-product}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: hub.example.es |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | MA | Ex: {provider}/{aspsp}/v1.1/payments/sepa-credit-transfers/ |

**Query parameters:**

No additional parameters are specified for this request.

**Header**

The same as those defined in the section 6.3.2.1

**Body**

The content of the Body is the one defined in 8.20 SinglePayment and the following parameter must also be reported:

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **requestedExecutionDate** | The payment will be executed on the informed date.<br>**Note**: this field must be reported. | String | OP | **ISODate**<br>Ex: "requestedExecutionDate": "2019-01-12" |

The fields marked as mandatory (MA) and optional (OP) are supported by the ASPSP with this type of condition.

The fields marked as COND depend on each ASPSP.

| Field | SCT | SCT INST | Target 2 | Cross Border CT |
|---|---|---|---|---|
| **endToEndIdentification*** | NA | NA | NA | NA |
| **instructionIdentification** | COND | COND | COND | COND |
| **debtorName** | COND | COND | COND | COND |
| **debtorAccount** | MA | MA | MA | MA |
| **debtorId** | COND | COND | COND | COND |
| **ultimateDebtor** | COND | COND | COND | COND |
| **instructedAmount** | MA | MA | MA | MA |
| **currencyOfTransfer** | COND | COND | COND | COND |
| **exchangeRateInformation** | COND | COND | COND | COND |
| **creditorAccount** | MA | MA | MA | MA |
| **creditorAgent** | OP | OP | OP | OB/OP |
| **creditorAgentName** | COND | COND | COND | COND |
| **CreditorName** | MA | MA | MA | MA |
| **creditorId** | COND | COND | COND | COND |
| **creditorAddress** | OP | OP | OP | OP |
| **creditorNameAndAddress** | COND | COND | COND | COND |
| **ultimateCreditor** | COND | COND | COND | COND |
| **purposeCode** | COND | COND | COND | COND |
| **chargeBearer** | COND | COND | COND | COND |

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| | | | | |
|---|---|---|---|---|
| **serviceLevel** | COND | COND | COND | COND |
| **remittanceInformationUnstructured** | OP | OP | OP | OP |
| **remittanceInformationUnstructuredArray** | COND | COND | COND | COND |
| **remittanceInformationStructured** | COND | COND | COND | COND |
| **remittanceInformationStructuredArray** | COND | COND | COND | COND |
| **requestedExecutionDate** | MA | MA | MA | MA |
| **requestedExecutionTime** | n.a. | n.a. | n.a. | n.a. |

***NOTE: This field will be used by the ASPSP, optionally to be sent by you, to inform the TPP of the value of the endToEndIdentification that the ASPSP itself includes in this identifier in the transfer itself.**

#### 6.3.3.2 Response

**HTTP Code**

201 if the resource has been created

**Header**

The same as those defined in the section 6.3.2.1.1

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **transactionStatus** | Transaction state. Values defined in annexes in 9.4 Transaction states | String | MA | **ISO 20022**<br>Ex: "transactionStatus": "RCVD" |
| **paymentId** | Resource identifier that refers to the initiation of payment. | String | MA | ^.{1,36}$<br>Ex: "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7" |
| **transactionFees** | Commissions associated with payment. | Amount | OP | Ex: "transactionFees": {…} |

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| | | | | |
|---|---|---|---|---|
| **transactionFeeIndicator** | If equal to "true", the transaction will incur a commission according to the ASPSP or as agreed between ASPSP and PSU.<br>If equal to "false", the transaction will not imply any additional commission for the PSU. | Boolean | OP | Ex: "transactionFeeIndicator": true |
| **scaMethods** | This element is contained if SCA is required and if the PSU can choose between different authentication methods.<br>If this data is contained, the link "startAuthorisationWithAuthenticationMethodSelection" will also be reported.<br>These methods must be presented to the PSU.<br>**Note:** Only if ASPSP supports SCA method selection | List<AuthenticationObject> | COND | Ex: "scaMethods": […] |
| **chosenScaMethod** | **NOT SUPPORTED IN THIS VERSION. ONLY EMBEDDED** | AuthenticationObject | COND | |
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU browser must be | Links | MA | Ex: "_links": {…} |

| | | | | |
|---|---|---|---|---|
| | redirected by the TPP.<br>• startAuthorisation: in case an explicit start of transaction authorization is required (no SCA method selection)<br>• startAuthorisation WithAuthentication MethodSelection: link to the authorisation end-point where the authorisation sub-resource has to be generated while selecting the SCA method. This link is contained under the same conditions as the "scaMethods" field<br>• self: link to the resource created by this request.<br>• state: link to retrieve the state of the transaction.<br>• scaStatus: link to consult the SCA state corresponding to the authorisation sub-resource. This link is only contained if an authorization sub-resource has been created. | | | |

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| | | | | |
|---|---|---|---|---|
| **psuMessage** | Text to show to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

#### 6.3.3.3 Examples

**Example request for SCA by redirection**

```
POST https://hub.example.es/aspsp-name/v1.1/payments/sepa-credit-transfers
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://tpp.example.es/cb
TPP-Nok-Redirect-URI: https://tpp.example.es/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount": "153.50"
```

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```
      },
      "debtorAccount": {
            "iban": "ES1111111111111111111111"
      },
      "creditorAccount": {
            "iban": "ES2222222222222222222222"
      },
      "creditorName": "Nombre123",
      "remittanceInformationUnstructured": "Información adicional",
      "requestedExecutionDate": "2019-01-12"
}
```

### 6.3.4 Bulk payment start

Message sent by the TPP to the ASPSP via the Hub to create a bulk payment initiation.

#### 6.3.4.1 Request

**Endpoint**

POST {provider}/{aspsp}/v1.1/bulk-payments/{payment-product}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: hub.example.es |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | MA | Ex: {provider}/{aspsp-name}/v1.1/bulk-payments/sepa-credit-transfers/ |

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**Query parameters:**

No additional parameters are specified for this request.

**Header**

The same as those defined in the section 6.3.2.1

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **batchBookingPreferred** | If this element is true, the PSU prefers only one entry. If this element is equal to false, the PSU prefers individual annotations of all contained individual transactions. The ASPSP will follow this preference according to the contract with the PSU. | Boolean | OP | Ex: "batchBookingPreferred":true |
| **debtorAccount** | Issuer's account. | Account Reference | MA | Ex: "debtorAccount": {"iban":"ES1111111111111111111111"} |
| **requestedExecutionDate** | If contained, the payments contained in the batch will be executed on the date specified. This field could not be used together with the requestedExecutionTime field | String | OP | **ISODate**<br>Ex: "requestedExecutionDate": "2018-05-17" |

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| | | | | |
|---|---|---|---|---|
| **requested Execution Time** | If contained, the payments contained in the batch will be executed on the date/time specified. This field could not be used together with the requestedExecutionTime field | String | OP | **ISODateTime** |
| **payments** | This element is an array of payment starts in JSON notation for the supported payment products. Excluding the data:<br>• debtorAccount<br>• requestedExecutionDate<br>• requestedExecutionTime | Array<SinglePayment> | MA | Ex: "payments": […] |

The fields marked as mandatory (MA) and optional (OP) are supported by the ASPSP with this type of condition.

The fields marked as COND depend on each ASPSP.

| Field | SCT | SCT INST | Target 2 | Cross Border CT |
|---|---|---|---|---|
| **endToEndIdentification** | OP | OP | OP | OP |
| **instructionIdentification** | COND | COND | COND | COND |
| **debtorName** | COND | COND | COND | COND |
| **debtorAccount** | MA | MA | MA | MA |
| **debtorId** | COND | COND | COND | COND |
| **ultimateDebtor** | COND | COND | COND | COND |
| **instructedAmount** | MA | MA | MA | MA |
| **currencyOfTransfer** | COND | COND | COND | COND |
| **exchangeRateInformation** | COND | COND | COND | COND |

| | | | | |
|---|---|---|---|---|
| **creditorAccount** | MA | MA | MA | MA |
| **creditorAgent** | OP | OP | OP | MA/OP |
| **creditorAgentName** | COND | COND | COND | COND |
| **CreditorName** | MA | MA | MA | MA |
| **creditorId** | COND | COND | COND | COND |
| **creditorAddress** | OP | OP | OP | OP |
| **creditorNameAndAddress** | COND | COND | COND | COND |
| **ultimateCreditor** | COND | COND | COND | COND |
| **purposeCode** | COND | COND | COND | COND |
| **chargeBearer** | COND | COND | COND | COND |
| **serviceLevel** | COND | COND | COND | COND |
| **remittanceInformationUnstructured** | OP | OP | OP | OP |
| **remittanceInformationUnstructuredArray** | COND | COND | COND | COND |
| **remittanceInformationStructured** | COND | COND | COND | COND |
| **remittanceInformationStructuredArray** | COND | COND | COND | COND |
| **requestedExecutionDate** | OP | OP | OP | OP |
| **requestedExecutionTime** | OP | OP | OP | OP |

#### 6.3.4.2 Response

**HTTP Code**

201 if the resource has been created

**Header**

The same as those defined in the section 6.3.2.1.1

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| **transactionStatus** | Transaction state. Values defined in annexes in 9.4 Transaction states | String | MA | **ISO 20022**<br>Ex: "transactionStatus": "RCVD" |
| **paymentId** | Resource identifier that refers to the initiation of payment. | String | MA | ^.{1,36}$<br>Ex: "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7" |
| **transactionFees** | Commissions associated with payment. | Amount | OP | Ex: "transactionFees": {…} |
| **transactionFeeIndicator** | If equal to "true", the transaction will incur a commission according to the ASPSP or as agreed between ASPSP and PSU.<br>If equal to "false", the transaction will not imply any additional commission for the PSU. | Boolean | OP | Ex: "transactionFeeIndicator": true |
| **scaMethods** | This element is contained if SCA is required and if the PSU can choose between different authentication methods.<br>If this data is contained, the link "startAuthorisationWithAuthenticationMethodSelection" will also be reported.<br>These methods must be presented to the PSU.<br>**Note:** Only if ASPSP supports SCA method selection | List<AuthenticationObject> | COND | Ex: "scaMethods": […] |

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| | | | | |
|---|---|---|---|---|
| **chosenScaMethod** | **NOT SUPPORTED IN THIS VERSION. ONLY EMBEDDED** | AuthenticationObject | COND | |
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU browser must be redirected by the TPP.<br>• startAuthorisation: in case an explicit start of transaction authorization is required (no SCA method selection)<br>• startAuthorisationWithAuthenticationMethodSelection: link to the authorisation end-point where the authorisation sub-resource has to be generated while selecting the SCA method. This link is contained under the same conditions as the "scaMethods" field<br>• self: link to the resource created by this request.<br>• state: link to retrieve the state of the transaction. | Links | MA | Ex: "_links": {…} |

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| | | | | |
|---|---|---|---|---|
| | • scaStatus: link to consult the SCA state corresponding to the authorisation sub-resource. This link is only contained if an authorization sub-resource has been created. | | | |
| **psuMessage** | Text to show to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

#### 6.3.4.3 Examples

**Example request for SCA by redirection**

```
POST https://hub.example.es/aspsp-name/v1.1/bulk-payments/sepa-credit-transfers
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://tpp.example.es/cb
TPP-Nok-Redirect-URI: https://tpp.example.es/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "batchBookingPreferred": true,
      "debtorAccount": {
            "iban": "ES1111111111111111111111"
```

f

```
      },
      "requestedExecutionDate": "2018-12-21",
      "payments":
      [
      {
            "instructedAmount": {
                  "currency": "EUR",
"amount": "153.50"
            },
            "creditorAccount": {
                  "iban": "ES2222222222222222222"
            },
            "creditorName": "Nombre123",
            "remittanceInformationUnstructured":"Información adicional"
      },
      {
            "instructedAmount": {
                  "currency": "EUR",
                  "amount": "20.30"
            },
            "creditorAccount": {
                  "iban": "ES3333333333333333333"
            },
            "creditorName": "Nombre123",
            "remittanceInformationUnstructured":"Información adicional"
      }
      ]
}
```


### Example response in case of SCA by redirection with an implicitly created authorization sub-resource


```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: REDIRECT
```


f

```
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1.1/bulk-payments/sepa-credit-transfers/123-qwe-456
Content-Type: application/json
{
      "transactionStatus": "RCVD",
      "paymentId": "123-qwe-456",
      "_links": {
            "scaRedirect": {
                  "href": "https://hub.example.es/authorize "
            },
            "self": {
                  "href":             "/v1.1/bulk-payments/sepa-credit-
            transfers/123-qwe-456",
            },
            "state": {
                  "href":             "/v1.1/bulk-payments/sepa-credit-
            transfers/123-qwe-456/state"
            },
            "scaStatus": {
                  "href":             "/v1.1/bulk-payments/sepa-credit-
            transfers/123-qwe-456/authorisations/123auth456"
            }
      }
}
```

### Example request for decoupled SCA and implicit authorization start

```
POST https://hub.example.es/asp-name/v1.1/bulk-payments/sepa-credit-
transfers
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
TPP-Redirect-Preferred: false
Date: Sun, 26 Sep 2017 15:02:37 GMT
```

f

```
{
      "batchBookingPreferred": true,
      "debtorAccount": {
            "iban": "ES1111111111111111111111"
      },
      "requestedExecutionDate": "2018-12-21",
      "payments":
      [
      {
            "instructedAmount": {
                  "currency": "EUR",
"amount": "153.50"
            },
            "creditorAccount": {
                  "iban": "ES2222222222222222222222"
            },
            "creditorName": "Nombre123",
            "remittanceInformationUnstructured":"Información adicional"
      },
      {
            "instructedAmount": {
                  "currency": "EUR",
                  "amount": "20.30"
            },
            "creditorAccount": {
                  "iban": "ES3333333333333333333333"
            },
            "creditorName": "Nombre123",
            "remittanceInformationUnstructured":"Información adicional"
      }
      ]
}
```


f

**Example response in case of SCA by decoupled flow with implicitly created authorisation sub-resource**

```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: DECOUPLED
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1.1/bulk-payments/sepa-credit-transfers/123-qwe-456
Content-Type: application/json
{
      "transactionStatus": "RCVD",
      "paymentId": "123-qwe-456",
      "_links": {
            "self": {
                  "href":             "/v1.1/bulk-payments/sepa-credit-
            transfers/123-qwe-456"
            },
            "state": {
                  "href":             "/v1.1/bulk-payments/sepa-credit-
            transfers/123-qwe-456/state"
            },
            "scaStatus": {
                  "href":             "/v1.1/bulk-payments/sepa-credit-
            transfers/123-qwe-456/authorisations/123auth456"
            }
      },
      "psuMessage": "Please use your XXX Bank application to authorize
the payment"
}
```

### 6.3.5 Initiation of standing orders for recurring/periodic payments

Message sent by the TPP to the ASPSP to create a recurring / periodic payment start.

The recurring payment initiation functionality is covered by the Berlin Group specification as the initiation of a specific standing order.

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A TPP can send a recurring payment start where the start date, frequency and, conditionally, end date are provided.

Once authorized by the PSU, the payment will be executed by the ASPSP, if possible, following the "standing order" as it was sent by the TPP. No further action is required from the TPP.

In this context, this payment is considered a periodic payment to differentiate the payment from other types of recurring payments where third parties are initiating the same amount of money.

**Note**: for standing orders of payment initiations, the ASPSP will always ask for SCA with Dynamic linking. No exemptions are allowed.

**Reglas campo dayOfExecution**

- **Daily payments**: the "dayOfExecution" field is not necessary. The first payment is the "startDate" and, from there, the payment is made every day
- **Weekly payments**: if "dayOfExecution" is required, the possible values are from 01 = Monday to 07 = Sunday. If "dayOfExecution" is not required, "startDate" is taken as the day of the week the payment is made. (If "startDate" is Thursday, the payment would be made every Thursday)
- **Bi-weekly payments**: same rule applies as weekly payments.
- **Monthly payments or higher:** possible values range from 01 to 31. Using 31 as the last day of the month

#### 6.3.5.1 Request

**Endpoint**

POST {provider}/{aspsp}/v1.1/periodic-payments/{payment-product}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: hub.example.es |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |

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| | | | | |
|---|---|---|---|---|
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | MA | Ex: {provider}/{aspsp-name)/v1.1/periodic-payments/sepa-credit-transfers/ |

**Query parameters:**

No additional parameters are specified for this request.

**Header**

The same as those defined in the section 6.3.2.1

**Body**

The content of the Body is defined in 8.20 SinglePayment plus those defined below:

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **startDate** | The first applicable day of execution from this date is the first payment | String | MA | **ISODate**<br>xEx: "startDate":"2018-12-20" |
| **executionRule** | Supported values:<br>• following<br>• preceding<br><br>Defines the behavior when recurring payment dates fall on weekends or holidays. Payment is then executed on the preceding or following working day. | String | OP | Ex: "executionRule":"following" |

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| | | | | |
|---|---|---|---|---|
| | The ASPSP may reject the request due to the communicated value if the Online Banking rules do not support this execution rule. | | | |
| **endDate** | The last applicable day of execution.<br>If not given, it is an endless standing order. | String | OP | **ISODate**<br>Ex: "endDate":"2019-01-20" |
| **frequency** | The frequency of the recurring payment resulting from this standing order.<br>Allowed values:<br>• Daily<br>• Weekly<br>• EveryTwoWeeks<br>• Monthly<br>• EveryTwoMonths<br>• Quarterly<br>• Semi Annual<br>• Annual | String | MA | **EventFrequency7Code de ISO 20022**<br>Ex: "frequency": "Monthly" |
| **dayOfExecution** | "31" is last.<br>Following the regular expression \d{1,2}<br>The date refers to the ASPSP time zone.<br>Only if supported in ASPSP Online Banking. | String | COND | \d{1,2}<br>Ex: "dayOfExecution": "01" |

The fields marked as mandatory (MA) and optional (OP) are supported by the ASPSP with this type of condition.

The fields marked as COND depend on each ASPSP.

| Field | SCT | SCT INST | Target 2 | Cross Border CT |
|---|---|---|---|---|
| **endToEndIdentification*** | NA | NA | NA | NA |
| **instructionIdentification** | COND | COND | COND | COND |
| **debtorName** | COND | COND | COND | COND |
| **debtorAccount** | MA | MA | MA | MA |
| **debtorId** | COND | COND | COND | COND |
| **ultimateDebtor** | COND | COND | COND | COND |
| **instructedAmount** | MA | MA | MA | MA |
| **currencyOfTransfer** | COND | COND | COND | COND |
| **exchangeRateInformation** | COND | COND | COND | COND |
| **creditorAccount** | MA | MA | MA | MA |
| **creditorAgent** | OP | OP | OP | MA/OP |
| **creditorAgentName** | COND | COND | COND | COND |
| **CreditorName** | MA | MA | MA | MA |
| **creditorId** | COND | COND | COND | COND |
| **creditorAddress** | OP | OP | OP | OP |
| **creditorNameAndAddress** | COND | COND | COND | COND |
| **ultimateCreditor** | COND | COND | COND | COND |
| **purposeCode** | COND | COND | COND | COND |
| **chargeBearer** | COND | COND | COND | COND |
| **serviceLevel** | COND | COND | COND | COND |
| **remittanceInformationUnstructured** | OP | OP | OP | OP |
| **remittanceInformationUnstructuredArray** | COND | COND | COND | COND |
| **remittanceInformationStructured** | COND | COND | COND | COND |
| **remittanceInformationStructuredArray** | COND | COND | COND | COND |
| **requestedExecutionDate** | n.a. | n.a. | n.a. | n.a. |
| **requestedExecutionTime** | n.a. | n.a. | n.a. | n.a. |

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***NOTE: If you want to send the endToEndId field, you must report it in the body remittanceInformationUnstructured field. The best practices guide provides how to send the endToEndId field within that field.**

### 6.3.5.2 Response

**HTTP Code**

201 if the resource has been created

**Header**

The same as those defined in the section 6.3.2.1.1

**Body**

The same as those defined in the section 6.3.2.1.1

### 6.3.5.3 Examples

**Example request for SCA by redirection**

```
POST https://hub.example.es/{aspsp-name}/v1.1/periodic-payments/sepa-credit-transfers
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://tpp.example.es/cb
TPP-Nok-Redirect-URI: https://tpp.example.es/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
      "currency": "EUR",
            "amount": "153.50"
      },
      "creditorAccount": {
            "iban": "ES2222222222222222222222"
```

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```
      },
      "creditorName": "Nombre123",
      "remittanceInformationUnstructured":"Información adicional"
      "startDate": "2018-03-01",
      "executionRule": "preceeding",
      "frequency": "Monthly",
      "dayOfExecution": "01"
}
```

### 6.3.6 Get payment state

This message is sent by the TPP to the HUB to request information on the state of the payment initiation requested by the TPP.

#### 6.3.6.1 Request

**Endpoint**

GET {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/state

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-service** | Possible values are:<br>• payments<br>• bulk-payments<br>• periodic-payments | String | MA | Ex: {provider} / {aspsp} /v1.1/payments |

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| | | | | |
|---|---|---|---|---|
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | MA | Ex: {provider}/{aspsp}/v1.1/payments/sepa-credit-transfers/ |
| **paymentId** | Resource identifier that refers to the initiation of payment.<br>Previously sent in response to a payment initiation message from the TPP to the HUB. | String | MA | ^.{1,36}$<br>Ex: 1234-qwer-5678 |

**Query parameters:**

No additional fields are specified.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |

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| | | | | |
|---|---|---|---|---|
| **Accept** | Supported format of the response. Supported values:<br>• application/json | String | OP | ^.{1,50}$<br>Ex: Accept: application/json |

**Body**

No additional data is specified.

#### 6.3.6.2 Response

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **transactionStatus** | State of the payment transaction.<br>Defined values in 9.4 Transaction states | String | MA | **ISO20022**<br>Ex: "transactionStatus": "ACCP" |
| **fundsAvailable** | This data is contained if supported by the ASPSP, if a confirmation of funds has been made and if the "transactionStatus" is any of the following:<br>• ATCT<br>• ACWC | Boolean | COND | Ex:<br>"fundsAvailable": true |

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| | | | | |
|---|---|---|---|---|
| | • ACCP | | | |
| **psuName** | Name of the connected PSU.<br>In case of corporate accounts, this could be the person acting on behalf of the company. | String | OP | ^.{1,140}$<br>Ej: "psuName": "Heike Mustermann" |
| **ownerNames** | List of account owner names. | List<AccountOwner> | OP | Ej: "ownerNames":[…] |
| **psuMessage** | Text to show to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.3.6.3 Examples

**Example of request**

```
GET https://www.hub.com/aspsp-name/v1.1/payments/sepa-credit-transfer/123asdf456/state
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
```

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```
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response**

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "transactionStatus": " ACCP",
      "fundsAvailable": true
}
```

### 6.3.7 Retrieve payment initiation information

This message is sent by the TPP through the HUB to the ASPSP to obtain the information of a payment initiation.

#### 6.3.7.1 Request

**Endpoint**

GET {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-service** | Possible values are:<br>• payments<br>• bulk-payments<br>• periodic-payments | String | MA | Ex: {provider} / {aspsp} /v1.1/payments |

f

| | | | | |
|---|---|---|---|---|
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | MA | Ex: {provider}/{aspsp}/v1.1/payments/sepa-credit-transfers/ |
| **paymentId** | Resource identifier that refers to the initiation of payment.<br>Previously sent in response to a payment initiation message from the TPP to the HUB. | String | MA | ^.{1,36}$<br>Ex: 1234-qwer-5678 |

**Query parameters:**

No additional fields are specified.

**Header**

The same as those defined in the section 6.3.6.1

**Body**

No additional fields are specified.

### 6.3.7.2 Response

**Header**

The same as those defined in the section 6.3.6.2

**Body**

The fields to be returned are those of the original payment initiation request:

- 6.3.2Payment start
- 6.3.3Future payment start
- 6.3.4 Bulk payment start
- 6.3.5 Initiation of standing orders for recurring/periodic payments

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Plus the following

**Note 1**: the debtorName must be included even if it was not sent by the TPP. In this way the ASPSP will be able to return the name of the PSU to the PISP due to regulatory needs.

**Note 2**: according to item 40 of [EBA-OP2], the payment resource must contain the debtorAccount after the payment has been correctly initiated, even if it has not been sent by the TPP.

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **transactionStatus** | Transaction state. Values defined in annexes. Short Code. | String | MA | **ISO 20022**<br>Ex: "transactionStatus": "ACCP" |
| **debtorName** | Name of the PSU. In case it is not provided by the TPP, the ASPSP may return it for regulatory needs. | String | OP | ^.{1, 70}$<br>Ex: "debtorName": "Paul Simpson" |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message for the TPP sent through the HUB. | List<TppMessage> | OP | Ex: "tppMessage": […] |

### 6.3.7.3 Examples

**Example of request**

```
GET https://www.hub.com/aspsp-name/v1.1/payments/sepa-credit-transfers/123-asdf-456
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
```

```
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

## Example response

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "instructedAmount": {
            "currency": "EUR",
            "amount": "153.50"
      },
      "debtorAccount": {
            "iban": "ES1111111111111111111111"
      },
      Ex: "debtorName": "Paul Simpson"
      "creditorAccount": {
            "iban": "ES2222222222222222222222"
      },
      "creditorName": "Nombre123",
      "remittanceInformationUnstructured": "Información adicional",
      "transactionStatus": " ACCP",
}
```

f

### 6.3.8 Cancel start of payment

This request is sent by the TPP to the ASPSP through the Hub and allows to initiate the cancellation of a payment. Depending on the payment service, the payment product, and the ASPSP implementation, this request may be sufficient to cancel the payment or an authorization may be required.

#### 6.3.8.1 Request

**Endpoint**

DELETE {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the ASPSP where the service is published. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-service** | Possible values are:<br>• payments<br>• bulk-payments<br>• periodic-payments | String | MA | Ex: {provider}/v1.1/payments |
| **paymentId** | Resource identifier that refers to the initiation of payment.<br>Previously sent in response to a payment initiation message from the HUB to the ASPSP. | String | MA | ^.{1,36}$<br>Ex: 123-qwe-456 |

**Query parameters:**

No additional fields are specified.

f

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |
| **TPP-Redirect-Preferred** | If "true", the TPP has communicated to the HUB that it prefers SCA by redirection.<br>If "false", the TPP has informed the HUB that it prefers not to be redirected to SCA and the procedure will be by decoupled flow.<br>If the parameter is not used, the ASPSP will choose the SCA flow to apply depending on the SCA method chosen by the TPP / PSU.<br>**EMBEDDED NOT SUPPORTED IN THIS VERSION** | Boolean | OP | Ex: TPP-Redirect-Preferred: true |

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| | | | | |
|---|---|---|---|---|
| **TPP-Redirect-URI** | URI of the TPP where the transaction flow must be redirected after any of the SCA phases.<br>It is recommended to always use this header field.<br>In the future, this field could change to mandatory. | String | COND | ^.{1,250}$<br>Ex: TPP-Redirect-URI":"https://tpp.example.es/cb" |
| **TPP-Nok-Redirect-URI** | If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of the TPP-Redirect-URI in case of a negative result of the SCA method by redirection. | String | OP | ^.{1,250}$<br>Ex: TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok" |
| **TPP-Explicit-Authorisation-Preferred** | If equal to true, the TPP chooses to initiate the authorisation process separately, e.g. due to the need for authorisation of a set of operations simultaneously.<br>If false or the parameter is not used, there is no TPP preference. The TPP takes a direct authorisation of the transaction in the next step.<br>**Note**: ASPSP might not take it into account if it doesn't support it. | Boolean | OP | Ex: TPP-Explicit-Authorisation-Preferred: false |

**Body**

No additional data is specified.

#### 6.3.8.2 Response

**HTTP Code**

204 if the DELETE command is sufficient to cancel the payment.

202 if the DELETE command is not sufficient and authorization from the PSU is required.

**Header**

The same as those defined in the section 6.3.6.2

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **transactionStatus** | Transaction state. Values defined in annexes in Error! Reference source not found<br>9.4 Transaction states | String | MA | **ISO 20022**<br>Ex: "transactionStatus": "CANC" |
| **scaMethods** | This element is contained if SCA is required and if the PSU can choose between different authentication methods.<br>If this data is contained, the link "startAuthorisationWithAuthenticationMethodSelection" will also be reported.<br>These methods must be presented to the PSU.<br>**Note:** Only if ASPSP supports SCA method selection | List<AuthenticationObject> | COND | Ex: "scaMethods": […] |

| | | | | |
|---|---|---|---|---|
| **chosenScaMethod** | **NOT SUPPORTED IN THIS VERSION.** | AuthenticationObject | COND | |
| **_links** | List of hyperlinks to be recognized by the TPP. They depend on the decision that the ASPSP makes dynamically when evaluating the operation. Supported types in this response.<br>• startAuthorisation: in case an explicit start of transaction authorization is required (no SCA method selection)<br>• startAuthorisationWithAuthenticationMethodSelection: link to the authorisation end-point where the authorisation sub-resource has to be generated while selecting the SCA method. This link is contained under the same conditions as the "scaMethods" field | Links | COND | Ex: "_links": {…} |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message for the TPP sent through the HUB. | List<TppMessage> | OP | Ex: "tppMessages": […] |

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#### 6.3.8.3 Examples

**Example of request**

```
DELETE https://www.hub.com/aspsp-name/v1.1/payments/sepa-credit-transfers/123-qwe-456
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Ex: TPP-Explicit-Authorisation-Preferred: false
Content-Type: application/json
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response where an authorization of the cancellation by the PSU is not necessary**

```
HTTP / 1.1 204 No content
X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:47 GMT
```

**Example answer where if an implicit authorization of the cancellation by the PSU is necessary**

```
HTTP / 1.1 202 Ok
X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc
```

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```
Date: Sun, 26 Sep 2017 15:02:47 GMT
{
      "transactionStatus": "ACTC",
      "_links": {
      "scaRedirect": {
                  "href": "https://api.hub.com/authorize"
            },
            "self": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456"
            },
            "state": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/state"
            },
            "scaStatus": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/cancellation-authorisations/qwer-234/state"
            }
      }
}
```

**Example answer where if an implicit authorization of the cancellation by the PSU is necessary**

```
HTTP / 1.1 202 Ok
X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:47 GMT
{
      "transactionStatus": "ACTC",
      "_links": {
            "self": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456"
            },
            "state": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/state"
```

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```
            },
            "startAuthorisation": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/cancellation-authorisations"
            }
      }
}
```

### 6.3.9 Confirmation of Creditor Name and Payment

#### 6.3.9.1 Request

**Endpoint**

PUT {provider}/v1.1/{payment-service}/{payment-product}/{paymentId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **payment-service** | Possible values are:<br>• payments<br>• bulk-payments<br>• periodic-payments | String | MA | Ex: {provider} / {aspsp} /v1.1/payments |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | MA | Ex: {provider}/{aspsp}/v1.1/payments/sepa-credit-transfers/ |
| **paymentId** | Resource identifier that refers to the initiation of payment.<br>Previously sent in response to a payment initiation message from the TPP to the HUB. | String | MA | ^.{1,36}$<br>Ex: 1234-qwer-5678 |

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**Query parameters:**

No additional fields are specified.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **creditorName** | Creditor Name | Party De-scription1 | OP | |

### 6.3.9.2 Response

**HTTP Code**

The HTTP response code equals 200.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

**Response Body**

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **transactionStatus** | State of the payment transaction.<br>Defined values in 9.4 Transaction states | String | MA | **ISO20022**<br>Ex: "transactionStatus": "ACCP" |
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU browser must be redirected by the TPP.<br>• startAuthorisation: in case an explicit start of transaction authorization is required (no SCA method selection)<br>• startAuthorisationWithAuthenticationMethodSelection: link to the authorisation end- | Links | MA | **Ex: "_links": {...}** |

| | | | | |
|---|---|---|---|---|
| | point where the authorisation sub-resource has to be generated while selecting the SCA method. This link is contained under the same conditions as the "scaMethods" field<br>• self: link to the resource created by this request.<br>• state: link to retrieve the state of the transaction.<br><br>scaStatus: link to consult the SCA state corresponding to the authorisation sub-resource. This link is only contained if an authorization sub-resource has been created. | | | |

### 6.3.10 Multilevel SCA flow for payments

In case of SCA flow by redirection, the TPP may redirect the initiating PSU to the scaRedirect link to apply SCA.

In case of SCA flow by decoupling, the TPP will receive in the psuMessage field the message to be displayed to the PSU and directed to its banking app.

Additionally, the ASPSP will return a message in the psuMessage field to inform the PSU that the operation requires SCA by more users.

## 6.4 AIS: Service to establish consent of information about accounts

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### 6.4.1 Characteristics of consent

#### 6.4.1.1 Consent model

| Sample | Description |
|---|---|
| **Detailed consent (Detailed consent)** | **Request consent on specified accounts**<br>Create a consent, which the ASPSP must store, requesting access to the specified accounts and with the requested access.<br>If a consent already existed, said consent will expire and the new one will take effect when authorized by the USP.<br>The accounts for which consent is requested to access "balances" and / or "transactions", it is assumed that they will also have the access type "accounts". |
| **Global consent (Global consent)** | **Request consent on the list of available accounts**<br>This functionality only serves to request consent to the list of available accounts of the PSU. It does not give consent for "accounts", "balances" and / or "transactions".<br>This request does not indicate the accounts to which access is sought. It is specified to be requested for "all available accounts" by indicating in the access the attribute "availableAccounts" or "availableAccountsWithBalance" with the value "allAccounts".<br>It is a one-time consent to obtain the list of available accounts. It will not give the details of the accounts.<br>**Request consent to access all accounts for all PSD2 AIS services**<br>Request access for all available PSU accounts on all PSD2 AIS services.<br>The accounts are not given by the TPP.<br>This request does not indicate the accounts to which access is sought. It is specified to be requested for "all PSD2 accounts" by indicating in the access the attribute "allPsd2" with the value "allAccounts".<br>The TPP, through the HUB, can retrieve such information managed between ASPSP and PSU by making a request to retrieve consent information. |

| | |
|---|---|
| **Consent offered by the bank (Bank offered consent)** | **Request consent without indicating accounts**<br>Request consent for access to "accounts", "balances" and / or "transactions" without indicating the accounts. That is, the attributes "accounts", "balances" and "transactions" will be with a blank array.<br>To select the accounts for which access is to be provided, access must be obtained bilaterally between ASPSP and PSU via the ASPSP interface in the OAuth redirect flow.<br>The ASPSP in the redirection process will show the PSU its accounts to choose which ones it wants to consent to the TPP.<br>The TPP, through the HUB, can retrieve such information managed between ASPSP and PSU by making a request to retrieve consent information. |

#### 6.4.1.2 Recurrence in access

**Recurring consent**

If a prior consent with recurring access already exists (recurringIndicator = true) and a new consent request with recurring access is sent, as soon as the new consent is accepted by the PSU, the previous consent will expire and the valid consent will be the new consent requested.

A consent with recurring access may have one or more accounts with different types of access ("accounts", "balances", "transactions").

**Note**: giving access to "balances" and / or "transactions" automatically grants access to "accounts" to said accounts

**Non-recurring consent**

A consent request for a non-recurring access (one-time use and recurringIndicator=false) will be treated as a new consent (new consentId) without affecting previous existing consent.

#### 6.4.1.3 Return of the account holder's name

This specification is based on one of the consent models described in NextGenPSD2 XS2A Framework v1.3.8. In particular, the following model is used for this specification:

- The ASPSP will release the name of the account holder, in this case, the name of the connected PSU, without adopting the extension of the consent model defined in the standard.
- In either case, the final decision to return the PSU name through the API will depend on whether you are currently returning through the ASPSP's online channels.

#### 6.4.1.4 List of standing orders

Obtain the list of standing orders for a specific account. Information is returned as transactions using the "bookingStatus" entry state with the value "information".

#### 6.4.1.5 List of trusted payees

This specification is based on one of the consent models described in NextGenPSD2 XS2A Framework - Extended IG Trusted Beneficiaries v1. In particular, the following model is used for this specification:

- The ASPSP will release the list of trusted payees without adopting the extension of the consent model defined in the standard.

**Note**: the global consent model covers this type of access.

#### 6.4.1.6 Consent state information

The state of the consent resource changes during the process of establishing consent. The attribute defined for the consent state is defined as "consentStatus".

The only states supported in the initial phase for consentStatus are "received", "rejected" and "valid".

After successful authorization by a PSU, the consent resource could change its state during its life cycle. The following codes are supported during the consent lifecycle phase:

- "expired": consent has expired (for example, after 90 days)
- "revokedByPsu": consent has been revoked by the PSU
- "terminatedByTpp": the TPP has terminated consent

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The TPP can retrieve this state on the GET request to retrieve consent state.

**Note**: the "expired" state also applies to single-use consent, once they have been used or have expired.

**Note**: the "terminatedByTpp" state also applies when a recurring consent has been terminated by the TPP by establishing a new recurring consent.

Additionally, the TPP can retrieve the SCA state for consent establishment with the corresponding SCA state GET request.

#### 6.4.1.7 Multi-currency accounts

**Multi-currency accounts in the setting up of consent**

These types of accounts are addressed using the external account identifier in the sending of a consent on dedicated accounts, without specifying the currency. Requesting consent to retrieve account information for a multi-currency account implies obtaining it for all subaccounts.

**Multi-currency accounts in the account list or account details**

The information of the multi-currency accounts can be accessed from the list of accounts and the account details.

**Multi-currency accounts in balance reading**

The consequence for this case is that an array of balances of all sub-accounts is returned if a multi-currency account is addressed at aggregation level. The currency of the corresponding subaccount is implicitly provided as the currency of the balanceAmount on the balance.

**Multi-currency accounts in transaction reading**

The consequence for this case is that the transaction list will contain all the transactions of all the subaccounts if a multi-currency account is addressed at the aggregation level. In this case, the payment transactions contained in the report could have different currencies.

### 6.4.2 Account information consent flows

#### 6.4.2.1 SCA flow by redirection: implicit start of authorization process

The image below depicts Figure 7: SCA flow by redirection: implicit start of the authorisation processthe sequence of requests/responses and redirections that are necessary in the flow where strong authentication (SCA) by redirection is needed (SCA over OAuth2 is not applied).

The characteristics of this flow are:

- TPP-Redirect-Preferred: true - SCA TPP preference for redirection
- TPP-Explicit-Authorisation-Preferred: false - TPP preference to initiate the authorisation process associated with consent implicitly
- The PSU has only one SCA method

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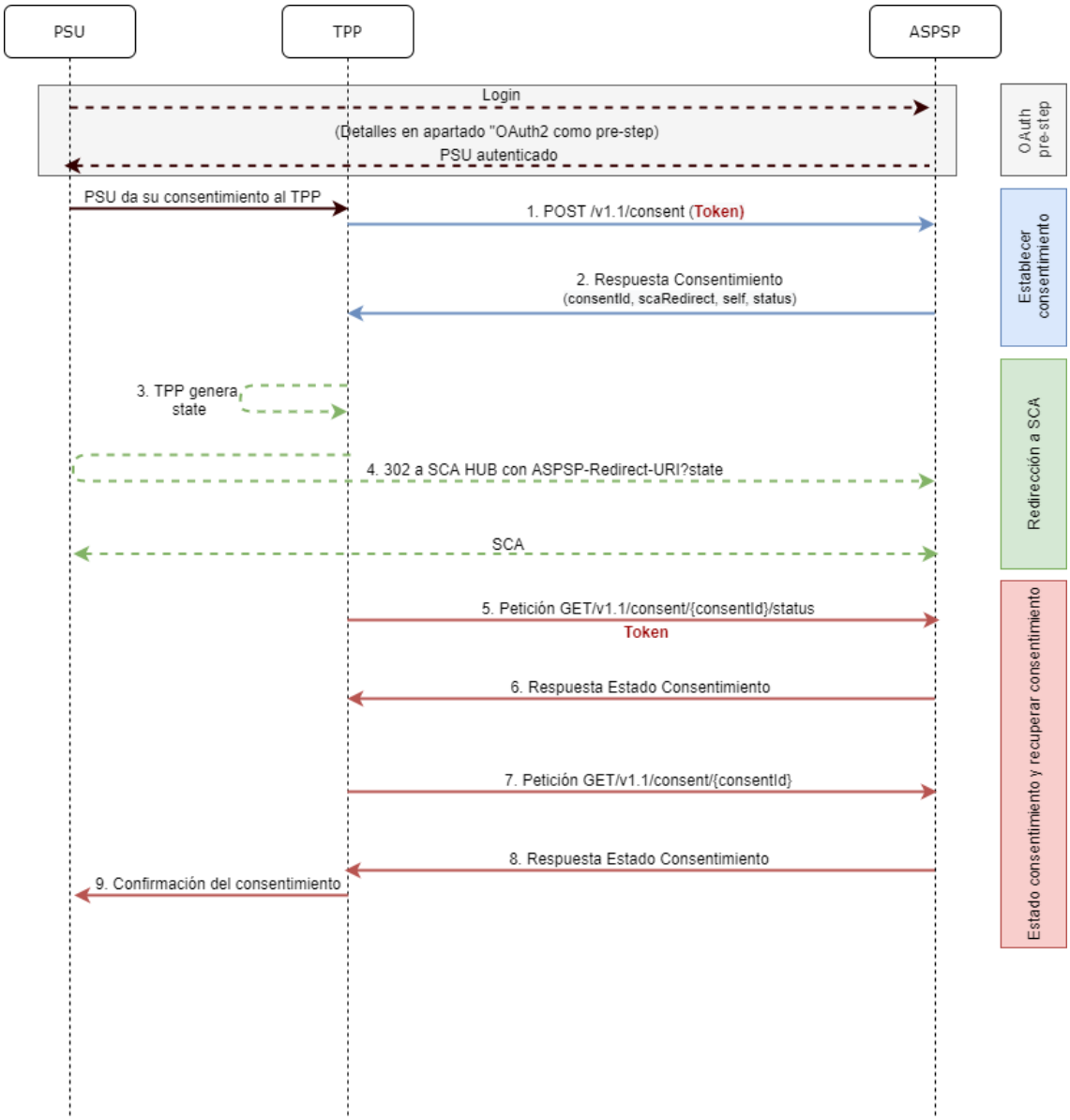


**Figure 7: SCA flow by redirection: implicit start of the authorisation process**

## OAuth2 (pre-step)

The main purpose of this flow is to authenticate the PSU to get access to the services displayed by its ASPSP through the use of an access token obtained after the application of this protocol.

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In order to simplify, the detail of this flow has been omitted from the Figure 4 Figure 7: SCA flow by redirection: implicit start of the authorisation process and can be found in the section 6.16.1 OAuth2 as a pre-step.VERIFY

**Note**: this step is optional. Only applies if no valid access token is available.

### PSU gives its consent to the TPP

The PSU gives its consent to the TPP to access its accounts

### 1. Consent Request (TPP → ASPSP)

The TPP sends a POST request for consent of tokenised account information to the ASPSP. Among the data reported by the TPP are:

- **TPP data:** identifier, name, roles, NCA, certificate ...
- **Consent data:** list of IBANs and/or PANs and types of access to which the PSU has given its consent, recurrence, validity, frequency of daily access...
- **X-Request-ID:** identifier of the operation assigned by the TPP.
- **Access token** from the TPP
- **TPP-Redirect-Preferred:** true - SCA flow preference by redirect
- **TPP-Redirect-URI:** Return URI of the TPP after redirection to SCA.
- **TPP-Explicit-Authorisation-Preferred:** false - TPP preference to initiate authorisation implicitly (current flow)
- **Other data**

### 2. Response of Consent (ASPSP → TPP)

The ASPSP responds to the TPP indicating that Strong Authentication (SCA) is required by redirecting to the Hub's authentication endpoint, returning:

- **consentStatus-** State of the consent resource.
- **consentId**: identifier generated by the Hub that refers to the consent resource.
- **_links**
    - **scaRedirect**: links to the Hub endpoint where after receiving the redirect from the TPP it redirects back to the scaRedirect of the ASPSP. This URL can add security parameters to allow session maintenance during redirection.

      `Ex: https://hub.example.com/auth`

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- **self**: link to the resource generated by the Hub for the request for consent received from the TPP.
- **state**: link of the Hub to which the TPP will be able to make a consent state query request.

- **Other data**

### 3. TPP generates state

The TPP, after receiving the response, generates a value for *state* (XSRF token) to be linked to the PSU browser session.

### 4. Redirect to scaRedirect (TPP → ASPSP)

The TPP redirects the PSU to the authentication endpoint by adding to it the field*state* as a query-param.

```
HTTP/1.1 302 Found
Location: https://hub.example.com/auth?state=qwerty
```

### SCA entre PSU ←→ASPSP

During this redirection process, the ASPSP will be able to:

- Show ASPSP-PSU interface for SCA

**Note**: if the consent request does not indicate the accounts for which consent is to be sought, the PSU will be shown its accounts during the SCA process to select which accounts and types of access, it wants to grant to the TPP.

### 5. State Consent Request (TPP → ASPSP)

The TPP will send a payment state request with *token* to the ASPSP to know the payment state.

### 6. Response State Consent (ASPSP → TPP)

The ASPSP updates the consent state and responds to the TPP.

### 7. Request to Retrieve Consent (TPP → ASPSP)

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In case the consent request has travelled without indicating the accounts to be given access and the selection of these accounts has been made by the PSU in the ASPSP interface displayed during the redirect of the SCA flow, the TPP will make a request to retrieve information from the consent requested in order to know which accounts have been authorised by the PSU.

The TPP will send a request to the Hub to retrieve consent with the consent identifier provided by the Hub in the consent request response and with a valid access token.

The HUB will make a request to retrieve consent with the consent identifier provided by the ASPSP in the consent request response and with the access token to the ASPSP and, after obtaining a response from the ASPSP, it will send the consent to the TPP.

**8. Response Retrieve Consent (ASPSP → TPP)**

The ASPSP sends the consent it requested to the TPP along with the accounts and types of access granted to it.

#### 6.4.2.2 SCA flow by redirection: implicit start of authorization process.

Similar to 6.3.1.2 SCA flow by redirection: implicit start of authorization

#### 6.4.2.3 Decoupled SCA flow: implicit start of authorization process

Similar to6.3.1.3 Decoupled SCA flow: implicit start of authorization process.

#### 6.4.2.4 Multilevel SCA to establish consent

Similar to6.3.1.4 Multilevel SCA flow for payments.

### 6.4.3 Payment account information consent

With this service, a TPP, through the Hub, can inform a payment account information consent that is going to access the PSU. This request may or may not be for the specified accounts.

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For this reason, the consent request has these variants:

- Establish consent of account information on specified accounts
- Establish consent of account information to obtain a list of all available accounts
- Establish account information consent without indicating accounts
- Establish account information consent to obtain access to all accounts for all PSD2 AIS access types: "accounts", "balances" and / or "transactions"

**Note:** each consent information will generate a new resource, that is, a new consentId.

#### 6.4.3.1 Request

**Endpoint**

POST {provider}/{aspsp}/v1.1/consent

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |

**Query parameters:**

No additional fields are specified.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex: |

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| | | | | |
|---|---|---|---|---|
| | | | | X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |
| **PSU-IP-Address** | IP address of the HTPP request between the PSU and the TPP. | String | MA | ^[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}$<br>Ex:<br>PSU-IP-Address: 192.168.16.5 |
| **PSU-ID** | Identifier that the PSU uses to identify itself in its ASPSP.<br>It can be reported even if an OAuth token is being used and, in such a case, the ASPSP could check if the PSU-ID and the token match. | String | OP | Ex: PSU-ID: 12345678W |
| **PSU-ID-Type** | Type of the PSU-ID. Necessary in scenarios where the PSU has several PSU-IDs as access possibilities. | String | OP | Ex: PSU-ID-Type: NIF |
| **PSU-Corporate-ID** | Identifier of "company" in Online Channels. | String | OP | Ex: PSU-Corporate-ID: user@corporate.com |
| **PSU-Corporate-ID-Type** | Type of the PSU-Corporate-ID required by the ASPSP to identify its content. | String | OP | Ex: PSU-Corporate-ID-Type: email |
| **TPP-Redirect-Preferred** | If "true", the TPP has communicated to the HUB that it prefers SCA by redirection. | Boolean | OP | Ex: TPP-Redirect-Preferred: true |

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| | | | | |
|---|---|---|---|---|
| | If "false", the TPP has informed the HUB that it prefers not to be redirected to SCA and the procedure will be by decoupled flow.<br>If the parameter is not used, the ASPSP will choose the SCA flow to apply depending on the SCA method chosen by the TPP / PSU.<br>**EMBEDDED NOT SUPPORTED IN THIS VERSION** | | | |
| **TPP-Redirect-URI** | URI of the TPP where the transaction flow must be redirected after any of the SCA phases.<br>It is recommended to always use this header field.<br>In the future, this field could change to mandatory. | String | COND | ^.{1,250}$<br>Ex: TPP-Redirect-URI":"https://tpp.example.es/cb" |
| **TPP-Nok-Redirect-URI** | If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of the TPP-Redirect-URI in case of a negative result of the SCA method by redirection. | String | OP | ^.{12,50}$<br>Ex: TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok" |

f

| | | | | |
|---|---|---|---|---|
| **TPP-Explicit-Authorisation-Preferred** | If equal to true, the TPP chooses to initiate the authorisation process separately, e.g. due to the need for authorisation of a set of operations simultaneously.<br>If it is false or the parameter is not used, there is no TPP preference. The TPP takes a direct authorisation of the transaction in the next step.<br>**Note**: ASPSP might not take it into account if it doesn't support it. | Boolean | OP | Ex: TPP-Explicit-Authorisation-Preferred: false |
| **TPP-Brand-Logging-Information** | This field could be used by the TPP to inform the ASPSP about the brand used by the TPP for the PSU. This information can be used to improve communication between the ASPSP and the PSU or the ASPSP and the TPP. | String | OP | ^.{1,70}$<br>Ex: TPP-Brand-Logging-Information: TPP Brand |
| **TPP-Rejection-NoFunds-Preferred** | **Note:** This field will be ignored if it is reported by the TPP. | String | OP | |
| **TPP-Notification-URI** | URI for the Endpoint of the TPP-API to which the status of the payment initiation should be sent. | String | OP | ^.{1,250}$<br>Ex: TPP-Notification-URI":"https://tpp.example.es/notification" |

| | | | | |
|---|---|---|---|---|
| | **Note**: ASPSP might not take it into account if it doesn't support it. | | | |
| **TPP-Notification-Content-Preferred** | The string has the form<br>status=X1, …, Xn<br>where Xi is one of the constants SCA, PROCESS,<br>LAST and where constants are not repeated.<br>The usage of the constants supports the following<br>semantics:<br>SCA: A notification on every change of the<br>scaStatus attribute for all related authorisation<br>processes is preferred by the TPP.<br>PROCESS: A notification on all changes of<br>consentStatus or transactionStatus attributes is<br>preferred by the TPP.<br>LAST: Only a notification on the last consentStatus<br>or transactionStatus as available in the XS2A<br>interface is preferred by the TPP. | Boole an | OP | Ex: TPP-Notification-Content-Preferred: SCA |

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| | | | | |
|---|---|---|---|---|
| | **Note**: ASPSP might not take it into account if it doesn't support it. | | | |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **access** | Requested accesses to services. Only the sub-attributes with tags "accounts", "balances" and "transactions" are accepted. Additionally, the ASPSP can support the "availableAccounts", "availableAccountsWithBalance" or "allPsd2" sub-attributes with value "allAccounts". | Account Access | MA | Ex: "access": {…} |
| **recurringIndicator** | Possible values:<br>• true: recurring access to the account.<br>• false: single access. | Boolean | MA | Ex: "recurringIndicator": true |
| **validUntil** | Date until which the consent requests access.<br>To create the consent with the maximum possible access time, the value: 9999-12-31 should be used<br>When consent is recovered, the maximum possible date will be adjusted. | String | MA | **ISODate**<br>Ex: "validUntil": "2018-05-17" |
| **frequencyPerDay** | Indicates the frequency of access to the account per day. | Integer | MA | Ex: "frequencyPerDay": 4 |

f

| | | | | |
|---|---|---|---|---|
| | 1 for single use. | | | |
| **combinedServiceIndicator** | The session support is specified by the access token.<br>The value of this field will be ignored by the ASPSP. | Boolean | MA | Ex: "combinedServiceIndicator": false |

#### 6.4.3.2 Response

**HTTP Code**

201 if the resource has been created

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Location** | Contains the hyperlink to the generated resource | String | MA | **Max512Text**<br>Ex: Location: /v1.1/consents/[consentId} |
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **ASPSP-SCA-Approach** | Value returned if the SCA method has been set. Possible values:<br>• EMBEDDED<br>• DECOUPLED<br>• REDIRECT | String | COND | Ex: ASPSP-SCA-Approach: REDIRECT |

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| | | | | |
|---|---|---|---|---|
| | The OAuth based SCA will be taken as REDIRECT. | | | |
| **ASPSP-Notification-Support** | true if the ASPSP supports resource status<br>notification services.<br>false if the ASPSP supports resource status notification in general, but not for the current request.<br>Not used, if resource status notification services are generally not supported by the<br>ASPSP. | Boolean | COND | ASPSP-Notification-Support: true |
| **ASPSP-Notification-Content** | The string has the form<br>status=X1, …, Xn<br>where Xi is one of the constants SCA,<br>PROCESS, LAST and where constants are<br>not repeated.<br>The usage of the constants supports the<br>following semantics:<br>SCA: Notification on every change of the<br>scaStatus attribute for all related<br>authorisation processes is provided by the<br>ASPSP for the related resource. | String | COND | ASPSP-Notification-Content: SCA |

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| | | | | |
|---|---|---|---|---|
| | PROCESS: Notification on all changes of<br>consentStatus or transactionStatus attributes<br>is provided by the ASPSP for the related<br>resource.<br>LAST: Notification on the last consentStatus<br>or transactionStatus as available in the XS2A<br>interface is provided by the ASPSP for the<br>related resource.<br>This field must be provided if the ASPSPNotification-Support =true. The ASPSP might<br>consider the notification content as preferred<br>by the TPP, but can also respond<br>independently of the preferred request. | | | |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **consentStatus** | Consent authentication state. Defined values in 9.5 Consent states | String | MA | Ex: "consentStatus": "received" |

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| | | | | |
|---|---|---|---|---|
| **consentId** | Identifier of the resource that refers to the consent. It must be contained if consent was generated. | String | MA | ^.{1,36}$<br>Ex: "consentId": "123-QWE-456" |
| **scaMethods** | This element is contained if SCA is required and if the PSU can choose between different authentication methods.<br>If this data is contained, the link "startAuthorisationWithAuthenticationMethodSelection" will also be reported.<br>These methods must be presented to the PSU.<br>**Note:** Only if ASPSP supports SCA method selection | List<AuthenticationObject> | COND | Ex: "scaMethods": […] |
| **chosenScaMethod** | **NOT SUPPORTED IN THIS VERSION.** | Authentication Object | COND | |
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU browser must be redirected by the TPP.<br>• startAuthorisation: in case an explicit start of transaction authorization is required (no SCA method selection) | Links | MA | Ex: "_links": {…} |

| | | | | |
|---|---|---|---|---|
| | • startAuthorisationWithAuthenticationMethodSelection: link to the authorisation end-point where the authorisation sub-resource has to be generated while selecting the SCA method. This link is contained under the same conditions as the "scaMethods" field<br>• self: link to the resource created by this request.<br>• state: link to retrieve the state of the transaction.<br>• scaStatus: link to consult the SCA state corresponding to the authorisation sub-resource. This link is only contained if an authorization sub-resource has been created. | | | |
| **psuMessage** | Text to show to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

#### 6.4.3.3 Examples

**Example request consent on accounts specified with SCA by redirection**

```
POST https://www.hub.com/aspsp-name/v1.1/consents
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "access": {
            "balances": [
            {
                  "iban": "ES1111111111111111111111"
            },
            {
                  "iban": "ES2222222222222222222222",
                  "currency": "USD"
            },
            {
                  "iban": "ES3333333333333333333333"
            }
            ],
```

f

```
            "transactions": [
            {
                  "iban": "ES1111111111111111111111"
            }
            ]
      },
      "recurringIndicator": true,
      "validUntil": "2018-05-17",
      "frequencyPerDay": 4
}
```

### Example of a consent request for a list of available accounts with SCA by redirection

```
POST https://www.hub.com/aspsp-name/v1.1/consent
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "access": {
            "availableAccounts": "allAccounts"
```

```
      },
"recurringIndicator": false,
      "validUntil": "2018-05-17",
      "frequencyPerDay": 1
}
```

### Example request consent without indicating accounts with decoupled SCA

```
POST https://www.hub.com/aspsp-name/v1.1/consent
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: false
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "access": {
            "balances": [],
            "transactions": []
      },
      "recurringIndicator": true,
      "validUntil": "2018-05-17",
      "frequencyPerDay": 4
}
```

f

### Example response in case of SCA by redirection with implicitly generated authorisation sub-resource

```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: REDIRECT
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1.1/consents/123-asdf-456
Content-Type: application/json
{
      "consentStatus": "received",
      "consentId": "123-asdf-456",
      "_links": {
            "scaRedirect": {
                  "href": "https://hub.example.es/authorize "
            },
            "self": {
                  "href": "/v1.1/consents/123-asdf-456",
            },
            "state": {
                  "href": "/v1.1/consents/123-asdf-456/state"
            },
            "scaStatus": {
                  "href":                    "/v1.1/consents/123-asdf-
            456/authorisations/123auth456"
            }
      }
}
```

### Example response in case of decoupled SCA

```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: DECOUPLED
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1.1/consents/123-asdf-456
Content-Type: application/json
```

f

```
{
      "consentStatus": "received",
      "consentId": "123-asdf-456",
      "_links": {
            "self": {
                  "href": "/v1.1/consents/123-asdf-456",
            "state": {
                  "href": "/v1.1/consents/123-asdf-456/state"
            }
      },
      "psuMessage": "Please use your Bank XXX application to authorise
consent".
}
```

### 6.4.4 Obtain consent state

This service allows the TPP to know the state of a previously initiated consent request.

#### 6.4.4.1 Request

**Endpoint**

GET {provider}/{aspsp}/v1.1/consents/{consent-id}/state

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **consentId** | Identifier of the resource that refers to the consent. | String | MA | ^.{1,36}$<br>Ex:123-qwerty-456 |

f

| | | | | |
|---|---|---|---|---|
| | Previously sent in response to a consent request message from the TPP to the HUB. | | | |

**Query parameters:**

No additional fields are specified.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |

**Body**

No additional data travels.

### 6.4.4.2 Response

**HTTP Code**

200 if the request has been successful.

This message is returned by the HUB to the TPP in response to the consent state request message.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **consentStatus** | Consent authentication state. Defined values in 9.5 Consent states | String | MA | Ex: "consentStatus": "valid" |
| **psuMessage** | Text to show to the PSU | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.4.4.3 Examples

**Example of request**

```
GET https://www.hub.com/aspsp-name/v1.1/consents/123asdf456/state
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
```

f

```
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response**

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "consentStatus": "valid"
}
```

### 6.4.5 Retrieve consent information

#### 6.4.5.1 Request

This message is sent by the TPP to the HUB as a request to retrieve the information from a previously created consent.

**Endpoint**

GET {provider}/{aspsp}/v1.1/consents/{consentId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

f

| | | | | |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **consentId** | Identifier of the resource that refers to the consent.<br>Previously sent in response to a consent request message from the TPP to the HUB. | String | MA | ^.{1,36}$<br>Ex: 7890-asdf-4321 |

**Query parameters:**

No additional fields are specified.

**Header**

The same as those defined in the section 6.4.4.1

**Body**

No additional data travels.

### 6.4.5.2 Response

**HTTP Code**

200 if the request has been successful.

This message is returned by the HUB to the TPP in response to the consent information retrieval message.

**Header**

The same as those defined in the section 6.4.4.2

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

f

| | | | | |
|---|---|---|---|---|
| **access** | Requested accesses to services. Only the sub-attributes with tags "accounts", "balances" and "transactions" are accepted. Additionally, the ASPSP can support the "availableAccounts", "availableAccountsWithBalance" or "allPsd2" sub-attributes with value "allAccounts". | AccountAccess | MA | Ex: "access": {…} |
| **recurringIndicator** | Possible values:<br>• true: recurring access to the account.<br>• false: single access. | Boolean | MA | Ex: "recurringIndicator": true |
| **validUntil** | Date until which the consent requests access.<br>To create the consent with the maximum possible access time, the value: 9999-12-31 should be used<br>When consent is recovered, the maximum possible date will be adjusted. | String | MA | **ISODate**<br>Ex: "validUntil": "2018-05-17" |
| **frequencyPerDay** | Indicates the frequency of access to the account per day.<br>1 if single-access. | Integer | MA | Ex: "frequencyPerDay": 4 |
| **lastActionDate** | Date of the last modification made to the consent. | String | MA | **ISODate**<br>Ex: "lastActionDate":"2018-01-01" |

f

| | | | | |
|---|---|---|---|---|
| **consentStatus** | Consent authentication state. Values defined in annexes. | String | MA | Ex: "consentStatus":"valid" |
| **_links** | Recommended link types for this response:<br>• account<br>Depending on the nature of the consent. | Links | OP | Ex: "_links": {…} |
| **psuMessage** | Text to show to the PSU | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

#### 6.4.5.3 Examples

**Example of request**

```
GET https://www.hub.com/aspsp-name/v1.1/consents/7890-asdf-4321/
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

### Example response on consent with specified accounts

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "access": {
            "balances": [
            {
                  "iban": "ES1111111111111111111111"
            },
            {
                  "iban": "ES2222222222222222222222",
                  "currency": "USD"
            },
            {
                  "iban": "ES3333333333333333333333"
            }
            ],
            "transactions": [
            {
                  "iban": "ES1111111111111111111111"
            }
            ]
      },
      "recurringIndicator": true,
      "validUntil": "2018-05-17",
      "frequencyPerDay": 4,
      "lastActionDate": "2018-01-17",
      "consentStatus": "valid"
}
```

### Example response on global consent availableAccounts

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
```

f

```
{
      "access": {
            "availableAccounts": "allAccounts"
      },
      "recurringIndicator": true,
      "validUntil": "2018-05-17",
      "frequencyPerDay": 4,
      "lastActionDate": "2018-01-17",
      "consentStatus": "valid"
}
```

### 6.4.6 Remove consent

#### 6.4.6.1 Request

This request can be sent by a TPP to the HUB to request the removal of a previously created consent.

**Endpoint**

DELETE {provider}/{aspsp}/v1.1/consents/{consentId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **consentId** | Identifier of the resource that refers to the consent.<br>Previously sent in response to a consent request message from the TPP to the HUB. | String | MA | ^.{1,36}$<br>Ex: 7890-asdf-4321 |

**Query parameters:**

f

No additional fields are specified.

**Header**

The same as those defined in the section 6.4.4.1

**Body**

No additional data travels.

### 6.4.6.2 Response

**HTTP Code**

204 if the request has been successful.

This message is sent by the HUB to the TPP in response to the request to remove consent.

**Header**

The same as those defined in the section 6.4.4.2

**Body**

No additional fields are specified.

### 6.4.6.3 Examples

**Example of request**

```
DELETE https://www.hub.com/aspsp-name/v1.1/consents/7890-asdf-4321
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
```

f

```
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: DELETE
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response**

```
HTTP / 1.1 204 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
```

### 6.4.7 Multilevel SCA to establish consent

In case of SCA flow by redirection, the TPP may redirect the initiating PSU to the scaRedirect link to apply SCA.

In case of SCA flow by decoupling, the TPP will receive in the psuMessage field the message to be displayed to the PSU and directed to its banking app.

Additionally, the ASPSP will return a message in the psuMessage field to inform the PSU that the operation requires SCA by more users.

## 6.5 AIS: Account data reading service

### 6.5.1 Reading list of accounts

This service allows to obtain a list of PSU accounts, including account balances if requested and consent is available.

This request is used both for the list of available accounts and for the list of account details. Depending on the consent used in the request.

As a prerequisite, it is assumed that the PSU has given its consent to this access and has been stored by the ASPSP.

Operation of the service according to the type of access specified in the consent:

| Type of access | Description |
|---|---|

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| | |
|---|---|
| **availableAccounts** | This type of access is associated with single-use consent.<br>If the consent associated with the request has this type of access, it will be a one-time consent and it will be possible to obtain:<br>• List of all available PSU accounts.<br>You will not be able to obtain:<br>• Account balances (unless supported by ASPSP)<br>• Links to balance or transaction endpoints |
| **availableAccountsWithBalance** | This type of access is associated with single-use consent.<br>If the consent associated with the request has this type of access, it will be a one-time consent and it will be possible to obtain:<br>• List of all available PSU accounts.<br>• Account balances (unless supported by ASPSP)<br>You will not be able to obtain:<br>• Links to balance or transaction endpoints |
| **account** | If the consent associated with the request has this type of access, the accounts included in the consent with access type "account" may be listed. |
| **balances** | If the consent associated with the request has this type of access, the accounts included in the consent with the access type "balances" may be listed and their balances may be obtained if the ASPSP supports it. |
| **transactions** | If the consent has accounts with this type of access, these accounts may be listed with the access type "account". This type of access does not imply a "balance" type of access. |
| **allPsd2** | If the consent associated with the request has this type of access, the accounts included in the consent may be listed and their balances may be obtained.<br>Note: allPsd2 grants all three types of access. |

#### 6.5.1.1 Request

**Endpoint**

GET {provider}/{aspsp}/v1.1/accounts{query-parameters}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |

**Query parameters:**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **withBalance** | If included, this function includes balances.<br>This request will be rejected if the access to balances is not covered by the consent or the ASPSP does not support this parameter. | Boolean | OP | Ex: true |

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |

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| | | | | |
|---|---|---|---|---|
| **Consent-ID** | Identifier of the consent obtained in the transaction to request consent. | String | MA | ^.{1,36}$<br>Ex: Consent-ID: 7890-asdf-4321 |
| **PSU-IP-Address** | IP address of the HTPP request between the PSU and the TPP. It should only be included if this request was actively initiated by the PSU. | String | COND | ^[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}$<br>Ex:<br>PSU-IP-Address: 192.168.16.5 |

**Body**

No data travels in the body of this request.

#### 6.5.1.2 Response

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **accounts** | List of available accounts. | List<AccountDetails> | MA | Ex: "accounts": [] |
| **psuMessage** | Text to show to the PSU. | String | OP | ^.{1,500} $ |

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| | | | | |
|---|---|---|---|---|
| | | | | Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

#### 6.5.1.3 Examples

**Example request to obtain a list of accounts accessible from the PSU**

```
GET https://www.hub.com/aspsp-name/v1.1/accounts
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response to obtain a list of accessible PSU accounts**

Response where consent has been given on two different IBANs.

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
```

f

```
Content-Type: application/json
{
      "accounts": [
      {
            "resourceId": "3dc3d5b3-7023-4848-9853-f5400a64e80f",
            "iban": "ES1111111111111111111111",
            "currency": "EUR",
            "product": "Girokonto",
            "cashAccountType": "CACC",
            "name": "Main Account",
            "_links": {
                  "balances": {
                        "href":     "/v1.1/accounts/3dc3d5b3-7023-4848-
                  9853-f5400a64e80f/balances"
                  },
                  "transactions": {
                        "href":     "/v1.1/accounts/3dc3d5b3-7023-4848-
                  9853-f5400a64e80f/transactions"
                  }
            }
      },
      {
            "resourceId": "3dc3d5b3-7023-4848-9853-f5400a64e81g",
            "iban": "ES2222222222222222222222",
            "currency": "USD",
            "cashAccountType": "CACC",
            "name": "US Dollar Account",
            "_links": {
                  "balances": {
                        "href":     "/v1.1/accounts/3dc3d5b3-7023-4848-
                  9853-f5400a64e81g/balances"
                  }
            }
      }
      ]
```

}

### 6.5.2 Reading account details

This service allows you to read the details of an account with the balances if they are required.

As a prerequisite, it is assumed that the PSU has given its consent to this access and has been stored by the ASPSP.

Operation of the service according to the type of access specified in the consent:

| Type of access | Description |
|---|---|
| **availableAccounts** | With this type of access, it is not possible to use this service. |
| **availableAccountsWithBalance** | With this type of access, it is not possible to use this service. |
| **account** | If the consent associated with the request has this type of access, the account can be consulted. |
| **balances** | If the consent associated with the request has this type of access, the account can be consulted, and its balances can be obtained if the ASPSP supports it. |
| **transactions** | If the consent has accounts with this type of access, the account can be consulted with the access type "account". This type of access does not imply a "balance" type of access. |
| **allPsd2** | If the consent associated with the request has this type of access, the account can be consulted, and its balances can be obtained.<br>Note: allPsd2 grants all three types of access. |

#### 6.5.2.1 Request

**Endpoint**

GET {provider}/{aspsp}/v1.1/accounts/{account-id}{query-parameters}

f

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **account-id** | Account identifier assigned by ASPSP | String | MA | ^.{1,100} $<br>Ex: account-id = a1q5w |

**Query parameters:**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **withBalance** | If included, this function includes balances.<br>This request will be rejected if the access to balances is not covered by the consent or the ASPSP does not support this parameter. | Boolean | OP | Ex: true |

**Header**

The same as those defined in the section 6.5.1.1

**Body**

No data travels in the body of this request.

### 6.5.2.2 Response

**HTTP Code**

200 if the request has been successful.

**Header**

The same as those defined in the section 6.5.1.2

f

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **account** | Detailed account information | Account Details | MA | Ex: "account": {…} |
| **psuMessage** | Text to show to the PSU | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.5.2.3 Examples

**Example of request**

```
GET https://www.hub.com/aspsp-name/v1.1/accounts/3dc3d5b3-7023-4848-9853-f5400a64e80f
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

f

### Example of a single-currency account response

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "account": {
            "resourceId": "3dc3d5b3-7023-4848-9853-f5400a64e80f",
            "iban": "ES1111111111111111111111",
            "currency": "EUR",
            "ownerName": "Heike Mustermann",
            "product": "Girokonto",
      "cashAccountType": "CACC",
            "name": "Main Account",
            "_links": {
                  "balances": {
                        "href":     "/v1.1/accounts/3dc3d5b3-7023-4848-
                  9853-f5400a64e80f/balances"
                  },
                  "transactions": {
                        "href":     "/v1.1/accounts/3dc3d5b3-7023-4848-
                  9853-5400a64e80f/transactions"
                  }
            }
      }
}
```

### Example multi-currency account response

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "account": {
```

```
            "resourceId": "3dc3d5b3-7023-4848-9853-f5400a64e81g",
            "iban": "ES2222222222222222222222",
            "currency": "XXX",
            "ownerName": "Heike Mustermann",
            "product": "Multicurrency Account",
            "cashAccountType": "CACC",
            "name": "Aggregation Account",
            "_links": {
                  "balances": {
                        "href":     "/v1.1/accounts/3dc3d5b3-7023-4848-
                  9853-f5400a64e81g/balances"
                  },
                  "transactions": {
                        "href":     "/v1.1/accounts/3dc3d5b3-7023-4848-
                  9853-f5400a64e81g/transactions"
                  }
            }
      }
}
```


### 6.5.3 Balance reading

This service allows you to obtain the balances of an account determined by its identifier.

As a prerequisite, it is assumed that the PSU has given its consent to this access and has been stored by the ASPSP.

Operation of the service according to the type of access indicated in the consent:

| Type of access | Description |
|---|---|
| **availableAccounts** | With this type of access, it is not possible to use this service. |
| **availableAccountsWithBalance** | With this type of access, it is not possible to use this service. |
| **account** | With this type of access, it is not possible to use this service. |

f

| | |
|---|---|
| **balances** | If the consent associated with the request has this type of access, the account balances may be consulted. |
| **transactions** | With this type of access, it is not possible to use this service. |
| **allPsd2** | If the consent associated with the request has this type of access, the account balances may be consulted.<br>Note: allPsd2 grants all three types of access. |

#### 6.5.3.1 Request

**Endpoint**

GET {provider}/{aspsp}/v1.1/accounts/{account-id}/balances

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **account-id** | Identifier of the account to be used when reading data.<br>Obtained previously in the reading of the list of accounts.<br>It must be valid, at least, for the duration of the consent.<br>This id can be tokenized. | String | MA | ^.{1,100} $<br>Ex: account-id = a1q5w |

**Query parameters:**

No additional fields are specified.

**Header**

The same as those defined in the section 6.5.1.1

f

**Body**

No data travels in the body of this request.

### 6.5.3.2 Response

**HTTP Code**

200 if the request has been successful.

**Header**

The same as those defined in the section 6.5.1.2

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **account** | Identifier of the account being queried.<br>Note: it is recommended to use it as it could become a mandatory parameter in future versions. | AccountReference | OP | Ex: "account": {…} |
| **balances** | A list of balances with respect to an account. | List<Balance> | MA | Ex: "balances": {…} |
| **psuMessage** | Text to show to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage" : "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages" : […] |

#### 6.5.3.3 Examples

**Example of request**

```
GET https://www.hub.com/aspsp-name/v1.1/accounts/3dc3d5b3-7023-4848-9853-f5400a64e81g/balances
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example ofresponse**

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "account": {
            "iban": "ES1111111111111111111111"
      },
      "balances": [
      {
            "balanceType": "closingBooked",
            "balanceAmount": {
```

f

```
                "currency": "EUR",
                "amount": "500.00"
            },
            "referenceDate": "2017-10-25"
      },
      {
            "balanceType": "expected",
            "balanceAmount": {
                "currency": "EUR",
                "amount": "900.00"
            },
            "lastChangeDateTime": "2017-10-25T15:30:35.035Z"
      }
      ]
}
```


### 6.5.4 Reading of transactions

This service allows to obtain the transactions of an account determined by its identifier.

As a prerequisite, it is assumed that the PSU has given its consent to this access and has been stored by the ASPSP.

Operation of the service according to the type of access specified in the consent:

| Type of access | Description |
|---|---|
| **availableAccounts** | With this type of access, it is not possible to use this service. |
| **availableAccountsWithBalance** | With this type of access, it is not possible to use this service. |
| **account** | With this type of access, it is not possible to use this service. |
| **balances** | If the consent associated with the request has this type of access, it will be allowed to request the balances if the ASPSP supports it. |

f

| | |
|---|---|
| **transactions** | If the consent associated with the request provides for this type of access, the movements of the account may be consulted. |
| **allPsd2** | If the consent associated with the request has this type of access, the account balances may be consulted.<br>Note: allPsd2 grants all three types of access. |

#### 6.5.4.1 Request

**Endpoint**

GET {provider}/{aspsp}/v1.1/accounts/{account-id}/transactions{query-parameters }

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **account-id** | Identifier of the account to be used when reading data.<br>Obtained previously in the reading of the list of accounts.<br>It must be valid, at least, for the duration of the consent.<br>This id can be tokenized. | String | MA | ^.{1,100} $<br>Ex: account-id = a1q5w |

**Query parameters:**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| **dateFrom** | Query start date (including dateFrom). Mandatory if delta access is not required and if "bookingStatus" is not equal to "information". It could be ignored if the delta function or the "information" state is used.<br>For booked transactions, the relevant date is the date of the bookingDate entry. For pending transactions, the relevant date is the entry "entryDate". | String | COND | **ISODate**<br>Ex: dateFrom=2017-10-25 |
| **dateTo** | Consultation end date. By default, it is the time of the request if it is not reported. It could be ignored if the delta function is used.<br>For booked transactions, the relevant date is the date of the bookingDate entry. For pending transactions, the relevant date is the entry "entryDate". | String | OP | **ISODate**<br>Ex: dateTo=2017-11-05 |
| **entryReferenceFrom** | When specified, it would give us the results from the call with entryReferenceFrom before the one given. If contained, the dateFrom and dateTo attributes are ignored.<br>**Note:** only if supported by ASPSP. | String | OP | Ex: entryReferenceFrom=1234-asdf-567 |

| | | | | |
|---|---|---|---|---|
| **bookingStatus** | State of returned transactions. Supported values:<br>• booked (OB)<br>• pending (OP)<br>• both (OP)<br>**Note:** pending and both only if they are supported by ASPSP.<br>Additionally, the state is supported:<br>• Information (OB)<br>To return the list of standing orders. | String | MA | Ex: bookingStatus = booked |
| **deltaList** | Indicates that the AISP is in favour of obtaining all transactions after the last report access for this PSU and account.<br>This indicator may be rejected by the ASPSP if this function is not supported. | Boolean | OP | Ex: deltaList = false |
| **withBalance** | If included, this function includes balances.<br>This request will be rejected if the access to balances is not covered by the consent or the ASPSP does not support this parameter. | Boolean | OP | Ex: true |

**Note**: in case bookingStatus is equal to "information", the query param dateFrom, dateTo, withBalance, deltaList and entryReferenceFrom will be ignored and have no effect on the result.

**The** same as those defined in the section 6.5.1.1

f

**Body**

No data travels in the body of this request.

#### 6.5.4.2 Response

**HTTP Code**

200 if the request has been successful.

**Header**

The same as those defined in the section 6.5.1.2

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **account** | Identifier of the account being queried.<br>Note: it is recommended to use it as it could become a mandatory parameter in future versions. | AccountReference | OP | Ex: "account": {…} |
| **transactions** | Return of data in JSON format, when the returned data are small in length. | AccountReport | OP | Ex: "transactions": {…} |
| **balances** | A list of balances with respect to an account. | List<Balance> | OP | Ex: "balances": {…} |
| **_links** | List of hyperlinks to be recognized by the TPP.<br>Supported types in this response:<br>"**download**": Link to download the data of the query performed, when the returned data are oversized. Only for camt-data. | Links | OP | Ex: "_links": {…} |

f

| | | | | |
|---|---|---|---|---|
| **psuMessage** | Text to show to the PSU | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

#### 6.5.4.3 Examples

**Example of a search request sending search criteria by dateTo and dateFrom**

```
GET
https://www.hub.com/aspsp-name/v1.1/accounts/qwer3456tzui7890/transactions?dateFrom=2017-10-25&dateTo=2017-11-05&bookingStatus=both
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example of a search request by sending search criterion entryReferenceFrom**

```
GET https://www.hub.com/aspsp-name/v1.1/accounts/qwer3456tzui7890/transactions?entryReferenceFrom=1234-asd-4564700&bookingStatus=both
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

### Example of a response with page numbering

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json

{
      "account": {
            "iban": "ES1111111111111111111111"
      },
      "transactions": {
            "booked": [
            {
                  "transactionId": "1234567",
                  "creditorName": "John Miles",
                  "creditorAccount": {
                        "iban": "ES1111111111111111111111"
```

f

```
      },
      "transactionAmount": {
            "currency": "EUR",
            "amount": "256.67"
      },
      "bookingDate": "2017-10-25",
      "valueDate": "2017-10-26",
      "remittanceInformationUnstructured": "Example for
Remittance Information"
},
{
      "transactionId": "1234568",
      Ex: "debtorName": "Paul Simpson"
      "debtorAccount": {
            "iban": "NL354543123456900"
      },
      "transactionAmount": {
            "currency": "EUR",
            "content": "343.01"
      },
      "bookingDate": "2017-10-25",
      "valueDate": "2017-10-26",
      "remittanceInformationUnstructured": "Another example
for Remittance Information"
}
],
"pending": [
{
      "transactionId": "123456789",
      "creditorName": "Claude Renault",
      "creditorAccount": {
            "iban": "NL354543123456900"
      },
      "transactionAmount": {
            "currency": "EUR",
```


f

```
                        "amount": "-100.03"
                  },
                  "valueDate": "2017-10-26",
                  "remittanceInformationUnstructured": "Another example
            for Remittance Information"
            }
            ],
            "_links": {
                  "account": {
                        "href": "/v1.1/accounts/qwer3456tzui7890"
                  },
                  "first": {
                        "href":                          "/v1.1/accounts/
                  qwer3456tzui7890/transactions?page[number]=1&page[siz
                  e]=15
                  },
                  "previous": {
                        "href":                          "/v1.1/accounts/
                  qwer3456tzui7890/transactions?page[number]=2&page[siz
                  e]=15"
                  },
                  "next": {
                        "href":                          "/v1.1/accounts/
                  qwer3456tzui7890/transactions?page[number]=4&page[siz
                  e]=15"
                  },
                  "last": {
                        "href":                          "/v1.1/accounts/
                  qwer3456tzui7890/transactions?page[number]=2&page[siz
                  e]=15"
                  }
            }
      }
}
```


## Example request to obtain a list of standing orders

```
GET https://aspsp.example.es/aspsp-name/v1.1/accounts/qwer3456tzui7890/transactions?bookingStatus=information
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

### Example of a standing order list response

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "account": {
            "iban": "ES1111111111111111111111"
      },
      "transactions": {
            "information": [
            {
                  "creditorName": "John Miles",
                  "creditorAccount": {
                        "iban": "ES1111111111111111111111"
                  },
```

```
                  "transactionAmount": {
                        "currency": "EUR",
                        "amount": "256.67"
                  },
                  "remittanceInformationUnstructured":   "Example   for
            Remittance Information",
                  "bankTransactionCode": "PMNT-ICDT-STDO",
                  "additionInformationStructured":{
                  "standingOrderDetails": {
                  "startDate": "2018-03-01",
                  "endDate": "2020-06-31",
                              "executionRule": "preceding",
                              "frequency": "monthly",
                              "dayOfExecution": "24"
                        }
                  }
            }
            ]
      }
}
```


**Example response with error**


```
{
      "tppMessages": [{
            "category": "ERROR",
            "code": " ACCESS_EXCEDED "
      }
      ]
}
```


## 6.6 AIS: Obtain list of trusted payees

Obtains the list of trusted payees of the PSU, which has given explicit consent.

### 6.6.1 Request

**Endpoint**

GET {provider/{aspsp}/v1.1/trusted-beneficiaries?{account-id}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the ASPSP where the service is published | String | MA | Ex: aspsp.example.es |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |

**Query param**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **account-id** | Reference to the specific PSU account on which to retrieve the list of trusted payees.<br>Only if supported by ASPSP | String | COND | ^.{1,100} $<br>Ex: aspsp.example.es/v1.1/trusted-beneficiaries?account-id=3dc3d5b3-7023-4848-9853-f5400a64e80f |

**Header**

The same as those defined in the 6.5.1.1

**Body**

No data travels in the body of this request.

### 6.6.2 Response

**HTTP Code**

200 if the request has been successful.

f

**Header**

The same as those defined in the section 6.5.1.2

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **trustedBeneficiaries** | This report contains all the trusted beneficiaries of the PSU for those accounts that were consented. This array could be returned empty. | List<TrustedBeneficiary> | MA | Ex: "trustedBeneficiaries": […] |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message for the TPP sent through the HUB. | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.6.3 Examples

**Example request to obtain a list of global trust payees**

```
GET https://aspsp.example.es/aspsp-name/v1.1/trusted-beneficiaries
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
```

f

```
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example** of**response**

Response where the list of trusted payees is global

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "trustedBeneficiaries": [{
            "trustedBeneficiaryId": "8822345-fr33-50df-qqqq",
            "creditorAccount": {
                  "iban": "FR7612345987650123 45"
            },
            "creditorName": "Merchant1Name"
      },
      {
            "trustedBeneficiaryId": "8822345-fr33-50df-qqqq",
            "creditorAccount": {
                  "iban": "FR7612345987650126667"
            },
            "creditorName": "Merchant2Name"
      }
      ]
}
```

f

## 6.7 FCS: Establish consent for funds confirmation service

### 6.7.1 Fund confirmation consent

With this service a TPP can report a funds confirmation consent to the ASPSP on a specified account.

Unlike the request to establish consent for information about accounts, this consent has no secondary effects on existing ones.

Ex: it does not invalidate a prior consent.

#### 6.7.1.1 Request

**Endpoint**

POST {provider}/{aspsp}/v2.1/consents/confirmation-of-funds

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |

**Query parameters:**

No additional fields are specified.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$ |

f

| | | | | |
|---|---|---|---|---|
| | | | | Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **PSU-ID** | Identifier that the PSU uses to identify itself in its ASPSP.<br>It can be reported even if an OAuth token is being used and, in such a case, the ASPSP could check if the PSU-ID and the token match. | String | OP | Ex: PSU-ID: 12345678W |
| **PSU-ID-Type** | Type of the PSU-ID. Necessary in scenarios where the PSU has several PSU-IDs as access possibilities. | String | OP | Ex: PSU-ID-Type: NIF |
| **PSU-Corporate-ID** | Identifier of "company" in Online Channels. | String | OP | Ex: PSU-Corporate-ID: user@corporate.com |
| **PSU-Corporate-ID-Type** | Type of the PSU-Corporate-ID required by the ASPSP to identify its content. | String | OP | Ex: PSU-Corporate-ID-Type: email |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |
| **TPP-Redirect-Preferred** | If "true", the TPP has communicated to the HUB that it prefers SCA by redirection.<br>If "false", the TPP has informed the HUB that it prefers not to be redirected to SCA and the procedure will be by decoupled flow. | Boolean | OP | Ex: TPP-Redirect-Preferred: true |

f

| | | | | |
|---|---|---|---|---|
| | If the parameter is not used, the ASPSP will choose the SCA flow to apply depending on the SCA method chosen by the TPP / PSU.<br>**EMBEDDED NOT SUPPORTED IN THIS VERSION** | | | |
| **TPP-Redirect-URI** | URI of the TPP where the transaction flow must be redirected after any of the SCA phases.<br>It is recommended to always use this header field.<br>In the future, this field could change to mandatory.<br>The domain of this URI is required to be the same as the content in the TPP web certificate. | String | COND | ^.{1,250}$<br>Ex: TPP-Redirect-URI":"https://tpp.example.es/cb" |
| **TPP-Nok-Redirect-URI** | If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of the TPP-Redirect-URI in case of a negative result of the SCA method by redirection.<br>The domain of this URI is required to be the same as the content in the TPP web certificate. | String | OP | ^.{12,50}$<br>Ex: TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok" |

| | | | | |
|---|---|---|---|---|
| **TPP-Explicit-Authorisation-Preferred** | If equal to true, the TPP chooses to initiate the authorisation process separately, e.g. due to the need for authorisation of a set of operations simultaneously.<br>If false or the parameter is not used, there is no TPP preference. The TPP takes a direct authorisation of the transaction in the next step.<br>**Note**: ASPSP might not take it into account if it doesn't support it. | Boolean | OP | Ex: TPP-Explicit-Authorisation-Preferred: false |
| **TPP-Brand-Logging-Information** | This field could be used by the TPP to inform the ASPSP about the brand used by the TPP for the PSU. This information can be used to improve communication between the ASPSP and the PSU or the ASPSP and the TPP. | String | OP | ^.{1,70}$<br>Ex: TPP-Brand-Logging-Information: TPP Brand |
| **TPP-Rejection-NoFunds-Preferred** | **Note:** This field will be ignored if it is reported by the TPP. | String | OP | |
| **TPP-Notification-URI** | **Note:** This field will be ignored if it is reported by the TPP. | String | OP | |
| **TPP-Notification-Contained-Preferred** | **Note:** This field will be ignored if it is reported by the TPP. | String | OP | |

f

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **account** | Account on which the fund consultation is to be carried out. | Account Reference | MA | Ex: "access": {…} |
| **cardNumber** | Card number of the card issued by the PIISP. Must be sent if available. | String | OP | ^.{1,35}$ |
| **cardExpiryDate** | Expiry date of the card issued by PIISP. | String | OP | **ISODate**<br>Ex: "validUntil": "2018-05-17" |
| **cardInformation** | Additional explanation of the product. | String | OP | ^.{1,140}$ |
| **registrationInformation** | Additional information about the registration process for the PSU. For example, a reference to the TPP/PSU contract. | String | OP | ^.{1,140}$ |

#### 6.7.1.2 Response

**HTTP Code**

201 if the resource has been created

**Response code**

HTPP 201 response code if resource is created successfully.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Location** | Contains the hyperlink to the generated resource | String | MA | **Max512Text** |

f

| | | | | |
|---|---|---|---|---|
| | | | | Ex: Location: /v2.1/consents/confirmation-of-funds/{consentId} |
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **ASPSP-SCA-Approach** | Value returned if the SCA method has been set. Possible values:<br>• EMBEDDED<br>• DECOUPLED<br>• REDIRECT<br>The OAuth based SCA will be taken as REDIRECT. | String | COND | Ex: ASPSP-SCA-Approach: REDIRECT |
| **ASPSP-Notification-Support** | Not in use. Resource state notification services not supported | Boolean | NA | |
| **ASPSP-Notification-Content** | Not in use. Resource state notification services not supported | String | NA | |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **consentStatus** | Consent State Defined values in 9.5 Consent states | String | MA | Ex: "consentStatus": "received" |

f

| | | | | |
|---|---|---|---|---|
| **consentId** | Identifier of the resource that refers to the consent. It must be contained if consent was generated. | String | MA | ^.{1,36}$<br>Ex: "consentId": "123-QWE-456" |
| **scaMethods** | This element is contained if SCA is required and if the PSU can choose between different authentication methods.<br>If this data is contained, the link "startAuthorisationWithAuthenticationMethodSelection" will also be reported.<br>These methods must be presented to the PSU.<br>**Note:** Only if ASPSP supports SCA method selection | List<AuthenticationObject> | COND | Ex: "scaMethods": […] |
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU browser must be redirected by the TPP.<br>• startAuthorisation: in case an explicit start of transaction authorization is required (no SCA method selection)<br>• startAuthorisationWithAuthenticationMethodSelection: link to | Links | MA | Ex: "_links": {…} |

| | | | | |
|---|---|---|---|---|
| | the authorisation end-point where the authorisation sub-resource has to be generated while selecting the SCA method. This link is contained under the same conditions as the "scaMethods" field<br>• self: link to the resource created by this request.<br>• state: link to retrieve the state of the transaction.<br>• scaStatus: link to consult the SCA state corresponding to the authorisation sub-resource. This link is only contained if an authorization sub-resource has been created. | | | |
| **psuMessage** | Text to show to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.7.1.3 Examples

**Example of consent request**

```
POST https://www.hub.com/aspsp-name/v2.1/consent/confirmation-of-funds
Content-Encoding: gzip
```

f

```
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "account": {
            "iban": "ES1111111111111111111111"
      },
      "cardNumber": "123456781234",
      "cardExpiryDate": "2020-12-31",
      "cardInformation": "MyMerchant Loyalty Card",
      "registrationInformation": "Your contrat Number 1234 with MyMerchant is completed with the registration with your bank."
}
```

### Example response in case of SCA by redirection with implicitly generated authorisation sub-resource

```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: REDIRECT
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v2.1/consents/confirmation-of-funds/123-asdf-456
Content-Type: application/json
```

f

```
{
      "consentStatus": "received",
      "consentId": "123-asdf-456",
      "_links": {
            "scaRedirect": {
                  "href": "https://hub.example.es/authorization "
            },
            "self": {
                  "href":    "/v2.1/consents/confirmation-of-funds/123-
            asdf-456",
            },
            "state": {
                  "href":    "/v2.1/consents/confirmation-of-funds/123-
            asdf-456",
            },
            "scaStatus": {
                  "href":                    "/v2.1/consents/123-asdf-
            456/authorisations/confirmation-of-funds/123auth456"
            }
      }
}
```


### Example response in case of decoupled SCA


```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: DECOUPLED
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v2.1/consents/confirmation-of-funds/123-asdf-456
Content-Type: application/json
{
      "consentStatus": "received",
      "consentId": "123-asdf-456",
      "_links": {
            "self": {
```


f

```
            "href":    "/v2.1/consents/confirmation-of-funds/123-
        asdf-456",
        "state": {
            "href":    "/v2.1/consents/confirmation-of-funds/123-
        asdf-456",
        }
    },
    "psuMessage": "Please use your Bank XXX application to authorise
consent".
}
```

### 6.7.2 Obtain consent state

This service allows the TPP to know the state of a previously initiated consent request.

#### 6.7.2.1 Request

**Endpoint**

GET {provider}/{aspsp}/v2.1/consents/confirmation-of-funds/{consent-id}/state

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **consentId** | Identifier of the resource that refers to the consent.<br>Previously sent in response to a consent request message from the TPP. | String | MA | ^.{1,36}$<br>Ex:123-qwerty-456 |

**Query parameters:**

f

No additional fields are specified.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |

**Body**

No additional data travels.

### 6.7.2.2 Response

This message is returned to the TPP in response to the consent state request message.

**Response code**

**HTTP Code**

200 if the request has been successful.

**Header**

f

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the request assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **consentStatus** | Consent authentication state. Defined values in 9.5 Consent states | String | MA | Ex: "consentStatus": "valid" |
| **psuMessage** | Text to show to the PSU | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.7.2.3 Examples

**Example of request**

```
GET https://www.hub.com/aspsp-name/v2.1/consents/confirmation-of-funds/123asdf456/state
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
```

```
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response**

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "consentStatus": "valid"
}
```

### 6.7.3 Retrieve consent information

#### 6.7.3.1 Request

This message is sent by the TPP as a request to retrieve information from a previously created fund confirmation consent. Especially useful for the TPP in cases where consent was managed directly between the ASPSP and the PSU.

**Endpoint**

GET {provider}/{aspsp}/v2.1/consents/confirmation-of-funds/{consentId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |

f

| | | | | |
|---|---|---|---|---|
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **consentId** | Identifier of the resource that refers to the consent.<br>Previously sent in response to a consent request message from the TPP. | String | MA | ^.{1,36}$<br>Ex: 7890-asdf-4321 |

**Query parameters:**

No additional fields are specified.

**Header**

The same as those defined in the section 6.7.2.1

**Body**

No additional data travels.

### 6.7.3.2 Response

This message is returned to the TPP in response to the message to retrieve consent information.

**HTTP Code**

200 if the request has been successful.

**Header**

The same as those defined in the section 6.7.2.2

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| **account** | Account on which the fund consultation is to be carried out. | Account Reference | MA | Ex: "access": {…} |
| **cardNumber** | Card number of the card issued by the PIISP. Must be sent if available. | String | OP | ^.{1,35}$ |
| **cardExpiryDate** | Expiry date of the card issued by PIISP. | String | OP | **ISODate**<br>Ex: "validUntil": "2018-05-17" |
| **cardInformation** | Additional explanation of the product. | String | OP | ^.{1,140}$ |
| **registrationInformation** | Additional information about the registration process for the PSU. For example, a reference to the TPP/PSU contract. | String | OP | ^.{1,140}$ |
| **consentStatus** | Consent State Values defined in annexes. | String | MA | Ex: "consentStatus":"valid" |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.7.3.3 Examples

**Example of request**

```
GET https://www.hub.com/aspsp-name/v2.1/consents/confirmation-of-funds/7890-asdf-4321/
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
```

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```
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response**

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "account": {
            "iban": "ES1111111111111111111111"
      },
      "cardNumber": "123456781234",
      "cardExpiryDate": "2020-12-31",
      "cardInformation": "MyMerchant Loyalty Card",
      "registrationInformation": "Your contrat Number 1234 with MyMerchant is completed with the registration with your bank."
      "consentStatus": "valid"
}
```

### 6.7.4 Revoke consent

#### 6.7.4.1 Request

This service allows you to request the deletion of a consent previously created in the ASPSP.

**Endpoint**

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DELETE {provider}/{aspsp}/v2.1/consents/confirmation-of-funds/{consentId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **consentId** | Identifier of the resource that refers to the consent.<br>Previously sent in response to a consent request message from the TPP. | String | MA | ^.{1,36}$<br>Ex: 7890-asdf-4321 |

**Query parameters:**

No additional fields are specified.

**Header**

The same as those defined in the section 6.7.2.1

**Body**

No additional data travels.

### 6.7.4.2 Response

This message is sent to the TPP in response to the request to remove consent.

**Response code**

HTPP 204 response code for successful cancellation.

**Header**

The same as those defined in the section 6.7.2.2

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**Body**

No additional fields are specified.

#### 6.7.4.3 Examples

**Example of request**

```
DELETE https://www.hub.com/aspsp-name/v2.1/consents/confirmation-of-funds/7890-asdf-4321
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: DELETE
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response**

```
HTTP / 1.1 204 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
```

### 6.7.5 Multilevel SCA to establish consent

In case of SCA flow by redirection, the TPP may redirect the initiating PSU to the scaRedirect link to apply SCA.

In case of SCA flow by decoupling, the TPP will receive in the psuMessage field the message to be displayed to the PSU and directed to its banking app.

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Additionally, the ASPSP will return a message in the psuMessage field to inform the PSU that the operation requires SCA by more users.

## 6.8 FCS: Fund Confirmation Service

### 6.8.1 Fund inquiry

This type of message is used in the fund enquiry service. The TPP sends the HUB the request for a fund inquiry for a given amount.

The HUB contacts the ASPSP to ask whether or not it has funds and, after consultation, returns the response to the TPP.

**Rules that apply to the confirmation of funds in multi-currency accounts**

- If the "cardNumber" is not given, but the identifier of the PSU account is contained → -->Check the default account registered by the client
- If no "cardNumber" is given, but the PSU account identifier together with the currency is contained → -->Check availability of funds on the sub-account specified by the id+moneda
- If the "cardNumber" and the PSU account identifier is given → Check the availability of funds on the sub-account represented by the "cardNumber".
- If the "cardNumber" is not registered for any of the subaccounts, or if the "cardNumber" is registered for a different subaccount, the "cardNumber" could be ignored.

#### 6.8.1.1 Request

**Endpoint**

POST {provider}/{aspsp}/v1.1/funds-confirmations

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released | String | MA | Ex: www.hub.com |

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| | | | | |
|---|---|---|---|---|
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2.<br>Only if consent management has been carried out through the API. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |
| **Consent-ID** | Identifier of the consent obtained in the transaction to request consent.<br>Only if consent management has been carried out through the API. | String | MA | ^.{1,36}$<br>Ex: Consent-ID: 7890-asdf-4321 |

**Body**

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| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **cardNumber** | Card numbering issued by PIISP. Must be sent if available. | String | OP | Ex:<br>"cardNumber": "1111-1111-1111-1111" |
| **account** | PSU account number. | AccountReference | MA | Ex: "account": {"iban":"ES1111111111111111111111"} |
| **payee** | Commerce where the card is accepted as information for the PSU. | String | OP | ^.{1,70}$<br>Ex: "payee":"Nombre comercio" |
| **instructedAmount** | Contains the amount and currency to consult. | Amount | MA | Ex: "instructedAmount": {...} |

#### 6.8.1.2 Response

This message is returned by the HUB to the TPP in response to the funds confirmation message.

**HTTP Code**

200 if the request has been successful.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP and sent through the HUB to the ASPSP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

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**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **fundsAvailable** | It takes the value "true" if there are sufficient funds available at the time of the request; "false" otherwise. | Boolean | MA | Ex: "fundsAvailable": true |
| **tppMessages** | Message to the TPP | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.8.1.3 Examples

**Example of request**

```
POST https://www.hub.com/aspsp-name/v1.1/funds-confirmations
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
Date: Sun, 17 Oct 2017 13:15:17 GMT
{
      "cardNumber": "87432569872156",
      "account": {
            "iban": "ES1111111111111111111111"
      },
      "payee": "Name123",
      "instructedAmount": {
            "currency": "EUR",
            "amount": "153.50"
      }
}
```

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**Sample response with available funds**

```
HTTP/1.1 200 Ok
X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:47 GMT
Content-Type: application/json
{
      "fundsAvailable": true
}
```

## 6.9 Sessions: combination of AIS and PIS services

Session support allows combining AIS and PIS services in the same session.

The session support is determined by the access token obtained after performing the OAuth2 protocol (pre-step)

For the session to be supported, the access token must have been obtained for the "PIS" and "AIS" scope and, the TPP, have the PISP and AISP roles in its eIDAS certificate.

## 6.10 Processes common to services

### 6.10.1 Start the authorization process (explicit)

**Use**

The initiate authorization process is a process required to create a new authorization sub-resource (if not created implicitly). Applies in the following scenarios:

- The ASPSP has indicated with a "startAuthorisation" link in the response to a payment initiation request that an explicit start of the authorisation process is required by the TPP.
- The ASPSP has indicated with a "startAuthorisation" link in response to a request to cancel payment that an explicit start of the authorization process is required by the TPP.
- The ASPSP has indicated with a "startAuthorisation" link in the response to a request for consent to account information that an explicit start of the authorisation process is required by the TPP.

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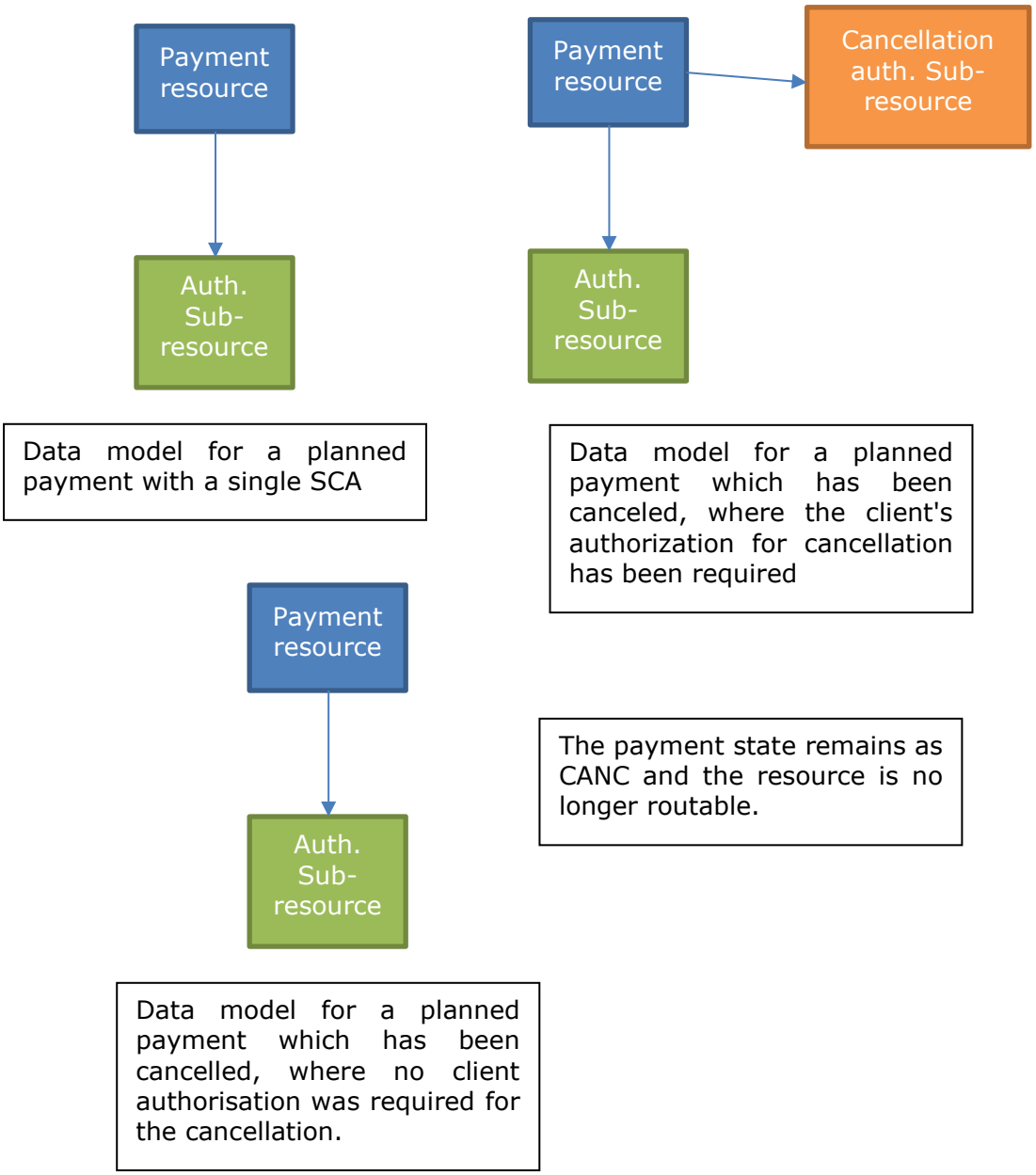
- The ASPSP has indicated with a "startAuthorisation" link in the response to a Confirmation of Funds consent request that an explicit start of the authorisation process is required by the TPP.

**Abstract data model**

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#### 6.10.1.1 Request

**Endpoint in case of Fund Confirmation Consent**

POST {provider}/{aspsp}/v2.1/consents/confirmation-of-funds/{consentId}/authorisations

**Endpoint in case of Start of Payment**

POST {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/authorisations

**Endpoint in case of Payment Cancellation**

POST {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/cancellation-authorisations

**Endpoint in case of Account Information Consent**

POST {provider}/{aspsp}/v1.1/consents/{consentId}/authorisations

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: hub.example.es |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-service** | Possible values are:<br>• payments<br>• bulk-payments<br>• periodic-payments | String | COND | Ex: {provider}/v1.1/payments |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | COND | Ex: {provider}/v1.1/payments/sepa-credit-transfers/ |

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| | | | | |
|---|---|---|---|---|
| **paymentI, consentId** | Resource identifier that refers to the initiation of payment. | String | MA | ^.{1,36}$<br>Ex: 123-qwe-456 |

**Query parameters:**

No additional parameters are specified for this request.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Content-Type** | Value: application / json | String | MA | Content-Type: application/json |
| **X-Request-ID** | Unique transaction identifier assigned by the TPP and forwarded via the HUB to the ASPSP | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |
| **PSU-ID** | Identifier that the PSU uses to identify itself in its ASPSP.<br>It can be reported even if an OAuth token is being used and, in such a case, the ASPSP could check if the PSU-ID and the token match. | String | OP | Ex: PSU-ID: 12345678W |

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| | | | | |
|---|---|---|---|---|
| **PSU-ID-Type** | Type of the PSU-ID. Necessary in scenarios where the PSU has several PSU-IDs as access possibilities. | String | OP | Ex: PSU-ID-Type: NIF |
| **PSU-Corporate-ID** | Identifier of "company" in Online Channels. | String | OP | Ex: PSU-Corporate-ID: user@corporate.com |
| **PSU-Corporate-ID-Type** | Type of the PSU-Corporate-ID required by the ASPSP to identify its content.<br>TBD | String | OP | Ex: PSU-Corporate-ID-Type: email |
| **TPP-Redirect-Preferred** | If "true", the TPP has communicated to the HUB that it prefers SCA by redirection.<br>If "false", the TPP has informed the HUB that it prefers not to be redirected to SCA and the procedure will be by decoupled flow.<br>If the parameter is not used, the ASPSP will choose the SCA flow to apply depending on the SCA method chosen by the TPP / PSU.<br>**EMBEDDED NOT SUPPORTED IN THIS VERSION** | Boolean | OP | Ex: TPP-Redirect-Preferred: true |
| **TPP-Redirect-URI** | HUB URI where the flow of the transaction should be redirected after finishing the SCA by redirect.<br>It is recommended to always use this header field. | String | COND | ^.{1,250}$<br>Ex: TPP-Redirect-URI":"https://hub.example.es/cb" |

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|---|---|---|---|---|
| | In the future, this field could change to mandatory. | | | |
| **TPP-Nok-Redirect-URI** | If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of the TPP-Redirect-URI in case of a negative result of the SCA method by redirection. | String | OP | ^.{1,250}$<br>Ex: TPP-Nok-Redirect-URI":"https://hub.example.es/cb/nok" |

**Body**

No additional fields are specified.

#### 6.10.1.2 Response

**HTTP Code**

201 if the resource has been created

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **Location** | Contains the link to the generated resource. | String | MA | Ex: Location: /v1.1/payments/{payment-product}/{paymentId}/authorisations/123qwert/456 |
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP and sent through the HUB to the ASPSP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

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| | | | | |
|---|---|---|---|---|
| **ASPSP-SCA-Approach** | Value returned if the SCA method has been set. Possible values:<br>• EMBEDDED<br>• DECOUPLED<br>• REDIRECT<br><br>The SCA based on OAuth2 will be taken as REDIRECT. | String | COND | Ex: ASPSP-SCA-Approach: REDIRECT |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **scaStatus** | SCA state | String | MA | Ex: "scaStatus": "received" |
| **authorizationId** | Resource identifier that refers to the authorization sub-resource created. | String | MA | ^.{1,36}$<br>Ex: "authorisationId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7" |
| **scaMethods** | This element is contained if SCA is required and if the PSU can choose between different authentication methods.<br>If this data is contained, the "selectAuthenticationMethod" link will also be reported.<br>These methods must be presented to the PSU.<br>**Note:** Only if ASPSP supports SCA method selection | List<AuthenticationObject> | COND | Ex: "scaMethods": […] |

| | | | | |
|---|---|---|---|---|
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU browser must be redirected by the TPP.<br>• selectAuthenticationMethod: link to the authorization or cancellation authorization sub-resource where the selected SCA method will be informed.<br>• scaStatus: link to consult the SCA state corresponding to the authorisation sub-resource. | Links | MA | Ex: "_links": {…} |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,512}$<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message for the TPP sent through the HUB. | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.10.1.3 Examples

**Example request about a Payment Cancellation**

```
POST https://hub.example.es/aspsp-name/v1.1/payments/sepa-credit-transfers/qwert1234tzui7890/cancellation-authorisations

Content-Encoding: gzip
```

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```
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:37 GMT
```

### Example response in case of SCA by redirection

```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: REDIRECT
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1.1/payments/sepa-credit-transfers/123-qwe-456/cancellation-authorisations/123auth456
Content-Type: application/json
{
      "scaStatus": "received",
      "authorisationId": "123auth456",
      "_links": {
            "scaRedirect": {
                  "href": "https://hub.example.es/authorize "
            },
            "scaStatus": {
                  "href": "/v1.1/payments/sepa-credit-transfers/123-qwe-456/cancellation-authorisations/123auth456"
            }
```

```
        }
}
```

### 6.10.2 Update PSU data (select SCA method)

This message is sent by the TPP to the ASPSP through the HUB to inform the SCA method selected by the PSU.

The SCA-Approach may depend on the selected SCA method.

#### 6.10.2.1 Request

**Endpoint in case of Start of Payment**

PUT {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/authorisations/{authorisationId}

**Endpoint in case of Payment Cancellation**

PUT {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/cancellation-authorisations/{authorisationId}

**Endpoint in case of Account Information Consent**

PUT {provider}/{aspsp}/v1.1/consents/{consentId}/authorisations/{authorisationId}

**Endpoint in case of Fund Confirmation Consent**

PUT {provider}/{aspsp}/v2.1/consents/confirmation-of-funds/{consentId}/authorisations/{authorisationId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: hub.example.es |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |

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| | | | | |
|---|---|---|---|---|
| **payment-service** | Possible values are:<br>• payments<br>• bulk-payments<br>• periodic-payments | String | COND | Ex: {provider} / {aspsp} /v1.1/payments |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | COND | Ex: {provider}/v1.1/payments/sepa-credit-transfers/ |
| **paymentId, consentId** | Resource identifier that refers to the initiation of payment. | String | MA | ^.{1,36}$<br>Ex: 123-qwe-456 |
| **authorizationId** | Identifier of the authorisation or cancellation authorisation sub-resource. | String | COND | ^.{1,36}$ |

**Query parameters:**

No additional fields are specified.

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique transaction identifier assigned by the TPP and forwarded via the HUB to the ASPSP | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

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| | | | | |
|---|---|---|---|---|
| **Authorization** | Bearer Token. Obtained in a previous authentication on OAuth2. | String | MA | Ex:<br>Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **authenticationMethodId** | Authentication method identifier. | String | MA | ^.{1,35}$<br>Ex: "authenticationMethodId": "123" |

### 6.10.2.2 Response

**HTTP Code**

200 if successful

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP and sent through the HUB to the ASPSP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |
| **ASPSP-SCA-Approach** | Value returned if the SCA method has been set. Possible values:<br>• EMBEDDED<br>• DECOUPLED<br>• REDIRECT | String | OP | Ex: ASPSP-SCA-Approach: REDIRECT |

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| | | | | |
|---|---|---|---|---|
| | The SCA based on OAuth2 will be taken as REDIRECT. | | | |

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **transactionFees** | It could be used by the ASPSP to carry the total commission of the transaction. This field includes the currencyConversionFees, if applicable. | Amount | OP | Ex: "transactionFees": {…} |
| **currencyConversionFee** | It could be used by the ASPSP to carry currency-specific conversion fees associated with the initiated credit transfer. | Amount | OP | Ex: "currencyConversionFee": {…} |
| **estimatedTotalAmount** | Amount which is estimated to be withdrawn from the issuer's account.<br>Note: this amount includes commissions. | Amount | OP | Ex: "estimatedTotalAmount": {…} |
| **estimatedInterbankSettlementAmount** | Estimated amount to be transferred to the beneficiary. | Amount | OP | Ex: "estimatedInterbankSettlementAmount": {…} |
| **chosenScaMethod** | **NOT SUPPORTED IN THIS VERSION.** | AuthenticationObject | COND | |
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU | Links | MA | Ex: "_links": {…} |

f

| | | | | |
|---|---|---|---|---|
| | browser must be redirected by the TPP.<br>• scaStatus: link to consult the SCA state corresponding to the authorisation sub-resource. This link is only contained if an authorization sub-resource has been created. | | | |
| **scaStatus** | SCA state | String | MA | Ex: "scaStatus": "received" |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message for the TPP sent through the HUB. | List<TppMessage> | OP | Ex: "tppMessage": […] |

#### 6.10.2.3 Examples

**Example request about a Payment Cancellation**

```
PUT https://hub.example.es/v1.1/payments/sepa-credit-transfers/123-qwe-456/cancellation-authorisations/123asd456
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
```

f

```
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response**

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
ASPSP-SCA-Approach: REDIRECT
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "scaStatus": "scaMethodSelected",
      "scaRedirect": {
            "href": "https://hub.example.es/authorize "
      },
      "scaStatus": {
            "href":      "/v1.1/payments/sepa-credit-transfers/123-qwe-
            456/cancellation-authorisations/123auth456"
      }
}
```

### 6.10.3 Get authorization sub-resources

It will provide an array of resource identifiers for all generated authorization sub-resources.

#### 6.10.3.1 Request

**Endpoint in case of Start of Payment**

GET {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/authorisations

**Endpoint in case of Payment Cancellation**

f

GET {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/cancellation-authorisations

**Endpoint in case of Account Information Consent**

GET {provider}/{aspsp}/v1.1/consents/{consentId}/authorisations

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the ASPSP where the service is published. | String | MA | Ex: hub.example.es |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-service** | Possible values are:<br>• payments<br>• bulk-payments<br>• periodic-payments | String | COND | Ex: {provider}/v1.1/payments |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | COND | Ex: {provider}/v1.1/payments/sepa-credit-transfers/ |
| **paymentId, consentId** | Resource identifier that refers to the initiation of payment. | String | MA | ^.{1,36}$<br>Ex: 123-qwe-456 |

**Query parameters:**

No additional fields are specified.

**Header**

The same as those defined in the section 6.10.2.1

f

**Body**

No additional data is specified.

### 6.10.3.2 Response

**HTTP Code**

200 if the request has been successful.

**Header**

The same as those defined in the section 6.10.2.2

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **authorisationIds** | Array of authorizationIds.<br>**Note**: required field if it is not a cancellation | Array<String> | COND | ^.{1,36}$<br>Ex: " authorisationIds ": […] |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message for the TPP sent through the HUB. | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.10.3.3 Examples

**Example of request**

```
GET https://hub.example.es/asp-name/v1.1/payments/sepa-credit-transfers/123-qwe-456/cancellation-authorisations
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
Content-Type: application/json
```

f

```
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

**Example response**

```
HTTP/1.1 200 Ok
X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:47 GMT
{
      "authorizationIds": ["123auth456"]
}
```

### 6.10.4 Get SCA state

Message sent by the TPP to the ASPSP through the Hub to request the SCA state of an authorization sub-resource.

#### 6.10.4.1 Request

**Endpoint in case of Start of Payment**

GET {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/authorisations/{authorisationId}

**Endpoint in case of Payment Cancellation**

GET {provider}/{aspsp}/v1.1/{payment-service}/{payment-product}/{paymentId}/cancellation-authorisations/{authorisationId}

**Endpoint in case of Account Information Consent**

GET {provider}/{aspsp}/v1.1/consents/{consentId}/authorisations/{authorisationId}

**Endpoint in case of Fund Confirmation Consent**

GET {provider}/{aspsp}/v2.1/consents/confirmation-of-funds/{consentId}/authorisations/{authorisationId}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: hub.example.es |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-service** | Possible values are:<br>• payments<br>• bulk-payments<br>• periodic-payments | String | COND | Ex: {provider}/v1.1/payments |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments<br>• cross-border-credit-transfers | String | COND | Ex: {provider}/v1.1/payments/sepa-credit-transfers/ |
| **paymentId, consentId** | Resource identifier referring to the initiation of payment or consent | String | MA | ^.{1,36}$<br>Ex: 123-qwe-456 |
| **authorizationId** | Identifier of the sub-resource associated with the consent. | String | COND | ^.{1,36}$ |

**Query parameters:**

No additional fields are specified.

**Header**

The same as those defined in the section 6.10.2.1

**Body**

No additional data is specified.

f

### 6.10.4.2 Response

**HTTP Code**

200 if the request has been successful.

**Header**

The same as those defined in the section 6.10.2.2

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **scaStatus** | SCA state | String | MA | Ex: "scaStatus": "finalised" |
| **trustedBeneficiaryFlag** | With this flag the ASPSP could optionally communicate to the TPP that the creditor was part of the list of trusted payees. This attribute is only contained in case of a final state of the scaStatus. | Boolean | OP | Ex: 'trustedBeneficiaryFlag': true |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message for the TPP sent through the HUB. | List<TppMessage> | OP | Ex: "tppMessages": […] |

### 6.10.4.3 Examples

**Example of request**

GET https://hub.example.es/aspsp-name/v1.1/payments/sepa-credit-transfers/123-qwe-456/cancellation-authorisations/123asd456

f

```
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

## Example response

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "scaStatus": " finalised"
}
```

# 7. DESCRIPTION SERVICES OF ADDED VALUE

## 7.1 ASPSPs service available

This message is sent by the TPP to the HUB to receive information about which ASPSPs are available in the system.

### 7.1.1 Version 1

#### 7.1.1.1 Request

**Endpoint**
GET {provider}/v1.1/sva/aspsps

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

**Body**

No additional fields are specified.

f

#### 7.1.1.2 Response

**HTTP Code**

200 if the request has been successful.

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **aspsps** | List of ASPSPs available in the system. The returned list will be made up of relevant information from the ASPSP. | List<Aspsp> | MA | Ex: "aspsps": [] |
| **tppMessages** | Contains the type of message and the code associated with it | TppMessage | MA | Ex: "tppMessages": […] |

#### 7.1.1.3 Examples

**Example of request**

```
GET https://www.hub.com/v1.1/sva/aspsps
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 29391c7e-ad88-49ec-a2ad-99ddcb1f7721
Date: Sun, 27 Oct 2017 13:15:17 GMT
```

**Example response**

```
HTTP/1.1 200 Ok

{
      "aspsps": [
            {
                  "bic": "XXXXESMMXXX",
                  "name": "aspsp1"
            },
            {
```

f

```
                "bic": "YYYYESMMXXX",
                "name": "aspsp2"
            }
        ]
}
```

### 7.1.2 Version 2

This version includes the API name for each ASPSP.

#### 7.1.2.1 Request

**Endpoint**
GET {provider}/v2.1/sva/aspsps

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |

**Header**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **X-Request-ID** | Unique identifier of the operation assigned by the TPP. | String | MA | **UUID**<br>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$<br>Ex:<br>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7 |

**Body**

No additional fields are specified.

#### 7.1.2.2 Response

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **aspsps** | List of ASPSPs available in the system. The returned list will be made up of relevant information from the ASPSP. | List<Aspsp> | MA | Ex: "aspsps": [] |
| **tppMessages** | Contains the type of message and the code associated with it | TppMessage | MA | Ex: "tppMessages": […] |

#### 7.1.2.3 Examples

**Example of request**

```
GET https://www.hub.com/v2.1/sva/aspsps
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 29391c7e-ad88-49ec-a2ad-99ddcb1f7721
Date: Sun, 27 Oct 2017 13:15:17 GMT
```

**Example response**

```
HTTP/1.1 200 Ok

{
      "aspsps": [
            {
                  "bic": "XXXXESMMXXX",
                  "name": "Nombre del banco",
                  "apiName": "nombreBanco1"
            },
            {
                  "bic": "YYYYESMMXXX",
                  "name": "Nombre del banco 2",
```

f

```
                "apiName": "nombreBanco2"
            }
        ]
}
```

## 7.2 SVA: start of payment with list of accounts available for PISP

This service allows the TPP to initiate a payment without informing the issuer's account "debtorAccount" and provides the list of accounts during the SCA flow for the PSU to select one.

This valuable service complements the payments API and makes use of CORE services to:

- Get payment state
- Retrieve payment initiation information
- Cancel start of payment

### 7.2.1 Payment Initiation Flows

#### 7.2.1.1 SCA flow by redirection with account selection: implicit start of authorization process

The following represents the sequence of requests / responses that are necessary for this service.

f

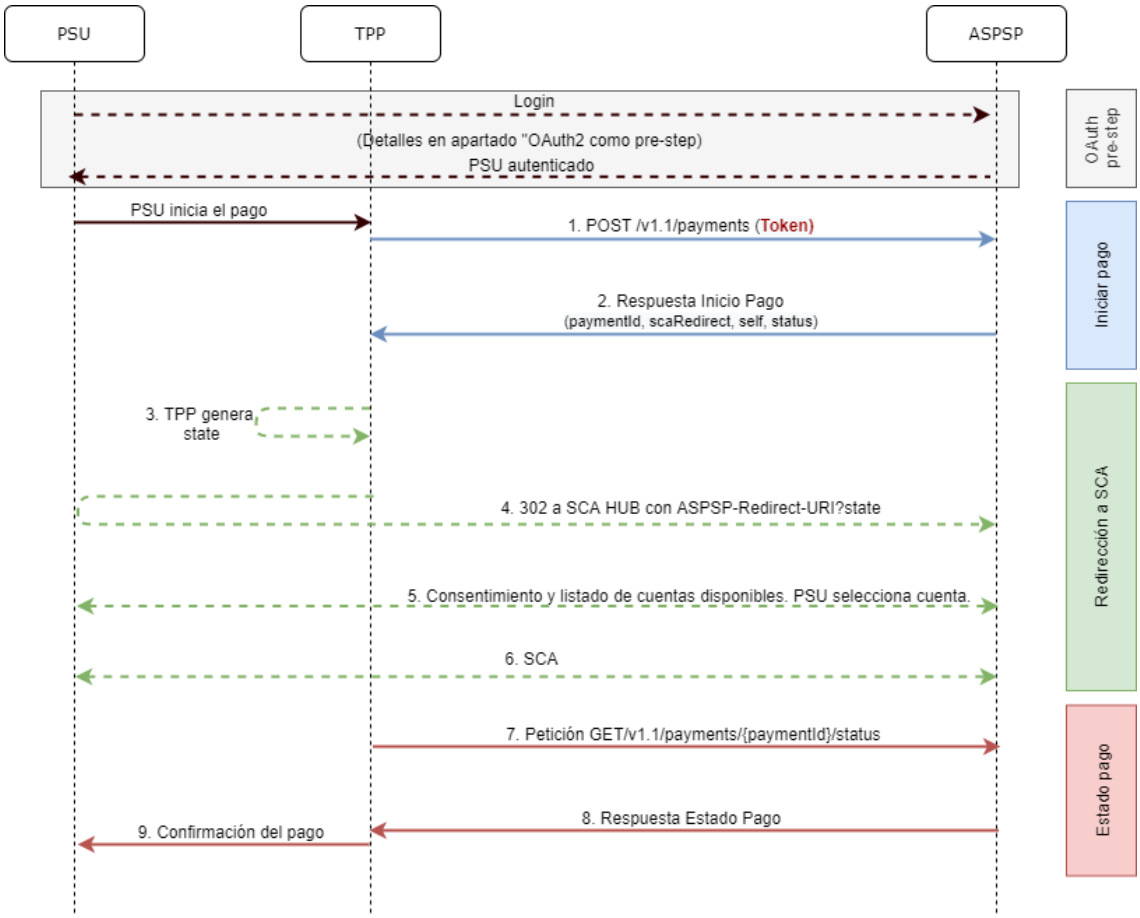


**Figure 8: SCA flow by redirection with account selection- implicit start of authorisation process**

## OAuth2 (pre-step)

The main purpose of this flow is to authenticate the PSU to get access to the services displayed by its ASPSP through the use of an access token obtained after the application of this protocol.

In order to simplify, the detail of this flow has been omitted from the Figure 4 Figure 4: Start of payment with OAuth2 as pre-step and SCA flow by redirection and can be found in the section 6.16.1 OAuth2 as a pre-step.VERIFY

**Note**: this step is optional. Only applies if no valid access token is available.

## PSU initiates payment

The PSU wants to pay through the TPP.

### 1. Start Payment Request (TPP → ASPSP)

The TPP sends a POST request to initiate payment with *token* $_{HUB}$to HUB. Among the data reported by the TPP are:

- **TPP data:** identifier, name, roles, NCA, certificate ...
- **Payment data:** transfer type, ordering IBAN, beneficiary IBAN, amount, currency, concept ...
- **Data for risk scoring calculation:** IP, port, user-agent, language, location, HTTP headers ...
- **X-Request-ID:** identifier of the operation assigned by the TPP.
- **Access token** from TPP to Hub
- **TPP-Redirect-Preferred:** true (SCA flow preference by redirection) or not reported (ASPSP decides SCA by redirection).
- **TPP-Redirect-URI:** Return URI of the TPP after redirection to SCA.
- **TPP-Explicit-Authorization-Preferred:** false - TPP preference to initiate authorization implicitly
- **Other data**

### 4. Start Payment Response (ASPSP → TPP)

The Hub, after receiving the response from the ASPSP, responds to the TPP indicating that strong authentication (SCA) is required by redirecting to the authentication endpoint of the Hub, returning:

- **transactionStatus**: ISO 20022 state of the received payment start.
- **paymentId**: resource identifier generated by the Hub referring to the current payment initiation transaction.
- **_links**
    - **scaRedirect**: links to the Hub endpoint where after receiving the redirect from the TPP it redirects back to the scaRedirect of the ASPSP. This URL can add security parameters to allow session maintenance during redirection.

      `https://hub.example.com/auth`
    - **self**: link to the payment resource generated by the Hub for the payment initiation request received from the TPP.

- **state**: link of the Hub to which the TPP can make a request to check the state of the payment.

- **Other data**

### 3. TPP generates state

The TPP, after receiving the response to initiate payment, generates a value for *state* (XSRF token) that it must link to the PSU browser session.

### 4. Redirect to scaRedirect (TPP → ASPSP)

The TPP redirects the PSU to the authentication endpoint by adding to it the field*state* as a query-param.

```
HTTP/1.1 302 Found
Location: https://hub.example.com/auth?state=qwerty
```

### SCA entre PSU ←→ASPSP

During this redirection process, the ASPSP will be able to:

- Show consent to the PSU to access the available accounts
- Show available accounts and the PSU selects one of them
- Show commissions to the PSU if required
- Show ASPSP-PSU interface for SCA

### 6. SCA & Commissions

The ASPSP, after receiving the risk scoring of the operation, decides if SCA is necessary and executes it, showing the commissions.

Note: if the SCA process runs correctly, the payment is started.

### 11. Payment State Request (TPP → ASPSP)

The TPP will send a request for payment state with *token* to know the state of the payment.

### 12. Payment State Response (ASPSP → TPP)

The ASPSP updates the state of the operation and responds to the TPP.

f

#### 7.2.1.1 SCA flow by redirection: implicit start of authorization process

Similar to6.3.1.2 SCA flow by redirection: implicit start of authorization.

#### 7.2.1.2 Multilevel SCA flow for payments

Similar to6.3.1.4 Multilevel SCA flow for payments.

### 7.2.2 Payment initiation completion

This message is sent by the TPP to the Hub to initiate a payment without informing the issuer's account.

#### 7.2.2.1 Request

**Endpoint**

POST {provider}/{aspsp}/v1.1/sva/payments/{payment-product}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the HUB where the service is released. | String | MA | Ex: www.hub.com |
| **aspsp** | Name of the ASPSP to which the request is to be made. | String | MA | Ex: aspsp-name |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments | String | MA | Ex: {provider}/{aspsp}/v1.1/payments/sepa-credit-transfers/ |

f

| | | | | |
|---|---|---|---|---|
| | • cross-border-credit-transfers | | | |

**Header**

The same as those defined in the section 6.3.2.1

**Body**

The content of the Body is defined in 8.20 SinglePayment following the conditions of the following table.

The fields marked as mandatory (OB) and optional (OP) are supported by the ASPSP with this type of condition.

The fields marked as COND depend on each ASPSP.

| Field | SCT | SCT INST | Target 2 | Cross Border CT |
|---|---|---|---|---|
| **endToEndIdentification*** | OP | OP | NA | NA |
| **instructionIdentification** | COND | COND | COND | COND |
| **debtorName** | COND | COND | COND | COND |
| **debtorAccount** | NA | NA | NA | NA |
| **debtorId** | COND | COND | COND | COND |
| **ultimateDebtor** | COND | COND | COND | COND |
| **instructedAmount** | MA | MA | MA | MA |
| **currencyOfTransfer** | COND | COND | COND | COND |
| **exchangeRateInformation** | COND | COND | COND | COND |
| **creditorAccount** | MA | MA | MA | MA |
| **creditorAgent** | OP | OP | OP | MA/OP |
| **creditorAgentName** | COND | COND | COND | COND |
| **CreditorName** | MA | MA | MA | MA |
| **creditorId** | COND | COND | COND | COND |
| **creditorAddress** | OP | OP | OP | OP |
| **creditorNameAndAddress** | COND | COND | COND | COND |
| **ultimateCreditor** | COND | COND | COND | COND |
| **purposeCode** | COND | COND | COND | COND |

f

| | | | | |
|---|---|---|---|---|
| **chargeBearer** | COND | COND | COND | COND |
| **serviceLevel** | COND | COND | COND | COND |
| **remittanceInformationUnstructured** | OP | OP | OP | OP |
| **remittanceInformationUnstructuredArray** | COND | COND | COND | COND |
| **remittanceInformationStructured** | COND | COND | COND | COND |
| **remittanceInformationStructuredArray** | COND | COND | COND | COND |
| **requestedExecutionDate** | n.a. | n.a. | n.a. | n.a. |
| **requestedExecutionTime** | n.a. | n.a. | n.a. | n.a. |

***NOTE: This field will be used by the ASPSP, optionally to be sent by you, to inform the TPP of the value of the endToEndIdentification that the ASPSP itself includes in this identifier in the transfer itself.**

#### 7.2.2.2 Response

**HTTP Code**

201 if the resource has been created.

**Header**

The same as those defined in the section 6.3.2.1.1

**Body**

The same as those defined in the section 6.3.2.1.1

#### 7.2.2.3 Examples

**Example of request**

```
POST https://www.hub.com/aspsp-name/v1.1/sva/payments/sepa-credit-transfers
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
```

f

```
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount": "153.50"
      },
      "creditorAccount": {
            "iban": "ES2222222222222222222"
      },
      "creditorName": "Nombre123",
      "remittanceInformationUnstructured": "Información adicional"
}
```

## Example response

```
HTTP/1.1 201 Created
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: REDIRECT
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1.1/payments/sepa-credit-transfers/1234-qwer-5678
{
```

```
      "transactionStatus": "RCVD",
      "paymentId": "123-qwe-456",
      "_links": {
            "scaRedirect": {
                  "href": "https://www.hub.com/aspsp-name/authorize"
            },
            "self": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456",
            "state": {
                  "href":    "/v1.1/payments/sepa-credit-transfers/123-
            qwe-456/state"
            }
      }
}
```


## 7.3 SVA: Start of standing orders for recurring / periodic payments with list of accounts available for PISP

This service allows the TPP to initiate a payment without informing the issuer's account "debtorAccount" and provides the list of accounts during the SCA flow for the PSU to select one.

This valuable service complements the payments API and makes use of CORE services to:

- Obtain periodic payment state
- Retrieve recurring payment initiation information
- Cancel start of recurring payment

### 7.3.1 Periodic Payment Initiation Flows

#### 7.3.1.1 SCA flow by redirection with account selection: implicit start of authorization process

The following represents the sequence of requests / responses that are necessary for this service.

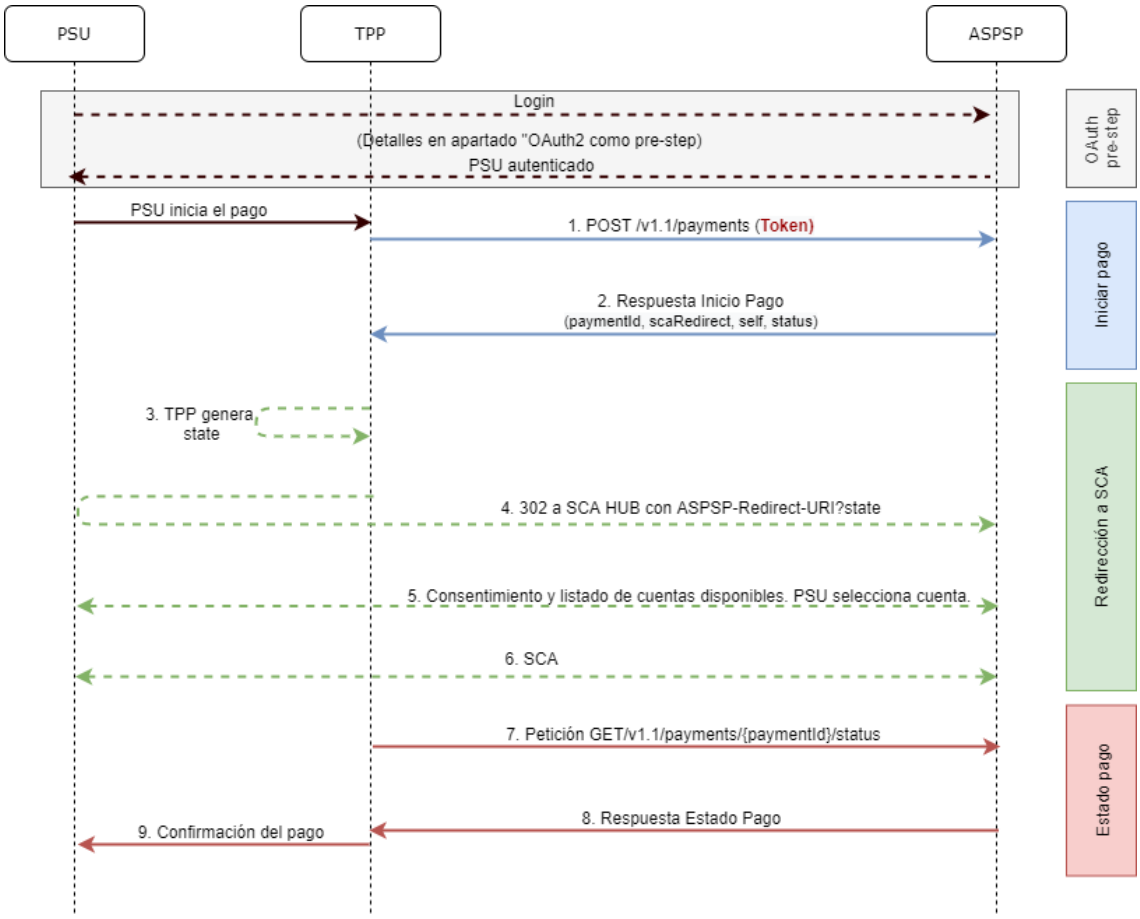


**Figure 9: Scenario of starting periodic payment with list of accounts available for PISP**

## OAuth2 (pre-step)

The main purpose of this flow is to authenticate the PSU to get access to the services displayed by its ASPSP through the use of an access token obtained after the application of this protocol.

For simplicity, the detail of this flow has been omitted and can be found in section 6.16.1 OAuth2 as a pre-step.

**Note**: this step is optional. Only applies if no valid access token is available.

## PSU starts periodic payment

The PSU wants to pay through the TPP.

### 1. Request Start Periodic Payment (TPP → Hub)

The TPP sends a POST request to initiate periodic payment with *tokenTPP* to the Hub. Among the data reported by the TPP are:

- **TPP data:** identifier, name, roles, NCA, certificate ...
- **Recurring payment details:** type of transfer, IBAN beneficiary, amount, currency, concept...
- **Data for risk scoring calculation:** IP, port, user-agent, language, location, HTTP headers ...
- **X-Request-ID:** identifier of the operation assigned by the TPP.
- **Access token** from the TPP

### 2. Request for Start Periodic Payment (Hub → ASPSP)

The Hub receives the request from the TPP, stores it and sends a POST request to initiate periodic payment with *tokenHUB to* the ASPSP. Among the data reported by the Hub are:

- **TPP data:** identifier, name, roles, NCA ....
- **Periodic payment data:** transfer type, beneficiary IBAN, amount, currency, concept, periodic payment start date, periodicity, ...
- **X-Request-ID:** identifier of the operation assigned by the TPP.
- **HUB-Transaction-ID:** Hub operation identifier
- **HUB-Request-ID:** Hub request identifier
- **Access token** from the TPP

### 3. Response Start Periodic Payment (ASPSP → Hub)

The ASPSP returns to the Hub a link to scaRedirect where the accounts available to the PSU will be displayed:

- **transactionStatus**: ISO 20022 state of the start of the periodic payment received.
- **paymentId**: resource identifier generated by the ASPSP that refers to the current recurring payment initiation transaction.
- **_links**
    - **scaRedirect**: link to the ASPSP authentication server where the accounts available to the PSU will be displayed and to initiate SCA via a redirect (SCA over OAuth2 does not apply). This URL can add security parameters to allow session maintenance during redirection.

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```
https://aspsp.example.com/auth
```

- **self**: link to the payment resource generated by the ASPSP for the payment initiation request received from the TPP.
- **state**: ASPSP link to which the Hub may make a payment state query request.

- Other information regarding the operation.

### 4. Response Start Periodic Payment (Hub → TPP)

The Hub, after receiving the response from the ASPSP, responds to the indicated TPP the url to which it has to redirect to continue with the process:

- **transactionStatus**: ISO 20022 state of the start of the periodic payment received.
- **paymentId**: resource identifier generated by the Hub referring to the current periodic payment initiation transaction.
- **_links**
  - **scaRedirect**: links to the Hub endpoint where after receiving the redirect from the TPP it redirects back to the scaRedirect of the ASPSP. This URL can add security parameters to allow session maintenance during redirection.

    ```
    https://hub.example.com/auth
    ```

  - **self**: link to the payment resource generated by the Hub for the payment initiation request received from the TPP.
  - **state**: link of the Hub to which the TPP can make a request to check the state of the payment.
- Other data regarding the operation.

### 5. Redirection to scaRedirect from the Hub (TPP → Hub)

The TPP, after receiving the response to initiate periodic payment, redirects the PSU to the authentication endpoint of the Hub.

```
HTTP/1.1 302 Found
Location: https://hub.example.com/auth
```

### 6. Redirect to scaRedirect from ASPSP (→ASPSP Hub)

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The Hub, upon receiving the redirection from the TPP, will redirect to the ASPSP authentication server where the accounts available to the PSU will be displayed and, if the ASPSP considers it, it will trigger strong authentication (SCA).

```
HTTP/1.1 302 Found
Location: https://aspsp.example.com/auth
```

**SCA entre PSU ←→ASPSP**

During this redirection process, the ASPSP will be able to:

- Show consent to the PSU to access the available accounts
- Show available accounts and the PSU selects one of them
- Show commissions to the PSU if required
- Show ASPSP-PSU interface for SCA

**SCA & Commissions**

The ASPSP, after receiving the risk scoring of the operation, decides if SCA is necessary and executes it, showing the commissions.

Note: if the SCA process runs correctly, the payment is started.

**9. Redirection to Hub URL (ASPSP → Hub)**

After redirection to the SCA in the ASPSP environment, it will return control to the Hub.

```
HTTP/1.1 302 Found
Location: https://hub.example.com/cb?state=xyz
```

**10. Redirection to TPP URL (→TPP Hub)**

The Hub, after receiving the redirection back from the ASPSP at the end of the SCA, redirects to the *callback* URL of the TPP to return control.

```
HTTP/1.1 302 Found
Location: https://tpp.example.com/cb
```

**11. Request State Periodic Payment (TPP → Hub)**

The TPP will send a payment state request with *tokenTPP* to the Hub for payment state.

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**12. Periodical Payment State Request (Hub → ASPSP)**

The Hub will relay the payment state request with tokenHUB to *the* ASPSP to know the state of the payment.

Note: the Hub performs an exchange between *tokenTPP* and *tokenHUB.*

**13. Response State Periodic Payment (ASPSP → Hub)**

After receiving the periodic payment state request with valid tokenHUB, the ASPSP checks the state of the payment initiation in its systems and returns it to the Hub.

**14. State Response Periodic Payment (→TPP Hub)**

The Hub after receiving the response from the ASPSP, updates the state of the operation and responds to the TPP.

**Confirmation of periodic payment**

The TPP confirms the state of the payment to the PSU.

#### 7.3.1.2 SCA flow by redirection: implicit start of authorization process

Similar to6.3.1.2 SCA flow by redirection: implicit start of authorization.

#### 7.3.1.3 Multilevel SCA flow for payments

Similar to6.3.1.4 Multilevel SCA flow for payments.

### 7.3.2 Payment initiation completion

Message sent by the TPP to the ASPSP through the Hub to create a recurring / periodic payment start without informing the issuer's account "debtorAccount".

A TPP can send a recurring payment start where the start date, frequency and, conditionally, end date are provided.

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Once authorized by the PSU, the payment will be executed by the ASPSP, if possible, following the "standing order" as it was sent by the TPP. No further action is required from the TPP.

In this context, this payment is considered a periodic payment to differentiate the payment from other types of recurring payments where third parties are initiating the same amount of money.

**Reglas campo dayOfExecution**

- **Daily payments**: the "dayOfExecution" field is not necessary. The first payment is the "startDate" and, from there, the payment is made every day
- **Weekly payments**: if "dayOfExecution" is required, the possible values are from 01 = Monday to 07 = Sunday. If "dayOfExecution" is not required, "startDate" is taken as the day of the week the payment is made. (If "startDate" is Thursday, the payment would be made every Thursday)
- **Bi-weekly payments**: same rule applies as weekly payments.
- **Monthly payments or higher:** possible values range from 01 to 31. Using 31 as the last day of the month

#### 7.3.2.1 Request

**Endpoint**

POST {provider}/v1.1/sva/periodic-payments/{payment-product}

**Path**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **provider** | URL of the ASPSP where the service is published. | String | MA | Ex: aspsp.example.es |
| **payment-product** | Paid product to use. List of supported products:<br>• sepa-credit-transfers<br>• instant-sepa-credit-transfers<br>• target-2-payments | String | MA | Ex: {provider}/v1.1/periodic-payments/sepa-credit-transfers/ |

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| | | | | |
|---|---|---|---|---|
| | • cross-border-credit-transfers | | | |

**Query parameters:**

No additional parameters are specified for this request.

**Header**

The same as those defined in the section 6.3.2.1

**Body**

The content of the Body is defined in Error! Reference source not found**¡Error! No se encuentra el origen de la referencia. ¡Error! No se encuentra el origen de la referencia.**, following the conditions of these tables, plus those defined below:

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **startDate** | The first applicable day of execution from this date is the first payment | String | MA | **ISODate**<br>xEx: "startDate":"2018-12-20" |
| **executionRule** | Supported values:<br>• following<br>• preceding<br>Defines the behavior when recurring payment dates fall on weekends or holidays. Payment is then executed on the preceding or following working day. | String | OP | Ex: "executionRule":"following" |

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| | | | | |
|---|---|---|---|---|
| | The ASPSP may reject the request due to the communicated value if the Online Banking rules do not support this execution rule. | | | |
| **endDate** | The last applicable day of execution.<br>If not given, it is an endless standing order. | String | OP | **ISODate**<br>Ex: "endDate":"2019-01-20" |
| **frequency** | The frequency of the recurring payment resulting from this standing order.<br>Allowed values:<br>• Daily<br>• Weekly<br>• EveryTwoWeeks<br>• Monthly<br>• EveryTwoMonths<br>• Quarterly<br>• Semi Annual<br>• Annual | String | MA | **EventFrequency7Code de ISO 20022**<br>Ex: "frequency": "Monthly" |
| **dayOfExecution** | "31" is last.<br>Follows the regular expression\d{1,2}<br>The date refers to the ASPSP time zone.<br>Only if supported in ASPSP Online Banking. | String | COND | \d{1,2}<br>Ex: "dayOfExecution": "01" |

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The fields marked as mandatory (MA) and optional (OP) are supported by the ASPSP with this type of condition.

The fields marked as COND depend on each ASPSP.

| Field | SCT | SCT INST | Target 2 | Cross Border CT |
|---|---|---|---|---|
| **endToEndIdentification*** | NA | NA | NA | NA |
| **instructionIdentification** | COND | COND | COND | COND |
| **debtorName** | COND | COND | COND | COND |
| **debtorAccount** | NA | NA | NA | NA |
| **debtorId** | COND | COND | COND | COND |
| **ultimateDebtor** | COND | COND | COND | COND |
| **instructedAmount** | MA | MA | MA | MA |
| **currencyOfTransfer** | COND | COND | COND | COND |
| **exchangeRateInformation** | COND | COND | COND | COND |
| **creditorAccount** | MA | MA | MA | MA |
| **creditorAgent** | OP | OP | OP | MA/OP |
| **creditorAgentName** | COND | COND | COND | COND |
| **CreditorName** | MA | MA | MA | MA |
| **creditorId** | COND | COND | COND | COND |
| **creditorAddress** | OP | OP | OP | OP |
| **creditorNameAndAddress** | COND | COND | COND | COND |
| **ultimateCreditor** | COND | COND | COND | COND |
| **purposeCode** | COND | COND | COND | COND |
| **chargeBearer** | COND | COND | COND | COND |
| **serviceLevel** | COND | COND | COND | COND |
| **remittanceInformationUnstructured** | OP | OP | OP | OP |
| **remittanceInformationUnstructuredArray** | COND | COND | COND | COND |
| **remittanceInformationStructured** | COND | COND | COND | COND |
| **remittanceInformationStructuredArray** | COND | COND | COND | COND |
| **requestedExecutionDate** | n.a. | n.a. | n.a. | n.a. |

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| | | | | |
|---|---|---|---|---|
| **requestedExecutionTime** | n.a. | n.a. | n.a. | n.a. |

*** NOTE: If you want to send the endToEndId field, it must be reported within the body remittanceInformationUnstructured field. The best practice guide provides information on how to send the endToEndId field within this field.**

#### 7.3.2.2 Response

**HTTP Code**

201 if the resource has been created

**Header**

The same as those defined in the section 6.3.2.1.1

**Body**

The same as those defined in the section 6.3.2.1.1

**Body**

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **transactionStatus** | Transaction state. Values defined in annexes in **¡Error! No se encuentra el origen de la referencia. ¡Error! No se encuentra el origen de la referencia.** | String | MA | **ISO 20022**<br>Ex: "transactionStatus": "RCVD" |
| **paymentId** | Resource identifier that refers to the initiation of payment. | String | MA | ^.{1,36}$<br>Ex: "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7" |

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| | | | | |
|---|---|---|---|---|
| **transaction Fees** | Commissions associated with payment. | Amount | OP | Ex: "transactionFees": {…} |
| **transaction FeeIndicator** | If equal to "true", the transaction will incur a commission according to the ASPSP or as agreed between ASPSP and PSU.<br>If it is equal to "false" or not used, the transaction will not involve any additional fees for the PSU. | Boolean | OP | Ex: "transactionFeeIndicator": true |
| **scaMethods** | This element is contained if SCA is required and if the PSU can choose between different authentication methods.<br>If this data is contained, the link "startAuthorisationWithAuthenticationMethodSelection " will also be reported.<br>These methods must be presented to the PSU. | List<AuthenticationObject> | COND | Ex: "scaMethods": […] |
| **chosenScaMethod** | **NOT SUPPORTED IN THIS VERSION.** | AuthenticationObject | COND | |
| **_links** | List of hyperlinks to be recognized by the TPP. Supported types in this response:<br>• scaRedirect: in case of SCA by redirection. Link where the PSU browser must be redirected by the Hub.<br>• scaOAuth: in case of SCA and require payment execution.<br>• self: link to the payment initiation resource created by this request. | Links | MA | Ex: "_links": {…} |

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|---|---|---|---|---|
| | • state: link to retrieve the state of the payment initiation transaction. | | | |
| **psuMessage** | Text sent to the TPP through the HUB to be displayed to the PSU. | String | OP | ^.{1,500} $<br>Ex: "psuMessage": "Información para PSU" |
| **tppMessages** | Message for the TPP sent through the HUB. | List<TppMessage> | OP | Ex: "tppMessages": […] |

#### 7.3.2.3 Examples

**Example of request**

POST https://aspsp.example.es/v1.1/sva/periodic-payments/sepa-credit-transfers

```
Content-Encoding: gzip
Content-Type: application/json
HUB-Transaction-ID: 3dc3d5b3-7023-4848-9853-f5400a64e80f
HUB-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
TPP-HUB-ID: PSDES-BDE-3DFD21
TPP-HUB-Name: Nombre del TPP
TPP-HUB-Rol: PSP_PI
TPP-HUB-National-Competent-Authority: BDE
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
```

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```
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://hub.example.es/cb
TPP-Nok-Redirect-URI: https://hub.example.es/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount": "153.50"
      },
      "creditorAccount": {
            "iban": "ES2222222222222222222"
      },
      "creditorName": "Nombre123",
      "remittanceInformationUnstructured": "Información adicional",
      "startDate": "2018-03-01",
      "executionRule": "preceding",
      "frequency": "Monthly",
      "dayOfExecution": "01"
}
```

## Example response

```
HTTP/1.1 201 Created
HUB-Transaction-ID: 3dc3d5b3-7023-4848-9853-f5400a64e80f
HUB-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
ASPSP-SCA-Approach: REDIRECT
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: https://aspsp.example.es/v1.1/periodic-payments/123-qwe-456
Content-Type: application/json
{
```

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```
      "transactionStatus": "RCVD",
      "paymentId": "123-qwe-456",
      "_links": {
            "scaRedirect": {
                  "href": "https://aspsp.example.es/authorize"
            },
            "self": {
                  "href": "/v1.1/periodic-payments/123-qwe-456",
            "state": {
                  "href": "/v1.1/periodic-payments/123-qwe-456/state"
            }
      }
}
```


# 8. DEFINITION OF TYPES OF COMPOSITE DATA

The following defines the composite data types used in system requests and responses.

## 8.1 AccountAccess

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **accounts** | Indicates the accounts on which to request detailed information. | List<AccountReference> | OP | Ex: "accounts": […] |

f

| | | | | |
|---|---|---|---|---|
| | If the list is empty, the TPP is requesting all accessible accounts and will be asked in a PSU-ASPSP dialogue. In addition, the list of balances and transactions must also be empty if they are used. | | | |
| **balances** | Indicates the accounts on which to request balances.<br>If the list is empty, the TPP is requesting all accessible accounts and will be asked in a PSU-ASPSP dialogue. In addition, the list of balances and transactions must also be empty if they are used. | List<AccountReference> | OP | Ex: "balances": {…} |
| **transactions** | Indicates the accounts on which to request transactions.<br>If the list is empty, the TPP is requesting all accessible accounts and will be asked in a PSU-ASPSP dialogue. In addition, the list of balances and accounts must also be empty if they are used. | List<AccountReference> | OP | Ex: "transactions": {…} |

| | | | | |
|---|---|---|---|---|
| **additionalInformation** | **Note**: the information contained in this object will be ignored by the ASPSP. | AdditionalInformationAccess | OP | Ex: "additionalInformation": {…} |
| **availableAccounts** | Only the value "allAcounts" is allowed | String | OP | Ex: "availableAccounts": "allAcounts" |
| **availableAccountsWithBalance** | Only the value "allAcounts" is allowed | String | OP | Ex: "availableAccountsWithBalance": "allAcounts" |
| **allPsd2** | Only the value "allAcounts" is allowed | String | OP | Ex: "allPsd2": "allAcounts" |

## 8.2 AccountDetails

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **resourceId** | Identifier of the account to be used in the PATH when requesting data about a dedicated account. | String | COND | ^.{1,100} $<br>Ex: "resourceId":"3dc3d5b3702348489853f5400a64e80f" |
| **iban** | Account IBAN | String | OP | Ex: "iban":"ES1111111111111111111" |
| **bban** | BBAN of the account, when it does not have an IBAN. | String | OP | Ex: "bban":"20385778983000760236" |
| **msisdn** | Alias to access a payment account via a registered mobile phone number. | String | OP | ^.{1,35}$<br>Ex: "msisdn":"…" |
| **currency** | Account Currency | String | MA | **ISO 4217** |

f

| | | | | |
|---|---|---|---|---|
| | | | | Ex: "currency": "EUR" |
| **ownerNames** | List of names of account owners. | List<AccountOwner> | OP | Ej: "ownerNames":[…] |
| **psuName** | Name of the connected PSU.<br>In case of corporate accounts, this could be the person acting on behalf of the company. | String | OP | ^.{1,140}$<br>Ej: "psuName": "Heike Mustermann" |
| **name** | Account name assigned by ASPSP in agreement with the account owner in order to provide a new way to identify the account. | String | OP | ^.{1,70}$<br>Ex: "name": "Name assigned by the ASPSP" |
| **displayName:** | Name of the account defined by the PSU in the Online Channels | String | OP | ^.{1,70}$<br>Ex: "displayName": "Name assigned by the PSU" |
| **product** | Product name that the ASPSP gives to this account. | String | OP | ^.{1,35}$<br>Ex: "product": "Main Account" |
| **cashAccountType** | Specify the nature or use of the account. | String | OP | **ExternalCashAccountType1Code de ISO 20022**<br>Ex: "cashAccountType": "CACC" |
| **state** | State of the account. The value is one of the following:<br>• enabled: account is available | String | OP | Ex: "state": "enabled" |

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| | | | | |
|---|---|---|---|---|
| | • deleted: account closed<br>• blocked: account blocked | | | |
| **bic** | BIC associated with the account. | String | OP | ^.{1.12} $<br>Ex: "bic":"XSXHXSMMXXX" |
| **linkedAccounts** | In this field the ASPSP can name an account associated with pending card transactions. | String | OP | ^.{1,70}$ |
| **usage** | Specifies the use of the account. Possible values:<br>• PRIV: private personal account<br>• ORGA: professional account | String | OP | ^.{1,4}$<br>Ex: "usage": "PRIV" |
| **details** | Specifications that must be provided by the ASPSP.<br>• Features of the account<br>• Characteristics of the card | String | OP | ^.{1,500} $ |
| **balances** | Account balances. | List<Balances> | COND | "balances": […] |
| **_links** | Links to the account to retrieve account balance and/or transaction information. | Links | OP | Ex: "links": {…} |

| | | | | |
|---|---|---|---|---|
| | Links supported only when the corresponding consent to the account has been given. | | | |

## 8.3 AccountOwner

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **name** | Account owner name | String | MA | ^.{1,70}$<br>Ej: "name": "Heitaki Sun" |
| **role** | The following owner codes are used: "owner", "legalRepresentative", "authorizedUser". | String | OP | ^.{1,35}$<br>Ej: "role":"owner" |

## 8.4 AccountReference

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **iban** | Account IBAN | String | COND | Ex: "iban":"ES1111111111111111111" |
| **bban** | BBAN of the account, when it does not have an IBAN. | String | COND | Ex: "bban":"20385778983000760236" |
| **pan** | Primary Account Number of the card. It can be tokenized by the ASPSP to meet PCI DSS requirements. | String | COND | ^.{1,35}$<br>Ex: "pan":"1234567891234567" |
| **maskedPan** | Primary Account Number of the card in masked form. | String | COND | ^.{1,35}$ |

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| | | | | |
|---|---|---|---|---|
| | | | | Ex: "maskedPan":"123456******4567" |
| **msisdn** | Alias to access a payment account via a registered mobile phone number. | String | COND | ^.{1,35}$<br>Ex: "msisdn":"…" |
| **currency** | Currency | String | OP | **ISO 4217**<br>Ex: "currency": "EUR" |

## 8.5 AccountReport

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **booked** | Last known transactions (annotations) of the account.<br>It must be included if the bookingStatus parameter is set to "booked" or "both". | List<Transactions> | COND | Ex: "booked":[{..}] |
| **pending** | Pending account transactions.<br>Not contained if the bookinStatus parameter is set to "booked". | List<Transactions> | OP | Ex: "pending":[{..}] |
| **information** | List of standing orders<br>Included if the bookingStatus parameter is set to "information". | List<Transactions> | OP | Ex: "information": [{…}] |
| **_links** | The following links are accepted in this object:<br>• account (OB)<br>• first (OP) | Links | MA | Ex: "_links":[{..}] |

f

| | | | | |
|---|---|---|---|---|
| | • next (OP)<br>• previous (OP)<br>• last (OP) | | | |

## 8.6 AdditionalInformationAccess

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **trustedBeneficiaries** | It is requesting access to the trusted payees of the referenced and PSU-related account.<br>**Note**: if reported it will be ignored by the ASPSP. | List<AccountReference> | OP | Ex: "trustedBeneficiaries": {…} |
| **ownerName** | **Note**: if reported it will be ignored by the ASPSP | List<AccountReference> | OP | Ex: "ownerName": {…} |

## 8.7 Address

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **streetName** | Street | String | OP | ^.{1,70}$<br>Ex: "street": "Street example" |
| **buildingNumber** | Number | String | OP | Ex: "buildingNumber": "5" |
| **townName** | City | String | MA | Ex: "townName": "Cordoba" |
| **PostCode** | Postcode | String | OP | Ex: "postalCode": "14100" |
| **country** | Country code | String | MA | **ISO 3166**<br>Ex: "country": "ES" |

f

## 8.8 Amount

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **currency** | Currency of the amount. | String | MA | **ISO 4217**<br>Ex:<br>"currency": "EUR" |
| **amount** | Amount<br>The decimal separator is the period. | String | MA | **ISO 4217**<br>Ex:<br>"amount":"500.00" |

## 8.9 AuthenticationObject

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **authenticationType** | Authentication method type.<br>Possible values:<br>• SMS_OTP<br>• CHIP_OTP<br>• PHOTO_OTP<br>• PUSH_OTP<br><br>See annex 9.6 9.6 Authentication types for more information. | String | MA | Ex:<br>"authenticationType":"SMS_OTP" |
| **authenticationVersion** | Version of the tool associated with the authenticationType. | String | COND | Ex:<br>"authenticationVersion": "1.0" |
| **authenticationMethodId** | ID of the authentication method provided by the ASPSP. | String | MA | ^.{1,35}$ |

| | | | | |
|---|---|---|---|---|
| **name** | Name of the authentication method defined by the PSU in ASPSP online banking.<br>Alternatively, it could be a description provided by the ASPSP.<br>If the TPP has it available, it must be presented to the PSU. | String | MA | Ex: "name":"SMS OTP al teléfono 666777888" |
| **explanation** | Detailed information about the SCA method for the PSU | String | OP | |

## 8.10 Aspsp

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **bic** | ASPSP BIC code. | String | MA | Ex: "bic":" XXXXXXXXXXX" |
| **name** | ASPSP Name | String | OP | Ex: "name":"Nombre ASPSP" |
| **apiName** | Name of the ASPSP used in the request PATH.<br>**Note**: Only available for V2 from the list of available ASPSPs. | String | COND | Ex: "apiName": "nombreBanco" |

## 8.11 Balance

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| **balanceAmount** | Balance amount and currency | Amount | MA | Ex: "balanceAmount": {…} |
| **balanceType** | Balance type. Values supported in annex 9.7 Types of balances | String | MA | Ex: "balanceType": "closingBooked" |
| **creditLimitIncluded** | Flag indicating if the credit limit of the corresponding account is included in the balance calculation, when applicable. | Boolean | OP | Ex: "creditLimitIncluded":true |
| **lastChangeDateTime** | Date of the last action carried out on the account. | String | OP | **ISODateTime**<br>Ex: "lastChangeDateTime": "2017-10-25T15:30:35.035Z" |
| **referenceDate** | Balance sheet reference date | String | OP | **ISODate**<br>Ex: "referenceDate": "2017-10-25" |
| **lastCommittedTransaction** | entryReference of the last transaction to help the TPP identify whether all PSU transactions are already known. | String | OP | **Max35Text**<br>Ex: "lastCommittedTransaction": "1234-asd-567" |

## 8.12 ExchangeRate

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **currencyFrom** | Original currency | String | MA | Ex: "currencyFrom":"USD" |

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|---|---|---|---|---|
| **rate** | Define the interchange fee. Ex: currencyFrom=USD, currencyTo=EUR: 1USD =0.8 EUR and 0.8 is the fee. | String | MA | Ex: "rate": "0.8" |
| **currencyTo** | Currency of destination | String | MA | Ex: "currencyTo":"EUR" |
| **rateDate** | Rate date | String | MA | **ISODateTame** |
| **rateContract** | Reference to the rate contract | String | OP | |

## 8.13 Href

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **href** | Contains a link to a resource | String | OP | Ex: "href": "/v1.1/payments/sepa-credit-transfers/asd-1234-jkl" |

## 8.14 Links

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **scaRedirect** | URL used to perform SCA, by redirection of the PSU browser. | Href | OP | Ex: "scaRedirect": {…} |

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|---|---|---|---|---|
| **scaOAuth** | The link to retrieve a JSON document that specifies the ASPSP authorization server details. The JSON document follows the definition given at https://tools.ietf.org/html/draft-ietf-oauth-discovery.<br>Only for ASPSPs that require Payment Execution. | Href | OP | Ex: "scaOAuth": {…} |
| **startAuthorisation** | Link to the endpoint where the authorization of the transaction or the authorization of the cancellation transaction must be initiated. | Href | OP | Ex: "startAuthorisation": {…} |
| **startAuthorisationWithAuthenticationMethodSelection** | Link to the endpoint where the authorization of a transaction or a cancellation transaction must be initiated, where the SCA method must be informed with the corresponding call. | Href | OP | Ex: " startAuthorisationWithAuthenticationMethodSelection ": {…} |
| **selectAuthenticationMethod** | Link where the TPP can select the applicable 2nd factor authentication method for the PSU, in case there is more than one. | Href | OP | Ex: "selectAuthenticationMethod": {…} |
| **self** | The link to the resource created for the request. This link can later be used to retrieve the state of the transaction. | Href | OP | Ex: "self": {…} |

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|---|---|---|---|---|
| **state** | The link to retrieve the state of the transaction. For example, payment start state. | Href | OP | Ex: "state": {…} |
| **scaStatus** | Link to retrieve the state of the authorization or cancellation authorization sub-resource. | Href | OP | Ex: "scaStatus": {…} |
| **account** | Link to the resource that provides the data of an account. | Href | OP | Ex: "account": {…} |
| **balances** | Link to the resource that provides the account balances. | Href | OP | Ex: "balances": {…} |
| **transactions** | Link to the resource that provides the account transactions. | Href | OP | Ex: "transactions": {…} |
| **transactionDetails** | Link to resource providing details of a specific transaction<br>**NOT SUPPORTED IN THIS VERSION.** | Href | OP | |
| **first** | Navigation link for paginated account reports. | Href | OP | Ex: 'first': {…} |
| **next** | Navigation link for paginated account reports. | Href | OP | Ex: 'next': {…} |
| **previous** | Navigation link for paginated account reports. | Href | OP | Ex: 'previous': {…} |
| **last** | Navigation link for paginated account reports. | Href | OP | Ex: "last": {…} |
| **download** | Download link for large AIS data packets. Only for camt-data. | Href | OP | Ex: "download": {…} |

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## 8.15 Party Name Match Code

| Código | Descripción |
|---|---|
| **MTCH** | Match |
| **NMTC** | No match |
| **MBAM** | The provided creditor name closely resem-bles the account holder nam |
| **NOAP** | Validation check is not applicable |
| **NOTC** | Validation check has not been carried out. |

## 8.16 Party Identification Match Code

| Código | Descripción |
|---|---|
| **MTCH** | Match |
| **NMTC** | No match |
| **NOAP** | Validation check is not applicable |
| **NOTC** | Validation check has not been carried out. |

## 8.17 VOP Bulk Satus

| Código | Descripción |
|---|---|
| **received** | Bulk technically received and bulk for-matted correctly |
| **pending** | processing ongoing |
| **rejected** | Some processing errors have occurred which did not allow to process the re-quests. |
| **completed** | all verification results, requested in the vop bulk, are completed |

## 8.18 PaymentExchangeRate

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| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **unitCurrency** | Currency in which the exchange rate is expressed in foreign currency. In the following example 1EUR = xxxCUR, the currency unit is the EUR. | String | OP | **ISO 4217**<br>Ex: "unitCurrency": "EUR" |
| **exchangeRate** | Factor used to convert an amount from one currency to another. Reflects the price at which a currency was acquired with another currency. | String | OP | Ex: "exchangeRate": "1.3" |
| **contractIdentification** | Unique identification to identify the currency exchange contract | String | OP | Ex: "contractIdentification" : "1234-qeru-23" |
| **rateType** | Specifies the type used to complete the currency exchange.<br>Allowed values:<br>• SPOT<br>• SALE<br>• AGRD | String | OP | Ex: "rateType": "SPOT" |

## 8.19 ReportExchangeRate

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **sourceCurrency** | Currency from which an amount will be converted into a currency conversion | String | MA | **ISO 4217**<br>Ex: "sourceCurrency": "EUR" |

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| | | | | |
|---|---|---|---|---|
| **exchangeRate** | Factor used to convert an amount from one currency to another. Reflects the price at which a currency was acquired with another currency. | String | MA | Ex: "exchangeRate": "1.3" |
| **unitCurrency** | Currency in which the exchange rate is expressed in foreign currency. In the following example 1EUR = xxxCUR, the currency unit is the EUR. | String | MA | **ISO 4217**<br>Ex: "unitCurrency": "EUR" |
| **targetCurrency** | Currency in which an amount is to be converted in a currency conversion. | String | MA | **ISO 4217**<br>Ex: "targetCurrency": "USD" |
| **quotationDate** | Date an exchange rate is quoted. | String | MA | **ISODate**<br>Ex: "quotationDate": "2019-01-24" |
| **contractIdentification** | Unique identification to identify the currency exchange contract | String | OP | Ex: "contractIdentification" : "1234-qeru-23" |

## 8.20 SinglePayment

| Field | Description | Type | Format |
|---|---|---|---|
| **endToEndIdentification** | Unique identifier of the operation assigned by the initiating party (TPP) | String | ^.{1,35}$<br>Ex: "endToEndIdentification": "123456789012345678901234567890123456789012345" |
| **instructionIdentification** | NA | NA | NA |

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| | | | |
|---|---|---|---|
| **debtorName** | Issuer's name | String | ^.{1,70}$<br>Ex: 'debtorName': 'John Doe' |
| **debtorAccount** | Issuer's account.<br>**Note**: this field may be optional in some services such as bulk payments | Account Reference | Ex: "debtorAccount": {"iban":"ES1111111111111111111111"} |
| **debtorId** | **NA** | String | ^.{1,35}$ |
| **ultimateDebtor** | **NA** | String | ^.{1,70}$ |
| **instructedAmount** | Information on the transfer made. | Amount | Ex: "instructedAmount": {…} |
| **currencyOfTransfer** | **NA** | String | **CurrencyCode** |
| **exchangeRateInformation** | | PaymentExchangeRate | |
| **creditorAccount** | Beneficiary Account | Account Reference | Ex: 'creditorAccount': {'iban': 'ES1111111111111111'} |
| **creditorAgent** | BIC of the beneficiary's account. | String | Ex: 'creditorAgent': 'XSXHXSMMXXX' |
| **creditorAgentName** | **NA** | String | ^.{1,140}$ |
| **CreditorName** | Beneficiary name | String | ^.{1,70}$<br>Ex: 'creditorName': 'Name' |
| **creditorId** | **NA** | String | ^.{1,35}$ |
| **creditorAddress** | Beneficiary Address | Address | Ex: 'creditorAddress': {…} |
| **creditorNameAndAddress** | | String | ^.{1,140}$ |
| **ultimateCreditor** | **NA** | String | ^.{1,70}$ |
| **purposeCode** | **NA** | String | **ExternalPurpose1Code ISO 20022** |

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|---|---|---|---|
| **chargeBearer** | Only for payment-product:<br>• target-2-payments<br>• cross-border-credit-transfers<br>Allowed values:<br>• DEBT<br>• CRED<br>• SHAR<br>• SLEV | String | **ChargeBearerType1Code from ISO 20022**<br>Ex: 'chargeBearer': 'SLEV' |
| **serviceLevel** | | String | |
| **remittanceInformationUnstructured** | Additional information:<br>See Annex9.10Guide of good practice<br>Campo remittanceInformationUnstructured for recommendations for use. | String | ^.{1,140}$<br>Ex: 'remittanceInformationUnstructured': 'Additional information' |
| **remittanceInformationUnstructuredArray** | **NA** | List<String> | ^. {1,140} $ per String |
| **remittanceInformationStructured** | **NA** | Remittance | |
| **remittanceInformationStructuredArray** | **NA** | List<Remittance> | |
| **requestedExecutionDate** | Execution date | String | **ISODate**<br>Ex: "requestedExecutionDate": "2018-05-17" |

| | | | |
|---|---|---|---|
| **requested Execution Time** | Date/time excecuted | String | **ISODateTime** |

## 8.21 StandingOrderDetails

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **startDate** | The first applicable day of execution from this date is the first payment | String | MA | **ISODate**<br>xEx: "startDate":"2018-12-20" |
| **endDate** | The last applicable day of execution.<br>If not given, it is an endless standing order. | String | OP | **ISODate**<br>Ex: "endDate":"2019-01-20" |
| **executionRule** | Supported values:<br>• following<br>• preceding<br>Defines the behavior when recurring payment dates fall on weekends or holidays. Payment is then executed on the preceding or following working day.<br>The ASPSP may reject the request due to the communicated value if the Online Banking rules do not support this execution rule. | String | OP | Ex: "executionRule":"following" |

| | | | | |
|---|---|---|---|---|
| **withinAMonthFlag** | This element is only used in case the frequency is equal to "monthly".<br>If this element is equal to false, it has no effect.<br>If it is equal to true, then the execution rule is overridden if the execution day falls in a different month.<br>Note: this attribute is rarely used. | Boolean | OP | Ex: 'withinAMonthFlag': true |
| **frequency** | The frequency of the recurring payment resulting from this standing order.<br>Allowed values:<br>• Daily<br>• Weekly<br>• EveryTwoWeeks<br>• Monthly<br>• EveryTwoMonths<br>• Quarterly<br>• Semi Annual<br>Annual | String | MA | **EventFrequency7Code de ISO 20022**<br>Ex: "frequency": "Monthly" |
| **monthsOfExecution** | Following the regular expression \d{1,2} The array is restricted to 11 entries. The values contained in the array must all be different, and the maximum value of an input is 12. | List<String> | COND | Ex: "monthsOfExecution": ["1", "4", "10"] |

| | | | | |
|---|---|---|---|---|
| | The attribute is contained if and only if the frequency equals "MonthlyVariable". | | | |
| **multiplier** | Frequency multiplier. For example, frequency = weekly and multiplier = 3 means every 3 weeks.<br><br>**Note**: this attribute is rarely used | Integer | OP | Ex: "multiplier": 3 |
| **dayOfExecution** | "31" is last.<br>Following the regular expression \d{1,2}<br>The date refers to the ASPSP time zone.<br>Only if supported in ASPSP Online Banking. | String | COND | \d{1,2}<br>Ex: "dayOfExecution": "01" |
| **limitAmount** | Limit amount for<br><br>**Restrictions**: transactionAmount must be zero and bankTransactionCode must specify PMNT-MCOP-OTHR for | Amount | COND | Ex: "limitAmount": {…} |

## 8.22 StructuredAdditionalInformation

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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|---|---|---|---|---|
| **standingOrderDetails** | Standing order details | Standing OrderDetails | MA | Ex: "standingOrderDetails" : {…} |

## 8.23 TppMessage

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **category** | Category of the type of message received. Possible values: ERROR or WARNING | String | MA | Ex: "category": "ERROR" |
| **code** | Response code.<br>All return codes by service 9.3 Return Codes are listed in the annex 9.3. | String | MA | Ex: "code": "CONSENT_INVALID" |
| **path** | Path to the field referencing the error. | String | COND | Ex: "path":"…" |
| **text** | Additional explanatory text. | String | OP | Ex: "text": "Text example" |

## 8.24 Transactions

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|

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|---|---|---|---|---|
| **transactionId** | It can be used as access-ID in the API, where more details about the transaction can be offered. If this data is provided, the request for transaction details can be accessed. | String | OP | Ex:<br>"transactionId":"123-asdf-456" |
| **entryReference** | Identification of the transaction that can be used, for example, in delta queries. | String | OP | ^.{1,35}$<br>Ex: "entryReference":"1234-asdf-456" |
| **endToEndId** | Unique end to end identifier. | String | OP | ^.{1,35}$<br>Ex: "endToEnd": "..." |
| **mandateId** | Identification of the mandate. For example, an ID from a SEPA mandate. | String | OP | ^.{1,35}$<br>Ex: "mandateId":"…" |
| **checkId** | Check identifier | String | OP | ^.{1,35}$<br>Ex: "checkId": "..." |
| **creditorId** | Beneficiary ID For example, a SEPA Payee ID. | String | OP | ^.{1,35}$<br>Ex: "creditorId": "..." |
| **bookingDate** | Date of entry of the transaction | String | OP | **ISODate**<br>'bookingDate': ' 2017-10-23' |
| **"valueDate": ""** | Date on which the settlement becomes available to the account owner in the event of a credit. | String | OP | **ISODate**<br>Ex: 'valueDate': ' 2017-10-23 ' |
| **transactionAmount** | Transaction amount | Amount | MA | Ex:<br>'transactionAmount': [{..}] |
| **currencyExchange** | EXCHANGE RATE | List<ReportExchangeRate> | OP | Ex:<br>'currencyExchange': [{…}] |

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|---|---|---|---|---|
| **CreditorName** | Name of the payee if the transaction is a charge. | String | OP | ^.{1,70}$<br>Ex: 'creditor': 'Name' |
| **creditorAccount** | Beneficiary Account | AccountReference | COND | Ex: 'creditorAccount': {...} |
| **creditorAgent** | BIC of the beneficiary's account | String | OP | Ex: 'creditorAgent': 'XXXSDH' |
| **ultimateCreditor** | Last part they owe money to | String | OP | ^.{1,70}$<br>Ex: 'ultimateCreditor': 'Name' |
| **debtorName** | Name of the payer if the transaction is a credit. | String | OP | ^.{1,70}$<br>Ex: 'debtor': 'Name' |
| **debtorAccount** | Issuer's account. | AccountReference | COND | Ex: "debtorAccount": {...} |
| **debtorAgent** | BIC associated with the issuing ASPSP | String | OP | Ex: "debtorAgent": "BIC" |
| **ultimateDebtor** | Last part owing an amount of money | String | OP | ^.{1,70}$<br>Ex: "ultimateDebtor": "Nombre" |
| **remittanceInformationUnstructured** | Field to include additional information about the sending. | String | OP | ^.{1,140}$<br>Ex: "remittanceInformationUnstructured":"Informacion adicional" |
| **remittanceInformationUnstructuredArray** | Note: in version 2 of the standard the two remittanceUnstructured could be merged into one | List<String> | OP | ^. {1,140} $ per String<br>Ex: "remittanceInformationUnstructuredArray":["info1", "info2"] |
| **remittanceInformationStructured** | Field to include a reference to the sending. | String | OP | ^.{1,140}$<br>Ex: "remittanceIinformationStructured": "Ref. 12344567 " |

| | | | | |
|---|---|---|---|---|
| **remittanceInformationStructuredArray** | Note: in version 2 of the standard the two remittanceUnstructured could be merged into one | List<String> | OP | ^. {1,140} $ per String<br>Ex: "remittanceInformationStructuredArray":["info1", "info2"] |
| **additionalInformation** | Used by the TPP to carry additional information from the PSU | String | OP | ^.{1,500} $<br>Ex: "additionalInformation":"Información" |
| **additionalInformationStructured** | It is used only if the bookingStatus field contains the value "información". Each active standing order related to the payment account results in one entry. | StructuredAdditionalInformation | OP | Ex: "additionalInformationStructured": {…} |
| **purposeCode** | ExternalPurpose1Code ISO 20022 | String | OP | **ExternalPurpose1Code ISO 20022** |
| **bankTransactionCode** | Bank transaction codes used by the ASPSP and using the sub-elements of the structured codes defined in ISO 20022.<br>For standing orders the following codes apply:<br>• "PMNT-ICDT-STDO" for credit transfers,<br>• "PMNT-IRCT-STDO" for instant credit transfers<br>• "PMNT-ICDT-XBST" for cross-border credit transfers | String | OP | **ExternalBankTransactionDomain1Code**<br>• Ex: "bankTransactionCode": "PMNT-ICDT-STDO" |

| | | | | |
|---|---|---|---|---|
| | • "PMNT-IRCT-XBST" for cross-border real time credit transfers<br><br>"PMNT-MCOP-OTHR" for specific standing orders which have a dynamic amount when withdrawing funds. For example, at the end of the month to a savings account.<br><br>This field is formed by concatenating the three ISO20022 codes:<br>• Domain<br>• Family<br>• Sub-family<br><br>Separated by "-"<br><br>Example:<br><br>PMNT-RCTD-ESCT defines a transaction assigned to the PayMeNT domain (PMNT), ReceivedCreDitTransfer family (RCDT) and EuropeanSEPACreditTransfer (ESCT). | | | |
| **proprietaryBankTransactionCode** | Bank owner transaction code | String | OP | ^.{1,35}$ |
| **balanceAfterTransaction** | Saldo después de la transacción. Recommended balance is interimBooked | Balance | OP | Ex: "balanceAfterTransaction": {…} |

| | | | | |
|---|---|---|---|---|
| **_links** | Possible values:<br>• transactionDetails | Links | OP | Ex: "_links": {…} |

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## 8.25 TrustedBeneficiary

| Field | Description | Type | Mandat. | Format |
|---|---|---|---|---|
| **trustedBeneficiaryId** | Resource identifier of the entry in the list. | String | MA | UUID<br>Ex: "trustedBeneficiaryId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7" |
| **debtorAccount** | Provided by the ASPSP if the trusted beneficiary entry is applicable only to a specific account. | AccountReference | OP | Ex: "debtorAccount": {…} |
| **creditorAccount** | Beneficiary Account | AccountReference | MA | Ex: "creditorAccount": {…} |
| **creditorAgent** | Mandatory when the information is mandatory for the related credit transfer. Eg. payments outside the SEPA zone. | String | COND | Ex: "creditorAgent": "" |
| **CreditorName** | Beneficiary name as provided by the PSU. | String | MA | Ex: "creditorName": "Beneficiary name" |
| **creditorAlias** | Alias defined by the PSU that is displayed in the list of trusted payees of the ASPSP online channels. | String | OP | Ex: "creditorAlias": "Alias" |

# 9. ANNEXES

## 9.1 Signature

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### 9.1.1 Header "Digest" required

The Digest field is mandatory in all requests.

This field contains a Hash of the body of the message. If the message does not contain a body, the "Digest" field must contain a hash of an empty "bytelist". The hashing algorithms that can be used to calculate the "Digest" in the context of this specification are SHA-256 and SHA-512.

### 9.1.2 Signature requirements

The structure of the "Signature" field in the request header must have the following structure:

| Element | Type | Mandat. | Requirements | Additional requirements |
|---|---|---|---|---|
| **KeyId** | String | MA | It is a string that the HUB can use to find the component it needs to validate the signature. | Serial number of the TPP certificate included in "TPP-Signature-Certificate".<br>It should be formatted as follows:<br>KeyId="SN=XXX,CA=YYYYYYYYYYYYYYY"<br>Where "XXX" is the serial number of the certificate in hexadecimal encoding and "YYYYYYYYYYYYYYY" is the complete "Distinguished Name" of the certificate authority. |
| **Algorithm-ID** | String | MA | It is used to specify the algorithm used to generate the signature. | The algorithm must identify the same algorithm for the signature as the one presented in the request certificate.<br>It must identify SHA-256 or SHA-512. |

| | | | | |
|---|---|---|---|---|
| **Header** | String | OP | It is used to specify the list of HTTP headers included when the signature for the message is generated.<br>If specified, it must be a list enclosed in inverted commas and in lower case, separated by a blank space. If it is not specified, it should be understood that only one value has been specified. This specified value is the "Date" attribute of the request header.<br>The order of the attributes is important and must be the same as the order specified in the list of HTTP headers specified in this field. | The mandatory fields to sign are:<br>• digest<br>• x-request-id<br>Conditionally, if they travel and are supported, it can include:<br>• psu-id<br>• psu-corporate-id<br>• tpp-redirect-uri |
| **Signature** | String | MA | The "signature" parameter must be in Base64 ACCORDING to RFC 4648.<br>The TPP uses the algorithm and the parameters of the header to be signed to form the string to be signed. The chain to be signed is signed with the keyId and the corresponding algorithm. The content must be in Base64. | There are no additional requirements. |

### 9.1.3 Example

We are going to make a host-to-host request with the following text:

```
{
  "instructedAmount" : {
    "currency" : "EUR",
    "amount" : "16.00"
  },
  "debtorAccount" : {
    "iban" : "ES5140000001050000000001",
    "currency" : "EUR"
  },
  "creditorName" : "Cred. Name",
  "creditorAccount" : {
    "iban" : "ES6621000418401234567891",
    "currency" : "EUR"
  },
  "creditorAddress" : {
    "street" : "Ejemplo de calle",
    "buildingNumber" : "15",
    "city" : "Cordoba",
    "postalCode" : "14100",
    "country" : "ES"
  },
"remittanceInformationUnstructured": "Payment",
"chargeBearer": "CRED"
}
```

And we also want to add the following headers

- X-Request-ID=a13cbf11-b053-4908-bd06-517dfa3a1861

The operations that we must carry out are the following.

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#### 9.1.3.1 Generation of the header "Digest"

To do this, we must hash the body of the message to be sent. It is vital to do this on the final, already serialised content, as subsequent serialisation processes could introduce modifications to the body of the message finally sent, rendering the signature invalid.

It is possible to use the SHA-256 and SHA-512 algorithms following RFC 5843. In our example we will use SHA-256 on the body of the message, obtaining the following result:

- Hexadecimal: A5F1CF405B28E44ED29507E0F64495859BA877893D2A714512D16CE3BD8BE562
- Base64: pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

Therefore, the value of the "Digest" header that we are going to generate will be:

SHA256=pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

The headers that we have so far are:

X-Request-ID=a13cbf11-b053-4908-bd06-517dfa3a1861f]
Digest=SHA256=pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

#### 9.1.3.2 Generation of the header "Signature"

The "Signature" header is multivalued, that is, it contains several pairs of sub-headers of the attribute-value type.

**Setting the "keyId" value**

This field is obtained from the serial number of the certificate in hexadecimal and the DN of the certifying authority that generated the certificate.

In our example we get the following result:

keyId="SN=-5d803f65,CA=CN=REDSYS-AC-EIDASt-C1,OU=PKI,O=REDSYS,C=ES"

**Setting the "headers" attribute**

It should be noted that this attribute and some others are shown in the Berlin Group document with the first character in uppercase, but in the RFC on which the entity is based its content is always set in lowercase, so we assume that it is a typo.

Here are established the fields that will be considered when making the signature.

headers="digest x-request-id"

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**Setting the "algorithm" attribute**

algorithm = "SHA-256"

**Construction of the chain to be signed**

The chain that we have left to sign according to point 2.2.3 is the following:

Digest: SHA256=pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

X-Request-ID: a13cbf11-b053-4908-bd06-517dfa3a1861f

**Signature generation**

We sign the chain obtained in the previous point with the private key of our certificate and pass the result to Base64, obtaining in our particular case the following result:

la8LV3Fny2so4c40OkYFtZvr1mOkOVY1n87iKfIggEkXQjZNcyjp9fFkNtQc+5ZVNESdiq
KG8xrawYa5gAm46CvcKChNTPaakiEJHcXM5RZPWN0Ns5HjV5mUY2QzD+g5mwqcW
vXtBr1vg0bZKN8Zt3+uJMN37NQg9tJNE2yKIJlEPlAYOjC2PA/yzGSLOdADnXQut9yRvx
w8gMCjDtRaKDyWmwG6/crX293hGvBUeff1xvTluWhQzyfx4J6WG0v1ZmpnWdZ1LF6
8sToeDGTdu65aVKV2q6qcZzcm5aPV6+mVHX+21Vr6acxiLZdeYUHYJHrzErUN3KJrmt
3w2AL7Dw==

### 9.1.3.3 Generation of the header "TPP-Signature-Certificate"

This header contains the certificate that we have used in Base64. For reasons of space, only one part is set in the example:

TPP-Signature-Certificate=”MIIEWTCCA0GgAwIBAgI….

### 9.1.3.4 Definitive headers to send

As seen in the previous points, the headers that we must send in the request are:

X-Request-ID=a13cbf11-b053-4908-bd06-517dfa3a1861f

Digest=SHA256=pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

Signature=keyId="SN=-5d803f65,CA=CN=REDSYS-AC-EIDASt-C1,OU=PKI,O=REDSYS,C=ES",algorithm="SHA-256",headers="digest x-request-id",signature="
la8LV3Fny2so4c40OkYFtZvr1mOkOVY1n87iKfIggEkXQjZNcyjp9fFkNtQc+5ZVNESdiq
KG8xrawYa5gAm46CvcKChNTPaakiEJHcXM5RZPWN0Ns5HjV5mUY2QzD+g5mwqcW
vXtBr1vg0bZKN8Zt3+uJMN37NQg9tJNE2yKIJlEPlAYOjC2PA/yzGSLOdADnXQut9yRvx
w8gMCjDtRaKDyWmwG6/crX293hGvBUeff1xvTluWhQzyfx4J6WG0v1ZmpnWdZ1LF6
8sToeDGTdu65aVKV2q6qcZzcm5aPV6+mVHX+21Vr6acxiLZdeYUHYJHrzErUN3KJrmt
3w2AL7Dw=="

TPP-Signature-Certificate=MIIEWTCCA0GgAwIBAgIEon/…

## 9.2 HTTP response codes

The HTTP codes followed by this specification and their uses are as follows:

| HTTP code | Description |
|---|---|
| **200 OK** | • Response code for PUT and GET requests<br>• This code is allowed if the request was repeated due to a time-out. The response can be a 200 or 201 depending on the implementation of the ASPSP<br>• The FCS POST request also allows to return a 200 since no new resource is created.<br>• Response code for DELETE requests when the request has been made correctly and authorization is not required. |
| **201 Created** | Response code for POST requests where a new resource has been created successfully. |
| **202 Accepted** | Response code for DELETE requests when a payment resource can be canceled but requires authorization of the cancellation by the PSU. |
| **204 No Content** | Response code for DELETE requests where the consent resource has been successfully deleted. The code indicates that the response was made, but no content is returned.<br>Also used in DELETE requests of a payment start where authentication is not necessary. |
| **400 Bad Request** | A validation error occurred. This code covers syntax errors in requests or incorrect data in the payload. |
| **401 unauthorized** | The TPP or the PSU are not properly authorized to make the request. Retry the request with correct authentication information. |
| **403 Forbidden** | Returned if the resource that was referenced in the path exists but cannot be accessed by the TPP or the PSU. This code should only be used for non-sensitive identifiers as this could reveal that the resource exists but cannot be accessed. |
| **404 Not Found** | Returned if the resource that was referenced in the path exists but cannot be accessed by the TPP or the PSU. |

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|---|---|
| | When in doubt if a specific path id is sensitive or not, use this code instead of 403. |
| **405 Method Not Allowed** | This code is sent only when the method (POST, PUT, GET ...) is not supported on a specific endpoint.<br>Response code for DELETE in case of payment cancellation, where a payment start cannot be canceled due to legal or other operational reasons. |
| **406 Not Acceptable** | The ASPSP cannot generate the content that the TPP specifies in the Accept header field |
| **408 Request Timeout** | The server is still working correctly, but the request has timed out. |
| **409 Conflict** | The request could not be completed due to a conflict with the current state of the referenced resource. |
| **415 Unsopported Media Type** | The TPP has requested a "media type" that the ASPSP does not support. |
| **429 Too Many Requests** | The TPP has exceeded the maximum number of requests allowed by consent or by the RTS |
| **500 Internal Server Error** | Internal server error has occurred. |
| **503 Service Unavailable** | The ASPSP server is currently unavailable. It is generally a temporary state. |

## 9.3 Return Codes

Allowed return codes and associated HTTP response codes.

| | **HTTP code** | **Code** | **Description** |
|---|---|---|---|
| **SIGNATURE CERTIFICATE** | 401 | CERTIFICATE_INVALID | The content of the signing certificate is invalid. |
| | 401 | ROLE_INVALID | The TPP does not have the correct PSD2 roles to access the service. |
| | 401 | CERTIFICATE_EXPIRED | The signature certificate has expired. |
| | 401 | CERTIFICATE_BLOCKED | The signature certificate has been blocked by the ASPSP. |

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| | 401 | CERTIFICATE_REVOKED | The signature certificate has been revoked by the QTSP. |
| | 401 | CERTIFICATE_MISSING | The signature certificate was not present in the request. |
| **SIGNATURE** | 401 | SIGNATURE_INVALID | The signature is not correct. |
| | 401 | SIGNATURE_MISSING | The signature is not included in the message being mandatory. |
| **GENERAL** | 400 | FORMAT_ERROR | The format of certain fields in the request is wrong. The fields will be indicated.<br>This applies to the body and header fields. It also applies in cases where these entries refer to non-existent or erroneous data instances. |
| | 400 | PARAMETER_NOT_CONSISTENT | Parameters sent by the TPP are not consistent.<br>It only applies to query parameters. |
| | 400 | PARAMETER_NOT_SUPPORTED | The parameter is not supported by ASPSP. It will only be used in those parameters whose support is optional for ASPSP. |
| | 401 | PSU_CREDENTIALS_INVALID | The PSU-ID is not related to the ASPSP or is locked, or the password or the OTP was incorrect. |
| | 400 (payload)<br>405 (HTTP method) | SERVICE_INVALID | The requested service is not valid for the indicated resource, or the data sent. |
| | 403 | SERVICE_BLOCKED | The service is not available to the PSU due to a channel blocking by the ASPSP. |

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|---|---|---|---|
| | 401 | CORPORATE_ID_INVALID | The PSU-Corporate-ID has failed to link on the ASPSP systems. |
| | 403 (if resource in path)<br>400 (if resource in header) | CONSENT_UNKNOWN | The Consent-ID does not match for the requested TPP and ASPSP. |
| | 401 | CONSENT_INVALID | The consent was created by the TPP, but it is not valid for the requested resource / service.<br>Or the definition of consent is incomplete or invalid. |
| | 401 | CONSENT_EXPIRED | The consent was created by the TPP, but it has expired and needs to be renewed. |
| | 401 | TOKEN_UNKNOWN | The received token is unknown to the TPP. |
| | 401 | TOKEN_INVALID | The token is associated with the TPP, but it is not valid for the service / resource you are trying to access. |
| | 401 | TOKEN_EXPIRED | The token is associated with the TPP, but it has expired and needs to be renewed. |
| | 404 (if account-id in path)<br>403 (if other resource in path)<br>400 (if it goes on payload) | RESOURCE_UNKNOWN | The requested resource is unknown to the TPP. |

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|---|---|---|---|
| | 403 (if resource in path)<br>400 (if resource in payload) | RESOURCE_EXPIRED | The requested resource is associated with the TPP, but it has expired and will no longer be available. |
| | 400 | RESOURCE_BLOCKED | The directed resource is not routable by the request. This can be blocked, for example, by a grouping in the "signing basket". |
| | 400 | TIMESTAMP_INVALID | Timestamp not in accepted time period. |
| | 400 | PERIOD_INVALID | Requested time period out of range. |
| | 400 | SCA_METHOD_UNKNOWN | The SCA method selected in the authentication method selection request is unknown or cannot be related by the ASPSP to the PSU. |
| | 400 | SCA_INVALID | The HTTP method used on the authorization resource is blocked because the resource state equals "failed". |
| | 409 | STATUS_INVALID | The addressed resource does not allow additional authorization. |
| **OAuth2** | 302 | invalid_request | The request is not well formed due to missing parameters, unsupported value or repeated parameters. |
| | 302 | unauthorized_client | The authenticated client is not authorized to use this type of authorization. |
| | 302 | access_denied | The resource owner or authorization server denies the request. |

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|---|---|---|---|
| | 302 | unsupported_response_type | The authorization server does not support the method used to obtain the authorization code. |
| | 302 | invalid_scope | The requested scope is invalid, unknown, or wrongly formed. |
| | 302 | server_error | Error 500 that cannot be returned in a redirect. It is returned with this code. |
| | 302 | temporarily_unavailable | The authorization server is unable to process the request momentarily, due to temporary overload or maintenance. |
| | 400 | invalid_request | The request is not well-formed because of missing parameters, unsupported value, repeated parameters, includes multiple credentials or uses more than one client authentication mechanism. |
| | 401 | invalid_client | Client authentication failed |
| | 400 | invalid_grant | The provided authorization or refresh token is invalid, expired, revoked, redirect URI mismatch, or was issued to another client. |
| | 400 | unauthorized_client | The authenticated client is not authorized to use this type of authorization. |
| | 400 | unsupported_grant_type | The requested authorization type is not supported by the authorization server. |
| | 400 | invalid_scope | The requested scope is invalid, unknown, malformed, or exceeds what is allowed. |

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|---|---|---|---|
| **PIS** | 403 | PRODUCT_INVALID | The requested paid product is not available for the USP. |
| | 404 | PRODUCT_UNKNOWN | The requested payment product is not supported by the ASPSP |
| | 400 | PAYMENT_FAILED | Payment failed. For example, for risk management reasons. |
| | 400 | EXECUTION_DATE_INVALID | The requested run date is not a valid run date for the ASPSP. |
| | 405 | CANCELLATION_INVALID | The directed payment is not cancellable. For example, a long time or legal restrictions have passed. |
| **AIS** | 401 | CONSENT_INVALID | The consent was created by the TPP, but it is not valid for the requested resource / service.<br>Or the definition of consent is incomplete or invalid. |
| | 400 | SESSIONS_NOT_SUPPORTED | The combined service indicator is not supported by the ASPSP to which the request is directed. |
| | 429 | ACCESS_EXCEEDED | Account accesses have exceeded the accesses allowed per day with no PSU present. |
| | 406 | REQUESTED_FORMATS_INVALID | The format requested in the Accept field does not correspond to those offered by the ASPSP. |
| **FCS** | 400 | CARD_INVALID | Card numbering is unknown to ASPSP or not associated with PSU. |

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|---|---|---|---|
| | 400 | NO_PIIS_ACTIVATION | The PSU has not activated the account for use by the PIIS associated with the TPP. |

## 9.4 Transaction states

| Code | Name | Description |
|---|---|---|
| **ACCC** | AcceptedSettelmentCompleted | The settlement in the beneficiary's account has been completed. |
| **ACCP** | AcceptedCustomerProfile | The prior verification of the technical validation was correct. The client profile check was also successful. |
| **ACFC** | AcceptedFundsChecked | In addition to the client's profile, the availability of funds has been positively verified.<br>Note: needs ISO 20022 approval |
| **ACSC** | AcceptedSettlementCompleted | The settlement in the issuer's account has been completed.<br>Usage: it is used by the first agent (the issuer's ASPSP through the HUB) to inform the issuer that the transaction has been completed.<br>Important: The reason for this state is to provide the state of the transaction, not for financial information. It can only be used after a bilateral agreement. |
| **ACSP** | AcceptedSettlementInProcess | The previous controls such as technical validations and client profile were correct and, therefore, the payment initiation has been accepted for execution. |
| **ACTC** | AcceptedTechnicalValidation | Authentication and syntactic and semantic validation are correct. |
| **ACWC** | AcceptedWithChange | The instruction has been accepted, but needs a change, for example, date or other data not sent. |

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|---|---|---|
| | | Also to inform that a change has been applied, for example, on the start of payment and that the execution date has been changed. |
| **ACWP** | AcceptedWithoutPosting | The payment instruction included in the credit transfer has been accepted without being sent to the beneficiary client's account. |
| **RCVD** | Received | The payment initiation has been received by the agent (the ASPSP through the HUB) |
| **PATC** | PartiallyAcceptedTechnicalCorrect | Payment starts that have been authorized by at least one USP, but have not yet been finally authorized by all applicable USPs. (Multilevel SCA)<br>Note: needs ISO 20022 approval |
| **PDNG** | Pending | The payment initiation or individual transaction included in the payment initiation is pending. Additional checks and states updates will be performed. |
| **RJCT** | Rejected | The payment initiation or the individual transaction included in the payment start has been rejected. |
| **CANC** | Cancelled | The start of payment has been canceled before its execution.<br>Note: needs ISO 20022 approval |
| **PART** | | A number of transactions were accepted, while another number of transactions have not yet reached the "accepted" state<br>Note: this code should be used only in case of Bulk payments. It is only used in situations where all the requested authorizations have been applied, but some payments have been rejected. |

## 9.5 Consent states

| Code | Description |
|---|---|

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|---|---|
| **received** | The consent has been received and is technically correct. The data has not been authorized yet. |
| **rejected** | The consent has been refused. |
| **partiallyAuthorised** | Due to a multilevel SCA, some, but not all of the necessary authorizations have been made. |
| **valid** | The consent is accepted and valid to make requests to read the data and specified in the consent. |
| **revokedByPsu** | The consent has been revoked by the PSU towards the ASPSP. |
| **expired** | The consent has expired. |
| **terminatedByTpp** | The corresponding TPP has terminated the consent using the DELETE request on the consent resource created. |

## 9.6 Authentication types

| Code | Description |
|---|---|
| **SMS_OTP** | SCA method where an OTP associated with the transaction to be authorized is sent to the PSU over an SMS channel. |
| **CHIP_OTP** | SCA method where an OTP is generated by an electronic card. To use it, the PSU usually needs a device. The device, after completing the challenge, derives an OTP and shows it to the PSU. |
| **PHOTO_OTP** | SCA method where the challenge is a QR or similarly encoded visual data which can be read by a client device or a specific mobile application.<br>The device or application derives a visual challenge OTP and displays it to the PSU. |
| **PUSH_OTP** | OTP sent via PUSH to a dedicated authentication APP and displayed to the PSU. |
| **SMTP_OTP** | OTP sent via email to the PSU. |

## 9.7 Types of balances

| Code | Description |
|---|---|

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|---|---|
| **closingBooked** | Account balance at the end of the pre-agreed period for the report. It is the sum of the balances "openingBooked" at the beginning of the period and all entries noted in the account during the pre-agreed period for the report. |
| **expected** | Transactions made up of the entries noted and the entries pending at the time of the request. |
| **openingBooked** | Account balance at the beginning of the reporting period. It is always equal to the "closingBooked" balance of the previous period's report. |
| **interimAvailable** | Balance available provisionally. Calculated based on the annotations of credit and debit items during the specified period of time. |
| **interimBooked** | Balance calculated over the course of the business day, at the specified time and subject to change during the day. This balance is calculated taking the credit and debit items noted during the specified time / period. |
| **forwardAvailable** | Advance of the balance of available cash that is available to the account holder on the specified date. |

## 9.8 Types of commission sharing

| Code | Description |
|---|---|
| **DEBT** | All transaction charges are paid by the payer |
| **CRED** | All transaction charges are paid by the beneficiary |
| **SHAR** | Shared charges. Issuer and beneficiary bear the corresponding charges on their side. |
| **SLEV** | The charges to be applied follow the rules agreed at the level of service and / or scheme |

## 9.9 SCA states

| Code | Description |
|---|---|
| **received** | The authorization resource has been created successfully. |

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|---|---|
| **psuIdentified** | The PSU associated with the authorization resource has been identified and authenticated, for example, by a password or by the access token |
| **psuAuthenticated** | The PSU related to the authorization or cancellation authorization resource has been identified and authenticated, for example, by password or access token. |
| **scaMethodSelected** | The PSU / TPP has selected the SCA flow. If the SCA method is chosen implicitly because there is only one SCA method available, then this state is the first state to report instead of "received" |
| **started** | The SCA flow has been started. |
| **unconfirmed** | The SCA has been technically successfully terminated by the PSU, but the authorization resource needs the confirmation request from the TPP. |
| **finalised** | The SCA flow has been completed successfully. |
| **failed** | SCA flow has failed. |
| **exempted** | The transaction is exempt from SCA, the associated authorization is correct. |

## 9.10 Guide of good practice

### 9.10.1 Campo remittanceInformationUnstructured

This field can be used following the EACT standard *" Association of European Treasurers"* and adopted in BG in *" Mobile P2P Interoperability Framework - Implementation Guidelines v1.0"*

The format is as follows:

| Field | Description |
|---|---|
| **/ DNR /** | Issuer alias |
| **/ CNR /** | Beneficiary alias. (Recommended to send FUC from the merchant) |
| **/ DOC /** | Reference data of the corresponding request. (El Hub monta X-Request-Id del TPP) |

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|---|---|
| **/ TXT /** | Additional text / concept |

**Example**
"remittanceInformationUnstructured": "/DOC/db617660-d60d-11e8-9f8b-f2801f1b9fd1/TXT/Compra en comercio xxx"

### 9.10.2 Lifetime of the scaRedirect link

Berlin Group recommends a duration of 5 minutes for this type of link.

## 9.11 Annex exposed services Entity

The architecture designed for the provision of payment service providers of the services linked to the PSD2 directive follow all the functional and technical specifications of the Redsys API.

The functionalities supported in our Entity configuration are the following:

**PIS: Payment initiation service**

- Payment initiation
  - sepa-credit-transfers
  - instant-sepa-credit-transfers[1]
  - target-2-payments
  - cross-border-credit-transfers
- Payment initiation for future dated payments
- Initiation for standing orders for recurring/periodic payments
- Get payment status
- Get payment initiation
- Payment cancellation
- Multilevel sca for payments
- Payment initiation for bulk payments
- SVA: payment initiation with list of available accounts for PISP

1 Functionality not available since you do not have the operation in your online banking.

**AIS: Establish account information consent service**

- Get Consent Status
- Retrieve Consent Information
- Remove Consent

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**AIS: Account Data Reading Service**

-Accounts list Reading
- Reading account details
- Reading Balance
- Reading of Transaction
- List of standing orders

**FCS: Fund Confirmation Service**

- Confirmation of fund

**INFRASTRUCTURE:**

- Oauth2 as pre-step
- Obtain Authorization
- Obtain access token
- Token renewal request
- Login access through biometrics

The **functionalities not supported** in the configuration of our entity as they are not currently available in our electronic banking, are the following:

- AIS: Card Data Reading
- SIGNING BASKET: Simultaneous signing of multiple operations

Functionality not available for the following entities:

| ENTIDAD | ASPNAME | CAMBIO DE DENOMINACIÓN |
|---|---|---|
| 3008 | C.R. NAVARRA | NAVARRA |
| 3016 | C.R. SALAMANCA | SALAMANCA |
| 3017 | C.R. SORIA | SORIA |

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| | | |
|---|---|---|
| 3018 | C.R. FUENTEALAMO | FUENTEALAMO |
| 3020 | C.R. UTRERA | UTRERA |
| 3023 | C.R. GRANADA | GRANADA |
| 3059 | C.R. ASTURIAS | ASTURIAS |
| 3060 | CAJAVIVA | CAJAVIVA |
| 3070 | CAIXA RURAL GALEGA | CAIXARURALGALEGA |
| 3076 | CAJASIETE | CAJASIETE |
| 3080 | C.R. TERUEL | TERUEL |
| 3085 | C.R. ZAMORA | ZAMORA |
| 3089 | C.R. BAENA | BAENA |
| 3096 | C.R. L'ALCUDIA | ALCUDIA |
| 3098 | C.R. NUEVA CARTEYA | NUEVACARTEYA |

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| | | |
|---|---|---|
| 3113 | C.R. SAN JOSE ALCORA | SANJOSEALCORA |
| 3115 | C.R. ADAMUZ | ADAMUZ |
| 3117 | C.R. ALGEMESI | ALGEMESI |
| 3127 | C.R. CASAS IBAÑEZ | CASASIBANEZ |
| 3130 | C.R. SAN JOSE DE ALMASSORA | SANJOSEDEALMASSORA |
| 3134 | C.R. ONDA | ONDA |
| 3138 | RURALNOSTRA | RURALNOSTRA |
| 3144 | C.R. VILLAMALEA | VILLAMALEA |
| 3159 | CAIXA POPULAR | CAIXAPOPULAR |
| 3162 | CAIXA RURAL BENICARLO | CAIXARURALBENICARLO |
| 3166 | C.R. SAN ISIDRO LES COVES VINROMA | LESCOVES |

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| | | |
|---|---|---|
| 3174 | C.R. EL SALVADOR VINAROZ | VINAROZ |
| 3187 | C.R. DEL SUR | CAJARURALSUR |